PLAYING FOR TOGETHERNESS

DESIGNING FOR INTERACTION RITUALS THROUGH GAMING

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DESIGNING FOR INTERACTION RITUALS
THROUGH GAMING

DOCTORAL DISSERTATION BY

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ABSTRACT

How can design facilitate togetherness through games? Seeing the outcomes of a successful interaction ritual – positive emotional energy and a sense of group solidarity – as the main components of the togetherness of games, this thesis seeks to shed light on how design can improve the use of games as vehicles of interaction. The thesis combines six different articles on games, gaming and gamers; the articles illuminate the different ingredients of the interaction ritual afforded by playing games and covers digital-, board- and tabletop role-playing games. The methods used are artefact analysis, observation and reflexive interviewing.

The two articles on games; *Exploring Aesthetic Ideals of Gameplay* and *Exploring Aesthetical Gameplay Design Patterns – Camaraderie in Four Games* focus on gameplay aesthetics and present a way of looking at the underlying game-mechanical foundations of gameplay aesthetics – the experiential aspect of the meeting between the player and the rules. The former introduces the concept of aesthetic gameplay ideals and the latter explores this further through the use of design patterns.

The two articles on gaming; *Undercurrents – A Computer-based Gameplay Tool to Support Tabletop Role-playing* and *Framing Storytelling with Games* look at tools to support gameplay and provide a concrete example of how superfluous work during play can be reduced, leaving more time and energy to the core activity. The former is a description of the produced prototype and its design process; the latter expands upon earlier research and outlines some additional theoretical quandaries when supporting complex storytelling activities.

The two articles on gamers; *The Implicit Rules of Board Games – On the particulars of the lusory agreement* and *Creativity Rules – How rules impact player creativity in three tabletop role-playing games* focus on the rules and the gamer, and delve into the complex social structures surrounding the play of games, as well as how communication on different attitudes when it comes to rules are important to create congruent gaming groups. The former looks at board games and the latter at the practise of tabletop role-playing, both placing emphasis upon the fact that the printed rules of a game artefact only constitute part of the gaming agreement.

Together with a research summary outlining how gaming can be viewed as an interaction ritual from a design perspective, this work also aims at shortening the divide between gamer and designer, providing both with frameworks for communicating on interaction with games.

KEYWORDS: *game research, interaction design, interaction ritual, togetherness, gamer groups.*

LANGUAGE: *English.*

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Karl Bergström, Gothenburg 2012

CONTENTS

1. INTRODUCTION

Games are social.

If one would ask people why they play games, most will probably answer "because it is fun". In my experience, a significant number will likely also answer "because it affords me to spend time with other people". For me, both these statements hold true; in addition to many exciting and memorable episodes, games and gaming have always helped me to form strong bonds with people I have come to love and cherish. But it has also given me ample possibilities to interact with people that I might not otherwise know, brought together by the common ground of games and play. Granted, this is not the only benefit of games; but for me and many others it will probably always be the prime reason we gather around the gaming table.

Nevertheless, some people like some games better than others. Some groups like some games better than others. Some groups like *each other* better than the members of other groups. Sometimes groups play games that do not suit them, and perhaps this affects how they relate to each other? As I see it, there is a surprising lack of communication between gamers on a meta level concerning the nature of games, groups, and what one wants to get out of playing. People's preferences differ, and some games are better than others at catering to those preferences. In order to better satisfy people's wishes, such as having quality time together through games, it is necessary to both being able to create games that support said wishes, and also to communicate to the players what a particular game entails. But it is also necessary that players should be able to communicate with *each other* in order to form congruent groups.

Game designers and researchers have been striving to find commonalities in games that help us understand and design games that better cater to the needs and wants of those that play them, which is also the aim of this thesis. We are interested not only in understanding games, but also how to design them – which makes the research fall under the purview of both *design research* and *game studies*.

This thesis is written as part of the European project *Together Anytime, Together Anywhere* (ta2-project.eu), which explored, among other things, social activities between groups of people (rather than individuals) when spatially separated. One aspect of the project was the exploration of "togetherness" – the positive emotions experienced by people doing things together in groups, and how this could be facilitated through the use of

communication technology. Games had been identified as one interesting area to be explored, and examining games within the project formed the background to this thesis.

Defining togetherness turned out to be one of the challenges of the project, and tied to this, understanding what is required for it to emerge in a group and how designs can support it. Throughout the project a number of different approaches were used, effectively "circling in" the concept (see Kort et. al., 2011 for an overview). A recurring focus was on the activities, such as games, that groups of people undertake, either for their own sake or just for the fun of doing something together. Just like all other activities, games also sometimes fail to elicit a feeling of togetherness; sometimes due to the fact that the game was not designed to create this experience (or that the designer tried and failed); sometimes because the participants went into the game with incongruent expectations and/or understandings. The question is: what can the designer do in order to facilitate togetherness in games and how can we maximise the probability of positive outcomes?

The above issue forms the question for this thesis: *how can design facilitate togetherness through games?* To answer the question, we will first need a working model of togetherness that allows us to examine game design in how and why it facilitates togetherness in a group. Once such a theory has been found, we need to marry the concepts of the theory with the concepts of games so that we have an idea of which parts of games affect this facilitation, and how this can be improved by good design.

This breaks down this thesis into four steps: A. find a model of togetherness that can be used in this context, B. examine gaming in the context of this model, C. uncover the components of gameplay that affect togetherness and D. find out what designers can do about it. Steps A and B are addressed in this research summary, and the included articles approach steps C and D.

Following these introductory words is a section on the thesis' specific focus and delimitations, which is followed by sections on design and games research. The first step towards answering the research question – finding a working model for togetherness – is then taken. After this comes a section on the methodologies used in the study, and then a summary of the included articles followed by how they contribute to the research question. Discussion and conclusion sections are at the end, followed by the individual articles.

1.1 FOCUS AND SCOPE

There are a number of reasons for seeking to focus and delimitate a work of research. One is pragmatism; there are simply not enough resources for

one to look at every avenue and perspective of the field. Another is ideology – the researcher might feel that certain avenues do not belong or are unsuitable in his or her context, and that a certain direction of research is more appropriate than others. There could also be a question of whether to be inclusive, aiming broadly, or exclusive, aiming at a smaller subset of a larger whole. A third is the issue of contaminating factors; although a certain facet of research might belong on a theoretical level, it might come with so much extra context and/or baggage that its inclusion is unfeasible.

Firstly, unlike much other work in the game studies field, this thesis does *not* limit itself to video games only, but instead looks at several different forms of games for ideological and pragmatic reasons. Regrettably, much research on games is plagued by an unjustified focus on digital games which in my mind does not realise the full potential of games and play. This became apparent when I asked a class of game students (many designers-to-be) during my first year of teaching games analysis how many of them were gamers; unsurprisingly, everyone answered "yes". It took a while to realise that many missed important points completely, because although gamers, only a few of them played games other than digital games. Arguably, games designers that do not play games themselves create poor games, just like a movie director or script writer would be expected to view a significant number of movies from different genres. A knowledgeable designer is aware of the possibilities of forms other than his or her own, and has a more holistic view of the phenomenon. Not only do the different forms of games influence each other to a great extent (see e.g. Bowman, 2010), but gameplay can also be looked at independently from whatever technique facilitates it. The refined nature of a board game can, for example, show a certain gameplay clearer than the often obscured rules set of a video game; the tabletop role-playing game can give insights into the construction of narrative, and so forth. This broader approach was also compatible with and encouraged by the TA2 project, which had a broad approach from the start, since it looked at many different "living room" activities undertaken in a group, and also looked at video-, traditional board- and hybrid games during the project.

It is also important to point out that this thesis primarily looks at gameplay design, the meeting between the players and the rules of the game, and not at other aspects of the game artefact, such as layout, graphical design, component quality, etc.

Although the scope of this work theoretically includes the breadth of games, it is primarily limited to games for smaller groups, and excludes both sports – sports are considered games by most definitions (see e.g. Sands,

2002) – and children's games, such as "Blind man's bluff" or "Hide and seek" (see e.g. Wise, 2003, or Tembeck and Fluegelman, 1976) on grounds of contamination. Although theoretically similar, sports are in a world of their own and are separated significantly enough from the world of games in most people's minds that they are left out of this study. Further, the bonding experience of sports has been looked at before (see e.g. Branscombe and Wann, 1991, Curry, 1991 and Shields and Gardner, 1997). The same goes for children's games, which are usually evolved entities[I] with little conscious design behind them (although not necessarily; for an exception, see Tembeck and Fluegelman, 1976). Observe, however, that this does not mean that *play*, a central component of children's games[II], is excluded from the thesis; play can be an important element of games, just like gaming is a subset of play (Salen and Zimmerman, 2004).

The study also pays little attention to single-player games, mainly for pragmatic reasons. Although single-player games can also be considered social as they are part of a larger culture of gaming (Salen and Zimmerman, 2004), this sociality is on another level than the one encountered in smaller groups, and construing a valid contribution on this level as well would take more than what was available for the study.

Many researchers have looked at the potential of games in areas such as education (Zuckerman and Horn, 1970; Squire, 2003; Khine, 2011), health (Street, Gold and Manning, 1997; Papasterigiou, 2008) and rhetoric (Bogost, 2007). While games probably have potential in all these areas, this study is interested in the intrinsic and not the extrinsic value of games on what must be described as ideological grounds; it is felt that games as a phenomenon are worth looking at for their own sake, rather than as only a vessel for some other purpose. Of course, it could be argued that "togetherness" is an extrinsic value, and that games are merely a vehicle for social activity (a sentiment argued in Goffman, 1961), but this needlessly hollows the distinction between intrinsic and extrinsic.

This said, it is eminently possible that the findings of this study are applicable to games and groups not looked upon in the study. Sports and children's games are games at the core. The larger culture surrounding single-player games can benefit from better designed games, and the extrinsic

I. "The form of a craft product is modified by countless failures and successes in a process of trial-and-error over many centuries. This slow and costly searching for the 'invisible lines' of a good design can, in the end, produce an astonishingly well-balanced result and a close fit to the needs of the user." (Jones, 1970, p. 19)

II. The English language here leaves us somewhat bereft, complicating matters, as a word similar to the Swedish "lek", (roughly) referring to children's games, is missing. Whereas Swedish has both a noun and a verb for "play" and "game", English commonly has only the noun "game", and the verb "play"; however, "to game" as a verb is beginning to see wider usage.

value of games are probably enhanced if the game engenders more engagement (see e.g. Klabbers, 2009).

Just as it is prudent to point out things that have been left out, it is also suitable to indicate areas that have received greater attention. In this thesis three of the six included articles have tabletop role-playing games (TRPGs) as their main focus. This is on ideological but also pragmatic grounds; TRPGs provide a blend of play and gaming, and the participants are often passionate and very reasoning (Fine, 1983). Over the last few years, the researcher has had broad and close access to several very experienced TRPG groups, which yielded the potential for very rich data.

2. DESIGN RESEARCH AND GAME STUDIES – TWO INTERRELATED FIELDS

In this section I will briefly outline the academic traditions in which I position my work. It is intended both as a short overview of important works, or works that have been extra influential in this thesis' work, and as a way of providing a theoretical background to some of the concepts discussed throughout.

2.1 DESIGN RESEARCH

Design research is a tradition of research concerned with the process of design, the analysis of designed artefacts, and the design activity itself. Often it overlaps with the design-oriented approaches of game studies, and gameplay design research can be seen as a subset of design research. Much of the work in this thesis is grounded in this tradition, and this chapter positions the work in the larger field, as well as connects it to the phenomenon of games.

Since the field of design research is so broad – it looks at design as diverse as building architecture (see e.g. Alexander, Ishikawa and Silverstein, 1977), textiles (see e.g. Redström, Redström and Mazé, 2005), software (see e.g. Edelson, 2002) and interaction (Pearce, 1994) – it is necessarily interdisciplinary. It also differs from many other research fields, which usually are content with only studying a certain phenomenon in that it has a more significant creative purpose, i.e. it also focuses on the creation of novel artefacts. For the purposes of this thesis, it is *interaction design* that is most relevant, seeing that interaction design and gameplay design have much in common.

In the article *Teaching Gameplay Design is Teaching Interaction Design*, Lundgren (2008) even goes as far as arguing that " … *gameplay design* is interaction design at its purest, *since it deals with design of the core game, i.e. the rules of the game – in practice how players play the game*" (p. 1, original emphasis). She then continues to describe several areas where the two disciplines overlap, and how one can teach interaction design through gameplay design.

Looking at interaction design, Lim et. al. (2007) introduce the concept of the *interaction gestalt*, an emergence of interaction between the user and an

interactive artefact. They use this to introduce higher granularity regarding interaction design terminology, positioning themselves against "*current approaches that blur the relationships among user experience, interaction and an interactive artifact*" (p. 240), which is very similar to what Björk (2008) writes about the state of game research. Lim et. al. (2007) argue that designers should aim at shaping the users' interaction with the interactive artefact, and that which is required is a *language* that describes *attributes* of the interaction gestalt, so that the designer can manipulate the gestalt through the attributes. Although Lim et. al. (2007) do not speak of gameplay design specifically, this is eminently applicable to their design as well, and comparable to games being described as a second order design (Salen and Zimmermann, 2004). In traditional (non-interactive) design, Lim et. al. (2007) argue, "*the* [*designer*] *trusts his or her deep internalized knowledge of what can be done and how it can be done with the material at hand in order to create something that is both beautiful and functional*" (p. 241), but as interactive artefacts are "*powered by computing technologies*" (p. 241) this separates them from traditional design when it comes to flexibility, dynamics and intelligence. Games occupy a similar position; although only a subset is powered by digital means, the rich rules sets and actions of other players create a similar effect, separating the design of games from the design of say, carpentry.

Schön (1983) describes the "reflective practitioner" in his book of the same name, where he looks at the way professionals (architects, engineers, town planners, etc.) think during the process of solving problems. Similar to the quote on internalized knowledge above, Schön (1983) looks at how these professions follow a procedure in real life situations that is far from rigid and formulaic, instead utilising multiple iterations and an ongoing reflective process. While he does not look at the design of games or interactive artefacts, a similar multi-iterative design approach is advocated in the book *Game Design Workshop* (Fullerton, Swain and Hoffman, 2004) which deals exclusively with games design.

Jones (1970) provides a historical perspective in his book *Design Methods*, where he describes how the practise of design has changed from earlier artisanship to the more complex designs of later years. As the demands increase, he argues, they become more and more important for designers to be able to communicate with each other, through for example scale drawings: "*Initially this advantage of drawing-before-making made possible the planning of things that were* too big for a single craftsman … " (Jones, 1970, p. 21, original emphasis). Traditional methods, he argues, are hampered by a lack of language. The common thread of new methods is that they "*are attempts to make public the hitherto private thinking of designers; to* externalise *the design process*"

(Jones, 1970, p. 45, original emphasis). Later, he calls for a "meta-language" for communication during the design process.

An example of such a design language is the idea of *design patterns*, first introduced by Alexander, Ishikawa and Silverstein (1977) in the field of architecture. Design patterns are, as the name suggests, recurring patterns of design, phrased as a problem and guide to a satisfactory solution to the problem. It has since been applied to disciplines other than architecture, such as programming (Gamma et. al., 1994). The concept was first applied to games by Kreimeier (2002) and later developed by Björk and Holopainen (2005), who collected gameplay design patterns in order to provide a common language for designers and game scholars. These are largely less focused on problems, instead describing recurring game design elements (such as "Save-Load Cycles", p. 182) and how these elements relate to each other – some patterns being subsets of or modulating others, for example. The *Game Ontology Project* (Zagal, 2010) is a similar attempt at establishing a common design language for games.

Fallman (2008) outlines a scheme of classification for interaction design research based on a "*triangle of design practice, design studies, and design exploration*" (p. 4), which paints a space in which design research activities can be positioned. Design practice is "*context driven, particular, and synthetic*" (p. 5) and deals with concrete work inside organizations, where the designer employs his/her expertise to create products for a specific context. What makes this design research and not just regular design work is that it is still vital for the researcher to formulate a research question, either going in, or later on (Fallman, 2008). Design studies are "*cumulative, distancing and describing*" (p. 6) and resemble more traditional academic research, formulating theories, establishing frameworks, "*contributing to an accumulated body of knowledge*" (p. 9) etc. (Fallman, 2008). Design exploration is "*idealistic, societal and subversive*" (p. 5); also concerned with the researcher constructing a concrete artefact, but from another perspective. Design exploration (according to Fallman) is about critique, "*a statement or a contribution to an ongoing societal discussion*" (p. 8). This is where issues of interaction aesthetics belong, argues Fallman – "*how something works, how elegantly something is done, how interaction flows, and how well the content fits in*" (p. 8).

Rather than attempting to refine design research to fit as cleanly as possible into one triangle vertex, Fallman (2008) argues that it is how one moves within and between the different segments, letting them influence and enrich each other, that is interesting, since it provides an important change of perspective. Fallman (2008) details three different concepts that describe movement within the triangle: "*trajectories, loops, and dimensions*" (p. 10). A

trajectory is simply a drift between two of the triangle areas, or within one if it is small enough; loops are "*trajectories without either starting or end points that move in between different activity areas*" (Fallman, 2008, p. 11). According to Fallman (2008), it is the loops that separate interaction design research from other research – the ability to move freely between the different areas of the triangle. The dimension is somewhat different from the other two, and developed quite a bit further; but it will not be repeated here, as no such is present in this thesis. In short, it is a continuum between two activity areas, with a specific focus, such as the "real" of design practise versus the "true" of design studies (Fallman, 2008). Earlier, Fallman's approach was used as a method for interaction design research. In this thesis, Fallman's triangle is used more descriptively to place the work within – see the discussion section.

This thesis echoes Fallman's arguments in that games- and design research is a very diverse field, where several very different practices still combine under one common roof. Most importantly, it shows how one can connect the "practical" parts of research to the "theoretical" and that the two feed and enrich each other.

2.2 RESEARCHING GAMES

Enough articles have begun with words akin to "*Games are big business. Digital games alone have grown into a considerable market force …* " (Holopainen, 2011, p. 3); also e.g. Fullerton (2008) that it is now safe to assume that gaming has moved into the mainstream. The author usually mentions that games have been around for a while (e.g. Dawes and Hall, 2005, p. 276) before the author continues with the point of his or her article. Imagining the same sentences in an article in the field of literature easily brings a smirk to the face: "Nowadays, books are everywhere, and in fact, have been around for several centuries!" This is understandable. Despite the aforementioned statement on games being big business, the study of games is young, and not as established compared to research subjects such as literature, film or software engineering. In his 2010 book *Ludoliteracy*, Zagal describes the field as "emerging", and in many ways he is correct. There is still significant confusion and a lack of consensus surrounding key concepts and no consistent vocabulary for speaking about games and game mechanics, pointed out by Costikyan as early as 1994 (Costikyan, 1994).

Even if we can find studies of games as far back as Culin (1907), who studied and catalogued games played by the American Indians as an ethnographer, the field as such did not emerge until much later. Early scholars

approached games entirely from their own fields, such as Huizinga (1955), who was a historian, and Callois (1961), who came from sociology and anthropology. So did Avedon and Sutton-Smith (recreation and psychology), but here we can see the first indications of a new field being born by looking at the title of their book: *The Study of Games* (1971). In many ways, scholars such as these can be considered an early "wave" of game studies, and are widely referenced in later literature. Von Neumann and Morgenstern (1944) also looked at interaction in games, but from an economical and mathematical stance, leading to the development of *game theory* (see also Fundeberg and Tirole, 1991). Leaving out aspects such as player experience, game theory is not very applicable to the purpose of this thesis.

In 1970, the *International Simulation and Gaming Association* (ISAGA) was founded, and since then has published a journal on the use of games and simulations as a method in several different fields (teaching, business, etc.). Although mainly focused on the extrinsic value of games, its emergence shows the growing interest in games.

With the later upswing of digital games came another wave of game scholars, such as Bennahum (1998) or those found in Wolf and Perron (2003) that looked at computer games. In 2001, Aarseth proclaimed that this was "year one" for computer game studies as an academic field as the *Journal of Computer Game Research* was launched, and in 2003, the *Digital Games Research Association* (DiGRA) was formally established. With a few exceptions, these approaches were largely confined to looking at digital games, and did not take the entire span of the game phenomenon into focus despite the fact that non-digital games were essential in the development of digital games.

But there are also those that take a more holistic stance towards the phenomenon of games – a central work here is Salen and Zimmerman's (2004) *Rules of Play* which looks at the breadth of games from several different perspectives, as does their later anthology *The Game Design Reader* (2006). The *Gaming as Culture* (Williams et. al., 2006) anthology approaches "fantasy" gaming in several different forms. This thesis aims at just such a holistic perspective, even if it excludes certain types of games.

Further compounding the issue is the fact that game scholars sometimes are confused when it comes to their object of study. Björk (2008) attempts clarification as he classifies three directions of game study – study of the game (i.e. the physical artefact), study of gaming (the activity) and study of gamers (the people that play games). As mentioned earlier, this is very similar to what Lim et. al. (2007) write about interaction design research. Since this thesis looks at all three, it takes a cue from Björk (2008) and organises the included articles along these lines (see below).

Game studies occasionally have a design focus, proscribing and presenting novel game designs, often with a specific purpose. In a sense, Fallman's (2008) triangle is equally applicable to game design research as design research, with focused game development for e.g. education falling in the "practise" corner, explorative game design research such as experimental ARGs (see e.g. Montola, Stenros and Waern, 2009) or rhetorical games in the exploration corner, and theoretical game studies in the "studies" corner.

Attempting to cover a wider breadth of games, this thesis looks at digital games, board games and tabletop role-playing games (TRPGs). Digital games have received a fair share of scholarly attention; examples include Wolf and Perron (2003), Juul (2005) and Sicart (2009), but board and role-playing games less so. As a result, the following sections on board- and role-playing games receive more attention. Observe, however, that this summary will not deal with the definition of a game in depth – a debate that has been covered at length earlier, see e.g. Suits (1990), Salen and Zimmerman (2004) or Juul (2005).

In the case of board games, there is a significant partition between the study of "traditional" board games, such as Chess, Go, Bridge, etc.,[III] and more modern board games such as *Settlers of Catan* (Teuber, 1995), *Power Grid* (Friese, 2004) or *Betrayal at the House on the Hill* (Daviau et. al., 2004)[IV]. While conceptually similar, there is a significant cultural divide between the two. The former have received a fair share of scholarly attention over the years; (see e.g. Parlett's *The Oxford History of Board Games*, 1999; or Knizia's *Dice Games Properly Explained*, 1999), and is also often the subject of a more mathematical approach to games (see e.g. Browne 2000). The latter, however, has seen comparatively fewer works over the years (see e.g. Woods, 2010, and Xu et. al., 2011).

While there is also role-playing for educational and therapeutic purposes (see e.g. Chen and Michael, 2006, and Joyner and Young, 2006), researchers of table top role-playing games previously had only Fine (1983) as a solid reference. Fine studied the then emerging phenomenon of tabletop role-playing games in the seventies through observatory methods. Lately though, a number of books on the topic have emerged; Mackay (2001), Cover (2010), Bowman (2010) and Tresca (2010) all have TRPGs as their genre of study. Of these, Cover and Bowman are noteworthy for the purposes of this thesis; the former for its framing of TRPGs, and the latter because it also deals with the larger TRPG community. There is also an academic journal,

III. For the purposes of this summary, traditional card games, such as those played with the standard 52 card deck (see e.g. Parlett, 1992), are also listed under "board" games.

IV. For the purposes of this summary, modern card games, such as Magic the Gathering (Garfield, 1993) are also listed under "board" games.

the *International Journal of Role-Playing* dedicated to the academic study of role-playing games. There is a significant overlap with the study of LARP[V], which is a similar but different genre; unfortunately, academic study of LARP is hitherto rare outside the Nordic countries.

This thesis is part of both the design research and game studies traditions, seeing how it spans both theoretical and practical perspectives on games and gaming. While a split perspective can seem divisive, differing perspectives can also act complementary, with design research providing a general backdrop and game studies providing insight into the specific phenomenon under study.

V. Live Action Role Play, see e.g. Stenros and Montola (2010).

3. TOGETHERNESS

"Togetherness", the focus of the TA2 project, is not an established academic term with a formal definition, and it is not the purpose of this thesis to establish it as such. Instead, the project initially established a working sense of togetherness as *the positive emotions and cohesive elements engendered in a group*. We will see whether we can find a theory that describes what we are looking for. The available literature on groups is vast (see e.g. the references below), but there are some criteria that a useful model in this context will have to meet, which will narrow the field. Firstly, it has to deal with people in smaller groups interacting with each other, in what resembles an "aggregate of individuals" (Donnelly, Carron and Chelladurai, 1978). Secondly, it has to be on an appropriate level; too macro (dealing with larger groups and/or structures) or too longitudinal (dealing with long-term groups and/or structures) and it will miss the more immediate gaming encounter. Thirdly, there has to be some idea akin to the "togetherness" we seek.

Theories such as those found in social psychology (for an overview, see Hogg and Vaughan, 1995, or Aronson, 2007) are usually on another level than the gaming encounter, dealing with processes on either a much larger scale (e.g. political persuasion) or an even more immediate scale (e.g. whether to accept a handbill). Ideas on group cohesion (e.g. Festinger, Schachter and Back, 1950) are difficult to apply, since they deal with groups that exist more solidly than the more ephemeral groups that play a game together. So are group development models such as Tuckman's (1965), because they are much more longitudinal, dealing with how groups form over time, than will suit the purpose. Both Ian Bogost (2007) and Jane McGonigal (2011) have written about how games affect people, but are mostly focussed on how games can change people's behaviour and their extrinsic qualities.

However, there is a theory that fits the purpose almost perfectly. Goffman (1961, 1967) furthered the idea of the *interaction ritual*; small, face-to-face ritual interactions between people in everyday life, and actually used games as an example. Although Durkheim (1912) looked at rituals earlier, he was mostly concerned with rituals in a formal, established sense, and at a higher level than Goffman. In the first essay of *Encounters* (1961), *Fun in Games*, he writes: "*Between the time when four persons sit down to bridge* [refers to the game of the same name] *and the time when all four leave the table, an organic system of interaction has come into being*" (p. 36). Much of what he describes as central to the gaming encounter is similar to other theories on games; compare for example "*The solid barrier by which the participants in an encounter cut*

themselves off from externally based matters now seems to be not quite solid; like a sieve, it allows a few externally based matters to seep through into the encounter" (Goffman, 1961, p. 30) with Huizinga's (1955) concept of the magic circle: "*All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course. Just as there is no formal difference between play and ritual, so the 'consecrated spot' cannot be formally distinguished from the play-ground*." (p. 10). For this reason it is not surprising that Goffman's theories have been used in game studies before – see e.g. Fine (1983) or Consalvo (2009).

Seemingly, Goffman is interested in the very same thing the research question in this article explores – the components that constitute a successful encounter, and it's desirable outcome, described by Goffman (1961) as "euphoria": "*we can begin to ask about the kinds of components in the encounter's external milieu that will expand or contract the range of events with which the encounter deals, and the kinds of components that will make the encounter resilient or destroy it*" (p. 66) … "*I would like to take a speculative look at some of the conditions, once removed, that seem to ensure easeful interaction. Again, there seems to be no better starting point than what I labelled gaming encounters. Not only are games selected and discarded on the basis of their ensuring euphoric interaction, but to ensure engrossment, they are sometimes modified in a manner provided for within their rules, thus giving us a delicate tracer of what is needed to ensure euphoria*" (p. 66–67). "Make the encounter resilient or destroy it" seems to be spot on, and "euphoric interaction" looks akin to togetherness.

Unfortunately, Goffman does not go into the nature of this euphoria in detail, and how/if it binds the participants together. The interaction between the participants are, however, readily apparent: "*The developing line built up by the alternating interlocking moves of the players can thus maintain sole claim upon the attention of the participants, thereby facilitating the game's power to constitute the current reality of its players and to engross them*" (Goffman, 1961, p. 67).

The same is also true for the promised conditions, and what we can gather from Goffman is simply thus: "*euphoria arises when persons can spontaneously maintain the authorized transformation rules*" (Goffman, 1961, p. 66) – that is, people should be focused on the game and its rules (whether explicit or implicit, of course). Goffman also claims that "*A successful game would then be one which, first, had a problematic outcome and then, within these limits, allowed for a maximum possible display of externally relevant attributes*" (Goffman, 1961, p. 68). The first, that the outcome of a game should not be certain beforehand is a staple of game design (Salen and Zimmerman, 2004, LeBlanc, 2005), but the second is controversial – is a game really just a platform for showing off?

However, Collins (2004)[VI] has taken Durkheim and Goffman's work, and forged these into a model of human interaction that is more specific. Collins (2004) takes a number of specific "*ritual ingredients*" or "*initiating conditions*" that facilitate/makes possible so-called "*collective effervescence*" (the transformation of the ingredients into the outcomes), and describes "*ritual outcomes*" (p. 48). Collins does speak of games, if only in the form of sports, establishing that "*games are rituals*" (p. 58), but there is nothing that prevents the use of the theory in the wider games context.

The following are the outcomes of a successful interaction ritual as described by Collins (2004):

1. *Group solidarity, a feeling of membership;*
2. *Emotional energy in the individual: a feeling of confidence, elation, strength, enthusiasm, and initiative in taking action;*
3. *Symbols that represent the group: emblems or other representations (visual icons, words, gestures) that members feel are associated with themselves collectively; these are Durkheim's "sacred objects". Persons pumped up with feelings of group solidarity treat symbols with great respect and defend them against the disrespect of outsiders, and even more of renegade insiders.*
4. *Feelings of morality: the sense of rightness in adhering to the group, respecting its symbols, and defending both against transgressors. Along with this goes the sense of moral evil or impropriety in violating the group's solidarity and symbolic representations.* (p. 49)

The first two points look similar to what we are looking for; a description of positive emotions within a group, or "togetherness", the second being very similar to Goffman's "euphoric interaction". In addition, the larger gaming culture surely has both "sacred objects" (not only the game artefact itself, but also the numerous culture-related paraphernalia) and a jargon that fits the bill of "other representations" (see e.g. Fine, 1983), while the "feelings of morality" are easily seen in the treatment of cheaters or spoilsports (Salen and Zimmerman, 2004).

Having established that the outcomes of the interaction ritual provide what we seek, we turn to the ingredients; the four mentioned by Collins (2004) are:

1. *Two or more people are physically assembled in the same place, so that they affect each other by their bodily presence, whether it is in the foreground of their conscious attention or not.*

VI. Collins is not the first to "interpret" Goffman's work, see e.g. Lemert and Branaman (1997).

2. *There are boundaries to outsiders so that participants have a sense of who is taking part and who is excluded.*
3. *People focus their attention upon a common object or activity and by communicating this focus to each other become mutually aware of each other's focus of attention*
4. *They share a common mood or emotional experience.* (p. 48)

Given that an increase in these ingredients also increases the output in the form of emotional energy etc., and that the lack of an ingredient stymies the output or removes it completely, we see that these ingredients seem to be specific enough to be useful in the context of this study. If we can find out how to increase, or at least prevent, the lack of these ingredients, we can facilitate the outcomes. Next we turn to games, seeing if we can apply these concepts to those of games.

3.1 GAMES AS INTERACTION RITUAL

Looking at Collin's (2004) list of ingredients above, one can now make some observations on how games fit into this model. Of the abovementioned ingredients, the first ingredient proves somewhat vexing; many games are played even if the players are spatially separated – see e.g. *Left 4 Dead 2* (Booth, 2009) or *Payday: The Heist* (Andersson, 2011) for co-operative multiplayer games that arguably can promote feelings of performing activities as a group. Collins (2004) does address spatial separation in a later section "Is Bodily Presence Necessary?" (p. 53) where he argues that spatial separation is inferior in all respects. This is a position that Ling (2010) challenges in his book *New Tech, New Ties*, stating that modern technology has made us less reliant on physical co-presence. Fortunately, we do not have to put the two at odds; we can fix the spatial variable and talk about facilitation of the interaction ritual for a given set of spatial conditions.

The second ingredient, a boundary to outsiders, has been considered a very important component of games (see Huizinga, 1955), but has now been challenged through the emergence of so-called "Pervasive" and "Alternate Reality" games (Montola, Stenros and Waern, 2009). The establishment of the activity boundaries and the so-called "lusory attitude" – the willingness to submit to the agreement of the game – of the players (Suits, 1978) is what constitutes the activity. Expanded to the sphere of the group rather than the individual, the lusory attitude becomes a "lusory agreement" between the players. Problems occur when the boundary is unclear, or when

the particulars are uncertain of what the agreement actually entails; keeping them from investing heavily in the mutual endeavour.

The third ingredient, mutual focus, is linked to the player's ability to keep distractions out, but also to the amount of what Goffman (1959) considers "backstage" work – the maintenance of the ritual. Described somewhat differently than by Goffman himself in Collins (2004) as " … *the frontstage is the situation where attention is focused … the backstage is where work is done to prepare so that the focusing can be effectively carried out.*" (p. 24) In games, there are often no functionaries (LARP, which often has dedicated organisers, is an exception, as are e.g. croupiers at a casino and umpires at a sports game) to take care of backstage work, leaving this to the players themselves. Too much backstage work can easily break up player focus on the "frontstage" of the activity. However, some care is necessary here – as pointed out by Xu et. al. (2011), the "chores" of a game can actually serve a purpose for social interaction between the players.

Common mood is reciprocally tied to mutual focus through what Collins (2004) describes as "rhythmic entrainment" (p. 48), as the participants synch themselves to each other and the activity. The more the players are focused on the game activity, the greater the push towards a common mood, which in turn, leads to greater focus. Observe, however, that it is entirely possible for two players to be focused on the same activity, but each experiencing a different mood, so the process is far from automatic.

According to this approach, rituals come in both formal and informal variants, as well as different levels of intensity. Games occupy the breadth of both the formal-informal and high-low intensity scales, with competitive sports leaning towards high-intensity/formal, and more casual games towards low-intensity/informal, going hand in hand with Collins' (2004) notion that more formal rituals tend to be of higher intensity. Rituals can also fail, and failed rituals also occupy a continuum, from "falls flat" to "not as good as expected". "*Not all rituals are successful … Some are rebelled against as empty formalities, undergone under duress, gleefully discarded when possible*" (Collins, 2004, p. 50), and this also rings true for games; there are many things that can spoil or lessen the experience of a game. From the quote, this would, for example, be games that have too many rules ("formalities") compared to what the player gets out of it, or when you agree to play even if you do not want to, which both lessen engagement. Looking at the ritual ingredients mentioned above, we quickly arrive at examples such as cheating or people dropping out (boundary to outsiders), lack of focus on the game resulting from too much excise (mutual focus) and players having vastly different views on what mood should be prevalent, or simply experiencing

a dissonant mood (shared mood). Fortunately, in the words of Collins (2004): "*These variations are useful for refining our theory, and for testing the conditions that make rituals operate*" (p. 50).

The comparison between games and ritual is not entirely new; more or less solid parallels have been drawn by e.g. Lawson and McCauley (1990), Kari (2001) and Ericsson (2004). Recently, however, Lieberoth and Harviainen (in press) made more concrete observations while theorising on games, play, fun and ritual, but were also careful to point out a significant difference between the game-ritual and the religious ritual: "*while games take a step away from reality, religious rituals aim to move participants closer to* ultimate *reality*" (p. 10, original emphasis). The authors analyse similarities on functional, cognitive and information levels, reaching the conclusion that, yes, games and religious rituals are very similar (Lieberoth and Harviainen, in press). Xu et. al. (2011) use both Goffman and Collins in their study of board game interaction in a manner very similar to this study; examining how a particular feature of board games ("chores") affects their function as an interaction ritual by looking at Collins' ingredients. While e.g. Huizinga (1955) also speaks of games, play and ritual, he does so in a more general sense, never outlining components specific enough for use in this context.

With these puzzle pieces in place, there is finally a working model for the continued study, satisfying steps A and B from the introduction. If we can find the components of games that constitute the ingredients of a successful ritual, and how to design towards these, we will have progressed towards the successful prosecution of the research question. Thus, we turn to the articles of this thesis, but first something on the methods employed within.

4. METHODOLOGIES

The wide legacy of early game studies has provided the field with a breadth of methods generally used, and the work in this thesis have a similar diversity of methods. An array of research methods has been used, and the same method is used somewhat differently in different articles. This section will detail the methods used, and place them in more perspective than was possible in the individual articles; both because of space constraints and a more focused horizon inside the specific projects. While not a method per se, there is also a section on the role of researcher experience, as it is a source of data, and has had important effects on the research process.

4.1 DESIGN ANALYSIS – LOOKING AT THE GAME ARTEFACT

For two of the included articles (Lundgren, Bergström and Björk, 2009, Bergström, Björk and Lundgren, 2010) the main method was an analysis and comparison of the design artefact, i.e. the physical game itself. This is not uncommon in interaction design research (see e.g. Pearce, 1994). From a design perspective it can be important to look at the finalised product without the presence of outside users, as the users themselves can become such an important variable; different users can lend widely disparate interpretations, confounding the issue. There are also pragmatic considerations – involving users can be very costly, they cannot be kept around constantly and depending on the research questions involved, are not particularly important. In this case, the purpose was not the included games, but rather the exploration of design language with the games as an example. With some of the studied games, this overlapped with participatory observation; it is difficult to get a thorough picture of a multi-player game such as e.g. *Left 4 Dead 2* (Booth, 2009) without playing it with a group. In any case, the intention was never to conduct a "pure" analysis *per se*, but the theoretical approach did not necessitate going beyond artefact analysis. In most cases, more than one researcher looked at each artefact in order to increase reliability.

4.2 OBSERVATION AND PARTICIPATORY OBSERVATION – BEING WHERE THE GAMEPLAY HAPPENS

Observation – including participatory observation – is a general method used in several academic disciplines (Malinowski, 1922, Ellis, 2004), game- and

design studies included (see e.g. Fine, 1983, or Denward, 2011). When unable to extrapolate from the artefact and seeking a wider perspective than the personal experience, it is necessary to seek out the activity itself and those that participate in it. Fine (1983) writes: "*typically these projects involve little 'participation' in that the participant observer takes on the clumsily defined role of 'sociological observer' … The researcher is essentially engaged in 'unsystematic observation' or in Gold's (1958) classification, 'observer as participant.' Because the researcher's role is outside the interaction system of the group, it is impossible to be reflexive about members' knowledge (see Rabinow 1977).*" (p. 243)[VII], and he is not alone; when studying role-playing-games, for example, scholars Mackay (2001), Cover (2010), Bowman (2010) and Tresca (2010) all use a similar approach, as does MMORPG[VIII] researcher Taylor (2006). Several articles in this thesis used observation methods of some kind to collect data, both systematic and less so. The level of structure was also different between different studies; sometimes with recording and extensive notes, and sometimes in a more natural setting. While the more formal aspects might have lent an air of "scholarliness" to the research, it is doubtful whether this actually contributed anything to the data collection – with a more sensitive subject it is natural, but in several cases during these studies it prompted frowns and raised eyebrows from the respondents, undermining the credibility of the researcher rather than reinforcing it. Accordingly, many formalities were omitted or changed to better fit the research environment during work with the later articles.

An alternative to in-person observations would have been something like video observation, used earlier in game studies by e.g. Linderoth (2004). This was discarded on pragmatic grounds – the benefits of using a camera did not outweigh the extra resources required, and might even have provided worse data given the respondents' reactions to the formalities. Also, a participant researcher allowed for in-situ questions when things came up during gameplay that needed clarification.

4.3 INTERVIEWS AND FOCUS GROUPS – INTO THE MINDS OF THE GAMERS

While observation can be a useful tool to form an understanding of what happens between the players, it is less suited to understand how the individual players think and reason during the activity. A specific observation can be interpreted in several ways, and often it is impossible to know for sure

VII. Fine is quoted rather than Gold or Rabinow, since it is he that puts it in a TRPG perspective.

VIII. Massively Multiplayer Online Role Playing Game

unless you ask. Several of the included articles used extensive interviewing to collect data, both in individual and group formats. Alternatives such as a questionnaire, although used during the TA2 project, was not considered feasible – although a greater number could have been reached, an exhaustive back-and-forth between researcher and respondent would not have been possible.

The interviews were largely conducted according to the "reflexive" tradition championed by Thomsson (2002), and were very participatory in nature – the respondents were informed of aims, theories, progress and so forth, and invited to take part in the creation of knowledge. Kvale (1997) paints a parable of the "miner" versus the "traveller" (p. 11, translated from the original Swedish) as a metaphor for the researcher either "mining" data that is already there, or "travelling" with the respondents into his or her context, forming and structuring their thoughts into theory, looking for patterns, always reflecting back towards the respondents. The interviews conducted during the work with this thesis tended heavily towards the latter. In some ways this approach also bears semblance to the grounded theory approach of Glaser and Strauss (1967).

In both the focus groups and the group interviews, the participants were encouraged to comment on each other's ideas and offer criticism of anything on the table, albeit in a constructive manner. Debate and discussion were also encouraged, but moderated by the researcher. Just like the observations, the first interviews were more formal and structured, but as respondents heavily favoured a more relaxed and open format, it was quickly adapted.

The respondents were recruited both through the extended network and through notices on message boards for the intended community. The samples were heavily biased in favour of male respondents with a few exceptions; recruiting suitable female respondents proved difficult. Efforts were made to diversify the sample, including "headhunting" female respondents, but were largely unsuccessful.

4.4 INCREASING VALIDITY THROUGH SECOND OPINION

In an attempt to increase overall validity, the later articles (all but the aesthetics articles) were presented for review by external people (not previously included in the study, but in roughly the same demographic as the respondents), without comment, to see if the findings concurred with their understanding, and if the results as a whole "made sense". This was done in order both to make sure the language used was accessible, and to combat

group-think (Aronson, 2007) among the respondents and/or researcher – a real concern in some cases because of the unusual amount of communication between the respondents. In many cases this honed the ideas and presentation of the articles.

4.5 THE ROLE OF RESEARCHER EXPERIENCE

Experience can be a tricky thing for a researcher. A researcher of games that claims "experience with games" claims something entirely different than a researcher that claims e.g. "experience with prostate cancer". In the former case, the researchers that *have* not played the games they look at are probably in the minority; in the latter case, the researchers that actually *have* had prostate cancer are probably in the minority. And just like we would raise our eyebrows at someone saying that researchers that have not had prostate cancer could not say anything about it, we too raise our eyebrows at someone talking about games without actually having played them. Apparently, the subject matter is very relevant to the role of researcher experience, and there are two things to consider – the relevance of personal experience (in the above case, it is doubtful whether a researcher studying the pure biology behind prostate cancer would benefit from the experience, for example) – and whether personal experience can be acquired without complications (a criminologist, for example, would have greater difficulty acquiring personal experience without complications than a game researcher).

Lindwall and Lymer (2005) touched upon this subject in an article on ethnomethodology, speaking of "vulgar competence" (Garfinkel and Wieder, 1992) as a necessity when conducting studies in certain fields. "*The first analytic commitment is to become vulgarly (ordinarily) competent in relation to the phenomenon or practise under scrutiny … For competent members, formulations and activities makes sense, but for a newcomer to a specialized setting it is impossible to fully grasp what is going on … it is not enough to have a general idea of what anaesthesiology, physiology or science is about; it is not enough with a 'layman's gloss' …* " (p. 390). Although none of the examples used relates to games, the sentiment is entirely applicable to their study; the world of games is a particularly poignant example of a "specialised setting" where newcomers or outsiders can have great trouble recognising what is taking place.

Note that this is different from autoethnography (Ellis, 2004) and refers specifically to experience gained *prior* to the adoption of a scholarly, reflective mindset. Not to say that such reflection could not have taken place, but if so, in more of an unsystematic manner.

In the studies contained in this thesis, the authors had extensive personal experience with the games under study. This experience helped guide the subsequent research, choose appropriate methodologies, form relevant questions to and establish rapport with respondents, but was never the sole data source.

5. SUMMARY OF PUBLICATIONS

Below follows a summary of the articles included in this thesis. Included is also a note on the level of contribution from the author in the case of multiple authors. The articles are divided by subject matter along the lines drawn in Björk (2008) to show three different approaches to the study of games, and also by interaction ritual ingredient. Three of the included articles look at digital games, three at board games and three at tabletop role playing games (there is overlap).

5.1 GAMES – DESIGNING TOWARDS THE "MOOD" OF A GAME

Focussing on the game artefact, these two articles were written together with fellow researchers, seeking to explore how patterns of gameplay (Björk and Holopainen, 2005) can be extended to encompass the aesthetic or experience of gameplay, and at the same time combining these aesthetical patterns into specific design ideals. Although ultimately dealing with player experience, they are sorted under the game heading, since they look only at the artefact and how the design of this artefact can affect player experience.

EXPLORING AESTHETIC IDEALS OF GAMEPLAY

(Lundgren, Bergström and Björk), presented at the Digital Games Research Association 2009 conference

Opening with the oft asked question "what makes a game good?" and "is it possible to suggest a 'good' game to another even if you don't like it yourself?" this article constitutes a theoretical exploration of aesthetical gameplay ideals. Gameplay in this context is the execution of the game by the gamer(s), the "gestalt" of the player and the rules. "Aesthetical" refers to the experiential dimension of the gameplay, and "ideal" is a set of preferences. These gameplay ideals are illustrated as collections of gameplay properties, and several examples are given. The article concludes that it is possible to talk about "good" games – what makes a game good is if it matches the aesthetical preferences of the player. "*To suggest a game to someone else is simply*

the act of matching one's understanding of the game's gameplay with one's perception of another person's aesthetical ideals" (p. 7).

CONTRIBUTION: Writing was shared between the three authors on an equal basis.

EXPLORING AESTHETICAL GAMEPLAY DESIGN PATTERNS – CAMARADERIE IN FOUR GAMES
(Bergström, Björk and Lundgren), presented at the MindTrek 2010 conference

What was grounded in the former article is brought further here, as the authors trace the mechanical basis for one specific aesthetical gameplay ideal; that of "Camaraderie", intended for those that wish to experience feelings of group solidarity and/or the joy of accomplishing things as a team. The authors analysed several specific games designed to encompass this ideal, and using the language of gameplay design patterns (Björk and Holopainen, 2005) describes how the aesthetical patterns of a game could be derived from its dynamical patterns, which in turn, arises from its mechanical patterns.

CONTRIBUTION: First author. Writing was shared between the three authors on an equal basis.

5.2 GAMING – MAXIMISING FOCUS BY MINIMISING "BACKSTAGE WORK"

These two articles are companion pieces in that one is a good example of practical design research, and the other presents the theoretical underpinnings of the former. They are placed under the gaming header because they both relate directly to the support of the gaming activity, and the designed prototype does not constitute a game in and of itself.

UNDERCURRENTS – A COMPUTER-BASED GAMEPLAY TOOL TO SUPPORT TABLETOP ROLEPLAYING
(Bergström, Jonsson and Björk), presented at the Nordic Digital Games Research Association 2010 conference

Being the most practical design-research-oriented piece of this thesis, *Undercurrents* was a prototype computer gameplay support tool, intended to harness the potential of digital gaming into the non-digital realm without

bringing any of its drawbacks. As such, it strived to support rather than completely mediate the gameplay of tabletop role-playing games, providing additional capabilities and easing what was earlier accomplished with more time- and focus-consuming methods. From the start it was devised as a user-centred project, and kicked off with several focus groups of TRPG game-masters to inquire about their and their player groups' specific needs during play. As the concepts and prototype matured, running tests were made with player groups as the prototype was iterated several times. Because of time- and resource constraints, all proposed features were not implemented in the final prototype, but core functionality, the ability to send messages over a parallel communication stream and documenting the ongoing game were tested successfully.

While technical requirements probably took more time and focus than the prototype saved, the concept as such was validated by the test users, and subsequent commercial developments of computer gameplay support tools (mentioned in the introduction) seem to indicate that this has merit.

CONTRIBUTION: First author. The author initiated the study, developed the concept, conducted all focus groups/interviews and wrote the main part of the article.

FRAMING STORYTELLING WITH GAMES

(Bergström), presented at the International Conference on Interactive Digital Storytelling 2011

This is the theoretical companion piece to the article above, and develops reasoning on how to best support storytelling-game activities with technical support tools by a better understanding of the anatomy of a game session. Using the Goffman (1974) frame concept, the work of earlier scholars was refined with the help of player focus groups and interviews. The aim was to provide a framework for the "text" of a storytelling session that allowed utterances during play to be sorted into a number of different frames, depending on if they belonged to the diegesis of the story being told, the system of the game, the activity in general or outside the activity completely. The article concludes with examples from ongoing development in the TA2 project, and discusses how the insights of the article can be worked into the design of support tools.

CONTRIBUTION: Sole author.

5.3 GAMERS – CLARIFYING THE BARRIER TO OUTSIDERS

While it might seem counterintuitive that rules are the subject of both articles under the "gamers" header, they both deal directly with players and play culture. The latter article was initially conceived as something closer to the game artefact, but as the work progressed, it became evident that the rules of the specific games in the study were less important than the expression of creativity by the gamers themselves, and thus shifted in focus.

THE IMPLICIT RULES OF BOARD GAMES – ON THE PARTICULARS OF THE LUSORY AGREEMENT

(Bergström), presented at the MindTrek 2010 conference

In this article, the implicit rules of board games are examined in an attempt to understand how players construe their activity, and how/if transgressors are punished. From an interview data-set, an outline of common implicit rules of gaming are presented, along with a "hierarchy of punishment" for transgressions. Some design implications are discussed, the foremost being that one must develop an understanding of how the rules of the game (the designed/written rules) interact with the culture of gamers and group processes. While restricted to board games, the obvious parallels to digital gaming are also drawn in the article, with implications for e.g. e-sports.

CONTRIBUTION: *Sole author.*

CREATIVITY RULES – HOW RULES IMPACT PLAYER CREATIVITY IN THREE TABLETOP ROLE-PLAYING GAMES

(Bergström), published in the International Journal of Role-playing #3 (in press)

What was intended as a much more rules-oriented article, developed into something different as the data-set matured, and ended up as a much more player-centred study. It outlines several different roles that the rules of a game play in the creative process, and how these roles are important for different types of creativity. TRPGs remain both an intimate and diverse activity, where problems surrounding the group agreement can be especially acute (Fine, 1983). Different players are not only interested in vastly different games; they are also usually rather particular about the people they play

with and how one should play a specific game; making discussions on styles and cultures of play that much more important.

Ritual failure was not the focus of this article, even if the respondents touched upon this in their own words occasionally. It was evident that interpersonal dealings between role-players were much more sensitive than between e.g. board gamers, probably because of the relative intimacy of the activity, the tighter material restrictions on group size and the required investment.

CONTRIBUTION: Sole author.

6. FACILITATING INTERACTION RITUAL

During the work with the first articles, the idea of using interaction ritual theory was not yet fully formed, but as the work matured, so did the theories surrounding it. The work with the different articles shed light on what criteria a useful model had to have, and rather than developing a new model from scratch, one was identified that suited the overall purpose. Ultimately, Collins' (2004) model for interaction ritual proved able to both serve as a working definition of togetherness and explain why exactly the work contained herein could be said to facilitate it.

Going back to Collins' ritual ingredients, recapitulated here for convenience, we now look at how the articles contribute to a successful interaction ritual. Each of the article pairs above serves to facilitate one of the three pertinent ritual ingredients mentioned earlier (presented here in a somewhat different order than mentioned by Collins).

6.1 "…SHARE A COMMON MOOD OR EMOTIONAL EXPERIENCE"

The articles of the "game" pair both deal with the "common mood" ingredient, taking first steps towards understanding the "moods" of games and how they come about. The issue of game aesthetics can be somewhat difficult, since the term is used so broadly (see Nidenthal, 2009), but the approach to aesthetics in the articles is very similar to that of Lim et. al. (2007), who view aesthetics as a more overarching experience (and not only dependent on e.g. graphical components), and also aim to "*help designers thinking about* designing aesthetic interaction" (p. 239, original emphasis). They are somewhat less concrete and of more of a theoretical-exploratory nature than the other articles, and deal with only one component of the mood of a game – that of gameplay. That components such as theme and presentation affect the overall mood is not refuted but is not in the scope of the articles. The first of the two (Lundgren, Bergström and Björk, 2009) establishes the idea of a common mood, an aesthetical ideal, of gameplay. The second (Bergström, Björk and Lundgren, 2010) follows up by exploring one such common mood, that of Camaraderie, and tries to trace its game-mechanical underpinnings. While insights into the Camaraderie ideal might be seen as progress towards our research question all on its own, seeing as it deals with

positive experiences in a group, this is not the primary contribution of the article. Instead, it links player experience to design through a language of expression, further allowing us to speak about the kinds of experiences we would like to see and design into a game, which goes into the establishment of a common mood among the players.

6.2 "PEOPLE FOCUS THEIR ATTENTION UPON A COMMON OBJECT OR ACTIVITY…"

The second "gaming" pair focuses on the "focused attention" ingredient by looking at support tools for gameplay. Rather than mediating the experience completely, such as in a computer game, support tools of this nature minimize what Goffman (1959) calls "backstage work" (as interpreted by Collins, 2004), allowing the players to focus on the experience itself – compare, for example, with the concept of "excise" (Cooper and Reimann, 2003), the minimization of which is described as a fundamental towards good gameplay in Lundgren, Bergström and Björk (2009). Although Xu et. al. (2011) see an important purpose in what they dub "chores", they studied board- and not role-playing games, which are fundamentally different by nature. Players e.g. are usually much more concentrated on the task, and the social exchanges mentioned by Xu et. al. largely take place before and after the game instead (or are at least supposed to, see Bergström, 2011). The earlier of the articles (Bergström, Jonsson and Björk, 2010) describes one specific example of a game support tool, the second (Bergström, 2011) provides theoretical background. There is also a possibility that support tools can be used to do more than minimize backstage work; odds are that we can also apply them to the "mutual co-presence" ritual ingredient (otherwise untouched in this thesis), allowing people a more "present" feel even if they are not. Audio and/or visual enhancements provided by the system might also contribute to a common mood, further strengthening the interaction ritual.

6.3 "THERE ARE BOUNDARIES TO OUTSIDERS SO THAT PARTICIPANTS HAVE A SENSE OF WHO IS TAKING PART AND WHO IS EXCLUDED"

The last, "gamer" pair approaches the lusory agreement from two different angles for two different forms of games – board games (Bergström, 2010) and tabletop role-playing games (Bergström, in press). The lusory agreement or "magic circle" is the "boundary to outsiders" of the game as interaction ritual. This boundary can be a sensitive one, and sometimes

misunderstandings on what exactly it entails can disrupt the gaming activity, or keep it from its full potential. As gamers learn to better negotiate and understand their activity, it will be easier to "synchronise" player expectations. Naturally, this is also somewhat pertinent to "common mood"; as some of the issues mentioned in the articles doubtlessly also affect the mood of the game. How players construe their gaming encounter in order to form a clearer magic circle – one that has the correct people inside and others outside – are the main contribution of these two articles. The implicit rules in a group is intimately tied to this barrier (Bourdieu, 1984) and some groups have very extensive and elaborate systems of implicit rules in order to keep outsiders at bay (Barr, 1983). The implicit rules of games are no different, but given that gaming culture is relatively young (especially, as in this case, board gaming culture), many of the implicit rules still have a functional purpose and are not primarily traditional. Besides what it teaches us about the barrier, the implicit rules article is also interesting as it looks at the part on transgression in the light of failed interaction ritual, as many of the implicit rules directly address activity-threatening problems that can appear during play. This was not covered as extensively in the TRPG article, probably because the issue was somewhat sensitive to the respondents. Instead, it focused on differing views on creativity, and the role of rules in facilitating different kinds of creativity. They also underline the fact that game design truly is second order design (Salen and Zimmerman, 2004) – there is a lot that happens in the meeting between the players, their play culture and the game artefact.

7. DISCUSSION

Given the more specific findings described above and in the following articles, it could also be fruitful to discuss wider design implications of the work of this thesis. If looking at gaming as an interaction ritual, and going by Collin's (2004) ingredients, it would seem that in general, games should A., with regards to the "boundary to outsiders", attempt to clearly communicate what will be required of the participants, B. with regard to the "shared focus", strive to eliminate or reduce unnecessary elements that detract from the player's ability to focus on the game, and C., with regard to a "common mood", look to establish as clearly as possible what the aesthetical (experiential) goals of the game are. Only some of this can be addressed in the game artefact itself; designers would also be wise to foster and take part in an ongoing discourse on games and gaming. It would also seem that the more players are involved in design, the better the potential for rewarding discussion and exchange on these topics.

As was mentioned in the introduction, many scholars have explored the potential use of games in areas other than entertainment. It is, however, the position of this thesis that games are also worthy of study for their intrinsic value, much like film- or literature studies. Smuts (2005) debated the question of "are (video) games art?" and it is a very valid question (even if Smuts is unnecessarily narrow, talking only of video games). Unfortunately, the bulk of later years' game studies have been focussed on digital games and game-like expressions, thus not only missing the phenomenon's roots, but also the breadth of games available. We might as well say "no game is an island" because games do not exist in a vacuum; every game is influenced by other games before it, regardless of genre or format. See e.g. Barton (2008) for how tabletop role-playing games have influenced computer role-playing games. This thesis is written with the understanding that every game genre and/or format can benefit from greater understanding of other genres/formats and/or games as a whole. Exploring the breadth will help the depth.

Even if this work is aimed at designers, at the same time it tries to challenge the dichotomy between the "active" producing designer and "passive" consuming gamer. Gamers have always modified, appended, pruned and otherwise changed the games they play, and the true classics such as Go or Chess are closer to evolved[IX] entities, having matured over the years (Parlett, 1999). While everyone cannot make a triple-A videogame title, tools

IX. See the quote by Jones (1970) in an earlier footnote.

for modding[X], such as the *Hammer* editor (Morris and Bernier, 1996) or *The Elder Scrolls Construction Set* (Howard, 2002) are readily available; both the widely successful *Counter-Strike* (Le and Cliffe, 2000) and *DOTA* ("Feak", 2003) started as mods. Changing non-digital games is usually even easier; nowadays it is easy to print and publish your own board game with services such as *Game Crafter* (thegamecrafter.com). There is also a growing market for tools that are not games themselves but support the activity, such as the *iTStone* (Obermeyer, 2010) or *iDominion* (Obermeyer, 2010) applications for the iPhone that provide randomized card sets for the respective games, or *Ex-illis* (ex-illis.com), which combines the computing power of the iPad with the kinesthetics of tabletop miniature gaming. That these are developed for mobile platforms is, of course, no coincidence, the personal computer previously being too cumbersome to have next to your game. There are also digital tools for the rapid realization of game designs such as *Vassal* (Kinney, 2003), further shortening the divide. In the 2008 book *Deltagarkultur* (eng. "*Participatory Culture*") Haggren et. al. makes the case for culture where the distance between the consumer and producer is very small or even eliminated completely. Embracing the participatory culture aspect of games can only help strengthen games as a whole. Thus, it is perhaps more fruitful to say that this work is aimed at the design of games and the understanding thereof, regardless whether you are primarily a "gamer" or a "designer" rather than focussing on the one or the other.

The gamer-as-designer will likely become even more pronounced in the future as editing tools and print-on-demand services become more available. Many more established designers have also started to release their products earlier, letting the users in on the design process through ongoing feedback. The Swedish game *Minecraft* (Person, 2009) undoubtedly benefited greatly from such a process, for example. In some cases this is probably a genuine attempt at involving users, in others an attempt to save on in-house playtesting. Within the board gaming community, living rules and player involvement are nowadays commonplace, given the increased possibilities of communication logistics provided by the Internet (see e.g. boardgamegeek.com). The same is true for the players of TRPGs (see e.g. rpg.net).

If we go back briefly to the games that were left out of focus in this thesis, such as sports, children's games and single-player games, we can still attempt to gauge if the results of this work could be more widely applicable. When it comes to traditional, established sports, we find that although the theories of interaction ritual are readily applicable to sports and can help us understand many related phenomena – Collins (2004) even uses the sports

X. Modifying an existing game.

game as an example – the findings are less so. Established sports are by definition established, and although the rules are tweaked now and then (see e.g. Johnson et. al., 2006) there is very little ongoing design work present. Less established sports might be somewhat more "malleable" but not much; instead, it seems that it is when sports are still considered games (in common parlance) that they change the most, and presumably, could use the most design think. Children's games share a similar pattern. Although the theories and perhaps frameworks are applicable, the thesis content is less so, seeing how children's games evolved, rather than designed (see Hughes, 1983, for a treatment on the development of rules in children's games). The *New Games Movement* (Tembeck and Fluegelman, 1967) was a remarkable exception, and should anyone embark on a similar endeavour in the future, it is possible that some of the content might be applicable. A discussion on the aesthetical gameplay patterns of children's games, for example, might be very fruitful if, as the *New Games Movement*, one was aiming at certain design goals. When it comes to single player games, one must first observe that the line between single- and multiplayer games are not always clear cut. Many games (even non-digital games, but it is more rare) can be played in both modes, and there are games such as *Deaths* (Venbrux, 2008) and *Dark Souls* (Miyazaki, 2011) that seem to blur the line even further. In *Borderlands* (Helquist, 2009) and *Dead Island* (Marchewka, 2011) players can shift between the modes freely, using the same character. While the interaction ritual theories are less applicable, (unsurprisingly, as they deal with people interacting with each other) some of the content of the individual articles in the thesis is very pertinent to single-player games, such as the discussion on the ideals of gameplay or the framing of storytelling.

Returning to Fallman's (2008) triangle mentioned in the design research chapter, if we position the articles of this thesis we find that the two articles on aesthetics (Lundgren, Bergström and Björk, 2009; Bergström, Björk and Lundgren, 2010) form a neat trajectory between design studies and exploration; moving between the development of concepts and methods for the description of gameplay aesthetics and the exploration of particular aesthetics. That said, it is not too deeply imbedded into Fallman's original definition of design exploration, since no novel design is introduced, even if he describes "aesthetics" of interaction as a central part. The *Undercurrents* (Bergström, Jonsson and Björk, 2010; Bergström, 2011) articles, on the other hand, constitute a tight loop between design practice and design studies, given that the *Undercurrents* prototype was developed directly in conjunction with the intended users – even if these were not stakeholders in the usual commercial sense. During the process, the theoretical perspective was ever present,

the two fuelling each other, finally resulting in two separate articles – one on the practical work and one on the theoretical perspectives behind it. The two remaining articles, on implicit rules and creativity, are harder to place. They are both theoretical pieces, developing frameworks describing what happens during interaction, but developed so close to those that might use these frameworks that they are also inclined towards design practise. The article of creativity is also pointed towards exploration in the sense that it handles the effect of rules on creativity, which must be seen as an aesthetical aspect. In a sense, both articles form loops, but they are not nearly as neat or easy to define as in the earlier case.

7.1 FUTURE WORK

There are several things to consider when contemplating future work in the vein of this thesis. Since the development of *Undercurrents*, the tablet personal computer has reached the mainstream, and as mentioned earlier, several new gameplay support tools have reached the market. The tablet PC provides capabilities superior to those found in the prototype platform, and should fulfil the requirements of such a system (as mentioned by the respondents) even better. While still not cheap enough for everyday consumption, tabletop computers such as the *Microsoft Surface* are becoming cheaper and could potentially be used in an extension to the system (see e.g. Hartelius, Fröhlander and Björk, in press). Another iteration of *Undercurrents* would benefit greatly from the new platform, and could possibly incorporate and test more of the features proposed by the focus groups, as well as include some thorough longitudinal testing with player groups.

The exploration of aesthetical gameplay ideals is, of course, expandable to further ideals, such as *Pottering* (Lundgren and Björk, in press), but it could also be interesting to attempt the development of a game to maximise one aesthetical ideal, such as camaraderie. It could also be taken in the direction of exploring the aesthetical patterns of other game components, such as the aesthetical patterns of theme or style, for example. Methodologically, using respondents to formulate aesthetical ideals/patterns could also be a rewarding undertaking.

When it comes to the less-researched games, such as TRPGs, an "exploratory quantitative" study would be a boon to many; there is a lack of solid data on the number of players, player preferences, styles, group patterns, national differences, etc. What are currently available are (sometimes) sales figures from major game companies, which are even less useful than similar figures for e.g. digital games, since all players do not purchase their own set

of books, and many buy more than they play. Unfortunately, such an investigation would require more resources than have been previously available.

The logical next step for framing of storytelling with games (Bergström, 2011) would be to study transcripts of role-playing sessions and frame what is being said according to the classification framework in the article. This could potentially yield answers to a number of questions related to storytelling games: what role do the different frames play during the activity? What is the frequency? Where could support tools be used for maximum effect?

7.2 STUDY/THESIS SHORTCOMINGS

All scientific work has shortcomings; for maximum transparency those that have surfaced during the work or have become apparent during later analysis are accounted for here. They are mainly related to the breadth of the research question and limited sample sizes/diversity. It is hard to provide an exhaustive answer to such a broad question, but this would probably hold true even if the study was focussed even further. Interaction ritual is, of course, but one of many possible ways to look at how people relate to each other, and there are probably many ways to look at the facilitation of the specific ingredients, not to mention many types of games. However, the underlying theories are sound, even if the content can seem rather specific compared to the scope of the thesis question. Thus, it is probably best to look at the more specific content as examples of the use of the established frameworks, if looking for maximum generalizability.

The main restriction on sample sizes was resources and access – the collection, processing and analysis of data is resource intensive – resources that were not always available during the project. Access to suitable respondents is also tricky; most were recruited through the extended network and online notifications, and might therefore be subject to some sample bias. Unfortunately, recruitment is also resource-heavy, and the individual projects attempted to keep a careful balance between recruitment, collection, analysis, etc. A balance was also struck with respect to sample diversity – some homogeneity is necessary for patterns to emerge, but too much, and the sample ceases to be valid for the greater population.

Working as an industrial PhD during the process has carried both potentials and drawbacks when it comes to access to resources, the demands of the projects, and the different environment, culture and traditions of a research institute compared to a more traditional, university academic institution. The industrial PhD has not one, but three masters to relate to – the professional “regular job”, the demands of the specific project, and the

eventual doctoral dissertation. Added to this are the special demands of design research when designing an artefact such as *Undercurrents*; production requires access to the resources of several individuals, and any result is bound to be the consequence of compromise. It is, however, doubtful whether these additional demands are strictly a drawback to the process. While the ability to focus more wholly on exactly what you want certainly is a boon, it can also keep you isolated from a more realistic context.

8. CONCLUSIONS

This thesis set out to explore how games bring groups of players together, and what can be done from a design perspective to facilitate their use in this regard. To this end, four research steps were identified: A. find a model of togetherness that can be used in this context, B. examine gaming in the context of this model, C. uncover the components of gameplay that affect togetherness, and D. find out what designers can do about it.

Goffman's (1967) take on interaction ritual, as presented by Collins (2004), has been found to be a suitable model of togetherness because it combines applicable scale and level of specificity to be useful. "Togetherness" in this regard is described as the different outcomes of the interaction ritual – particularly when it comes to feelings of group membership and emotional energy. It outlines four different "ritual ingredients" that need to be present for an interaction ritual to take place, and by identifying them with respect to games we find how we can facilitate togetherness through games as an activity.

Given interaction ritual as a working model of togetherness, the four ingredients it provides can be put to use to examine games. The first, "bodily co-presence", is less applicable than the other three, but those have proven readily useful for the thesis' purpose. The second, "barrier to outsiders", is comparable to the game's magic circle or lusory agreement. The third, "mutual focus of attention", is akin to the engagement that the players have towards the game, and the fourth, "shared mood", is essentially about the player's common aesthetical experience of the game.

With these ingredients identified as components that can be related to gameplay, how these can work or fail to work can be described. One of the important factors of the lusory agreement is its clarity – do the players know exactly what it entails? With a clear picture of what, exactly, is agreed upon, the game has a much better chance of eliciting a positive experience, or alternatively ruin the experience if players have differing opinions on exactly what they are doing. Engagement is served by keeping the players focused on the game, which can be severely hampered if the minutiae of the game get in the way of actually playing the game. The experiential aesthetics of the game needs to be somewhat similar for each player in order for them to amplify each other's experience, or conversely, if it is too dissimilar, fails to reach its full potential.

While it is impossible to exhaustively describe all ways to facilitate togetherness through design, the included articles provide examples. By

clarifying the lusory agreement, such as by developing an understanding of not only the explicit rules of the game but also the implicit (Bergström, 2010), or by looking at what role the rules play in shaping what is central to the game (Bergström, in press), we increase the likelihood that players will be "in synch" with their activity. By eliminating or reducing the amount of "backstage" work necessary for the game, such as by using digital support tools (Bergström, Jonsson and Björk, 2010; Bergström, 2011) we improve a player's ability to focus on the pertinent aspects of the game. By developing an understanding of the different moods games create and through which methods/mechanics (Lundgren, Bergström and Björk, 2009; Bergström, Björk and Lundgren, 2010) we build the foundations for a shared experience.

Taken together, the above serves as one possible way of answering the posed question in the introduction of the thesis of how games can be designed to support togetherness. Besides this, hopefully this thesis illuminates the breadth of games available, as well as lessens the divide between the "gamers" and the "designers". In the words of Jones (1970), as applicable to games as the larger societal issues he was talking about: " … *it is high time that everyone who is affected by the oversights and limitations of designers got in on the design act*" (p. 31).

9. REFERENCES

Aarseth, E. 2001. Computer Games Studies, Year One, introduction to the *International Journal of Computer Game Research* 1(1).

Alexander, C., Ishikawa, S. & Silverstein, M. 1977. *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press.

Andersson, U. 2011. *Payday: The Heist*, Sony Online Entertainment.

Aronson, E. 2007. *The Social Animal* (10th edition), Worth Publishers.

Avedon, E. M. & Sutton-Smith, B. 1971. *The Study of Games*, John Wiley & Sons.

Barr, A. 1983. *The official Sloane Ranger handbook: How the British upper class prepares its offspring for life*, St Martin's Press.

Barton, M. 2008. *Dungeons & Desktops*, AK Peters Ltd.

Bennahum, D. S. 1997. *Extra Life*, Basic Books.

Bergström, K. 2010. *The Implicit Rules of Board Games – on the particulars of the lusory agreement*, included in this volume.

Bergström, K. 2011. *Framing Storytelling with Games*, included in this volume.

Bergström, K., Björk, S. & Lundgren, S. 2010. *Exploring Aesthetical Gameplay Design Patterns – Camaraderie in Four Games*, included in this volume.

Bergström, K., in press. *Creativity Rules – how rules impact player creativity in three tabletop role-playing games*, included in this volume.

Bergström, K., Jonsson, S. & Björk, S. 2010. *Undercurrents – A Computer-Based Gameplay Tool to Support Tabletop Roleplaying*, included in this volume.

Björk, S. & Holopainen, J. 2005. *Patterns in game design*, Cengage Learning.

Björk, S. 2008. Games, gamers, and gaming. In *Proceedings of the 12th international conference on Entertainment and media in the ubiquitous era – MindTrek '08*. New York, New York, USA: ACM Press, p. 64.

Björk, S. & Holopainen, J. 2005. *Patterns in Game Design*, Charles River Media.

Boardgamegeek Internet community – http://www.boardgamegeek.com/

Bogost, I. 2007. *Persuasive Games*, The MIT Press.

Booth, M. 2009. *Left 4 Dead 2*, Valve Corporation.

Bourdieu, P. 1984. *Distinction: a social critique of the judgement of taste* (translated by Richard Nice), Routledge & Kegan Paul.

Bowman, S. L. 2010. *The functions of role-playing games: how participants create community, solve problems and explore identity*, McFarland.

Branscombe, N. R. & Wann, D. L. 1991. *The Positive Social and Self Concept Consequences of Sports Team Identification*, Journal of Sport and Social Issues 15(2), pp. 115–127.

Browne, C. 2000. *HEX Strategy*, AK Peters.

Callois, R. 1961. *Man, Play and Games*, Free Press of Glencoe.

Chen, S. & Michael, D. 2006. *Serious Games: Games that Educate, Train, and Inform*, Thompson Course Technology.

Collins, R. 2004. *Interaction ritual chains*, Princeton University Press.

Cooper, A. & Reimann, R. 2003. *About Face 2.0: The Essentials of Interaction Design*, Wiley; 1st edition.

Costikyan, G. 1994. In Salen & Zimmerman (eds.) T*he game design reader: a Rules of play anthology*, MIT Press.

Cover, J. G. 2010. *The Creation of Narrative in Tabletop Role-Playing Games*, McFarland.

Culin, S. 1907. *Games of the North American Indians* (1975 reproduction), Dover publications

Curry, T. J. 1991. *Fraternal Bonding in the Locker Room: A Profeminist Analysis of Talk About Competition and Women*, Sociology of Sport Journal, Volume 8, pp. 119–135.

Daviau, R. et. al. 2004. *Betrayal at House on the Hill*, Avalon Hill.

Dawes, M. & Hall, R. 2005. *Towards Using First-Person Shooter Computer Games as an Artificial Intelligence Testbed*, Lecture Notes in Computer Science, Volume 3681, pp. 276–282, Springer-Verlag.

Denward, M. 2011. *Pretend that it is Real! Convergence culture in practice*, Malmö University.

Donnelly, P., Carron, A. V. & Chelladurai, P. 1978. *Group cohesion and sport*, CAHPER.

Durkheim, E. 1912. *The Elementary Forms of the Religious Life*, Free Press (1965 edition).

Edelson, D. C. 2002. Design Research: *What We Learn When We Engage in Design*, Journal of the Learning Sciences 11(1), pp. 105–121.

Ellis, C. 2004. *The Ethnographic I: A methodological novel about autoethnography*, AltaMira Press.

Ericsson, M. 2004. Play to Love: Reading Victor Turner's "Liminal to Liminoid, in Play, Flow, and Ritual; an Essay in Comparative Symbology", In *Beyond Role and Play*, Montola, M., Stenros, J. (eds.), Ropecon ry, pp. 15–27.

Ex-illis Website, http://ex-illis.com/ [accessed 2011-11-17].

Fallman, D. 2008. The interaction design research triangle of design practice, design studies, and design exploration. *Design Issues*, 24(3), pp. 4–18.

Feak, S. 2003. *Defense of the Ancients*, modification of Warcraft III: Reign of Chaos, Blizzard Entertainment.

Festinger, L., Schachter, S. & Back, K. 1950. *Social pressures in informal groups*, Harper.

Fine, G. A. 1983. *Shared fantasy: role-playing games as social worlds*, University of Chicago Press.

Friese, F. 2004. *Power Grid*, Rio Grande Games.

Fullerton, T. 2008. *Game Design Workshop (2nd edition)*, Morgan Kaufmann.

Fullerton, T., Swain, C. & Hoffman, S. 2004. *Game Design Workshop: Designing, Prototyping and Playtesting Games*, CMP Books.

Fundeberg, D. & Tirole, J. 1991. *Game Theory*, MIT Press

Gamma, E., Helm, R., Johnson, R. & Vlissides, J. 1994. *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley Professional.

Garfield, R. 1993. *Magic the Gathering*, Wizard of the Coast.

Garfinkel, H. & Wieder, D. L. 1992. *Two incommensurable, asymmetrically alternate technologies of social analysis*. In: Watson, G., Seiler, R. M. (eds), Text in Context: Contributions to Ethnomethodology, Sage Publications, pp. 175–206.

Glaser, B. G. & Strauss, A. L., 1967. *The Discovery of Grounded Theory*, Aldine Transaction (fourth printing)

Goffman, E. 1959. *The Presentation of Self in Everyday Life*, Anchor Books.

Goffman, E. 1961. *Encounters: two studies in the sociology of interaction*, Bobbs-Merrill.

Goffman, E. 1967. *Interaction ritual: essays on face-to-face behavior*, Pantheon Books.

Goffman, E. 1974. *Frame analysis: An essay on the organization of experience*, Harper and Row.

Haggren, K., Larsson, E., Nordwall, L. & Widing, G. 2008. *Deltagarkultur*, Bokförlaget Korpen.

Hartelius, U., Fröhlander, J. & Björk, S., in press. *Digital Tools Supporting Board Games*, Future of Digital Games 2012 Conference.

Helquist, P. 2009. *Borderlands*, 2K Games.

Hogg, M. A., Vaughan, G. M., 1995. *Social Psychology*, Pearson Education Limited.

Howard, T. 2002. *The Elder Scrolls Construction Set*, Bethesda Softworks.

Hughes, L. 1983. Beyond the Rules of the Game: Why Are Rooie Rules Nice?. In Salen & Zimmerman (eds.) *The game design reader: a Rules of play anthology*, MIT Press.

Huizinga, J. 1955. *Homo ludens: a study of the play-element in culture*, Beacon Press.

Johnson, G. K., Straziscar, S. W., Williams, J. & Buerge, K. 2006. *Official 2007 NCAA Men's Basketball Records Book*, NCAA.

Jones, J. C. 1970. *Design Methods*, Wiley-Interscience.

Joyner, B. & Young, L. 2006. *Teaching Medical Students Using Role-Play: Twelve Tips for Successful Role Play*, Medical Teacher 28(3), pp. 225–229.

Juul, J. 2005. *Half-Real: Video Games between Real Rules and fictional Worlds*, MIT Press

Kari, J. 2001. *Information Seeking and Interest in the Paranormal: Towards a Process Model of Information Action*, University of Tampere.

Khine, M. S. (ed) 2011. *Playful Teaching, Learning Games*, Sense Publishers.

Kinney, R. 2003. *Vassal*, available at www.vassalengine.org.

Klabbers, J. H. G. 2009. *The magic circle: principles of gaming & simulation* (third edition), Sense Publishers.

Knizia, R. 1999. *Dice Games Properly Explained*, Right Way Books

Kort, J., Steen, M., Ljungstrand, P., Eriksson, M. & Bergström, K. 2011. D8.7 User Evaluations, TA2 Consortium. Avaliable at: http://www.ta2-project.eu/deliverables/TA2_D8-7_User-Evaluations-not-yet-approved.pdf [accessed 2012-01-11]

Kreimeier, B. 2002. *The Case For Game Design Patterns*, Gamasutra – available at http://echo.iat.sfu.ca/library/kreimeier_02_game_patterns.pdf [last accessed 2011-12-16]

Kvale, S. 1997. *Den kvalitativa forskningsintervjun*, Studentlitteratur.

Lawson, E. & McCauley, R. N. 1990. *Rethinking Religion: Connecting Cognition and Culture*, Cambridge University Press.

Le, M. & Cliffe, J. 2000. *Counter-Strike*, Valve Corporation.

LeBlanc, M. 2005. Tools for Creating Dramatic Game Dynamics. In Salen & Zimmerman (eds.) *The game design reader: a Rules of play anthology*, MIT Press.

Lemert, C. & Branaman, A. 1997. *The Goffman Reader*, Blackwell Publishing.

Lieberoth, A. & Harviainen, J. T., in press. *From rites of terror to serious games – similarities, information processes and the ritual mindset*, Religious ritual, cognition and culture conference.

Lim, Y., Stolterman, E., Jung, H. & Donaldson, J. 2007. *Interaction Gestalt and the Design of Aesthetic Interactions*, Designing Pleasurable Products and Interfaces, pp. 239–254.

Linderoth, J. 2004. *Datorspelandets Mening – Bortom idén om den interaktiva illusionen*, Gothenburg University.

Lindwall, O. & Lymer, G. 2005. *Vulgar competence, ethnomethodological indifference and curricular design*, Proceedings of the 2005 conference on Computer support for collaborative learning, ACM.

Ling, R. 2010. *New Tech, New Ties: How Mobile Communication Is Reshaping Social Cohesion*, The MIT Press.

Lundgren, S. 2008. Teaching Gameplay Design is Teaching Interaction Design. In *Proceedings of the International Conference of Human Computer Interaction Educators*. Citeseer.

Lundgren, S., Bergström, K. & Björk, S. 2009. *Exploring Aesthetic Ideals of Gameplay*, included in this volume.

Lundgren, S. & Björk, S. in press. *Neither Playing nor Gaming: Pottering in Games*, Proceedings of Foundations of Digital Games 2012

Mackay, D. 2001. *The fantasy role-playing game: a new performing art*, McFarland.

Malinowski, B. 1922. *Argonauts of the Western Pacific*, Routledge.

Marchewka, P. 2011. *Dead Island*, Deep Silver.

Miyazaki, H. 2011. *Dark Souls*, From Software.

Montola, M., Stenros, J. & Waern, A. 2009. *Pervasive games: theory and design*, Morgan Kaufmann.

Morris, B. & Bernier, Y. 1996. *Hammer*, Valve.

Neumann, J. V. & Morgenstern, O. 1944. *Theory of Games and Economic Behavior*, Princeton Univeristy Press.

Niedenthal, S. 2009. *What We Talk About When We Talk About Game Aesthetics*, DiGRA 2009.

Obermeyer, J. 2010. *iDominion*, Chosen Code.

Obermeyer, J. 2010. *iThunderstone*, Chosen Code.

Papasterigiou, M. 2008. *Exploring the potential of computer and video games for health and physical education: A literature review*, Computers & Education 53(3) pp. 603–622.

Parlett, D. S. 1992. *A dictionary of card games*, Oxford University Press.

Parlett, D. S. 1999. *Oxford History of Board Games*, Oxford University Press.

Pearce, S. M. 1994. *Interpreting objects and collections*, Routledge.

Persson, M. 2009. *Minecraft*, Mojang

Redström, J., Redström, M. & Mazé, R. (eds), 2005. *IT+Textiles*, Edita Publishing.

RPG.Net community, http://www.rpg.net/

Salen, K. & Zimmerman, E. 2004. *Rules of play: game design fundamentals*, MIT Press.

Salen, K. & Zimmerman, E. 2005. *The game design reader: a rules of play anthology*, MIT Press.

Sands, R. R. 2002. *Sport Ethnography*, Human Kinetics.

Schön, D. A. 1983. *The Reflective Practitioner*, Ashgate publishing.

Shields, D. L. H. & Gardner, D. E. 1997. *The Relationship Between Leadership Behaviours and Group Cohesion in Team Sports*, Journal of Psychology; Vol. 131 Issue 2, pp. 196–211.

Sicart, M. 2009. *The Ethics of Computer Games*, MIT Press.

Smuts, A. 2005. *Are Videogames Art?*, Contemporary Aesthetics Volume 3.

Squire, K. 2003. *Video games in education*, Games & Simulation 2(1), pp. 49–62.

Steinar & Kvale 1997. *Den kvalitativa forskningsintervjun*, översättning Sven-Erik Torhell., Studentlitteratur.

Stenros, J. & Montola, M. (eds) 2010. *Nordic Larp*, Fëa Livia.

Street Jr, R. L., Gold, W. R. & Manning, T. 1997. *Health Promotion and Interactive Technology*, Lawrence Erlbaum Associates.

Suits, B. 1978. *The Grasshopper: Games, Life and Utopia*, David R. Godine.

Suits, B. 1990. Construction of a Definition, In Salen & Zimmerman (eds.) *The game design reader: a Rules of play anthology*, MIT Press.

Taylor, T. L. 2006. *Play Between Worlds*, MIT Press.

Tembeck, S. & Fluegelman, A. 1976. *The New Games Book*, Headlands Press.

Teuber, K. 1995. *The Settlers of Catan*, Franckh-Kosmos Verlag.

The Game Crafter website, http://www.thegamecrafter.com/ [accessed 2011-11-17]

Thomsson, H. 2002. *Reflexiva intervjuer*, Studentlitteratur.

Together Anytime, Together Anywhere project website, http://www.ta2-project.eu/ [accessed 2011-11-17]

Tresca, M. J. 2010. *The Evolution of Fantasy Role-Playing Games*, McFarland.

Tuckman, B. W. 1965. *Developmental sequences in small groups*, Group and Organisational Studies 2, pp. 419–427.

Venbrux, J. 2008. *Deaths*, available at http://www.venbrux.com/

Williams, J. P., Hendricks, S. Q. & Winkler, W. K. (eds.), 2006. *Gaming as Culture*, McFarland & Co.

Wise, D. 2003. *Great Big Book of Children's Games: Over 450 Indoor & Outdoor Games for Kids (Ages 3-12)*, McGraw-Hill.

Wolf, M. J. P. & Perron, B. (eds.) 2003. *The Video Game Theory Reade*r, Routledge.

Woods, S., 2010. *Convival Conflicts*, Curtin University of Technology.

Xu, Y., Barba, E., Radu, I., Gandy, M. & MacIntyre, B. 2011. *Chores Are Fun: Understanding Social Play in Board Games for Digital Tabletop Game Design*, Proceedings of DiGRA 2011 Conference: Think Design Play.

Zagal, J. P. 2010. *Ludoliteracy: Defining, Understanding, and Supporting Games Education*, Lulu Enterprises Inc.

Zuckerman, D. V. & Horn, R. E. 1970. *The Guide to Simulation Games for Education and Training*, Sage Publications.

Exploring Aesthetic Ideals of Gameplay

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ABSTRACT
This paper describes a theoretical exploration of aesthetics ideals of gameplay. Starting from observations about the game artifact, several gameplay properties that can affect the aesthetical experience are identified, e.g. tempting challenges, cohesion, and gamer interaction. These properties are then used to describe several aesthetical ideals of gameplay, e.g. emergence, reenactment, meditative, and camaraderie. The properties and ideals provide concepts for how games attribute aesthetical value to gameplay design and how they distinguish their own preferences from inherent qualities of a game artifact.

Author Keywords
Gameplay, Aesthetics

INTRODUCTION

What makes a game well-designed or "good"? Is it possible to suggest "good" games to others even if oneself does not find the games entertaining? Trying to answer the first question is difficult – or impossible, if one wishes to allow for different subjective views – whilst the second question suggests that people have concepts of good games that they do not think are fun to play.

In this paper we explore these questions through theoretical reasoning on gameplay aesthetics. We see this subfield of aesthetics as one of many possible fields that together create the overall aesthetics of a specific game, but the one which unarguably affects all games. This is in line with seeing that both "virtual" rules and "real" themes affect a game experience [16], and that games are trans-medial, i.e. independent of the media it is instantiated in. Although this paper focuses on gameplay aesthetics, we acknowledge that this is not always the key component of the experience of the game; people may play games as a means to get to know each other, or to spend time with their children, seeing them improve.

Even so, our focus of study is on the game artifact, and the gameplay it provides. Although game research can also be based upon studying gamers or the gaming activity [4], the choice of games is in line with previous aesthetical research and encourages a raised awareness between the objective and subjective properties of the artifact.

Given the trans-medial nature of games, we have chosen to analyze several types of games, agreeing with the view that that understanding gameplay from an aesthetic point of view is "*best pursued by understanding a design in relation to other contemporary and historical designs*" [22]. Card and board games are slightly over-emphasized only because gameplay often is easier to discern in them.

Defining Gameplay

Before turning to gameplay aesthetics it is proper to clarify how the concept gameplay will be used in this paper. Gameplay has been described as *"a consequence of the game rules and the dispositions of the game players"* [16], and as including *"the possibilities, results and the reasons for the players to interact with the game"* [3]. These descriptions allow for a wide range of activities including free play, "pure" roleplaying, machinima creation, and physics testing. Rather than including all these we limit them to intentional goal-driven activities and refer to this as gaming (similar to what has been proposed in [4]). Hence, here the term gameplay relates to the interplay between a game's rules and the player's interaction with them which, in combination lead to an aesthetic of gameplay.

AESTHETICS

Aesthetics was first explicitly described in 1750 [28], as the field that described what could be experienced and thus known via the senses. Although proposed as a new science, the notion of aesthetics was quickly connected to the appreciation of art and judgment of taste [18]. Since the beginning of the 20th century the number of art styles has exploded in number (including e.g. dadaism, cubism, futurism) which changed the view on aesthetics; every art direction described its own aesthetic ideals and views, often in stark contrast to each other [9,29,31]. Even so, Dutton has described 7 universal factors of aesthetics (retold in [25]): expertise, non-utilitarian pleasure, style, criticism, imitation, special focus, imagination.

Breaking New Ground: Innovation in Games, Play, Practice and Theory. Proceedings of DiGRA 2009

Aesthetics in Games

That games have inherent strong aesthetic possibilities can easily be argued by noting the similarities between the components used in definitions of games and aesthetics; several of Dutton's factors are covered. Describing games as representing for instance "*a subset of reality*" [7] relates to how games typically imitate a portion of reality and require imagination of both designers and gamers to participate in the activity – similarly to how art is often defined, cf. [29]. Additionally, the non-utilitarian aspect of games is clearly argued in Suits definition [27] that playing a game is *"the voluntary effort to overcome unnecessary obstacles"*. This view is also echoed by those who use the "flow" concept [8] to describe gameplay since this implies autotelic properties. Notions of art as being something set apart from everyday life also have an equivalent in theories of game and play, e.g. in Huizinga's "Magic Circle" [15] and special instances of Goffman's "frames" [11]. Just like artists, game designers are recognized for their expertise, e.g. Will Wright, Sid Meier, Reiner Knizia, and Wolfgang Kramer. Finally, it goes without saying that games receive criticism through press reviews, forums and prizes such as Game Developers Choice Awards and Spiel des Jahres.

Given this framing it may be surprising that little game research have explicitly discussed aesthetics. One may argue that this is because many specific aspects of a game's aesthetics have already been covered in other areas, e.g. narrative structures, visual presentation of humans or architectural styles. Although these may be reused for games they do address only these specific aspects related to games. In particular, they do not relate to the interactive aspect of manipulating the game artifact.

There are some notable exceptions to this, the first being Järvinen's toolbox of concepts based upon emotion theory [17]. Building on several different types of emotions (play, aesthetic, and preference and transfer), he describes how these can be raised during gaming through various parts of games. Taking a holistic approach, his work does not explicitly distinguish gameplay aesthetics from other types of aesthetics. Secondly, Giddings and Kennedy argue that "*any consideration of videogame play aesthetics must consider questions of agency*" [10], and introduce the concept of control and cybernetic aesthetics. They identify gameplay as being in between cybernetic feedback loops and the original notion of aesthetics, but do not make explicit distinctions between gameplay and play in general. LeBlanc [21] instead proposes a three-layered model for understanding the gameplay experiences consisting of mechanics, dynamics, and aesthetics. LeBlanc stresses that although the mechanics can be said to always exist the dynamics and aesthetics only exist while the game is being played. However, this does not mean that designers cannot influence the gameplay aesthetics; designers have an intended aesthetics in mind when they design which they hope to evoke in gamers through the mechanics, by way of the dynamics.

Any work focusing on how people experience games can arguably be considered to be at least partly concerned with aesthetics. The attitude of the gamer towards one's locus of manipulation, or Focus Loci [3], has been identified as a way for gamers to direct their game experience towards narrative or ludic stances [2]. In the context of gameplay aesthetics, this points towards one way to separate gameplay aesthetics from other types of aesthetics in games. Genres and similar concepts have been used by academia, press and user communities alike to group and describe games, in a way seemingly related to game aesthetics. Wolf [32] identifies 42 genres in computer and video games while the boardgamegeek website [9] uses a similar amount to classify card and board games. Although these give insight into specific details about game designs they also risk placing the same game in a lot of different groups (e.g. mixing mechanical categorizes like bluffing with thematic ones like Space Exploration). Although problematic, these types of categorizations can help understand the experience of playing the games thus categorized, but for the purpose of discussing aesthetics of gameplay genres runs the risk of occluding gameplay details with other details, e.g. game themes.

Another way to approach how people experience games is to create different categories based upon their preferred playing style. This was first done by Bartle for text-based multiplayer online games where the categories killers, socializers, achievers, and explorers were identified [1]. In a similar vein, Yee [33] conducted a study spanning more than 3 years and collecting data from over 5000 gamers in graphical versions of massively multiplayer online games, identified relationship, manipulation, immersion, escapism, and achievement as five distinct factors for gaming. These categories point towards different gamer preferences in gameplay but since they are categorizations related to gamers they cannot directly be used to discuss the artifacts. The fact that they have been identified from only one category of games poses another challenge to apply them to gameplay aesthetics generally.

Given the above we can conclude that just as in any other discipline, game design features its fair share of different views on aesthetics. In this paper we build on four of them, firstly Aki Järvinen's observation that designers need to take aesthetical stances as they commit to projects since their goals are to illicit specific emotions from players. Secondly, LeBlanc's notion that game designers do use "tools" like game mechanics in their design in order to reach a certain aesthetic ideal. Thirdly, that these aesthetic ideals sometimes, but not always coincide with genre classifications, which suggest further exploration. Lastly, that there are different motifs for playing games, i.e. different types of players, who prefer different types of games, i.e. have different types of aesthetic ideals when it comes to what makes a game "good" – or not.

GAMEPLAY PROPERTIES RELEVANT TO GAMEPLAY AESTHETICS

In this section we list properties of gameplay that seem to be relevant for gameplay aesthetics. This list is by no means final, exhaustive or perfect, but instead reflecting the aesthetic ideals we are analyzing in the next section. As per our research stance, the properties are primarily based in the rule structures of the games. The properties presented do in several cases overlap each other but are described separately since they provide different entry points.

Rule Consistency

Consistency as an aesthetic virtue is nothing new; it has been an aesthetic value in (western) art for thousands of years [9,29,31]. That the rules of a game need to be consistent, i.e. non-contradictory, can seem to be obvious. Still, a noteworthy example of a game that toys with this property is *Nomic* (described in [13]) where the rules are changed during play and one of the victory conditions is to prove that the rules are inconsistent.

Simplicity

Simple, well-defined rules are easy to understand which makes a game more accessible. Nevertheless it may not be easy to play; many classical complex games such as *Chess* and *Go* have simple rules.

Use of Chance

The role of chance in games is a likely source of debate; some believe that chance should be limited as much as possible (e.g. *Othello*) and others prefer games with a very high chance component (e.g. *Rock-Paper-Scissors* or *Craps*). Both extremes can be criticized: a game with little or no chance may cause "analysis paralysis" [3] and it can be difficult for two gamers of different skill levels to play together, whereas too much chance can make the feeling of agency non-existent.

Emergence

When looking at games as systems, it becomes interesting to note whether gameplay arises as a result of specific rules that cover each instance of gameplay, or more general rules. In *Chess*, for instance, there are specific rules for how each piece moves, and a general rule saying that all pieces can be captured. General rules tend to foster emergent gameplay since they lead to synergy effects; the general rules cooperate in creating a vast number of possible courses of events in the game.

Although emergence can occur in any significantly complex games, games such as *Go* and *Chess* are archetypical examples, having few rules and perfect information but still generating complexity.

Whereas instance rules can be criticized for limiting gamers too much and lacking novelty, emergent gameplay can quickly become difficult to have an overview of, and may be vulnerable to exploits and degenerate strategies.

Rule Cohesion

Here, cohesion describes how tightly integrated rules are with each other. If no rule cannot be removed or altered without this resulting in large changes in gameplay, the rule set is cohesive.

Cohesive games are very vulnerable to poor rules and provide little room for experimentation. It can also be hard to uphold a real-life theme. On the other hand, a game lacking rule coherency can be experienced as arbitrary and fractured. Changing rules in well-balanced games probably make them unbalanced regardless of cohesion, but for cohesive games it is more likely that the effects are immediately apparent.

Tempting Challenge

Another important gameplay property is *"tempting challenge"* [23]. Not only do games need to offer gamers a challenge, this challenge must also be interesting and on such a level that the gamer can overcome it, albeit not too easily. The relation between skill and difficulty is one example which influences this, and can be explained through the concept of "flow" [8].

Secondly, the challenge also has to be tempting. What constitutes tempting of course differs between gamers. Novelty is one aspect; as gamers explore a game they learn it, and once something is mastered the challenge disappears; it is no longer tempting (indeed, this learning process has been described as the raison d'être of games [19]). Curiosity, or the urge to beat someone's high score can be other aspects.

Meaningful Choice

This is closely related to *Tempting Challenge*; since a game's level of difficulty typically increases with the number of choices that are offered to the gamer; games without choices are not games at all. However, choices in themselves are not enough – gamers must still feel that there is a point in making them. Making choices meaningful can be difficult; it's a balance between forcing gamers to make completely uninformed choices and choices based upon perfect information. *Meaningful Choices* can be seen as a part of "meaningful play" [26], but only focused on making decisions rather than on planning.

Varying Strategies

While having the right amount of background information is important to make choices meaningful, it is also important how far into the future the effects of a choice can be predicted. Thus, one can see a link between the properties of *Meaningful Choices* and *Varying Strategies*. Strategy can be seen as a series of choices, and a designer must always be on the lookout for obvious (also known as "*degenerate*") strategies; since these, once discovered, will ruin the game by removing the challenge from it. A good example is *Tic-Tac-Toe*, which, once mastered, hardly can be considered an interesting game.

Game Balance
Balance in games has two aspects. Either, it is about balancing gamers' chances of winning by focusing on starting conditions or on balancing gamers during gameplay, e.g. by punishing the leader somehow. Or, it is about internal balance, i.e. balancing the effect of the different actions or components in the game.

Game Balance is related to *Varying Strategy*, since the lack of internal balance can force degenerate strategies and lead to less interesting choices.

Minimal Excise
The amount of none-goal-related work, or excise [6], differs greatly between games; in a card game it can be about playing a card which takes an instant, in a miniatures game the actual moving of the miniatures might take as long or longer than deciding where they should go. It may seem obvious that *Minimal Excise* is good in a game since it minimizes the periods between when *Meaningful Choices* can be made. However, including excise can give time for reflection and planning and can be used to build tension.

Computer and video games can be made to handle almost all excise. Still, some online computer games, e.g. *World of Warcraft*, have given rise to the grinding, a form of voluntary excise. Although grinding can be seen the opposite of *Minimal Excise*, it also provides the possibilities of always having something to do in the game and provides a way of proving one's dedication to a character and the game.

Integrated Theme
Many games have explicit themes and in these cases the gameplay experience is affected by how well the rules and theme map each other. When themes help gamers remember and understand rules they can improve the experience by providing a consistent framing, e.g. that rectangular pieces (boats) cannot move on green spaces (land). Therefore, almost all games with many rules have a theme – without it, it is impossible for gamers to remember the rules.

Accurate Simulation
Some games have *Accurate Simulation* as an explicit design goal. In this, it is a much more exact version of *Integrated Theme* intensely focused on the coupling between a gamer's choices and their outcomes – a simulation is only accurate if the gamers consider potential actions in the same way as decision makers do in whatever is being simulated. Further, the outcomes of decisions in a game must be thematically believable, which explains why some dislike the possibility of combat between tanks and chariots in *Sid Meier's Civilization IV*. Making rule-sets thematically believable increases with complex worlds, especially if allowing open gameplay e.g. *World of Warcraft* and *Fallout 3*.

It is worth noting however, that some games rely upon an implicit understanding that gamers should not attempt to "break" the game by looking to closely for degenerate strategies. E.g. *Hearts of Iron 2* can lead to "unhistorical events" such as Germany invading Japan, but playing so is disliked by some because one is not "*roleplaying*" how the nation historically behaved.

Gamer Interaction
The amount of interaction between gamers differs substantially between games. In addition, the type of gamer interaction can differ from passive (e.g. overtaking someone in a race on different tracks) to friendly (e.g. trading) to competitive (e.g. bidding) to aggressive (e.g. invading, stealing, killing). The amount of aggression in a game seems to be an important factor for many gamers, regardless if they want it or prefer to avoid it. Interestingly, some games can be skewed either way through social contracts between gamers, e.g. by agreeing to refrain from warfare in *Sid Meier's Civilization IV*.

Gamer Elimination
When *Gamer Interaction* is taken to its extreme it results in *Gamer Elimination*; i.e. the exclusion of a gamer from further gameplay. Many games have this as the one and only victory condition, e.g. *Monopoly*. In other games it is impossible for a gamer to be ousted from a game before it is over, e.g. *Ludo*. Games with gamer elimination are routinely criticized for letting some gamers wait while the remaining gamers finish the game, while games without gamer elimination are criticized because a gamer with small chances to win must stay in the game to the end. Note also that many gamers take great joy in eliminating other gamers.

Skill
All games require a certain analytic and strategic or tactical skill, but some games also require other skills, such as creativity (*Balderdash*), drawing (*Pictionary*), reactions (*Gears of War*) or bluffing and empathy (*Liars Dice, Poker*). These games can be differentiated from others since it is hard to give instructions on how to play successfully; telling someone to *"draw better"* is hardly helpful.

Skill-based games contain an inbuilt imbalance, since some are more skilled than others, but the required skill can usually be practiced. Most skill-based games have simple rules, which can make them appealing even to inexperienced gamers.

Micro Management
Mostly an issue in strategy computer games, micro management can sometimes become excessive due to the amount and level of choices presented, resulting in large amounts of low-level decision making. This is, in a sense the opposite to *Minimal Excise,* which is why some gamers deride it, saying that the choices presented to a gamer should be appropriate to the level of the gamer in the imagined "*chain of command*" while others consider this a *Skill* which really sifts the good gamers from the bad.

Limited Play Time

Many games have play time that is somehow limited, either because the game (or a session of it, as in a role playing campaign) typically takes x minutes to play, or because the rules state that it ends after a certain time, as in *Space Alert*. Some games, e.g. *Lego Star Wars*, allow one gamer to drop in and out of the game without significantly ruining the other gamers' gameplay.

Games where excessive planning gives advantages may lead to irritation from other gamers or lead to "*analysis paralysis."*[3] Limited gameplay time can also be used for activities inside a game to create stress and tension, e.g. when gamers note that time is running out. However the latter may also result in gamers giving up before the game ends.

AESTHETIC IDEALS OF GAMEPLAY DESIGN

Below, we present a number of aesthetic ideals which we have found in gameplay design. The idea to categorize games in different ways in relation to the designer's intention or standpoint is not completely new. For instance board game designers talk about approaching the design of a game from theme or mechanics [23, p.83].

The aesthetic ideals presented here are however closer related to "movements" within the art world than genre classifications. Being concepts not formally defined, the aesthetic ideals have blurry borders and the descriptions state the typical gameplay properties relevant to create the certain aesthetic, rather than an explicit list of requirements. Note that some games are used as examples in several ideals, this since they are so complex that they provide different types of aesthetic ideals.

Although some of the aesthetic ideals we describe are more or less established within the gaming community, others are not. This is also a similarity with art movements; some are created by artists and proclaimed in manifestos while others are described by researchers (sometimes after the movement has faltered).

Caveat: Fundamentals

There may seem to be an underlying fundamental design approach which all aesthetic ideals build upon. In this approach one strives for a game featuring *Rule Consistency, Simplicity, Tempting Challenge, Meaningful Choices, Varying Strategies, Game Balance and Minimal Excise*. Still, many popular games lack one or several properties, especially Light Games (as described below). However, this approach is so general it gives little information for both designers and researchers, other properties must be added to skew the game towards an aesthetic ideal that appeals to certain players by providing a *Tempting Challenge* for them.

Light Games as Aesthetic Ideal

"Light" games (i.e. children's games or simpler family games) need to be easy to learn, fast to play, and seemingly fair since they aim entertaining the children and at the same time not bore the adult participants to tears. *Use of chance* is very common in games of this approach, e.g. *Ludo*, *Monopoly*, and *Chutes and Ladders*. *Minimal Excise* is easily achievable due to the simple rules while *Rule Cohesion* is not in focus (e.g. by having special rules that are randomly invoked through cards). The primary means of *Game Balance* comes from the multitude of randomness used although internal balancing and avoidance of positive feedback loops are often not considered. *Accurate Simulation* is difficult to instantiate in this approach due to the simple rules while the property of *Emergence* and *Skill* is actively avoided to fit all potential gamers. The heavy reliance on chance typically makes games of this approach lack strategy and therefore also limits aspects of *Meaningful Choice* and *Tempting Challenge*. Gamer interaction is typically destructive but only possible due to random factors making it socially acceptable (e.g. *Ludo*). Even if this may lead to *Gamer Elimination* this is typically offset by the *Limited Play Time* and can actually help enforce it.

Pottering as Aesthetic Ideal

This approach takes its name from the activity described as "*encompasses the kinds of things frittered between (usually in leisure time) with little or no purpose*" [50]. Examples of this approach include *Harvest Moon* and *The Sims*, *Sim City* and early *Railroad Tycoon* series. Typically pottering games have rich diegetic worlds with *Integrated Themes* and believable if not *Accurate Simulations*. These worlds provide varying strategies by having many possibilities of interaction, but the designs depend on gamers setting their own *Tempting Challenges* and thereby make choices meaningful. *Excise* and *Micro Management* are endorsed rather than avoided since they provide ample opportunities for pottering. If *Emergence* appears it is more often the effect of gamer skill then game design. Being primarily solitary activities, games in this approach have very little or no *Gamer Interaction*. This also means that the approach typically lets gamers have long or unlimited gameplay time and lets gamers play whenever they want.

Pottering games may seem to counter the idea of what games are since in many cases avoiding losing is easy and the games usually lack an explicit goal or winning condition. Although they can be played as regular games, another attraction is that they provide activity that one can come back to intermittently and set new goals for each play session.

Emergence as Aesthetic Ideal

The emergence design approach is exemplified by *Go, Chess, Xiangqi*, and *Othello*. As the name suggest the focus lies on the property of *Emergence* but typically also stresses *Simplicity* and *Rule Consistency* as well, since these highlight the emergence present. Although *Integrated Themes* may help explain the basic components they seldom translate into the emergent aspects of the game. Paying little interest to theme makes it difficult for this

approach to provide *Accurate Simulations* of any phenomena. Trying to achieve maximum emergence from minimal rules and means typically excludes *Micro Management,* promoting *Minimal Excise.* However, the ability of predicting effects of actions, which may be seen as being able to appreciate the emergence, is often a gamer *Skill* and could be seen as a form of pre-action excise. This is often equal to exploring *Varying Strategies,* and showing that one can do this better than one's opponent is the main way to provide *Tempting Challenges*. This is related to that this type of games tend to rely on a high degree of aggressive *Gamer Interaction*, typically having *Gamer Elimination* as the main goal. The game rules typically do not feature *Limited Play Time*, but since gamer planning is essential for the game this is actually limited in gaming rules, especially for tournaments.

It is worth noting that the most well-known games in the approach have evolved rather than been designed. One reason for this may be that it is difficult to achieve *Game Balance* without extensive testing. Many of the minor exceptions from *Rule Cohesion*, which is an important part of the approach, are probably to fine tune emergence and meaningful choices. Examples of such exceptions include the Ko (and super Ko) rule in *Go* and the special moves En Passant, Promotion, and Castling in *Chess*.

Meditation as Aesthetic Ideal

Games belonging to this approach offer engrossment in small tasks requiring immediate attention; sometimes the entire game is about effective *Micro Management*, as in *Tetris*. Using *Simplicity* and *Limited Play Time* they provide private moments of relaxation from other activities, or, if played over and over again, a form of active meditation. *Use of Chance* typically provides variation between game instances while having a *Theme* or *Accurate Simulation* is not necessary. Examples of such games include *Zoo Keeper*, *Free Cell* and *Solitaire*.

The meditative qualities of this approach relies on gamers achieving flow experiences, so the *Tempting Challenge* is often *Skill*-related, be they based on reflexes, pattern recognition, or analysis skills. These games are typically about problem-solving, and to make this sustainable over time they are typically built on small rule sets with *Rule Consistency* and *Rule Cohesion*. These rules, and the typical lack of *Emergence*, mean that the possibility for *Varying Strategies* is small and making a *Meaningful Choice* is often the same as making the right choice. This makes *Minimal Excise* critical to game designs in this approach, but interestingly enough the generalized gameplay activity can be seen as exactly these activities. Many of them are also unbalanced in the sense that it can be very hard or impossible to achieve an ultimate win, with success typically measured by high score lists. The *Use of Chance* can also provide certain game sessions that are much easier than others, which can be seen as a problem of internal *Game Balance*, but the statistical occurrence of these can be seen as rewards for perseverance.

Player Adaptability as Aesthetic Ideal

This approach values gameplay where gamers constantly have to adjust their plans and strategies. While featuring *Simplicity*, they tend to have slightly larger rule sets than emergent games since the *Tempting Challenge* lies more on having a deep understanding of the rules than on having the ability to traverse decision trees deeply. To enable this *Rule Consistency* and *Rule Cohesion* are important while *Emergence* and *Gamer Interaction* play the role of making choices context dependent. Gamer interaction is typically on the friendly end of the scale since showing one's *Skill* is more important that defeating opponents. *Use of Chance* can be used to create unpredictability and varied game instances but only in limited amounts since too much chance obfuscates the gamers' skills. Examples of games in this approach include *Race for the Galaxy*, *Magic the Gathering,* and raiding in *World of Warcraft*.

This approach emphasizes being able to use emergent features of the game mechanics to one's advantage as well as being able to detect important but subtle changes in the game state. *Varying Strategies* and replayability are key to the aesthetics since this allows gamers to show that they can adjust their actions to different contexts.

Reenactment as Aesthetic Ideal

Some game designs strive to create believable variations of historical events. The main category of games belonging to this approach are wargames, e.g. *Operational Combat Series: DAKII*, *EuroFront,* and *Conflict of Heroes: Awakening the Bear*, but other examples are *1829* (and the whole 18xx series), the *Europa Universalis* series, and *History of the World*.

Designing in this approach poses delicate design problems between historical correctness and *Game Balance*. This due to military engagements rarely being balanced and seldom it is clear that different strategies were available to the decision makers. The theme often dictates aggressive *Gamer Interaction* and *Gamer Elimination*. *Simplicity* and *Rule Cohesion* are trumped by the property of *Integrated Theme* and *Accurate Simulation* but are otherwise adhered to. *Use of Chance* may create variations of the historical events and may illustrate the unpredictability of military plans. Reenactment games contain a surprising amount of *Excise* in the form of rolling dice, counting odds, consulting tables, etc. Excise and *Micro Management* also exist in the form of moving markers and figures; providing *Meaningful Choices* at the same level of granularity as the decision makers at the time had available.

Camaraderie as Aesthetic Ideal

The camaraderie approach focuses on how gamers can achieve more through working as a group than is possible individually. This gives rise to a limited form of *Emergence* and naturally *Gamer Interaction* is vital, including that of a

purely social nature. This approach is somewhat more abstract than the other approaches in that it only deals with a subset of the gameplay, and is often a complement to another approach. *Arkham Horror*, *Shadows over Camelot*, *Enemy Territory: Quake Wars*, *World of Warcraft*, and the *Battlefield* series are examples of how this approach can be instantiated in games.

Games of this approach are often designed so that gamers have functionally different roles which also provide *Varying Strategies* on a personal level in addition to what exist on a team level. *Rule Cohesion* and *Game Balance* in camaraderie games have to take into consideration the different roles available; if a role is not necessary it is likely that someone choosing that will not feel as an important part of the group. These property of *Skill* can manifest on two different levels for these games; on a level of being able to perform within a certain role and on being able to "*read*" what role is required and taking that role. If *Gamer Elimination* exists in the game this is usually mitigated by *Limited Play Time* for each game session, since the group feeling might otherwise be endangered.

Meta-game as Aesthetic Ideal

This approach lies in having a gameplay which brings value to activities that take place before or after actual gameplay. Although these activities are not gameplay themselves, the aesthetics of the gameplay lies in how it encourages the activities and gives the activities a raison d'être. Examples of such meta-game activities include deck building in *Magic the gathering*, prop and character creation in live action roleplaying scenarios, miniature painting and army building in *Warhammer Fantasy Battle*, and planning and training for raids in *World of Warcraft*. It seems that an *Integrated Theme* promotes meta-gaming since it provides more identification and immersion than an abstract game.

Planning gameplay and creating game artifacts are two common ways to connect gameplay to meta-game activities. Games with emergent features can support the former while the latter typically is achieved by having the property of a gamer-created *Integrated Theme*. *Limited Play Time* is often required, both to give deadlines when the activities have to be finished and since part of the value of the preparatory activities lies in the ratio between the time spent on them and the gameplay time. Although games rarely aim at being inconsistent or too difficult to play, having rules that require discussions to ensure that one has the right interpretation may benefit the meta-game approach.

CONCLUDING DISCUSSION

Our exploration of gameplay aesthetics started with two questions regarding what makes a game perceived as "good" and if or why it is possible to make that judgment for others. With the introduction of ideals we can now say that a person thinks a game is "good" (regarding gameplay) if it matches his or her preferences regarding ideals of gameplay aesthetics. To suggest a game to someone else is simply the act of matching one's understanding of the game's gameplay with one's perception of another person's aesthetical ideals. This answer presumes a (maybe implicit) model of what gameplay is wished for; these are the models of the type developed by Bartle [1] and Yee [33]. In this way the ideals can be seen as a counter model to those describing user preferences but that together can explain matches or mismatches in expectation and experience. Ideals also provide a way of explaining why one may have grown bored with a game (e.g. from it no longer supporting *Tempting Challenge*, flow [8] or learning [19]) but still consider it "good" – one appreciates its gameplay aesthetics and acknowledges that it has the possibility of being fun for somebody else.

Of course the ideals presented are not a complete list; there may well be several others. Additionally, the ideals are not all-encompassing; any game that can be said to belong to an ideal will not per default suit someone who likes the ideal. Like genres they are sweeping categories that provide general suggestions but need to be complemented by a range of other aspects (e.g. theme, medium, use context) to come to a reliable conclusion about a game's suitability for a given gaming situation. Although the validity of individual ideals and the gameplay properties they build upon can be explored in future empirical studies, the idea of ideals can independently help develop the expressiveness in discussions regarding gameplay aesthetics and game experiences.

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REFERENCES

1. Bartle, R. (2006) Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 754-787. MIT Press, 2006.

2. Bayliss, P. (2007). Beings in the Game-world: Characters, Avatars, and Players. Proceedings of the 4th Australasian conference on Interactive entertainment, Melbourne, Australia, 2007.

3. Björk, S. & Holopainen, J. (2004) Patterns in Game Design. Charles River Media. ISBN1-58450-354-8.

4. Björk, S. (2008). Games, Gamers, & Gaming – Understanding Game Research. Proceedings of MindTrek 2008, 7-9 October 2008.

5. www.boardgamegeek.com

6. Cooper, A. & Reimann, R. (2003) About Face 2.0: The Essentials of Interaction Design, Wiley; 1st edition.

7. Crawford, C. (1997) The Art of Computer Game Design. Berkley: McGraw-Hill/Osborne Media.

8. Csikszentmihalyi, M. (1997) Creativity: Flow and the Psychology of Discovery and Invention. New York: Harper Perennial.

9. Eco, U. (2004) On Beauty: A History of a Western Idea, Rizzoli International Publications.

10. Giddings, S. & Kennedy, H. (2008). Little Jesuses & Fuck-Off Robots: aesthetics, cybernetics, and not being very good at Lego Star Wars. In Swalwell, M. & Wilson, J. (eds.) The Pleasures of Computer Gaming: Essays on Cultural History, Theory and Aesthetics (forthcoming February 2008).

11. Goffman, E. (1972). Fun in Games. The Penguin Press, New York, 1972 (1961).

12. Guilfoil, M. (2001) Beyond the Myst. Interview in The Spokesman-Review. Available online at http://www.spokesmanreview.com/ pf.asp?date=052201&id=s966647 Retrieved on 2008-11-11.

13. Hofstadter, D.R. (1999). Gödel, Escher, Bach: An Eternal Golden Braid. Basic Books.

14. Holopainen, J. (2008) Play, Games, and Fun. In Extending Experiences, Fernandez A., Leino O. and Wirman H. (eds.), University of Lapland Press, 2008.

15. Huizinga, J. (1938/1986). Homo Ludens: A Study of the Play-element in Culture. Beacon Press.

16. Juul, J. (2005). Half-Real: Video Games between Real Rules and Fictional Worlds. The MIT Press, 2005.

17. Järvinen, Aki. (2008). Games without Frontiers. Ph.D. thesis, Department of Literature and the Arts, Tampere University.

18. Kant, I (1892) The Critique of Judgement, translated with Introduction and Notes by J.H. Bernard (2nd ed. revised) (London: Macmillan, 1914). Accessed from http://oll.libertyfund.org/title/1217 on 2009-03-06

19. Koster. R. (2004). Theory of Fun for Game Design. Paraglyph, 2004.

20. Kramer, W (2000) What makes a game good, The Games Journal. Retrieved online 2008-12-15 from http://www.thegamesjournal.com/articles/WhatMakesaGame.shtml

21. LeBlanc, M. (2006). Tools for Creating Dramatic Game Dynamics. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 438-459, MIT Press, 2006.

22. Lindley C. A., Nacke, L. & Sennersten C. (2007) What does it mean to understand gameplay? LEDA 2007, 28-30 November 2007, Aalborg University Esbjerg, Denmark.

23. Lundgren, S. (2006) Facets of Fun: On the Design of Computer Augmented Entertainment Objects. Lic. thesis, Chalmers University of Technology, Gothenburg, Sweden.

24. Meier, S. (2004). Quoted in Fullerton, T., Swain, C. & Hoffman, S. (2004). Game Design Workshop: Designing, Prototyping, and Playtesting Games. CMP Books.

25. Pinker, S. (2003). The Blank Slate: The Modern Denial of Human Nature. Penguin.

26. Salen, K. & Zimmerman, E. (2004). Rules of Play – Game Design Fundamentals. The MIT Press.

27. Suit, B. (1990). Grasshopper: Games, Life, and Utopia, 1990. Broadview Press

28. Sundin, B. (2003) Estetik och Pedagogik, Bokförlaget Mareld, Sweden.

29. Tatarkiewicz, W. (1980) A History of Six Ideas. An Essay in Aesthetics. (Melbourne International Philosophy Series), Martnus Nijhoff / Polish Scientific Publishers, Warszawa.

30. Taylor, A.S., Wyche, S.P. & Kaye, J. (2008). Pottering by design. NordiChi 2008, October 20-22, 2008, pp. 363-372.

31. Vihma, S. (2003) Designhistoria, Raster Förlag, Stockholm.

32. Wolf, M.J.P. (2002). The Medium of the Video Game, University of Texas Press, 2002. ISBN: 029279150X.

33. Yee, N. (2006). The Demographics, Motivations and Derived Experiences of Users of Massively-Multiuser Online Graphical Environments. PRESENCE: Teleoperators and Virtual Environments, 15, 309-329.

Exploring Aesthetical Gameplay Design Patterns – Camaraderie in Four Games

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ABSTRACT
This paper explores how a vocabulary supporting design-related discussions of gameplay preferences can be developed. Using the preference of experiencing camaraderie as an example, we have analyzed four games: the board games *Space Alert* and *Battlestar Galactica,* the massively multiplayer online game *World of Warcraft*, and the cooperative FPS series *Left for Dead*. Through a combination of the MDA model on how game mechanics give rise to game aesthetics via game dynamics, and the concept of aesthetic ideals in gameplay, we present gameplay design patterns related to achieving camaraderie. We argue that some of these patterns can be seen as *aesthetic gameplay design patterns* in that they are closely related to aesthetic ideals. Further, as a consequence, gameplay design pattern collections which include patterns related to all levels of the MDA model can be used as design tools when aiming for certain gameplay aesthetics.

Categories and Subject Descriptors
J.3.3 [**Personal Computing**]: General – *games*

General Terms
Design

Keywords
Gameplay, Aesthetics, game design, design patterns, gameplay design patterns, Mechanics-Dynamics-Aesthetics.

1. INTRODUCTION
How can we design gameplay aimed at certain groups' tastes or wishes, especially when those taste differs from our own? We see this question being related to the aesthetics of gameplay, since it is related both to personal taste and how individuals perceive experiences. This paper presents one possible answer: providing concepts related both to gameplay and aesthetics in order to help clarify reflections and discussions on the intended experiences.

The paper begins by discussing the concepts of aesthetics and gameplay, combining our findings into a suggested design tool: that of using gameplay design patterns to describe aesthetic design possibilities. This tool is then applied and exemplified by analyzing four games designed to promote camaraderie between players – i.e. encourage active cooperation and invoke the feeling of togetherness – to identify how specific game mechanic choices can lead to the intended overarching experiences. We end by describing the aesthetic gameplay design patterns found and how these can be used when aiming for camaraderie in a game, as well as how the approach suggests new pattern use more generally.

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1.1 Aesthetics
Aesthetics is a matter of taste. Just like it is impossible to find a painting that is liked by everyone, there is no way to design a game and be certain it suits everyone. In most disciplines, years of praxis has resulted in design approaches to achieve outcomes according to specific ideals. This knowledge has been used to understand the aesthetics of games, e.g. taking the understanding of aesthetics from drama [32] and movie making [34] and applying it on games. However, there is one aspect of game design where it is *not* possible to rely on aesthetic notions from another discipline, namely *gameplay* design.

There is no consensus regarding the notion of aesthetics; originally it related to perceptions [40] but was later associated with beauty, judgment, and taste (e.g. [16][20]). While some state that aesthetic properties are inscribed in artifacts independent of context [33], Dewey claimed that aesthetics related only to *experiences* significant to people's memories: "*that meal, that storm, that rupture of friendship*" [9]. In this paper, we align ourselves with the view of Dewey and others (e.g. [37] and [38]), rather than discuss games in terms of beauty or whether they are or can be art (e.g. [35] and [39]). However, we note that our design-oriented approach leads to a focus on the intended aesthetics, and thus experiences. It is thus worth noting that Dewey's view from that respect coincides with the psychological concept of flow [8], which is often used to describe the intended goal of gameplay design.

1.2 Gameplay
Gameplay has been defined in a number of ways; e.g. Lindley [29] proposes the idea of a "gameplay gestalt" while Björk and Holopainen [5] propose that it is "*the structures of player interaction with the game system and with the other players in the game*." Walther [42] in turn describes the concept in terms of actualizations of specific rules and interactions as well as realizations of plans. These views on gameplay can be useful for understanding games and distinguishing gameplay from other ways of interacting with games, but they do not detail specific aspects of gameplay and are thus not design tools.

Design patterns on the other hand, are design tools used in e.g. in architecture [1] and programming [11], and have been introduced to gameplay design by Kreimeier [22]. Björk and Holopainen

have made a collection of close to 300 interrelated patterns, describing them as "*a part of the interaction possible in games*" [5]. The patterns support design and analysis by giving names to design possibilities that can be relevant to the gameplay in many types of games, and point to further issues to consider through relations to other patterns. As descriptions of possible gameplay, the value of any given pattern is a combination of the precision it affords in expressing ideas about gameplay specifically and how easily these ideas can be communicated to others; for this reason most of the patterns are based upon concepts already in the everyday vocabulary of game designers and players, e.g. FOG OF WAR, LEVELS, and BLUFFING (throughout this paper patterns are denoted using small caps). However, since novelty is also a part of the value of an idea, some patterns can also be valuable by pointing to unexplored areas of the design space of games even when this makes the patterns only interesting for smaller groups.

There are several other approaches similar to the gameplay design patterns, e.g. the game ontology project [44] which uses a hierarchical structure to describe gameplay elements from the perspective of players, but this structure offers no natural point for a general aesthetic expansion. The 400 rules project [10] collects knowledge from professional game designers in the form of normative rules which means that it already implicitly expresses an aesthetic viewpoint by having normative views of what game design "should" contain, hence not supporting alternative views.

1.3 Gameplay and Aesthetics

Several researchers have studied the relation between the game phenomena and aesthetics. An early example comes from Bartle [2], who identified four categories of player types from looking at behaviors in text-based multiplayer online games. Later, Yee [44] conducted a 3-year study collecting data from over 5000 gamers in MMOGs, and identified five distinct factors for gaming. Both these indicate that players have different tastes in gameplay but do not focus upon how to design gameplay to support them. Instead beginning from games, Holopainen [15] argues that games are caricatures, and gameplay consists of caricatures of action and goal structures that support intentional activities. Similarly, Juul [17] argues that games are stylized and abstracted simulations that players explore. In a similar vein, Grodal [13] describes video games as "*simulations of basic modes of real-life experiences*". These views argue that gameplay structures are based on sensory, cognitive, and affective capabilities. For the context of this paper, this points to a possibility of explaining gameplay aesthetic ideals from psychological or neurocognitive basis.

Genres classify games based upon their characteristics, and are typically used by gamers and publishers to identify possible game preferences. Wolf [43] describes 42 genres taken from video games while the web site boardgamegeek [6] proposes 78 different categories for board games. Since many genres are defined from game mechanics, they do suggest design features but they are not described in a fashion explaining how games can be created to have these mechanics. Similarly, Lindley et al. argues that understanding gameplay from an aesthetic point requires comparative studies of designs [29]. Similar to the case with genres, this allows descriptive and comparative stance towards gameplay but does not necessarily explain *why* they are structured that way and how to reproduce these structures.

Looking at how gameplay structures influence gaming, LeBlanc introduces the layered Mechanics-Dynamics-Aesthetics (MDA) model [27]. The first layer consists of the game mechanics, which LeBlanc compares to the code of a computer program. From the mechanics emerges the second layer, the game dynamics, which is how the game behaves or "runs" when it is played in the same fashion a running program can have be seen as a process having certain behaviors. Dynamics thus often result in interactions between user and game (e.g. moving), between users but mediated by the game (e.g. trading) or lastly even user-user interaction regardless of the game mechanics (e.g. experienced players giving novices advice). From the dynamics one reaches the aesthetics of the game, described as "*the desirable emotional responses*" – i.e. the emotions and phenomenological content of the game which LeBlanc draws a parallel to the requirements of a program.

Starting from the perspective of gamers, Lazzaro [26] identifies 4 "keys" to evoke emotions through games, of which *Hard fun* (similar to Tempting Challenge [30]), *Easy Fun* (e.g. exploration or delight) relate to gameplay. Perhaps more interestingly, she mentions several specific emotions, e.g. *Schadenfreude* (German: the delight in others' misfortune). Through these, she points towards a broader awareness of different types of experience in games. Looking at the two previous examples, Järvinen [19] observes that "*it is not clear, at least in academic terms, what they actually describe: enjoyment, moods, emotions, pleasures, or something in between*." In his own framework, aesthetics is one of the types of emotions emerging from gaming and notes that aesthetical appreciation in games includes appreciation of events and agents. Following Kubovy's [23] analysis Järvinen states that the emotional responses triggered and modulated during gameplay can be considered to be part of aesthetic experiences.

Wishing to balance the goals of starting from a game mechanic to understand aesthetics (like some genres), and describing aesthetics from players' preferences, we have previously introduced the concept of ideals to discuss the aesthetics of gameplay [30]. Building upon the views of Järvinen and LeBlanc, this earlier work explores how different combinations and realizations of gameplay properties (such as "integrated theme" or "micro management") can be used to achieve aesthetic gameplay ideals, e.g. reenactment (such as war games simulating historic events), pottering (micro-management games such as Railroad Tycoon or the Sims), or mediation games (e.g. Solitaire or Bejeweled). Furthermore, the concept of aesthetic gameplay ideals provides a theoretical – and neutral – reasoning on gameplay aesthetics that can be used to explore questions of why someone thinks a game is well-designed or "good". Being aware of someone else's aesthetic ideals helps when suggesting games to them, or designing games for them, regardless of one's own preferences.

2. AESTHETIC GAMEPLAY PATTERNS

Given the related work mentioned above, one can conclude that it is possible to view gameplay aesthetics as something related to the experience of playing a game; that the aesthetics occur during play. This aligns with Dewey's idea on aesthetic experiences as being significant, coherent experiences [9]. Combining this with the opinion that design is about aiming for an experience rather than explicitly being able to design it (an idea common within interaction design, e.g. [3],[24],[31],[37]), we see aesthetic gameplay design as designing games explicitly to afford certain emotional experiences.

Most of the previous work exploring aesthetics and gameplay is not focused upon supporting the specific explorations of design possibilities. We suggest that gameplay design patterns are suitable for this purpose, and base this on three notions. Firstly,

gameplay design patterns have already been used to explore both specific and general aspects of gameplay and thus can describe both concrete and abstract levels of it, although that they currently lack structures invoking aesthetic considerations. Secondly, LeBlanc's model [27] describes how aesthetic aspects can arise from dynamic and mechanical aspects. Thirdly, our work on aesthetic gameplay ideals [30] showed that conceptualization of aesthetic gameplay preferences can be done, and can be expressed as a combination of gameplay properties. In combination, these notions suggest that the use of gameplay design patterns could be expanded to include aesthetic considerations. Following LeBlanc's classification, we see patterns directly related to game components and rules as mechanical patterns, whereas more complex behaviors that emerge from mechanical patterns are dynamic patterns. On the most abstract level we find the aesthetic patterns, which related to the experiences that occur throughout the game as a result of the mechanical and dynamic patterns.

A review of Björk and Holopainen's [5] collection of gameplay design patterns revealed that the majority of them relate to mechanical or dynamic aspects and that their described interrelations indicate how mechanical patterns can evoke dynamic ones. This confirmed that it was possible to superimpose LeBlanc's structure on the gameplay design patterns collection. It also indicated that the structure could be used to suggest aesthetic patterns after first identifying mechanical and dynamic ones, something that was supported when some patterns, e.g. TENSION, were identified as being aesthetic.

3. EXPLORING AESTHETIC GAMEPLAY

To follow the cause and effect chains LeBlanc suggests, four games were analyzed to see if patterns on all of LeBlanc's levels could be found, and if they could be related to each other as being mechanical leading to dynamic leading to aesthetic patterns. The aesthetic gameplay ideals found in our previous work [30] were here seen as a way to focus the exploration, and the ideal chosen to study was camaraderie – the satisfaction of working together and accomplishing things as a group. This ideal was chosen partly because togetherness had been the focus in earlier work [21]. Also, familiarity with research in other sciences could provide concepts and starting point for the analysis of camaraderie, e.g. mechanisms of group formation and cohesion [14], social influence in group behavior [12][36], the idea of social referring to tracing connections, and even understandings of social cognition based on neuroscience [7].

The iterative analysis was based on the three researchers' own experience of the games (ranging from hundreds of hours to a substantial familiarity for each game) supported by information included in the game or contributed by players on online sites[1], and other writings. Each of the games was first harvested for patterns previously described (in the case of *World of Warcraft* and *Battlestar Galactica* this was not done exhaustively due to the complexity of the games). In the first iteration focus was on finding mechanical and dynamic patterns, but as a side-effect several new potential patterns were found. These patterns were then compared to each other to find overlaps, inconsistencies, and redundancies which led to some splitting and merging of candidates. Patterns not deemed by consensus to be conceptually stable, or not directly concerned with camaraderie, were removed. In the second iteration the aim was to find potential aesthetic patterns and took the gameplay properties related to the previously identified ideals [30] as starting points. These patterns found in this iteration were then subjected to the same reviewing process as the candidates from the first iteration. Next, the analysis turned to focus on comparing the findings between the games, which often revealed new aspects as well as required generalizations. This in turn required that the identified pattern collection was scrutinized again for consistency which directed the investigation toward identifying if their relations matched the suggested causalities of the MDA model. Besides confirming this assumption, it also reaffirmed some already discovered relations. The analysis was considered saturated when the only new patterns to emerge were regarded as being too specific and when all relationships issues had been resolved.

Most patterns mentioned below have already been described in the existing pattern collection [5], but the following are previously unpublished: the mechanical patterns ACHIEVEMENTS, HELPLESSNESS, MUTUAL ENEMIES, NON-DIEGETIC ELEMENTS, PvE (Players vs. Environment), SELECTABLE FUNCTIONAL ROLES, TRANSFERABLE TOOLS and UNMEDIATED SOCIAL INTERACTION; the dynamical patterns EXCLUDING GROUPS, INHERENT MISTRUST, SABOTAGE, SIMULTANEOUS CHALLENGES, TEAM COMBOS and VIRTUAL CO-PRESENCE; and the aesthetical patterns GUILTING, MUTUAL EXPERIENCES, MUTUAL FUBAR ENJOYMENT[2], SPECTACULAR FAILURE ENJOYMENT, TEAM ACCOMPLISHMENTS and TEAM STRATEGY IDENTIFICATION. Due to space limitations, only the aesthetic patterns will be described in this paper, the others are explained through their context in the case studies.

3.1 Case Study: Space Alert

Space Alert (SA) is a board game by Czech game designer Vlaada Chvátil. Players are crew members on a spaceship and have to work together to save themselves from enemies and other dangers. The game is noteworthy in having two distinct phases; one real time phase in which all player actions are planned, and one where these actions are resolved. A ten minute CD soundtrack acts as the ship's computer, providing information on the different dangers threatening the ship. This soundtrack also serves as a time-limit; when it ends, the first phase of the game is complete and the players can no longer influence the outcome. The actions are planned in collaboration using cards, and gameplay is usually a frantic affair where players try to ensure they deal with all threats.

SA has an obvious pattern to promote camaraderie, MUTUAL ENEMIES. This gives all players the MUTUAL GOAL to OVERCOME these, and since SA is a *PvE* game with no other goals, all players are a TEAM that win or lose together. These mechanical patterns promote the dynamic ones of COOPERATION and TEAM PLAY. When COOPERATION leads to successful ends it can quite naturally give TEAM ACCOMPLISHMENT, and when this does not occur, it is still probably a MUTUAL EXPERIENCE.

The use of CARDS determines possible actions and gives each player a LIMITED SET OF ACTIONS. Since players cannot deal with all threats themselves, these mechanical patterns make the dynamic pattern COMMUNICATION necessary to achieve COOPERATION. The dynamic pattern COORDINATION and in turn TEAM COMBOS allow combined and thus more powerful attacks on enemies. The dynamic pattern UNMEDIATED SOCIAL

[1] Besides Wikipedia entries, www.boardgamegeek.com for Space Alert and Battlestar Galactica, left4dead.wikia.com for the Left 4 Dead series, and www.wowwiki.com for World of Warcraft.

[2] US Military slang abbreviation: "Fouled Up Beyond All Recognition"

INTERACTION from being face-to-face make the basis for the dynamic COORDINATION easy, but the mechanical patterns LIMITED SET OF ACTIONS and TIME LIMITS complicate this. The use of the mechanical pattern RANDOMNESS to determine enemy strikes can lead to the dynamic pattern SIMULTANEOUS CHALLENGES which adds further complexity to the COORDINATION. Although these patterns makes the game more difficult, they increase the value of the aesthetic pattern TEAM ACCOMPLISHMENT when it is achieved since it will to a greater extent be the result of the TEAM, rather than the individuals. They also allow players to take pleasure in TEAM STRATEGY IDENTIFICATION (which is a form of TEAM ACCOMPLISHMENT).

It may seem that the patterns that make TEAM ACCOMPLISHMENT more difficult are only there to increase the value of it when it occurs. However, this difficulty can in other ways promote the aesthetic pattern MUTUAL EXPERIENCES. Somehow managing to cope together in a chaotic situation can result in another aesthetic pattern, MUTUAL FUBAR ENJOYMENT: the appreciation of how the occurring challenges can be handled together although they might seem overwhelming. This related to the factor of the flow experience [8] of balancing skill and challenges but on a group level. Even failing can be entertaining if the failure is particularly memorable, e.g. through a rare or comical instantiation of SIMULTANEOUS CHALLENGES or everybody forgetting a vital detail. Although maybe culturally dependent, the experience of SPECTACULAR FAILURE ENJOYMENT can be more interesting to retell later than success stories due to their specificity, and are as such likely to be remembered as MUTUAL EXPERIENCES.

It is worth noting that these design solutions resides on a fragile balance between the patterns COMMUNICATION and COORDINATION on one side, and the patterns TIME PRESSURE and SIMULTANEOUS CHALLENGES on the other. If the balance starts to skew, it may instead result in too much TENSION, making the game experience unpleasant and can easily turn into one player being designated the SCAPEGOAT for the failure. The game design addresses this by introducing the game rules through three shorter and simpler missions whereby the teams become familiar with their ability to cooperate. When they know this, they can select missions of and appropriate difficulty, thus achieving a suitable amount of TIME PRESSURE and CHALLENGING GAMEPLAY.

3.2 Case Study: Left 4 Dead Series

The Left 4 Dead series (L4D) is a co-operative first-person shooter developed by Valve Corporation. It is set in a post-apocalyptic environment where most of humanity has succumbed to a rage-inducing sickness and the players take on the role of some of the few non-infected survivors. The gameplay focuses on traversing levels while surviving attacks by the infected.

The goals in L4D are strictly not MUTUAL GOALS since one player can be the only survivor and win. However, L4D presents SIMULTANEOUS CHALLENGES to trigger COOPERATION, resulting in ALLIANCES with the CONTINUOUS and SUPPORTING GOALS (which, unlike most Goal-patterns, are dynamic patterns) to help each other, sometimes at one's own expense. As a result, finishing levels is typically perceived as TEAM ACCOMPLISHMENTS; an aesthetic pattern. Unlike in SA the dynamic pattern COOPERATION occurs if players deliberately choose it. At the end of campaigns another dynamic pattern, BETRAYAL, may occur since only survivor gain campaign ACHIEVEMENTS and players may choose to ensure their own success rather than letting all players have some chance of success.

HELPLESSNESS is a basic mechanical pattern used as a penalty in L4D when players have been attacked by certain special infected, have fallen off ledges, or have lost all their health. This state gives rise to the dynamic pattern RESCUE which is typically given high priority since this is effectively a sub goal to the SUPPORTING GOAL mentioned above. Players may also do this to avoid becoming SCAPEGOATS for failures. An additional reason is to motivate the rescued player to repay the favor at a latter point, a dynamic pattern called DELAYED RECIPROCITY which, when it occurs provides TEAM ACCOMPLISHMENT. The possibility to hand over first aid kits and painkillers to those that need them better, i.e. having TRANSFERABLE TOOLS, shows another mechanical pattern which on a lesser scale supports these patterns.

Players typically have different functional roles in their team. This is not enforced, but the mechanical SELECTABLE FUNCTIONAL ROLES can be achieved by choosing different weapons. Although this COOPERATION creates TEAM COMBOS through the group being able to handle various situations more efficiently (e.g. sniping lone infected at long distances or meeting charging hordes in close-quarters battles) it makes the individual players more vulnerable to certain situations and requires COORDINATION. While successfully performing this can result in the aesthetic patterns TEAM STRATEGY IDENTIFICATION, MUTUAL FUBAR ENJOYMENT, and TEAM ACCOMPLISHMENT, it is harder to predict if failure will lead to SPECTACULAR FAILURE ENJOYMENT. For teams with high levels of skill, L4D allows various difficulty settings to provide CHALLENGING GAMEPLAY so that reaching TEAM ACCOMPLISHMENTS still feel meaningful.

COORDINATION is typically more difficult when one is not co-present. L4D partly addresses this through making players want to stick together due to HELPLESSNESS, which thereby makes coordination easier. However, the dark and often confusing environments make it easy to lose each other even when players try to stick together. The games use the mechanical pattern NON-DIEGETIC ELEMENTS to further COORDINATION, outlining the silhouette of the other players through walls (this is removed in the Realism mode of the second game, providing additional CHALLENGING GAMEPLAY). Even so, L4D also supports several different types of COMMUNICATION CHANNELS and have many OUTSTANDING FEATURES – both mechanical patterns – in the game world that can act as reference points. Through making the players aware of the other players' actions most of the time and making them moving in a group throughout the levels, the games promote the dynamic pattern VIRTUAL CO-PRESENCES between the players. This in turn means that players are likely to have MUTUAL EXPERIENCES from a game since they have observed most of the others' actions and know that the others' have observed their own actions.

3.3 Case Study: Battlestar Galactica

Battlestar Galactica: the Board Game (BSG), designed by Corey Konieczka and Eric M. Lang, is a board game based on the 2004 TV-series with the same name. In it, the last remnants of humanity are on a space odyssey looking for Earth after losing a nuclear war against the Cylons – hostile artificial beings created by the humans. Unfortunately, Cylons looking like humans have infiltrated the human fleet, wishing to annihilate the last survivors.

Like SA and L4D, BSG's gameplay revolves around prompting the dynamical patterns COMMUNICATION and COLLABORATION using the mechanical patterns TEAMS and MUTUAL ENEMIES in combination with ASYMMETRIC ABILITIES. As a result the

aesthetic patterns TEAM STRATEGY IDENTIFICATION and TEAM ACCOMPLISHMENT typically occur. The biggest twist in both the TV-series and the game rely on characters, thought to be humans, revealing themselves as Cylons. To facilitate this, the mechanical patterns RANDOMNESS in combination with secret loyalty CARDS distributed initially, evoke the dynamic pattern INHERENT MISTRUST from the start of the game, since players do not know which other players are human or Cylon. Players' loyalty may however change, since halfway through the game new loyalty CARDS are drawn and a player may realize that he or she is a Cylon (utilizing the diegetic idea of sleeper agents from the TV-series). The mechanical Traitor pattern can be regulated through other patterns; players can affect their chances of being TRAITORS since some characters draw more loyalty CARDS, which can be seen as another form of SELECTABLE FUNCTIONAL ROLES.

In general, everyone tries to gain the TRUST of other players by helping the humans in TEAM PLAY, using UNMEDIATED SOCIAL INTERACTION. However, the dynamical pattern BETRAYAL works against this. Much of the playing relies on subtle means of the two dynamic patterns COMMUNICATION and NEGOTIATION, to display that one is a TRUSTED COLLABORATOR. This can be achieved via INDIRECT INFORMATION such as certain actions based on information that only a few players have. The latter is especially delicate if two Cylon players try to secretly establish their relationship. Whilst really wanting to establish the ALLIANCE with their TRUSTED COLLABORATOR they still have much to gain from earning the TRUST of the other players, thus achieving more room to SABOTAGE the communal effort. SABOTAGE is often possible thanks to each player's unique ASYMMETRIC ABILITY, e.g. two characters have the right to manipulate the order of the crisis cards, thus influencing what will happen next; a powerful tool in combination with successful BLUFFING. Another aspect of the dynamic pattern BLUFFING is that a player, who is not yet Cylon, but is more likely than the others to become one due to the built-in, mechanical ASYMMETRIC ABILITIES, does not necessarily want the human team to do extremely well in the first phase of the game. Since BETRAYAL is so central to the gameplay, finding TRUSTED COLLABORATORS whose COOPERATION one can rely on can be very satisfying; a pair of TRUSTED COLLABORATORS can see themselves as a smaller TEAM within their TEAM, as such reaching their own TEAM ACCOMPLISHMENT, which will then be a strong MUTUAL EXPERIENCE for these players.

The close connection between the game and the TV-series, can – provided that players have seen the series – result in a very strong EMOTIONAL IMMERSION, another aesthetic pattern, as players identify with their characters and the humans' goal to save humanity. Besides establishing non-gameplay related sense of being a group, it can also result in a MUTUAL EXPERIENCE through encouraging the dynamic pattern ROLEPLAYING, both for fun and as a means to justify BLUFFING.

3.4 Case Study: World of Warcraft

World of Warcraft (WoW) is a massively multiplayer online roleplaying game published and distributed by Blizzard Entertainment. Set in the fantasy world of Azeroth, players create characters having different races, classes, talents, abilities, and equipment. A very common activity is to go on raids, entering dungeons as a group, having the goal to kill monsters to improve their characters and their inventory.

The raids in WoW consist of the mechanical patterns PvE challenges with MUTUAL ENEMIES which prompt the dynamic patterns COOPERATION and TEAM PLAY, resulting in the aesthetic pattern TEAM STRATEGY IDENTIFICATION between players. This primarily since the various classes and races open up for the mechanical patterns ASYMMETRICAL ABILITIES and SELECTABLE FUNCTIONAL ROLES – players need to ensure that these are compatible so they can achieve TEAM COMBOS.

Teams may be a result of DYNAMIC ALLIANCES but dedicated players often organize more stable ALLIANCES; this dynamic pattern is supported by the mechanical pattern SOCIAL ORGANIZATIONS in the form of support of guilds. Successfully completing raids are MUTUAL GOALS, and quite naturally lead to TEAM ACCOMPLISHMENTS and MUTUAL EXPERIENCES. The game also lets players select CHALLENGING GAMEPLAY based on the number of players, their skill and their characters' levels.

The need for COORDINATION typically leads to a need for VIRTUAL CO-PRESENCES between the raiding players and also helps strengthen their sense of MUTUAL EXPERIENCES. WoW supports this co-presence via the mechanical pattern NON-DIEGETIC ELEMENTS similar to L4D, here in the form of floating name tags above AVATARS and player-chosen raid target icons above ENEMIES. COORDINATION is also strived for by provision of COMMUNICATION CHANNELS.

Given the difficulty of COOPERATION and COORDINATION in raids with several dozens of players, such raids are however also are quite likely to become chaotic and might result in the aesthetic patterns MUTUAL FUBAR ENJOYMENT or SPECTACULAR FAILURE ENJOYMENT. To succeed, guilds often spend considerable time planning, training, and collecting equipment (i.e. TEAM STRATEGY IDENTIFICATION). Given that these activities also need to be performed in groups, another aesthetic pattern occurs: GUILTING, since some players may make other players participate even if they have other obligations or wishes, otherwise risking to be thrown out of the guild or become SCAPEGOATS. This, and that well-run guilds are typically wary of unfamiliar players that wish to join, give rise to the dynamic patterns EXCLUDING GROUPS and SOCIAL STATUSES.

Successful raids in WoW lead to the group acquiring loot. The distribution of which can become a sensitive issue due to the two mechanical patterns CHARACTER DEVELOPMENT and INCOMPATIBLE GOALS since some players may want the same piece of the loot. Many guilds develop loot systems; formalizations of PLAYER-DECIDED DISTRIBUTION OF REWARDS & PENALTIES, in response to this and to handle the dynamic pattern SOCIAL DILEMMA of what it good for the group vs. the individual. This is another example of how TEAM STRATEGY IDENTIFICATION can arise in WoW while when this does not work it can easily be interpreted as BETRAYAL.

4. NEW AESTHETIC PATTERNS

The previous sections introduced several new patterns in addition to using those from to the original collection [5], and its extensions. Due to space constraints we now only discuss new patterns on the aesthetic level, leaving out new mechanical and dynamic patterns as well as not describing already existing patterns that were classified as being aesthetic (e.g. TENSION and EMOTIONAL IMMERSION). The following sections are not presentations of the patterns according to the usual templates but should rather be seen as focal points for discussing how the gameplay ideal of camaraderie can be supported through design.

4.1 Team Strategy Identification

As has been argued elsewhere (e.g. [36]), a requirement for COOPERATION is not only agreeing to work together but also identifying *how* to work together. While the dynamic pattern of COOPERATION can be accomplished by the mechanical patterns ASYMMETRIC ABILITIES and LIMITED SET OF ACTIONS and can lead to the dynamic pattern TEAM PLAY, this may not strongly promote the aesthetic patterns TEAM ACCOMPLISHMENTS and MUTUAL EXPERIENCES since players do not need the dynamic pattern NEGOTIATION but can simply observe each other. In contrast, if combining the mechanical pattern SELECTABLE FUNCTIONAL ROLES with the dynamic pattern TEAM COMBOS players have to organize themselves to be as efficient as possible and thus these patterns promote TEAM STRATEGY IDENTIFICATION, which refers to the experience of successful NEGOTIATION when trying to find a strategy on the group level (rather than finding and agreeing to it).

The discussion required to achieve this can occur "outside" the game if the dynamic pattern UNMEDIATED SOCIAL INTERACTION is promoted or at least not inhibited, but otherwise requires the appropriate COMMUNICATION CHANNELS, and can in both cases be helped by OUTSTANDING FEATURES in the game world.

4.2 Team Accomplishments

This pattern is rather easily defined: the fulfillment experienced when accomplishing a shared goal or task. Being important in assuring functioning teams (c.f. [14] and [36]), this can be achieved via mechanical patterns such as MUTUAL GOALS but can also be promoted if the dynamic patterns TEAM PLAY and (successful) TEAM COMBOS are made to occur, e.g. via SIMULTANEOUS CHALLENGES. Additionally it is supported by another aesthetic pattern, TEAM STRATEGY IDENTIFICATION, regardless if the players reach the game goal or not.

This pattern is very sensitive to task difficulty – if a task can be solved by one player alone (either through actions or choices) such a solution will not be a team effort, nor will it be meaningful if the challenge is too easy. Thus TEAM PLAY must be afforded with mechanics like ASYMMETRIC ABILITIES, TRANSFERABLE TOOLS and similar patterns, but also the difficulty may need to be modified through CHALLENGING GAMEPLAY or SIMULTANEOUS CHALLENGES.

4.3 Guilting

GUILTING occurs when a player is made to do something due to feeling guilty or to avoid feeling guilty, making its definition narrower than the everyday use of the term and distinguishing it from SCAPEGOAT (i.e. simply giving a player the blame, but not necessarily provoking any action). In the context of creating camaraderie, using GUILTING is somewhat equivocal; on one hand it promotes the aesthetic pattern MUTUAL EXPERIENCES but at the same time it can make players play when they either do not want to or should not. The pattern can occur during gameplay, e.g. making players continue playing longer than intended, or making sacrifices for the good of the group, but GUILTING can also function as a meta-game pattern in making people choosing to play rather than doing something else. Consequently, GUILTING can be a cause for problematic usage of games (see [28] for a longer discussion on this in relation to games, and [12] for one from psychology in general).

4.4 Mutual FUBAR Enjoyment

Taking part of its name from a colloquial expression in the US military, this pattern occurs when challenges seem overwhelming and the players have a chaotic overview of the game state but still manage to handle the difficulties. It is strongly related to the flow factor [8] of balancing skill and challenges but on a group level.

This pattern requires a careful application of the CHALLENGING GAMEPLAY pattern (often augmented by the pattern SIMULTANEOUS CHALLENGES). If the difficulty is not high enough the game can become boring, but if it is too high it might simply lead to irritating failure, meaning that players do not reach any goals, MUTUAL GOALS or otherwise, and consequently do not experience TEAM ACCOMPLISHMENT*;* although they might still share a MUTUAL EXPERIENCE of failing. Thus only one aesthetic patterns is evoked and in a negative way. Another issue is that the players need to feel that they are handling the situation *together* which requires being aware of each other even though the game state is chaotic. One potential solution to this is giving certain players specific problems which other players need to solve (as shown for example in the use of the mechanic HELPLESSNESS resulting in the dynamic RESCUE in L4D, or to provide good COMMUNICATION CHANNELS and/or VIRTUAL CO-PRESENCE.

4.5 Spectacular Failure Enjoyment

This pattern reflects that a failure which distinguishes itself in some way – e.g. as the result of exceptional bad luck, gross ineptness or overwhelming opposition – can have an aesthetic quality of its own. Here, the magnitude of the failure lessens the fact that it was a failure and can probably in many cases be as entertaining as a victory, or at least results in a memorable occasion (an aesthetic experience in Dewey's [9] terminology) apt for retelling.

CHALLENGING GAMEPLAY is one way to promote SPECTACULAR FAILURE ENJOYMENT, either because the players find their misjudgment of opposition entertaining or because slight mistakes quickly made a situation spiral out of control. A second reason can be lack of COORDINATION, either in failure to take advantages of possible TEAM COMBOS or failure to meet SIMULTANEOUS CHALLENGES. Even if these patterns can give rise to SPECTACULAR FAILURE ENJOYMENT the relation is quite uncertain since the failures can just as well give rise to SCAPEGOAT. Another issue is that having the same type of failure many times is unlikely to be enjoyable. This gives the requirement that the failure should be unexpected and not have been experienced before, something difficult to design for in games which are intended to be replayed many times. using the mechanical pattern RANDOMNESS may lead to the desire type of SPECTACULAR FAILURE ENJOYMENT, either due to very unlikely combinations of the mechanical patterns CARDS, DICE, ENEMIES, etc. (and thereby extra CHALLENGING GAMEPLAY) or simply by allowing series of very unlucky die rolls.

4.6 Mutual Experiences

MUTUAL EXPERIENCES was the most abstract pattern found in the sense that no patterns was seen to be instantiated by it while the presence of any of several other aesthetic patterns gave rise to it; e.g. TEAM ACCOMPLISHMENTS, FUBAR ENJOYMENT and TEAM STRATEGY IDENTIFICATION. Noting a difference between mutual and common, MUTUAL EXPERIENCES has some specific requirements. First, players should perceive themselves as simultaneously taking part in an activity (which dynamic patterns like TEAM COMBOS promotes) which echoes the idea from Actor-Network-Theory [25] that the concept of social relates to tracing interactions. Second, they should be aware of what the others are doing (occurring natural in face-to-face gaming but also supported

by VIRTUAL CO-PRESENCES). Third, they should feel that they have the same intentions with what they are doing (which TEAM STRATEGY IDENTIFICATION and TEAM ACCOMPLISHMENTS can support).

Several of the patterns identified did not directly support MUTUAL EXPERIENCES, e.g. DELAYED RECIPROCITY, while others seemed to counter it, e.g. the dynamic patterns EXCLUDING GROUPS, BLUFFING, SOCIAL DILEMMAS and INHERENT MISTRUST. However, these patterns can modulate MUTUAL EXPERIENCES by requiring players to make the pattern emerge, and when this succeeds despite the aforementioned patterns, the pattern is stronger. For example, finding a TRUSTED COLLABORATOR in an environment of INHERENT MISTRUST will lead to a very strong sense of MUTUAL EXPERIENCE whilst the collaborators keep striving towards their MUTUAL GOAL.

MUTUAL EXPERIENCE is perhaps the aesthetic pattern most pertinent to the camaraderie ideal. It describes what gives the players something to talk about afterwards, e.g. reminisce about a TEAM ACCOMPLISHMENT or a SPECTACULAR FAILURE. Where most of the other aesthetic patterns are ephemeral, MUTUAL EXPERIENCES is lasting – the joy (or other associated emotions) of a mutual experience often last well after the associated event.

5. DISCUSSION

As the case studies illustrate, one can indeed apply a structure of mechanical, dynamic and aesthetic patterns onto a game, studying how basic mechanical patterns (related to components and rules) result in dynamic patterns (related to player actions) in turn evoking aesthetic patterns (related to experience). The case studies also suggest how camaraderie can be evoked by these patterns in other games. The MUTUAL EXPERIENCE pattern is perhaps the most important component of the ideal, being promoted in all the games and typically achieved by dynamics like COORDINATION and NEGOTIATION, but simultaneously requiring that players have UNMEDIATED SOCIAL INTERACTION or have a VIRTUAL CO-PRESENCE. The patterns of MUTUAL FUBAR ENJOYMENT and MUTUAL SPECTACULAR FAILURE ENJOYMENT show that failure does not necessarily impede camaraderie, although a safer design solution is TEAM ACCOMPLISHMENTS. TEAM STRATEGY IDENTIFICATION shows that COOPERATION can be a success in itself. COORDINATION and NEGOTIATION in turn are typically made necessary due to the mechanical patterns LIMITED SET OF ACTIONS, ASYMMETRIC ABILITIES and MUTUAL ENEMIES. The latter provides MUTUAL GOALS but these can also be created through TEAMS or ALLIANCES. Patterns such as TIME LIMITS and CHALLENGING GAMEPLAY make the COORDINATION more difficult but let groups have a stronger sense of camaraderie when they succeed. TRAITOR, INHERENT MISTRUST, and BETRAYAL likewise make COORDINATION more difficult but can result in finding a TRUSTED COLLABORATOR, and thereby lead to MUTUAL EXPERIENCES and TEAM ACCOMPLISHMENTS (for at least some of the players).

The above section suggests how pattern can bring about camaraderie in a design. However, others patterns show that designing for camaraderie typically also imply the presence of patterns that may result in negative emotions, e.g. HELPLESSNESS, BETRAYAL, GUILTING, or SCAPEGOAT. In some cases these may be justified since they strengthen another type of experience, e.g. TEAM ACCOMPLISHMENTS or TEAM COMBOS, but they also show that the ideal of camaraderie is not a completely positive one, as has been pointed out in other's research (c.f. [28] and [41] in relation to games such as WoW). This does not lessen the usefulness of these patterns, however. It is advantageous in general when designing to be able to more correctly foresee the effect of choices, and the identification of "negative" patterns lets designers of future games make active choices whether they want the possibly negative aspects to exist or not.

It is worth noting that the games analyzed support several aesthetic ideals besides camaraderie, e.g. the player adaptability ideal [30] for WoW. This indicates that the games also display other aesthetic patterns supporting other ideals, some which were identified but have not been discussed in this paper (e.g. SCHADENFREUDE in BSG). Further, some patterns can support almost any aesthetic ideal, e.g. TENSION or EMOTIONAL IMMERSION. These observations indicate that identified aesthetic gameplay design patterns can be used to design for several different aesthetic ideals, showing that they are more generally applicable that just in the context of one specific ideal.

Again one can ask what difference there is between patterns in general and *aesthetical* patterns. In the latter case, we think that any high-level pattern that is related to player experience can be aesthetic. As such it can be used as a tool in shaping a game meeting a certain aesthetic ideal. Arguably, some aesthetic patterns are so common that they are no longer related to a specific aesthetic ideal, e.g. TENSION, which is more or less present in any game, whereas others are highly specialized and can be used to evoke only one or a few ideals, e.g. MUTUAL FUBAR ENJOYMENT, affording camaraderie. This issue exists even on the mechanic and dynamic level, and show that the relevance of a pattern is to some degree dependent of the context in which it is to be used. In fact, the use of aesthetic ideals can function as a sieve – like it did in this paper – to determine which patterns are appropriate to use or not for a particular purpose.

Another insight regarding aesthetic patterns is that they are on a very high level of abstraction. What might be considered just variations or combinations of patterns, become entirely new patterns on this level – as an example look at SPECTACULAR FAILURE, SPECTACULAR FAILURE ENJOYMENT and MUTUAL SPECTACULAR FAILURE ENJOYMENT. With each added term comes a significantly different experience and different sets of relations to other patterns. This opens up for potentially endless variations of aesthetical patterns, further necessitating that researchers limit themselves and focus on the ideals they are looking for, but also opening a "second axis" of gameplay design patterns study.

Using the method of analyzing games in relation to a certain present aesthetic ideal has proven to be very fruitful, well beyond the limitations of this article. Looking at more games, especially if studying other ideals, would most likely result in the discovery and description of additional patterns; we have only described a fraction of all aesthetic patterns. Another aspect of future work in relation to this would be to look at aesthetical patterns from the gamers' perspective, since the aesthetic ideals and thus aesthetic patterns are very much based on their experience. Looking into different aspects of groups and togetherness, such as social presence, connectedness and interaction ritual (as suggested by [21]) could also be an interesting avenue of research.

6. CONCLUSION

In this paper we have explored how gameplay design patterns can be used to express design possibilities on an aesthetic level, exemplifying by the camaraderie ideal. Through the gameplay analyses of four games, we have shown that one can identify

gameplay design patterns as being on a mechanical, dynamic or aesthetic level. The relations between these shows that patterns can serve as a design tool when aiming for a specific gameplay aesthetics. Further, they present different options, uncover how seemingly contradictory patterns can support an aesthetic ideal, and show how some questionable patterns may appear as side effects. The new use of design patterns has also revealed new fields for harvesting patterns and perspectives to take when refining the existing collection.

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8. REFERENCES

[1] Alexander, C. et al. 1977. A pattern language. Oxford University Press, New York (NY).

[2] Bartle, R. 2006. Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 754-787. MIT Press, 2006.

[3] Baljko, M. & Tenhaaf, N. 2008. The aesthetics of emergence: Co-constructed interactions. ACM Transactions on Computer-Human Interaction (TOCHI), Volume 15, Issue 3 (November 2008)

[4] Björk, S. 2008. Games, Gamers, & Gaming – Understanding Game Research. Paper presentation at MindTrek 2008, Tampere, Finland, 7-9 October 2008.

[5] Björk, S., & Holopainen, J. 2005. Patterns in Game Design. Charles River Media, Hingham MA.

[6] Boardgamegeek. www.boardgamegeek.com

[7] Cacioppo, J. T. et al. 2005. Social Neuroscience: People Thinking about Thinking People 1 ed. The MIT Press, Dec.

[8] Csikszentmihalyi, M. 1997. Creativity: Flow and the Psychology of Discovery and Invention. Harper Perennial, New York.

[9] Dewey, J. 1934/2005. Art as experience, Perigee

[10] Falstein, N. 2004. The 400 Project. Retrieved Jan 15, 2010, from http://www.theinspiracy.com/400_project.htm

[11] Gamma, E. et al. 2001. Design Patterns – Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995.

[12] Greenspan, P. S. 1995. Practical Guilt: Moral Dilemmas, Emotions, and Social Norms. Oxford University Press, USA.

[13] Grodal, T. 2003. Stories for Eye, Ear, and Muscles: Video Games, Media, and Embodied experiences. In Wolf, M. J. P. & Perron, B. (eds.) The Video Game Theory Reader. Routledge, London.

[14] Forsyth, D. R. 2009. Group Dynamics, 5 ed. Wadsworth Publishing.

[15] Holopainen, J. 2008. Play, Games, and Fun. Extending Experiences, Fernandez A. et al. (eds). University of Lapland Press, 2008.

[16] Hume, D. 1757. Of the Standard of Taste. A part of the collection "Four Dissertations"

[17] Juul, J. 2005. Half-Real: Video Games between Real Rules and Fictional Worlds. MIT Press.

[18] Juul, J. 2007. A Certain Level of Abstraction. In Baba, A (ed.) Situated Play: DiGRA 2007 Conference Proceedings, 510-515. Tokyo: DiGRA Japan, 2007.

[19] Järvinen, A. 2008. Games without Frontiers. Ph.D. thesis, Department of Literature and the Arts, Tampere University

[20] Kant, I. 1790/1892. The Critique of Judgement. (2nd ed. revised) (London: Macmillan, 1914)

[21] Kort, J. et al. 2010. Evaluations of TA2 concepts, Deliverable D8.4, Integrated Project TA2, Together Anywhere, Together Anytime. Available from www.ta2-project.eu.

[22] Kreimeier, B. 2002. The Case For Game Design Patterns. Available online at http://www.gamasutra.com/view/feature/4261/the_case_for_game_design_patterns.php (last retrieved 4 February 2010)

[23] Kubovy, M. 1999. On Pleasures of the Mind. In Kahneman, D., Diener, E., & Schwarz, N. (eds.) Well-Being: The Foundations of Hedonic Psychology. Russell Sage Foundation, New York.

[24] Landin, H. 2009. Anxiety and Trust and other expressions of interaction. Doctoral thesis, Chalmers University of Technology, Gothenburg, Sweden.

[25] Latour, B. 2005. Reassembling the Social - An Introduction to Actor-Network-Theory. Oxford University Press, Oxford, 2005.

[26] Lazzaro, N. 2004. Why We Play Games 4 Keys to More Emotion Without Story. Game Developers Conference 2004.

[27] LeBlanc, M. 2006. Tools for Creating Dramatic Game Dynamics. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 438-459, MIT Press.

[28] Linderoth, J. & Bennerstedt, U. 2007. Living in World of Warcraft - The thoughts and experiences of ten young people. The Media Council, Stockholm.

[29] Lindley, C. A. et al. 2007. What does it mean to understand gameplay? Ludic Engagement Designs for All (LEDA), 28-30 November 2007, Aalborg University Esbjerg, Denmark.

[30] Lundgren, S. et al. 2009. Exploring Aesthetic Ideals of Gameplay. Paper at DiGRA 2009: Breaking New Ground: Innovation in Games, Play, Practice and Theory. London, UK.

[31] Löwgren, J. 2007. Pliability as an experiential quality: Exploring the aesthetics of interaction design. Artifact 1(2):85–95.

[32] Manovich, L. 2002. The Language of New Media, The MIT Press

[33] Moore, G.E. 1903. Principia Ethica, Cambridge University Press, Cambridge.

[34] Murray, J. 1997. Hamlet on the Holodeck: The Future of Narrative in Cyberspace. The Free Press, New York

[35] Ocholla, B. 2007. Are Games Art? Gamasutra, www.gamasutra.com/features/20070316/ochalla_01.shtml, last accessed 4 February 2010.

[36] Pennington, D. C. 2002. The Social Psychology of Behaviour in Small Groups, 1 ed. Routledge, May.

[37] Petersen, M. G. et al (2004) Aesthetic interaction: a pragmatist's aesthetics of interactive systems. In proceedings of DIS. ACM Press, New York, pp. 269–276.

[38] Shusterman, R. (2000) Pragmatist Aesthetics. Living Beauty, Rethinking Art. Rowman & Littlefield Publishers, Inc., 2nd edition

[39] Smuts, A. 2005. Are Videogames Art? Contemporary Aesthetics, Volume 3, available at www.contempaesthetics.org/newvolume/pages/article.php?articleID=299, last accessed on 14 May 2008.

[40] Sundin, B. 2003. Estetik och Pedagogik, Bokförlaget Mareld, Sweden.

[41] Taylor, T.L. 2006. Does WoW Change Everything? How a PvP Server, Multinational Playerbase, and Surveillance Mod Scene Caused Me Pause. Games & Culture, vol. 1 no. 4.

[42] Walther, B. K. 2007. Pervasive Game-Play: Theoretical Reflections and Classifications. In: Magerkurth, Carsten/Röcker, Carsten (ed.) Concepts and Technologies for Pervasive Games, A Reader for Pervasive Gaming Research. Vol.1. Aachen 2007, p.59-83.

[43] Wolf, M.J.P. 2002. The Medium of the Video Game, University of Texas Press, 2002. ISBN: 029279150X.

[44] Yee, N. 2006. The Demographics, Motivations and Derived Experiences of Users of Massively-Multiuser Online Graphical Environments. PRESENCE: Teleoperators and Virtual Environments, 15, 309-329.

[45] Zagal, J. et al. 2005. Towards an Ontological Language for Game Analysis. Proceedings of DiGRA 2005, Vancouver B.C., June, 2005.

Undercurrents
A Computer-Based Gameplay Tool to Support Tabletop Roleplaying

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ABSTRACT
This paper introduces Undercurrents, a computer-based gameplay tool for providing additional communication and media streams during tabletop roleplaying sessions. Based upon a client-server architecture, the system is intended to unobtrusively support secret communication, timing of audio and visual presentations to game events, and real-time documentation of the game session. Potential end users have been involved in the development and the paper provides details on the full design process.

KEYWORDS
Computer-Supported Gameplay Tools, Computer-Supported Collaborative Play, Role Playing, Tabletop Role Playing

INTRODUCTION
People have played games in all ages and places. Computer-based games, currently being played in 68% of all American households and having players with an average age of 35 and of which 40% are women [14], have clearly become an increasingly important entertainment form in industrialized societies. Looking at the computer games available as a whole, they offer people a wide selection of challenge types ranging from casual (e.g. Minesweeper [22] and Spider Solitaire [51]) to formalized competitions (e.g. Counterstrike [33] and Starcraft [39]); they allow people to play alone (Fahrenheit [9], Curse of Monkey Island [1]) or together (Civilization [28], Wii sports [43]); they allow people to switch between gaming, socializing, creating and other activities while still acting within the boundaries of the games. This variety is probably one reason for the success of computer games; there are games that suit most types of people and types of situations.

Given this, one can wonder if any other types of games can compete. Clearly they can, since even those with easy access to computer games buy and play other games. One reason is probably that interacting with computer games focuses players" attention on the display, which isolates them from their surroundings. This may be of little consequence for single-player activities or when playing with people spatially removed from each other, such as over the Internet, but it does limit face-to-face interaction with people in their immediate vicinity. Another issue is that the computer in many cases dictates the pacing of the gaming experience, making it difficult to negotiate common pauses or changes of activity in multiplayer games. A third issue is that the rules of the game are fixed by the computer code and it is very rare that it is possible to change or ignore these during gameplay, which for example makes it difficult to let novice players remake moves, set up examples or modify the rules to fit the player group.

All these aspects of computer games seldom occur in traditional card games, board games and role playing games (RPGs). The gameplay these games provide can be modified to fit various social context; they can be said to have Social Adaptability [16], thereby offering players additional facets of the gaming experience. Having a computer application facilitate a game could help keep track of game states and statistics, enables private communication channels and makes it possible to present video and audio material to players. That these possibilities, and those of playing against computer opponents or people in other places, are interesting to those playing traditional games is evident from the fact that many traditional games have computer-based versions. But is it possible for traditional games to gain these advantages of computers without losing their social adaptability, and thereby significantly narrowing the range of social contexts in which the games can be played?

This paper introduces *Undercurrents*, a computer-based gameplay tool which provides computer-support to traditional RPGs while not requiring its constant use. The system allows players and game masters to have alternative communication and media streams during game sessions and to document their activities while playing. An overview of RPGs and previous work is provided, followed with a pre-study in which user requirements were gathered and a description of the conceptual development. The Undercurrents system is then presented continued with reports of initial user feedback. The paper concludes with proposed future work and reflections upon the computer-based gameplay tools concept.

BACKGROUND AND RELATED WORK
Undercurrents has been developed as a tool to support traditional tabletop role playing, making tabletop roleplaying and other supporting tools relevant background areas. However, the following sections also covers computer role playing systems and various types of games that have been computer-augmented in order to later be able to contrast their purpose and functionality with those of Undercurrents.

Role Playing

Many different phenomena are described by the term "role playing", but a closer look reveals that they are only peripherally connected, with not even actual role playing as a common factor [56]. Tabletop role playing (also known as pen-and-paper or PnP role playing) grew out of wargames in the seventies [18][23] with the most well-known probably being Dungeons & Dragons. One important design change from wargames was a shift in focus from controlling many units from the perspective of an intangible overseeing leader to controlling one unit from that unit"s perspective, or in other words "you put yourself into your character"s shoes and make decisions as if you were that character." [23] Another change was the emphasis on one person, the game master (GM), facilitating the game world and the narration to the players.

The idea that a player should talk as his or her character while playing quickly sparked the idea that one should act out all the character"s actions as well and led to the development of live-action role playing (LARP) [30]. In this type of role playing people dress up as their characters and participate in secluded events, sometimes lasting several days. Since players move around more in LARP games, complex rule sets and GMing is less practical, but these games can generally support many more players, sometimes in the hundreds.

The invention of computer games came not long after the invention of the computer, and in many cases computer games have been adaptations of existing games or clearly inspired by them - one of the first computer games was a version of Tic-Tac-Toe called OXO [12], and Tetris [44] was inspired by the board game Pentominoes. The advent of RPGs in the late 1970s has been especially influential on computer games. Not only did they inspire computer role playing games (CRPGs) including the Ultima [20] series, the Fallout series [17], and the Elder Scrolls series [15], but they also influenced adventure games (e.g. the Zork series [58]), real-time strategy games (e.g. the Warcraft series [59]), and massively multiplayer games (e.g. Ultima Online [57] and World of Warcraft [62]). For many CRPGs this is especially apparent since they willingly adopt the rules sets wholly or in part from their tabletop counterparts or are required to do so by license agreements (see [3] for the history of CPRGs). These computer games remove the need of GMs and book keeping of character progression while with few exceptions reducing them to single-player games (often letting the single player control a group of characters). Indeed, CRPGs have been characterized as needing randomness and formal promotional systems while social interaction lies more in the domains of multi-user dungeons (MUDs) and massively multiplayer RPGs (MMORPGs) [3].

In order to avoid unnecessarily designing out certain types of tabletop role playing an inclusive stance on roleplaying was taken under the development of Undercurrents. For this reason, roleplaying is viewed as "making decisions based upon a character"s goals" (a refinement of a definition found in [7]) for the scope of this paper.

Computer-Supported Roleplaying

Computer RPGs are designed to mediate the whole role playing experience through the computer. This solution is not ideal to all types of players given the assumption that some would prefer the face-to-face social characteristics of tabletop roleplaying. Wanting to address this, the Stars [36] and the TViews Table Role-Playing Game [38] use interactive tabletops that embed support for rule mechanics. They both are designed to be able to make use of PDAs and provide ambient sound output for the specific games implemented on them. Trans-Reality Role-Playing Games [35] have been proposed as a combination of tabletop, live action, and computer roleplaying games to form a single game form.

Although the focus of this paper is on face-to-face role playing activities, the use of computers in other game contexts is relevant to provide comparisons of how technology can be used. Looking at the most similar game contexts, there are several examples of how to augment traditional types of games. Focusing on card games, the TARBoard [34] makes use of cameras tracking markers to provide a tangible augmented reality game. False Prophets [37] make use of handheld computers and an interactive board to create a hybrid board/video games with the explicit design goals of supporting face-to-face social interaction. Wizard"s Apprentice [46] uses cards, figurines, and a die as the sole input device for computer-controlled multiplayer board game. Prosopopeia [26] and Momentum [27] show how live-action role playing games can be computer-supported through the use of web-based applications and custom-built devices.

Looking at the related area of sports, PingPongPlus [24] augments ping-pong tables and provide the first reference to the idea of Computer-Supported Cooperative Play. Exertion Interfaces [41] show how video projections of remote location can be augmented with sensors and overlays to provide various sport-based activities while trying to maintain the social context of face-to-face interaction. The EU-project Together Anywhere, Together Anytime [54] explores how gaming and other leisure activities can facilitate mediated social interaction to promote togetherness.

It should also be mentioned that making use of the social face-to-face interaction has been introduced in computer games through the idea of ubiquitous or pervasive games (for an overview see [4]). Both MIND-WARPING [52] and Human Pacman [11] combine augmented reality and tangible interfaces to provide game experiences, in one case a "cross between a martial arts fighting game and an agent controller" and in the other a remake of Pacman played in a physical environment. Pirates! [6] and Songs of the North [32] forces players of PDA- or mobile phone-based game to walk in a physical environment and keep track of other players positions. REXplorer [2] is similar but provides historical information for tourists while playing. Klopfer et al. [31] uses augmented reality to create a game for learning requiring small group skills. The Backseat Playground [21] makes the environment passed during a car drive become part of a game world. Although all these examples may include face-to-face

interactions, they are not designed to do so continuously and the gameplay is mediated through the computers.

Computer-based Gameplay Tools

Although the examples given above do support face-to-face interaction they also contain vital aspects of the activity within the computer system. This either forces players to be restricted to the activities supported by code running on the system or reprogram the systems if they want to modify the activity or engage in an un-supported activity. One solution to this would be to consider computers and their applications as tools supporting the roleplaying activity rather than the basis for the activity. Instead of having rule interpretation and game state updates inside a computer system which players can access, the players control the rule interpretation and game state updates with support from computers. Thus, one could consider having computer-based gameplay tools that can be brought to an activity if it is suitable. Instead of being directly dependent on the tools for the activity, they can be added or removed as fits changes to the activity and the context in which it takes place. These computer-based gameplay tools would then be examples of Calm Technology [60] but without connotations that the tools are ubiquitously available.

There already exist some commercial examples of computer-based gameplay tools for tabletop role playing: the Campaign Cartographer 3 [10] and GURPS Character Assistant [53] help GMs create maps and characters respectively but are more likely to be used between play sessions than during them. The Dungeons & Dragons Insider service [13] gives tools to create characters, monsters, encounters, and look up game rules but is quite understandably dedicated to a particular game system and also geared towards supporting game preparations rather than actual gameplay. Numerous dice rolling application exist but are not likely to be advantageous over normal dice for tabletop roleplaying unless they are developed for mobile devices, such as the DiceDaemon [5] and MachDice [29] iPhone applications.

METHODOLOGY

The starting point for Undercurrents was to explore how the communications and media capabilities of computers could improve the tabletop role playing activity. However, tabletop role playing groups are quite small (compared to e.g. LARPs and MMORPGs), and many play in the same group for years. These groups quickly develop their own play style, frames of references, and own rule versions. Given that groups also play a wide variety of RPGs, ranging from products such as Call of Cthulhu [45] and World of Darkness [61] with specific settings through generic systems such as GURPS [25] to entirely homemade systems and settings, it seems that choosing a specific game would limit the exploration (unlike Stars [36] and TViews [38] which had interests in specific computer-based interaction techniques).

With the above in mind, grounding, and later confirming, design decisions for Undercurrents with actual players representing various ways of playing RPGs was deemed a high priority; it was decided to involve the potential future users, i.e. tabletop role players, from the onset. By thus following the standard practices from both game design and interaction design (e.g. [19][47][50]), these people could inform and influence the project at the concept stage and also later in testing and refining of the system. This approach also differs from that of Stars [36] and TViews [38], which although clearly have been designed by people knowledgeable of RPGs, have not documented how they included potential users in the design process.

Not having an invested interest in any specific technology or hardware, the design process of Undercurrents could start by openly exploring what wishes and needs future users had. The first task was thus: what features should a computer-based gameplay tool have in order to support tabletop role playing?

PRE-STUDY

The purpose of the pre-study was to develop the concept further and receive input on possible features to support. Three focus groups of tabletop GMs in two cities were recruited for one meeting each. GMs where chosen over “regular” players because these would likely be more experienced in the running of a game (for an in-depth explanation of the role of the GM, see [18] and [55]).

The target size of the groups where four people (excluding the researcher). The more formal, recorded section of the meetings took little more than an hour each, but in all cases some or all participants stayed for up to two hours longer, discussing ideas, role playing in general and GMing. The participants were all male ranging in ages between 16 and 45 and had GMed for between 1 to 20 years.

All meetings were structured in the same manner and began with presentations of the participants, the designer, the research institute and the project. The participants were asked to briefly describe their role playing and GMing experience, what kind of campaigns they were running and what kind of RPG systems they used. Another round followed with the participants sharing what experience they had with using computers during tabletop sessions, but also if they used other media such as soundtracks, images, maps and the like. To provide food for thought, the ideas of the designers and the ideas of earlier groups (if any) where then presented. Participants were asked to comment on the ideas regarding their usefulness, specific design requirements they would create, and which of the ideas were the most interesting. After this the participants were asked for their own ideas for computer support of a tabletop session. If they had the resources, what would they do? These ideas were also added to the discussion and ranked by the participants in order of usefulness.

Initially the plan was to start with the participants own ideas, but it quickly showed that they needed some firm ground to begin with in order to be able to come up with constructive contributions on their own. Thus the designers″ own ideas might have had considerable influence on the participants. In any case the input from the participants was considerable and several new feature concepts where developed during the meetings. Listed below are the main feature ideas that

coalesced after the three meetings (with the one"s considered most useful first):

- A repository for digital versions of the RPG books.
- A media-control centre supporting multiple playlists (e.g. "action" and "suspense") and sound effects.
- A hidden layer of communication to send messages to selected players.
- The capacity to keep a record of your character/campaign, a sort of journal keeping function.
- Rule support, e.g. rolling of dice, calculating damage, etc.
- Handling of digital props, e.g. maps, pictures and documents.

The participants were also asked to give input on the general design of the future system and what considerations the designers would have to keep in mind in order to appeal to tabletop role playing gamers:

- Simplicity above all – if "the hassle factor" was noticeable the system would not be used.
- Be distraction-free, letting players focus upon the gameplay.
- Setup time must be very low to not add additional time before the role playing session can start.
- Integrate itself as smooth as possible into the game experience – do not steal time or "flow"

The participants varied in their insistence on wireless and cordless units – for some it was an absolute must, for others merely a convenience.

It is also worth mentioning that the focus groups were surprisingly positive towards the idea of a computer-based gameplay tool when asked to evaluate its general feasibility.

CONCEPT DEVELOPMENT

After the pre-study the designers had a pretty clear picture of what features would be most interesting to implement. Taking resource limitations and available development time into account, the following feature wish list was identified:

- Messaging between the actors in the system
- Documentation support
- Media controller
- Document management
- Bookkeeping support

The possibility to send messages to specific players in the player group was the idea that sparked the project. Due to the nature of role playing, some game information is intended only for specific recipients (e.g. if only one character notices something in the game world then only that character"s player should be informed). Most player groups use either hand-written notes or have unintended recipients cover their ears or briefly leave the room, each having its own set of shortcomings. With Undercurrents, GMs and players should be able to expediently transmit messages secretly between themselves. Given the medium, these messages can contain more text than written notes, not contain illegible handwriting (a surprisingly common problem according to the focus groups), and support a "messenger-style" mode of communication.

Integrating different forms of media into the game experience has been the dream of many GMs, but most come only as far as running a soundtrack in the background, perhaps switching between tracks now and then to support the current mood of the game. Few also use background images or slideshows being projected in the game area. In Undercurrents, users should be able to maintain multiple audio playlists and cross-fade between them, as well as insert sound effects into the audio stream.

Many GMs create documents, photographs, etc. that contains information about the game world, its characters and/or the specific scenario. These documents often contain vital clues or information the players might need during a game session. A way of managing these documents, sending them in a message and reviewing them later could potentially ease this process, although it is in the nature of many such "props" that they are physical rather than digital.

Implementing full computer support of an RPG system was discarded because of time limitations, issues of intellectual property and the necessary specialization of the system – it would not be able to support a variety of tabletop role playing, but rather one specific system. A general tool for bookkeeping support with which users themselves could create matrices for specific systems, is more appropriate for Undercurrents.

Documentation support was one of the features embraced wholeheartedly by the focus groups since very little of a typical tabletop role playing campaign is documented, despite often involving extensive note-taking. Besides nostalgic values, this is a problem if a player has missed sessions and needs to catch up, or if a new player joins the group. For this reason, player groups sometimes use wikis to document important events, characters and setting information as well as in game documents, images and/or other props; but this is generally done in-between sessions rather than during sessions. Undercurrents seeks to integrate wiki access into the system, so that the players can access all documented material during the session and update or add to it in real-time. Players will be able to go back and review what has happened before, even after the campaign is concluded, and have persistent access to the documentation if they wish to create outside of game sessions. Another important effect is that all saved notes are ordered and in the context of their game session. This allows players to go back and check things if need be.

In addition to the features mentioned above, the following design considerations were made, almost wholly based upon the wishes of the focus groups:

- The system needs to be simple and easy to set up in any environment as few player groups have a dedicated space for role playing activities.
- The interface must be "hassle-free", unobtrusive and rapid to use in order to preserve game flow.
- The units of the system must not restrict the players" movements or get in between the players, thereby hampering enactment during the session.
- The system must require as little as possible maintenance during a session.

Following a discussion in the design team all notions of internal privilege management in the system was rejected. Role playing is built on doing things together in trust and no reason was found to believe this social contract would not extend to the support system.

Mock-up Trial

Given the decisions regarding the concept, it was now possible to decide on a hardware platform. Eee 901 netbooks were selected for their small size, robust construction, and long battery life. The small form factor of the netbooks was believed to make it feasible for players to keep it in their laps or have several on one table. The robust construction was likewise seen as making it possible for players to put them aside on the floor if they want to get up and play in a more physical manner. Wishing to be able to prototype quickly, the full PC operating system of the netbooks were seen as an advantage and their full keyboards were viewed as the most efficient way for players and GMs to provide input. The extensive battery life of the devices would make it possible to use them unplugged for an entire game session.

Shortly after the acquisition of the hardware platform, a mockup trial was conducted using the said hardware but without the custom-made software. Instead, a simple web-based chat client was used, allowing the participants to simulate one of the features planned for the *Undercurrents* system. Three players (all male; 25-29 years old) took part in the mock-up trial as players, with the designer taking the role of GM. The scenario was a simple, largely improvised sci-fi drama featuring plenty of opportunities for hidden communication. The netbooks were all placed on a table which the players sat around on kitchen chairs. During the four hour session the alternative communications channel was used frequently by all players to send messages back and forth between themselves and the GM; it was somewhat of a surprise to the developers that there was not only significant player-GM communication but also player-player communication[1].

Afterwards the players were asked to evaluate the ideas and the hardware. They were generally positive and considered *Undercurrents* to be a novel, interesting idea. However, they also added that it probably was not for all groups and/or all scenarios; some might find the devices incompatible with a fantasy theme, some may simply be technophobic, and one-shot sessions do not need record keeping. They also emphasized the need for a dark, unobtrusive interface design not to disrupt the experience.

THE UNDERCURRENTS SYSTEM

The concept implied that the system would need to be very easy to set up and configure. Another requirement was persistent access to the system from the user″s home environment and different gaming locations. This called for a client server solution where the client would be available or easy installable on any home computer and the server available via a normal internet connection. Based on these requirements we decided to implement *Undercurrents* as web-service accessible through a normal modern web-browser. This only requires the user to remember a URL and minimizes the setup time to opening the browser and entering a URL.

Based on the requirements, the time available, and the limitations of web applications, it was decided to focus on implementing feature 1 (messaging between actors) and 2 (documentation support). By selecting these two features the system could quickly be developed to look at two different usage situations and provide feedback for further development. The first use situation would be when preparing for a game session, or reviewing notes after one (using feature 2); the second use situation would be during game session for both messaging (feature 1) and for making and retrieving notes (feature 2). The use situations also differ in the former typically being a single-user case while the latter is a co-located multi-user case.

Using off-the-shelf applications, such as an IRC-chat and a wiki, in order to arrive at the desired result was considered, but rejected sine these could not be combined into a single interface, an important feature to make the sessions run as smoothly as possible.

Implementation

The messaging and documentation systems of *Undercurrents* were coded in Ruby on Rails [49] using RedCloth [48] to provide HTML formatting, and the real time parts were realized as a Ajax powered web application written in the MooTools java script framework [40]. All user information is stored in a MySQL database [42]. The system was developed to be modular ease future extensions and uses the Model-View-Controller pattern to provide flexibility in modifying the interface.

The messaging system was modeled on how passing paper notes during role playing works while the documentation system is a scratch-built wiki (the reason for not using an already existing wiki system was to have full control of how to implement access control to pages). Two different interfaces were developed for the different use situations, hereafter called *maintenance interface* and *in-game interface*. All in all, the system is quite small, consisting of 1026 lines of Ruby code and 502 lines of Ajax scripts.

The maintenance interface, which also functions as the lobby for the in-game interface, has a GUI much like a normal web application. Since GMs typically do the main part of preparing sessions, the system was designed to have the GM as the user administrator. As such, the GM can create game sessions, invite characters, and use a public wiki area to prepare information that will be publicly available for the players during sessions, e.g. to provide information about the setting that the players″ characters would be aware of. A private wiki area allows the GM to create secret information. Players also have their own private wiki areas, which can be use to edit information about their characters and edit transcripts from previous play sessions.

[1] Some RPG scenarios are designed for this, but not the one used.

The maintenance interface does not contain a communication interface which can be surprising since it functions as a lobby, but since the players are co-located they can do the necessary coordination using normal conversation.

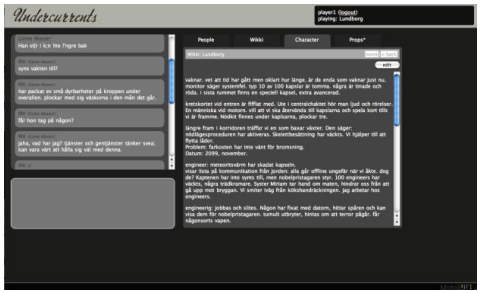

Figure 1. The in-game interface for *Undercurrents.*

The in-game interface of *Undercurrents* provides players and GMs with a selective messaging system and access to both the public wiki and their own wiki. Private wiki pages can be published by links in messages, and external sources (e.g. images or videos) can be linked to from both the messaging and wiki systems. To minimize potential distractions, the GUI uses dark hues, both to counter computer backlight (which might disturb the lighting conditions) and to minimize the GUI″s potential to grab players″ attentions. All important functions of the system are accessible with keyboard shortcuts to minimize disturbing moments like looking for the mouse pointer.

INITIAL USER FEEDBACK

With the first software prototype developed, a prototype trial was set up using the netbooks and the *Undercurrents* system. The actual gameplay use situation, i.e. a role playing session, was selected instead since this allowed one of the researchers to be GM (and thereby being able to mitigate possible technical problems) and, more importantly, allowed participatory observation of how the social interaction was affected by the system. Besides the GM, the group consisted of four players (3 males, 1 female; 19-33 years old). The participants were provided with dinner and soft drinks throughout the 5½ hour session.

Figure 2. Typical use situation of *Undercurrents,* with the game master (and one of the researchers) in the lower left.

The users accessed the system through the Firefox 3 browser in full screen mode to minimize distraction from other applications and web sources. The players used the system throughout the session to communicate secretly, mainly with the GM, but also made extensive use of the wiki in order to take notes during session, something which was unexpected since the scenario was not part of a larger campaign. Unlike the mock-up trial, players engaged mostly in player-GM communication and very little in player-player communication. This discrepancy between the mockup and prototype test groups was probably partly due to different play style but also partly due to differing levels of player experience.

Both after and during the session feedback was gathered from the players. Their wishes, which were mostly related to the interface, are summarized below:

- Highlight new messages– maybe through blinking icons
- Provide hotkeys for common messages – e.g. „yes″, „no″
- Place sender and message on the same row
- Expand the „people″ tab to include descriptions of characters
- Make senders″ name more visible
- Color coded messages
- Provide an „open″ notepad with automatic saving
- Enable received message notification
- Make messages sent to „all″ distinguishable from the rest
- Make own messages less visible than others
- Provide Access to the wiki also outside the game sessions
- Enable Configurable timestamp on messages
- Increase the width of the chat-window

The players expressed that they would like to test the system more in future sessions. Two of the players also said that they would have preferred their own, standard laptops over the netbooks; but that this probably was a question of familiarity with the small keyboard as well as personal preferences. Given the web-based system architecture using other computers is trivial (just input the URL in any modern browser) and shows that the users were unaware of the software architecture.

DISCUSSION

Undercurrents was developed to be a computer-based gameplay tool which supports tabletop role playing sessions with a minimum of disturbance to the social interaction; facilitating, rather than mediating, the game. The current prototype, although only providing two main areas of functionality, has received positive feedback from users without complaints about negative interference with the experience and adheres to the idea of calm technology.

Only one group was tested and might have expressed ephemeral positive views due to the novelty of the system or that the GMing researcher was known to be part of the development team. A more longitudinal study with several different groups is planned after the system″s next iteration in order to properly study the documentation support features, something which was impossible during the shorter trials. This would also allow an evaluation of the maintenance interface, which so far has only been tested in its role as a lobby. These trials would also be independent from the designers to see if an

unassociated player group can learn the design and utilize the system with little or no outside help.

Looking at functionality, the integration of media controller is a logical next step since is a requested functionality that can be added as an independent module. The media controller is also interesting to explore from how the social interaction is affected since it will provide dynamic changes to the gaming environment under the GMs″ control. It would also open up possibilities to test novel output formats such as digital photoframes or the Philips *Ambilight* system. The possibility to control other types of media and integrate sound and images is also interesting since it could potentially expand the current horizons of tabletop role playing considerably. As it stands, tabletop role playing is a rather isolated art form and would gain immensely by allowing it to connect with more established forms such as music, video and photography.

Document management, which was the first requirement from the users, raises issues of digital rights management. However, providing support for accessing PDF documents from within the *Undercurrents* system is technically not difficult and would be the most direct way of adding this functionality, and would provide a venue for distributing digital props as well. Bookkeeping support would require domain specific data and code but could be added to *Undercurrents* without losing its generality if a meta system to load and unload rule sets was developed. The rolling of dice, could easily be added but an interesting alternative would be to incorporate the shaking functionality from e.g. the *MachDice* application to preserve the physical aspects of die rolling.

Undercurrents is developed to be usable independent of any specific tabletop roleplaying system. This flexibility means that it can potentially be used with computer-supported tabletop role playing systems such as *Stars* [36] or *TViews* [38]. An interesting idea would be if system independent versions of these were to develop since this would allow GMs and players to create mash-ups of various computer-based gameplay tools to suit their specific preferences. Combining *Undercurrents* with the planned *Together Anywhere, Together Anytime* system [54] would allow testing the difference of mediated and non-mediated tabletop role playing. This could potentially allow players to engage in traditional role playing even when separated spatially. The ideas of *Undercurrents* can of course be integrated into computer RPGs to support GMing, possibly creating a closer relationship between computer- and tabletop role playing, but this solution would abandon the idea of being a computer-based gameplay tool and would require the functionality to be implemented in each game.

When it comes to the research of tabletop role playing, *Undercurrents* could potentially be a very useful tool for the researcher. With recording enabled from the computer″s camera and microphone, a trove of data on a game session could be gathered, complete with unique focus on each participant. It would allow him or her insight into the workings of the game session without the necessity of being physically present or use a single camera that would miss much of the interaction.

CONCLUSIONS

Undercurrents shows how tabletop role playing can be enhanced with computer functionality without directing the activity. By helping facilitating an activity without actually actively controlling any part it allows GMs and players to decide how the activity should unfold. As such, the system is an example of a *computer-based gameplay tool*, a design solution which can be seen as an alternative to directing and mediated game activities through a computer system.

Even though only a few of the potential features in the system have been implemented and tested, these have been met with approval from players. Further, through the collaboration with presumptive users the design of *Undercurrents* has been ensured to not negatively affect the social aspects connected to tabletop role playing. The additional features can without significant technical problems be added to explore their feasibility in future version of the system. *Undercurrents* may also serve as a bridge to explore how to minimize differences between mediated and non-mediated social interactions since it can be used for both.

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REFERENCES

All web references were visited 2009-06-26.

[1] Ackley, J. & Ahern, L. (1997). *The Curse of Monkey Island*. Lucasarts.

[2] Ballagas, R.A., Kratz, S.G., Borchers, J., Yu, E., Walz, S.P., Fuhr, C.O., Hovestadt, L. & Tann, M. (2007). *REXplorer: a mobile, pervasive spell-casting game for tourists*. CHI '07 extended abstracts, San Jose, CA, USA. ACM Press.

[3] Barton, M. (2008). Dungeons & Desktops - The history of computer role-playing games. A K Peters, Ltd.

[4] Benford, S., Magerkurth, C., & Ljungstrand, P. (2005). Bridging the physical and digital in pervasive gaming. *Communications of the ACM*, Vol. 48, No. 3.

[5] Bitcodex. DiceDaemon. http://bitcodex.com/DiceDaemon.html (visited 2009-06-26).

[6] Björk, S., Falk, J., Hansson, R. & Ljungstrand, P. (2000). *Pirates! Using the Physical World as a Game Board*. Interact 2000.

[7] Björk, S. & Holopainen, J. (2004) *Patterns in Game Design*. Charles River Media. ISBN1-58450-354-8.

[8] Bordia, P. (1997). Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. *Journal of Business Communication*, 34, 99-120. Online: entrepreneur.com/tradejournals/article/19218842_1.html

[9] Cage, D. (2005). *Fahrenheit*. Developer Quantic Dream, publisher Atari.

[10] *Campaign Cartographer 3*. ProFantasy Software Ltd.

[11] Cheok, A.D., Goh, K.H., Liu, W., Farbiz, F., Fong, SW., Teo, S.L, Li, Y., & Yang, X. (2004). Human Pacman: a mobile, wide-area entertainment system based on physical, social, and

ubiquitous computing. *Personal and Ubiquitous Computing*, 2004, Vol. 8, pp. 71–81.
[12] Douglas, A.S. (1952). *OXO*. Part of EdsacPC distribution available from http://www.dcs.warwick.ac.uk/~edsac/
[13] Dungeons & Dragons Insider. dndinsider.com
[14] Entertainment Software Association. *Industry Facts*. http://www.theesa.com/facts/
[15] Elder Scrolls series. Latest release: *The Elder Scrolls IV: Shivering Isles* (2007). Developers Bethesda Softworks, publisher Bethesda Softworks.
[16] Eriksson, D., Peitz, J. & Björk, S. (2005). *Socially Adaptable Games*. Proceedings of Digra 05, Vancouver, Canada.
[17] Fallout series. Latest release: Pagliarulo, E. (2008). *Fallout 3* (2008). Bethesda Softworks | Bethesda Game Studios.
[18] Fine, G. *Shared Fantasy: Role-Playing Games as Social Worlds*. The University of Chicago Press, Chicago, (1983)
[19] F ullerton, T., Swain, C., & Hoffman, S. Game Design Workshop: Designing, Prototyping, and Playtesting Games. CMP Books, 2004.
[20] Ultima Collection (1998). Electronic Arts.
[21] Gustafsson, A. Bichard, J., Brunnberg, L., Juhlin, O. & Combetto, M. (2006) Believable environments: generating interactive storytelling in vast location-based pervasive games. ACE ″06, Hollywood, CA, USA.
[22] Donner, R. & Johnson, C. (1990). *Minesweeper*. First included in Microsoft Entertainment Pack for Windows 1990
[23] Heinsoo, R., Collins, A. & Wyatt, J. (2008) Dungeons & Dragons: Player″s Handbook – Arcane, Divine, and Martial Heroes. Wizards of the Coast, Inc.
[24] Ishii, H., Wisneski, C., Orbanes, J., Chun, B. & Paradiso, J. (1999). PingPongPlus: Design of an Athletic-Tangible Interface for Computer-Supported Cooperative Play. CHI ″99, Pittsburgh, PA, USA.
[25] Jackson, S., Punch, S. & Pulver, D. (2004). *GURPS Basic Set: Characters, Fourth Edition*. Steve Jackson Games.
[26] Jonsson, S. et al. (2006). Prosopopeia: Experiences from a Pervasive Larp. ACE ″06.
[27] Jonsson, S., Montola, M., Waern, A. & Ericsson, M. (2007): *Game Mastering a Pervasive Larp. Experiences from Momentum*. In Proceedings of Pervasive Games 2007.
[28] Johnson, S. (2005). *Sid Meier's Civilization IV*. Developer Firaxis Games, publisher 2K Games Aspyr.
[29] Kobayashi, M. Mach Dice. Information available from http://www.machwerx.com/apps/MachDice/
[30] Konzack, L. (2008). *Larp Experience Design*. In Donnis, J., Gade, M. & Thorup, L. (2007). Lifelike, proceedings of Knudepunkt 2007.
[31] Klopfer, E., Perry, J., Squire, K. & Jan, M-F. (2005). Collaborative learning through augmented reality role playing. In proceedings of CSCL 2005, Taipei, Taiwan.
[32] Lankoski, P. et al (2004). *A Case Study in Pervasive Game Design: The Songs of North*. NordiCHI '04, October 23-27, 2004 Tampere, Finland.
[33] Le, M. & Cliffe, J. (1999) *Counterstrike*. First developed as a mod for Half-Life (1998). Developer Valve Software, publisher Sierra Studios/Electronic arts.
[34] Lee, W, Woo, W. & Lee, J. TARBoard: Tangible Augmented Reality System for Table-top Game Environment. PerGames ″05.
[35] Lindley, C.A. & Eladhari, M. (2005). Narrative Structure in Trans-Reality Role-Playing Games: Integrating Story Construction from Live Action, Table Top and Computer-Based Role-Playing Games. DiGRA ″05.
[36] Magerkurth, C., Memisoglu, M., Engelke, T. & Streitz, N. (2003). Towards the Next Generation of Tabletop Gaming Experiences. Graphics Interface 2004.
[37] Mandryk, R.L., Maranan, D.S, Inkpen, K.M. (2002). *False Prophets: Exploring Hybrid Board/Video Games*. In extended abstract of CHI ″02, Minneapolis, Minnesota, USA.
[38] Mazalek, A., Mironer, B., O'Rear, E., & Van Devender, D. (2007). *The TViews Table Role-Playing Game*. Proceedings of Pervasive Games 2007.
[39] Metzen, C. & Phinney, J. *Starcraft* (1998). Blizzard Entertainment.
[40] MooTools. http://mootools.net/ (last visited 2009-06-23)
[41] Mueller, F., Agamanolis, S. & Picard, R. (2003). *Exertion Interfaces: Sports over a Distance for Social Bonding and Fun*. CHI ″03, Ft. Lauderdale, FL, USA.
[42] MySQL. http://www.mysql.com/
[43] Ohta, K., Shimamura, T. & Yamashita, Y. (2006). *Wii sports*. Nintendo.
[44] Pajitnov, A. (1984). *Tetris*.
[45] Petersen, S. & Wills, L. (2006). *Call of Cthulhu 25th Anniversary edition*. Chaosium.
[46] Peitz, J, Björk, S. & Jäppinen, A. (2006). Wizard″s Apprentice: gameplay-oriented design of a computer-augmented board game. ACE ″06, Hollywood, CA, USA.
[47] Preece, J., Sharp, H. & Rogers, Y. (2002) Interaction Design: Beyond Human-Computer Interaction, John Wiley and Sons Ltd.
[48] *RedCloth*. http://redcloth.org/
[49] *Ruby on Rails*. http://rubyonrails.org/
[50] Salen, K. & Zimmerman, E. *Rules of Play: Game Design Fundamentals*, The MIT Press, 2004.
[51] *Spider Solitaire* (1998). First included in Microsoft Plus!
[52] Starner, T., Leibe, B., Singletary, B. & Pair, J. (2000). MIND-WARPING: Towards Creating a Compelling Collaborative Augmented Reality Game. IUI 2000.
[53] Sykes, A. *GURPS Character Assistant*. Information available at: http://www.sjgames.com/gurps/characterassistant/.
[54] Together Anywhere, Together Anytime. http://www.ta2-project.eu/
[55] Tychsen, A., Hitchens, M., Brolund, T., Kavakli, M. (2005). *The Game Master*. Proceedings of the Second Australasian Conference on Interactive Entertainment, Australia
[56] Tychsen, A., Newman, K., Brolund, T., Hitchens, M. (2007). Cross-format analysis of the gaming experience in multi-player role-playing games. Proceedings of DiGRA 2007.
[57] Ultima Online: Kingdom Reborn (2007). Electronic Arts.
[58] *Zork I-III*. Included in: Classic Text Adventure Masterpieces of Infocom (1996). Activision.
[59] Warcraft series. Latest release: Pardo, R. (2002) *Warcraft III: Reign of Chaos*. Blizzard Entertainment.
[60] Weiser, M. & Brown, J. S. (1996) *The Coming Age of Calm Technology*. http://www.ubiq.com/hypertext/weiser/acmfuture2endnote.htm
[61] *World of Darkness Rulebook* (2004). White Wolf Game Studio.
[62] *World of Warcraft: Wrath of the Lich King* (2009). Developer Blizzard Entertainment, publisher Activision.

Framing Storytelling with Games

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Abstract. The purpose of this article is to aid the design of support tools for storytelling games, and to ease the analysis and understanding of storytelling games by expanding the hitherto available framing. Based on interviews with players, it outlines frames in storytelling games, expands the concept and suggests how this can be used in designs with examples from current and future storytelling support tools.

Keywords: Storytelling, storytelling games, interactive storytelling, role-playing, mediated communication, storytelling support systems.

1 Introduction

Storytelling has always been an important activity in human society, as has games, and it is no wonder that we nowadays see the two together. There is storytelling *in* games, and storytelling *with* games. The former consist of games that tell a pre-written story or even an "interactive" story where the players get to chose between pre-established paths. The latter uses games to help people co-create stories as they are being played, leading to such complex forms of storytelling as the interactive co-creation of narrative in games such as *Universalis* [15], or tabletop role-playing games such as *Wild Talents* [8] or *Dungeons and Dragons* [13].

This second type of storytelling is highly complex, since so much of the communication is utterly context-dependent. The players shift between play modes constantly [10], and many different activities can occur in the same game. What someone is saying can be part of the activity, part of the formal system that regulates the activity, outside the activity, or a combination. If there are personal characters, the emphasis of being "in character"[1] creates additional difficulty – one must also be able to differentiate what is being said in character and out of character! One also needs to know if something is part of the diegesis[2] of the story or not. When mistakes are made

[1] To quote Fergusson in his introduction to Aristotle's *Poetics*: "…the actor's art consists in 'taking the mold' of the character portrayed, and then responding to the situations of the play as they appear to that character." (p. 31) [9]

[2] The "diegesis" of a story consists of whatever is true *in that story*. Diegetic elements are "in the story"; non-diegetic elements are not.

it leads to confusion at best and serious disruption at worst, leading to a loss of immersion [23] and/or flow [7].

Unsurprisingly, both storytelling and games have moved into the digital domain, which also has storytelling *with* games as players seek new possibilities and attempt to mitigate or remove the obstacles of old methods. They might for example be looking to overcome spatial and temporal limitations through PBEM[3] [21] or MUD/MUSHs[4] [1], problems with representation through technologically assisted LARP[5] [30] or available affordances in computer games with a tool such as Sleep is Death [27].

Unfortunately, the highly complex and social nature of storytelling makes it difficult to design adequate support systems for the activity; the limitations of technology might even exacerbate the problems. The slow(er) return time of PBEM communication makes it difficult to clear up confusion, MUD/MUSHs are real-time but lack face-to-face interaction, excluding non-verbal indications of a play mode shift, LARP is face to face, but has problems with representations beyond the diegetic. Sleep is Death is dependent on pre-constructed building blocks and limited to two players. While there are tentative attempts at creating digital support tools for tabletop role-playing (e.g. [28]), these are still not widely used.

This article uses interview data from player respondents in order to describe the activity of storytelling with games as multiple potentially overlapping activities. This in order to support the creation of games and tools to facilitate the activity; with examples of how this can be used in designs. It does not focus on how to create a good story or a good game, but rather attempts to understand the storytelling activity.

2 Background

There are many different genres of games, some of which allow storytelling with games – presented here are some notable examples.

Joint storytelling games allow multiple participants to narrate a story together. There is usually a mutual before-hand agreement on some of the story's boundaries, such as theme and/or setting, but beyond this the story develops as it is told. *Universalis* [15] is such a game, and there are many examples of technological applications, see e.g. [2, 14, 36]. Some of these are more like games than others, but all have some sort of playful interaction in common.

Tabletop role-playing usually means that each participant has his or her own character, with exception of the GM[6], if there is one (see e.g. *Shock: Social Science Fiction* [24] for a rare exception where there is none). Diegetic control is usually strictly regulated – player-participants control their character and its actions, the GM most of everything else. *RPTools* [28] is an attempt at providing technological support

[3] "Play-by-(e)mail"

[4] "Multi-user Dungeon" and "Multi-user Shared Hallucination" respectively

[5] "Live Action Role Play"

[6] "Game Master", "Game Moderator" has also occurred recently, presumably since everyone doesn't approve of the implied "mastery", see [8]. Many games have their own term for the same role; e.g. "Storyteller" in [5].

(such as maps) for role-playing games, as is *Undercurrents* [3] which focuses on providing additional communication channels, and an area for asynchronous contributions to the storytelling process. Note that there is a huge difference between computer role-playing games such as *Baldur's Gate* [25] and tabletop role-playing in a digital setting.

An early example is *play-by-(e)mail* [21]. Many different games, including storytelling games can be played over PBM, and it enables players to participate in a game although they are spatially separated, albeit not in real time. *DeProfundis* [26] is an example of a commercial storytelling game played entirely over mail or email.

Another example is *MUD/MUSHs* [1]; online text-based platforms for role-playing and/or gaming (the amount of actual role-playing varies, see [35]). These have both different channels for communication and a convention of tagging entries to ease understanding. In *SMAUG MUSH* [29], players can for example type "emote" in front of an entry to have it edited automatically to reflect a specific stance or use a client which color-codes text from different sources.

Live Action Role-Playing, is a form of storytelling used to create stories with sometimes hundreds of participants [30]. Owing to the emphasis on a so called "360° illusion" [18], it is perhaps as close as one can currently get to Murray's "holodeck" [23] storytelling. It has trouble with representation – more fantastic elements such as magic or fictitious technology can be difficult to include. *Interference* [4] is one example of how a live-action game was enhanced with digital technology to provide a seamless experience of magic and advanced technology.

A computer game example is the digital storytelling game *Sleep is Death* [27] in which two players takes the roles of player and game master. The player explores the world and interacts with its objects and characters, while the game master controls everything else "behind the curtain", much like a traditional tabletop role-playing game. What is particularly interesting about the application is that it challenges the common notion that a computer game only has limited, specific affordances [11].

3 Related Theory

In order to structure the activity of storytelling we turn to Goffman [12], who studied human interaction and uses play and games as an example. According to his *frame theory*, something can only be understood if you understand the frame (context) in which it resides; if you misunderstand the frame, you will misunderstand what is going on. A parent who hears his children cry "I'm going to kill you dead!" from the living room is probably much less concerned if he interprets it in a "computer game frame" than a "playing with knives" frame. The frame theory is highly applicable to the complex nature of storytelling games, and with it we can structure the many context and play modes of storytelling games into specific frames. Games are already somewhat formalised through their rules and are suitable for frame analysis; other scholars have done just that and applied frame theory to explain the frames of particular games:

One such scholar is Linderoth [20] who explores how children create meaning while playing computer games in his 2004 thesis *Datorspelandets Mening* (Eng. "The meaning of gaming"). He has analyzed video material of children interacting while

playing computer games, and argues that their utterances only can be understood in context. He divides the children's speech into frameworks to better understand how meaning is created in games; *rules-oriented* frameworks, *theme-oriented* frameworks and *aesthetically* oriented frameworks. Each frame carries with it its own understanding of how a particular piece of communication is to be understood in the overall narrative.

Fine [10] looks at the activity of role-playing and structures it into three "levels of meaning". The first is described as the "real world", the "commonsense understanding that people have" (p. 186); the second is the "game context" and the third is the world of the characters. He also mentions frame confusion occurring during the games that he has studied, such as in an example regarding the source of a greeting (p. 201).

Mackay [22] divides the activity of "fantasy role-playing" into frames very similar to Fine's, but subdivides the game-world frame into three – the "performative" (or "character"), the "constantive" (or "addresser") and the storyteller (or "raconteur") frame (p. 55-56). Performative are first-person utterances – "pretending to be the character", constantive is also first person but descriptive, and storyteller is descriptive but not first person.

Cover [6] looks at tabletop role-playing games in her 2010 book *The Creation of Narrative in Tabletop Role-Playing Games*, and in chapter five, entitled "Frames of Narrativity in the TRPG" she presents three frames pertaining to tabletop role-playing games; the "narrative frame", the "game frame" and the "social frame" which are further subdivided into six "levels of narrativity" (p. 94). Unfortunately, she is limited to tabletop role-playing in general and Dungeons and Dragons [13] specifically. Also, she is mainly concerned with how narrative is created and not on the communication between the players.

4 Method

Besides looking at earlier work and game artifacts, this article is based on obtaining and analyzing data from several additional sources: focus group meetings held in parallel with *Undercurrents* development (three groups of four participants each, 45-90 minutes, details see [3]), feedback from and discussions with the prototype test groups (two groups of three participants, details see [3]) and discussions with assorted game masters as the prototype matured. The author also has considerable (20+ years) of experience with role-playing and more traditional storytelling. The respondents main area of experience was with role-playing, but many had tried other storytelling games; an unsuccessful attempt was made to find respondents with more extensive broad experience. Given that role-playing games are probably one of the more complex storytelling games this was not viewed as a problem.

The data collection was for the most part conducted in an informal, conversational manner as advocated by e.g. Thomsson [32]. This means that the respondents were presented with the intent of the work, the work done so far and what other respondents had said, inviting comments and an open dialogue.

The analysis consisted of taking Fine [10], Mackay [22] and Cover's [6] framing as starting points and then matching them with the interview data. When something was found that did not seem to fit into an existing frame, or could be reliably split into

several frames, new frames where created, refining the original frames until all data fit into frames.

After the initial modeling of communication frames was drawn up, it was presented to a group (four participants) of other (10-15 years of experience) role-players to see if it concurred with their understanding to increase inter-evaluator reliability. A few minor corrections and clarifications were made.

The main limitation of this study is the national scope of the sample; while the underlying data is sound, it is mostly drawn from Scandinavian respondents and would be easier to generalize with a more diverse sample. Note however that the earlier work is based exclusively on North American samples and that taken together the case presented seems strong.

5 Frames of storytelling

The identified frames are presented here with a suitable moniker, examples, special requirements and other pertinent details.

Although in some cases inspired by actual quotes or past storytelling sessions, the examples below are fictional creations and clearly denoted by the word "example". Quotes from respondents are indented and have been edited for brevity, readability and anonymity, as well as translated from the original Swedish. They are often included to show additional facets or complications surrounding a frame. Many are comments on the specific frame and expand the descriptions, also showing the respondent's awareness of conflicts between the frames.

5.1 Diegetic dialogue

Perhaps the most common communication frame is the "diegetic dialogue" in which the words of the player/storyteller have an exact match in the diegesis; i.e. what the player says is what a character says in the story. This is often the "default" frame, where a communication is placed unless it clearly belongs somewhere else, but this depends heavily on the style of play, see e.g. [6]. Sometimes distinguished with a particular tone of voice or style of language designed to mimic that of the character. Note that diegetic monologues or characters talking to themselves are included here as well.

> *"This is sometimes hard to distinguish from poses, like if someone says 'I'm going for coffee' this could either be his character talking, him describing what his character is doing, or himself simply stating that he is going for coffee out of character!"*

Example: [in the faux-grandmother voice of the wolf] "Come a little closer, child, so that I can take a look at you!" or [in the proud voice of a paladin] "Begone foul beasts, lest ye taste my blade!"

5.2 Diegetic poses

In role-playing parlance a "pose" is a description of something that a character does, and might also include descriptions of something that the character says, but not

word-for-word. Usage often shifts between first person, common in traditional tabletop role-playing, and third person, used in traditional storytelling. Note that phrases from the dialogue frame above sometimes are appended with a description of which character is the origin of the phrase, something which would belong in this frame. "Emotes" used in online games would also fall into this category.

> *"Earlier, we used to be very strict with using only first person, but of late this has changed, probably because we look more at the narrative as a whole rather than only our own characters. So nowadays we often mix."*

Example: "The big bad wolf said: ['So that I can hear you better']", or "I sit down and explain to my fellow Paladins what I have seen in the crypt."

5.3 Diegetic descriptions

These are descriptions of elements in the setting that are not associated with the actions of a particular character. Depending on the nature of the game, these can come from either the GM/storyteller only, or from players and the GM/storyteller.

> *"Every game begins with a 'description-round' in which everyone describes their character's physical looks, and maybe what gear they are carrying. During the game we also sometimes stop and do an 'update-round' to highlight changes."*

Example: "Grandmother's house is small, but cozy, and made of timber and clay" or "The paladin is a stocky middle-aged woman with a stern face and unforgiving stare."

5.4 Non-diegetic system-related

For storytelling games that have a system component, such as most traditional tabletop role-playing, this is information that relates to that component. It is labeled "non-diegetic", since although the characters in the story could be aware of these things on some level; it is of course hardly in the language of the system. Note however that in some computer games, this is freely mixed into the diegetic dialogue (see e.g. [17]).

> *"For some, the system should be as invisible as possible during play, as they think that 'system talk' disrupts the flow of the experience, but with some systems this is impossible, and many groups don't care that much."*

Example: "I spend a willpower point and roll Manipulation + Subterfuge to fool little red riding hood" or "Your paladin is struck for 10 hp in damage!"

5.5 Non-diegetic story-related

Also sometimes referred to as "meta communication"; this is participants discussing the story on a level removed from the story itself, they are, in effect, discussing the story as a story. This could involve arguments on where to take the story, how the plot should enfold, and so on. Comments on the story would also belong here, and is naturally present in all storytelling groups. The more intentional debate on the story and its elements is virtually non-existent in many groups, but some make extensive use of it, and have even special techniques to insert it into an ongoing story (see e.g. [16]).

[regarding meta-communication] *"We do a lot of this, but I think it is rare; we take breaks, discuss where the story is going, and so on. It helps the quality of the story, but it makes the flow sort of broken up."*

Example: "I don't like the direction this story is going; the male hunter as savior is too traditionally patriarchal; we need to change it up" or "the episode with the paladin and the old lecher was really good, more of that!"

5.6 Non-diegetic activity-related
Communication related to the current activity of storytelling, rather than to the ongoing story. It often concerns the boundaries of the activity and is necessary to form, extend, amend and/or dissolve the activity agreement.

Example: "Let's take a break and continue after dinner!" or "pass me the eraser".

5.7 Non-diegetic non-activity-related
While by definition not part of or pertinent to the activity, it bears mentioning because communications in this frame are often interspersed among communications of the other frames, which potentially could cause confusion. In most sessions this is considered a disruption; in more casual sessions it is a common feature [10].

"We always claim to be 'serious' and 'pretentious' when it comes to our role-playing, but I guess that when push comes to shove, we're as chatty as anyone else. It fills out the 'dead space' so to speak."

Example: "Oh, by the way, have you seen the new science fiction movie?"

6 Comparisons and further framing

Comparing the frames in this article with those of the scholars mentioned earlier, we find that Linderoth's [20] three frameworks (rules- theme- and aesthetics-oriented) are seductively easy to compare to the system and diegesis-related frames, but this is a mistake – originally intended for video games, the best translation in this context is to put them all in the non-diegetic activity-related frame, since they are all examples of commentary to the game itself. In contrast, comparing with Fine [10] is rather straightforward; his primary framework covers all the non-diegetic frames, his game frame the system-related frame and the character frame the rest. Mackay [22] complicates the issue somewhat; his performative frame corresponds to diegetic dialogue, but only if it is a diegetic pose at the same time: "*what [NN] says as his character constitutes what is done by that character in the game world*" (p. 55). His storyteller/raconteur frame on the other hand, corresponds to the diegetic poses frame, but only if it is in third person and not said "as the character". Why Mackay chooses to delineate the frames thusly is somewhat unclear, but it could be that he does not see the possibility of an utterance being interpreted in more than one frame. The constantive frame simply corresponds to the diegetic descriptions frame, and the two other are identical to Fine's.

Cover [6] splits her three frames further, dividing the narrative frame into "narrative speech" which corresponds both to diegetic poses and descriptions, and "in character speech" which is diegetic dialogue. The game frame is split into "dice rolls", which is a subset of non-diegetic system related and "narrative suggestions" which has no clear correspondence – it straddles system-related (because "it might involve dice-rolls") but also non-diegetic story-related, but with restricted diegetic control, since the suggestion needs GM's approval before it becomes diegetic. Finally, the social frame is split into "narrative planning speech", a subset of the non-diegetic story related frame, and "off-record speech" which is non-diegetic non-story related, but also contains "comments on the story world", which would be story-related (p. 94).

There are however additional, important considerations to be made that emerged from the data, and are not covered by earlier scholars. Below are characteristics that cannot be viewed as their own frames, but rather as possible additional features of the frames above. They influence the frames in ways that are important to grasp, as they put additional constraints on the communication between participants, and more possibilities of frame confusion.

6.1 Limited disclosure vs. open disclosure

All information is not necessarily for everyone – in traditional role-playing, participants apart from the GM usually receive only information that their character would be able to perceive/recall; or sometimes attempt actions that they want to keep secret from the other characters. If this information is to be kept from the other players as well as their characters, a separate channel of communication is required. This could for example be hand-written notes or temporary limitations (such as non-disclosure participants covering their ears, or leaving the room, see [3]) so that the limited disclosure of the message can be preserved. In turn, this puts further limitations on the message, such as the limited space available on a note or the discomfort of covering one's ears for a long time. When these restrictions are perceived as too cumbersome, the message is curtailed instead, leading to a loss of information.

> *"The amount of 'secret' information differs so much between games, groups and genres. Sometimes it ruins everything if the wrong people have the wrong information, and getting it across without spoilers always requires some sort of hassle."*

Example: "You see how the hunter secretly nabs some of grandma's silver spoons" or "I prepare explosive runes, and scribe them on the paladins morning prayer sheet"

6.2 Synchronous vs. asynchronous

Not all stories are told in synchronous mode; some are more drawn out affairs in which the participants exchange story elements over a longer period of time. Some are told in a combination of both, as participants engage both in storytelling sessions and prepare additional material between the sessions. Though usually easy to tell apart from other frames this is nevertheless important, both because sometimes the delineation between synchronous and asynchronous can be less than straightforward, especially in the digital realm, and because different channels might be required.

What is introduced between sessions might also be accessed or referred to during a session, further blurring the picture.

> *"There are actually storytelling games that occur entirely without the players meeting each other; they just write letters*[7]*. I think it feels a little odd, but I guess there are people that love it."*

Example: Red riding hood's diegetic diary, or a written down description of the paladin.

6.3 Restricted diegetic control

In storytelling where the distribution of diegetic control is asymmetric, such as in traditional role-playing or co-authoring systems [15]), it might be necessary for some participants to check with the diegetic authority whether it is all right to introduce a specific story element into the diegesis, or if a specific diegetic truth holds.

> *"This can create *a lot* of trouble if everyone isn't synched and makes the wrong assumptions on what is acceptable or not. And you never want to tip your hand by asking in advance, so to speak."*

Example: [on a separate note to the storyteller] "I'm going to introduce the fact that my version of red riding hood has kick-ass karate skills, ok?" or "Is my shield also considered a holy weapon, or just the sword?"

7 Discussion

Returning to the introduction, where we viewed some attempts at bringing storytelling, games and technology together, it seems that there are three main problems connected to frames – limitations in the ability to clear up confusion when it occurs, limitations when it comes to signaling a shift between frames (and the resulting inability to shift if desired) and limits when it comes to representation. In some games you have only one, in others all three. A good example of the second type comes from the respondents under the "limited disclosure" framing above; shifting from an open to a closed disclosure frame "*always requires some sort of hassle*" and as a result the shift sometimes is not made.

The most important step when designing technological support for a storytelling game is probably to determine which frames will be prevalent during the game, but this can be difficult - the most influential factor on the prevalence of the different frames is of course the storytelling style of the participants, but factors such as genre and theme (there is more diegetic descriptions and less diegetic dialogue in a Hemingway-inspired story than in a Shakespearean one, for example) also exert their influence. There is also a significant impact from how much "live-action" is used in the story, i.e. how much is acted out physically and bodily by the participants, and what is instead described verbally.

[7] The respondent refers to DeProfundis [26]

Below are two specific examples of how frames are and could be used when designing applications to facilitate storytelling, one from earlier development and one from future development.

The first example concerns redundant communication and how it can be solved with the *Undercurrents* [3] system. It regards the so called "echo effect", occurring when a message is repeated in several frames during a face-to-face tabletop role-playing session, and is best illustrated through an example:

"Let's say the scout in the party spots something, or the sensors guy on the spaceship receives new information on something; first the storyteller tells it to him [diegetic descriptions frame, limited disclosure] *then his character needs to tell everyone else* [diegetic dialogue frame]. *But everyone just hears the same thing twice. Or, the storyteller skips the first part, which makes the sensors guy feel useless."*

Since the *Undercurrents* system provides a separate communication channel where the sender selects the recipients, the storyteller would send the first message through the system, which would only be visible to the scout/sensor operator in the example above, and the recipient could then transfer it into the dialogue frame (or not, if he or she would rather keep the information secret). To the other participants, this would presumably be a more seamless and coherent experience than if they got information they already had heard "echoed" in two different frames.

The second example comes from a storytelling application developed as part of the European integrated project TA2 ("Together anytime, Together anywhere" [33]). Its purpose is to allow people to enjoy storytelling activities even if spatially separated, but could also be used to tackle similar issues:

As the participants take on different characters of a story the orchestration and audio/visual composition provided by the TA2 system could be used to alter the speaker's voice, present images/animations of elements of the story, and so on; but this would require that the application engine knows how to recognize the different frames. The first example of the diegetic poses frame is a case in point – you would only want the wolf-voice modulation to appear on the diegetic dialogue section and not the diegetic pose part. It might of course make the second part redundant, since we hear that it is the wolf that is speaking, but we still need to differ between the wolf and red riding hood, for example. If the storyteller is describing what grandmother's house looks like, the audiovisual content could reflect this, necessitating a differentiation between the diegetic description frame and others. With a non-interactive story the text could be annotated beforehand, but an interactive story (or a story that left room for improvisations) would require more real-time orchestration. This could either be done automatically by a system if advanced enough, or by providing the storyteller (and/or participants) with an effects interface.

In the same vein, we might want a system to exclude communications that are not pertinent to the activity (non-diegetic non-activity related), and make sure that communications that are activity but not story related (non-diegetic activity related) does not disturb the activity, perhaps by sending it through another channel as in a MUD/MUSH. Sleep Is Death [27] on the other hand, does away with the non-diegetic channel completely, eliminating non-diegetic non-activity related communication, but also forcing players to either skip or send non-diegetic concerns through the diegetic interface (or find an alternate channel, outside the game).

8 Conclusion

This article builds upon interviews data from players and outlines frames for the activities in storytelling games. Where earlier work had other areas of focus, this article covers more types of games and in greater granularity, also indicating that there exist additional, "modulating" concerns that alter the frames in important ways. This article also has a clearer design focus, providing examples of how insight into frames can be beneficial when creating support systems. This could also potentially be useful when analyzing the exchange taking place during storytelling.

It can hopefully help bridge the creativity of the non-digital storytelling session with the possibilities afforded to us in the digital sphere, such as storytelling even if spatially separated, audiovisual enhancement and automatic orchestration/narration. There are two paths for further research; one theoretical, where the next step would be to look at detailed transcripts from different storytelling sessions and annotate manually to get a more quantitative measure of how much information belongs in the different frames, and one practical, which would entail creating new tools incorporating these thoughts.

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References

1. Bartle, R.: Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs. In: Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, , pp. 754-787. MIT Press (2006)
2. Benford, S., Bederson, B. B., Åkesson, K., Bayon, V., Druin, A., Hansson, P., Hourcade, J. P., Ingram, R., Neale, H., O'Malley, C., Simsarian, K. T., Stanton, D., Sundblad, Y., Taxén, G.: Designing Storytelling Technologies to Encourage Collaboration Between Young Children. CHI-2000 (2000)
3. Bergström, K., Jonsson, S., Björk, S.: Undercurrents – A Computer Based Gameplay Tool to Support Tabletop Roleplaying. Proceedings of Nordic Digra 2010 (2010)
4. Bichard, J., Waern, A.: Pervasive Play, Immersion and Story: designing Interference. Dimea'08 (2008)
5. Bridges, B., Chillot, R., Cliffe, K., Lee, M.: World of Darkness Rulebook. White Wolf Game Studio (2004)
6. Cover, J. G.: The Creation of Narrative in Tabletop Role-Playing Games. McFarland & Company (2010)
7. Csikszentmihalyi, M.: Creativity: Flow and the Psychology of Discovery and Invention. Harper Perennial, New York (1997)
8. Detwiller, D., Hite, K., Ivey, S. Stolze, G.: Wild Talents Second Edition. Arc Dream Publishing (2010)
9. Fergusson, F.: Introduction to Aristotle's Poetics. Hill and Wang, New York (1961)

10. Fine, G.: Shared Fantasy: Role-Playing Games as Social Worlds. The University of Chicago Press, Chicago (1983)
11. Gibson, J. J.: The Ecological Approach to Visual Perception. Lawrence Erlbaum, Hillsdale, NJ (1986)
12. Goffman, E.: Frame Analysis: An Essay on the Organization of Experience. Harper & Row, New York (1974)
13. Gygax, G., Arneson, D.: Dungeons & Dragons. TSR (1974)
14. Helmes, J., Cao, X., Lindley, S. E., Sellen, A.: Developing the Story: Designing an Interactive Storytelling Application. ITS (2009)
15. Holmes, M., Mazza, R.: Universalis: The Game of Unlimited Stories. Ramshead Publishing (2002)
16. Hook, N.: Musings from Bristol #11: Meta-Techniques (2010). RPG.net, available at http://www.rpg.net/columns/bristol/bristol11.phtml
17. Kojima, H.: Metal Gear Solid. Konami (1998)
18. Koljonen, J.: Eye-Witness to the Illusion. An Essay on the Impossibility of 360° Role-Playing. In Donnis, J., Thorup, L. & Gade, M. (eds.) Lifelike, Knudepunkt 2007 (2007) Available at http:www.liveforum.dk/kp07book.
19. Konzack, L.: Larp Experience Design. In Donnis, J., Thorup, L. & Gade, M. (eds.), Lifelike, Knudepunkt 2007 (2007). Available at http:www.liveforum.dk/kp07book..
20. Linderoth, J.: Datorspelandets Mening – Bortom idén om den interaktiva illusionen. Gothenburg University, 2004
21. Loomis, R.: The History of Play-by-Mail and Flying Buffalo. Flying Buffalo Qarterly #78, Flying Buffalo Inc (1999)
22. MacKay, D.: The Fantasy Role-Playing Game: A New Performing Art. McFarland & Company (2001)
23. Murray, J.: Hamlet on the Holodeck: The Future of Narrative in Cyberspace. The Free Press, New York (1997)
24. Newman, A. C. J.: Shock: Social Science Fiction. The Glyphpress (2006)
25. Ohlen, J.: Baldur's Gate. Black Isle Studios (1998)
26. Oracz, M.: De Profundis: Letters From the Abyss. Cubicle 7 Entertainment (2010)
27. Rohrer, J.: Sleep is Death. Available at: http://sleepisdeath.net/
28. RPTools (2006). Avaliable at: http://www.rptools.net/ (last visited 2011-07-07)
29. Snider, D.: SMAUG MUSH (1994). Available at http://www.smaug.org/
30. Stenros, J., Montola, M.: (eds). Nordic Larp. Fëa Livia, Stockholm (2010)
31. Stevens, T., Cesar, P., Ursu, M., Färber, N.: Enhancing Social Communication Between Groups. IEEE (2010)
32. Thomsson, H.: Reflexiva Intervjuer. Studentlitteratur AB, Lund (2002)
33. Together Anywhere, Together Anytime. Project homepage. Available at http://www.ta2-project.eu/
34. Tychsen, A., Hitchens, M., Brolund, T., Kavakli, M.: The Game Master. Proceedings of the Second Australasian Conference on Interactive Entertainment, Australia (2005)
35. Tychsen, A., Newman, K., Brolund, T., Hitchens, M.: Cross-format analysis of the gaming experience in multi-player role-playing games. Proceedings of DiGRA (2007)
36. Zhou, Z., Cheok, A. D., Pan, J., Li, Y.: Magic Story Cube: an Interactive Tangible Interface for Storytelling. ACE (2004)

The Implicit Rules of Board Games – on the particulars of the lusory agreement

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ABSTRACT
Seeking to explore the implicit rules surrounding the playing of board games in order to facilitate design and add to the understanding of gamers and gaming, this paper describes the result of an interview study of eleven experienced board gamers. A set of implicit rules commonly used are outlined, along with the points of contention where the gamers do not agree or there exists significant discussion. These are further divided in categories of game-focused rules, group-focused rules and in-between rules. How violations of the implicit rules are handled by the players are discussed, as is the implications for computer gaming and game design.

Categories and Subject Descriptors
J.3.3 [**Personal Computing**]: General – *games*

General Terms
Design, Human Factors, Theory

Keywords
Board Games, Digital Games, Implicit Rules, Interview Study, Game Design, Gaming

1. INTRODUCTION
Games and play of different kinds have trained and entertained people since the dawn of man. Games are usually social affairs (there are solitaire games, but even those can be considered as part of a larger culture of gaming), where players form an agreement on a common activity, that of the game. This was dubbed the "magic circle" by early game scholar Huzingha in his seminal work "Homo Ludens" [10]. In entering the magic circle the players form an agreement on the common activity and the bounds thereof.

There are many definitions of "game" each with its own strengths and weaknesses. One of the most prolific is Salen & Zimmerman's from their book "*Rules of Play*" (which also contains a overview of the most established definitions): "*A game is a system in which players engage in an artificial conflict defined by rules, that results in a quantifiable outcome*" [21]. Most definitions mention rules, in one form or other, and it is rules that will be the focus of this article. According to David Parlett [18] the rules of a game *is* the game, but this leaves out the components of the game and the game's cultural context.

The rules of a game can be divided into two categories; explicit rules, which are a part of the game artifact itself, and implicit rules [21][27] which are part of the social agreement between the players.

Explicit rules have several properties that mark them as such: they limit player action, they are explicit and unambiguous, shared by all players, fixed, binding and repeatable [21]. Implicit rules on the other hand are the "unwritten" rules of the game, and share none of the properties of explicit rules. They are often ambiguous, need not be shared by all players, can change as the game progresses, need not be binding and are hard to repeat from one game to the next as they can and will change with the context.

An implicit rule can be made explicit by stating it out loud and formulating it in unambiguous terms, but this is often difficult; many of the common implicit rules are vague and lend themselves poorly to such endeavors, if not, they would probably have been made explicit already. Instead, the implicit rules are often taken for granted and seldom if ever verbalized, except in cases of transgression. This is not always unproblematic, as different players and different groups of players can have radically different opinions on what the implicit rules entail, and how strictly they should be followed. But it is precisely this type of conflict that allows us to study implicit rules – if they are not contested or violated, they are practically invisible.

This article will look upon the common implicit rules between experienced players of "hobby" board games – Settlers [25], Puerto Rico [22] or Britannia [19] rather than Monopoly [15] or Trivial Pursuit [1]. It will also touch upon how transgressions are handled among players. Emphasis will be on the rules themselves and the points of contention between players. Implicit rules that are a part of the normal social contract between people and not unique to the gaming situation are however beyond the scope of the article.

Based on the belief that a thorough understanding of games, both digital and analog, cannot be complete without an understanding of the implicit rules as well as the explicit and the "human factor" surrounding them, the purpose of this article is to enhance the

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understanding of implicit rules in general, to further both the understanding of players and the design of games. The points of contention are just as interesting as the rules themselves, and the circumstances during which controversy can occur.

While this study is focused on players of board games (including card games/war games), digital games and gamers are not without implicit rules, such as keeping the player focused on the goals of the game – compare for example the practice of "griefing" [28]. Even if the hard-coded rules, as opposed to mutually upheld, make for some differences, the similarities are several; see also [27].

As computer games become more focused on multiplayer gaming, especially in groups that are less anonymous such as established friends playing Left4Dead [6] or Singstar [17], rules such as this will probably become more and more important in the digital domain. This also holds true for board games that are played over the computer medium (see e.g. Vassal[1] or Brettspielvelt[2]).

Given the rise to prominence of e-sports [20] and online gaming tournaments, a discussion on implicit rules can prove especially fruitful, as the competitive nature of sports cannot have ambiguous rule sets. Given the scope of online gaming, umpires for every game would be unfeasible, necessitating solid coded rules to avoid friction between players.

Given that the players of digital games are relatively harder to study because of their geographical dispersion and the often anonymous and temporary nature of an online game (a conclusion also reached by [27]), this article aims to benefit both genres of games.

The field of game research is still relatively young and "*even the vocabulary and basic terminology is still being defined and discussed*" [29]. In this formative phase it is extra important that the entire spectrum of what could be studied regarding a game is explored, so that the nascent field is not bereft of important perspectives.

One way to categorize the study of games is to divide it into a study of either games (the study of the game artifact), gaming (the study of the activity) or gamers (the study of the players themselves) as proposed by Björk [5]. This article would fall closest to a study of gaming, since it looks at the actual activity as it occurs. But it also leans slightly towards the gamers, since it is very much concerned with how the gamers themselves construe their activity.

Stephen Sniderman explores the relationship between formal and unwritten rules in his article "*Unwritten Rules*" [23]. He challenges the notion that a game is an easily definable phenomenon with clear rules, and insists that the human factor is impossible to remove from the playing of a game. He lists some problematic areas, such as taking a "reasonable" amount of time for each move and following the etiquette for each game and context, but uses no systematic data except his own experience.

Someone who does use plenty of systematic data in her thorough examination of implicit rules, their negotiation and the friction they can cause is Linda Hughes in "*Beyond the Rules of the Game: Why Are Rooie Rules Nice?*" [9]. She has studied children playing "Foursquare[3]" in the suburbs of Philadelphia, both through observation and interviews and produced a body of work on how rules are negotiated and the often indefinite nature thereof. The game of foursquare as played by youngsters in American schoolyards could be seen as far from the much more formalized play of experienced board gamers but it does show that the actual rules, explicit plus implicit, are a very malleable and indistinct thing, clearly illustrating that the reality of *gaming* (between players) is different from that of the *game* (as artifact).

This sentiment is echoed in Stewart John Woods *"(Play) Ground Rules: The Social Contract and the Magic Circle*" [27]. Woods has studied the social contract surrounding board games (in his essay also "face-to-face" or "social" games) via a questionnaire delivered to various online communities for board gamers. His main assertion is that although the explicit goal of the game is winning, there is an overarching "meta-goal" - that of enjoyment while playing – which requires an implicit understanding between the players.

Miguel Sicart has looked at the ethics of computer games in his book "*The Ethics of Computer Games*" [24]. While dealing with ethics and computer games in a wider perspective, it does include a section on the "good" or "ethical" gamer. Heavily influenced by Aristotelian virtue ethics [2], Sicart presents a normative list of "player virtues" that the good player should exhibit: sense of achievement, explorative curiosity, socializing nature, balanced aggression, care for game balance and sportsmanship. He also points out, that just as with the Aristotelian virtues, a player can either exhibit too much or not enough of the virtue in question. These virtues will be revisited in the discussion section of the article, to see how and if they can be applied to the empirical data presented in the study.

Throughout this article "gamer" and "player" are used interchangeably.

2. METHOD

The author of this article has extensive personal experience of games in general and board games in particular. This background is essential to the paper, as many of the rules discussed were first observed when they surfaced in controversies and discussions during play. This experience forms the grounding on which the interview questions were formulated and without it, the interviews would not have been possible.

The study was done as a series of in-depth interviews with a number of experienced board gamers. The format of the in-depth interview was chosen because it allows for eliciting answers to specific questions while still giving the participants an opportunity to add their own understanding and come up with data that had been overlooked in the analysis so far.

An interview-study was chosen over for example a questionnaire-study (which would have yielded more quantitative data) or more formal participatory observation (see e.g. [7]). A questionnaire approach was discarded because there was little material beyond the authors own experience upon which to construct the questionnaire, and much of the data that could have been gathered in a formal participatory observation would already be covered by the authors own experience. Also, it would have required a vast

[1] http://www.vassalengine.org/community/index.php

[2] http://www.brettspielwelt.de/?nation=en

[3] http://en.wikipedia.org/wiki/Four_square

amount of observation to gather the same amount of data as with interviews.

There were eleven interviews in total with a length varying from half an hour to up to slightly more than an hour, carried out both over the phone and in person in an informal and open manner. Three of the respondents were interviewed in a group, allowing them to comment and discuss with each other, in a more focus-group manner. The respondents were fully informed of the essays scope and purpose and if and what they wanted to contribute. The interviews were not recorded; instead extensive notes were taken. The respondents were all white Swedish males in the range of 22-45 years of age who had been playing board games for many years (approx. range 3 - 15+ years). An effort was made to diversify the range with respect to gender, but it was unsuccessful - no consenting female gamer with comparable experience could be located at the time of the study. No effort was made to produce a statistically representative sample from the population of board gamers; instead the respondents were selected as to provide a diversity of experience. They were recruited from the author's extended social network and through three different gaming venues – two "board game nights" and one games convention.

Methodologically, inspiration was taken from grounded theory in that data was sought until a "critical mass" was reached and new respondents ceased to provide additional data [8]. The "categories" of grounded theory, here the rules themselves, emerged almost right away- many are discussed regularly among experienced players. As they emerged they were presented to the respondents so that alternate views could be secured and the level of dispute surrounding a rule could be gauged.

Two works were especially influential on the style and nature of the interviews; Thomsson's *Reflexiva Intervjuer* [26] (eng.: "Reflective Interviews") and Kvale's *Den kvalitativa forskningsintervjun* [13](eng.: "The qualitative research interview"). The former emphasizes the informal, semi-structured interview where interviewer and respondent create knowledge together; exploring the subject while reflecting on what is brought forth. The latter is a pure method book aiming to improve the quality of research interviews.

3. RESULTS

Found below is the result of the interviews, a set of implicit rules that are more or less agreed upon between the gamers. They have been divided into three rough categories, depending on whether they are seen as closer to the game and its mechanics, the gamers and their group or fall somewhere in between.

Unsurprisingly, the results are not an exhaustive list of implicit rules in board games and it is doubtful that such a list could ever be compiled, but rather what came up as the most important issues for players of board games. It must also be recognized that many of the arguments cited could be drawn out endlessly (and often are) with points, counter-points and individual stances; found below is only the roughest outline and players occupy any number of positions between the extremes.

It is worth noting that none of the respondents mentioned outright cheating – a violation of the explicit rules, and when asked they stated that it was very uncommon, and that it never became an issue.

All quotes below have been edited heavily for brevity and readability, and have been completely anonymized. They are also translated from the original Swedish, and colloquial expressions have been cleared up as far as possible. This leaves the quotes far from verbatim, and might be seen rather as finer points explained as a gamer might explain them in his or her own words.

3.1 The Game-focused Rules

In this category we find rules that are closer to the game and directly relates to the formal, explicit rules of the game and its gameplay – the meeting between the gamers and the game rules[4]. The rules in this category came up early during the interviews, and almost every respondent had something to say on them - but while they are the subject of much debate, they are not necessarily the rules that cause the most friction between gamers.

Clear conventions benefit several of the rules below, leading to minimized friction between the gamers. Respondents cite a period "before and after" they managed to put clear conventions in place, and state that the exact nature of the conventions does not matter, as long as everyone agrees.

3.1.1 Strive towards game goals/optimize position

Cited as one of the more fundamental rules, it might at first appear obvious that each player is expected to strive towards the game goals (i.e. victory) and little else. One might say that this forms the basis of the gaming agreement, and that a game would be sorely lacking without adherence to this rule. Several other rules below can actually be derived from it. The reality of gaming interaction is somewhat more complicated and there are several exceptions. Lack of skill or limited information is one such exception, as no-one expects that all players will know exactly what do to in order to further his or her position at any given time.

"This really is all about intention; if a player intends to win, and doesn't 'goof around' it is alright, and of course it doesn't matter if it is actually a dumb move"

Testing new strategy is another; as many games are complicated affairs, players will sometimes want to try out alternative strategies that might or might not work. Thus, a player might take an unknown course of action over a known, efficient one.

A player's position in the game is not an exception - a player is expected to strive just as hard to win regardless of how far "behind" he or she might be.

"Nothing is as frustrating as when someone goes 'I can't win, so I might as well do whatever', but people don't do that much"

So far, there seems to be a general consensus and little contention between players, but on the issue of excessive time-consuming game-state analysis, also known as "analysis paralysis", there is considerable argument. Some argue that it is perfectly all right to make a less-than-optimal move for the sake of limiting the time of one's turn, thereby increasing the experience for the other players, while others argue that all players should be given whatever time they need to make the best possible move, since the experience is lessened if you know that someone isn't playing his or her best.

"This is a really complicated issue, you want people to play their best, but at the same time not take forever, you know? With some people, this comes up all the time..."

Another major point of contention is how to value second, third etc. place compared to first place/winning. Should a player for

example forfeit a solid second place for a chance, however slim, at first place? Many players are firmly in the "first place or nothing" category and would gladly do so, others view the decision as more complicated, especially in games with many players. All agree that even if one has no chance of victory, one should strive to come as close as possible, even if the game does not recognize individual positions aside from the winner. Regardless, this is usually viewed as something that is up to each player, but allegedly arguments on this issue arise from time to time.

3.1.2 No Early Termination of the Game

A derivative of the rule above, the rule against causing the game to terminate early (unless you are in a winning position, of course) is also rather uncontested, but again, has important exceptions that sometimes are the subject of argument. One of these is whether a player is free to terminate the game if he perceives that he only stands to lose position from continued play. Some say that he should, since it is his "duty" to attempt to optimize his own position even if it means terminating the game, others say that he should not, since this robs other players (who might stand to change their position) of their experience.

This rule extends to hindering another (often in a winning position) from terminating the game (and thereby winning the game); a responsibility often handed down to the last player being able to do so.

"Let's say that the player to my left [who will be next to make a move; it is implied that the game progresses clockwise around the table] will win on his turn unless someone makes a move that makes this impossible. Then it falls on me to make that move, since I'm the last person that can do it. The person to my right won't, since he knows that I will."

Players will at times find themselves in a situation where they must determine who will be victorious, without being able to better their own position. They are now in what is dubbed a "kingmaking" position which is generally considered a design flaw if it appears in a game.

3.1.3 Adhering to the Spirit of the Game

A complicated, contested issue with many levels. No agreement is to be found among players; some say that one should adhere, at least somewhat, to the "spirit of the game" while playing, others state that "*if it's possible in the game, then it's possible in the game*". "*A good game will be designed in such a manner that one adheres to the theme automatically*", these would say, while the aforementioned would argue that this is difficult, if not impossible. Aggression levels is also an issue here as players disagree on whether there is a level of aggression appropriate to a specific game. The same goes for the exploitation of flaws in the game's system; some say that if it's designed that way then fine, if it breaks the game then it breaks the game, others that obvious flaws should be avoided or circumvented somehow. The attitude seems to be influenced heavily by which type of games the gamer generally plays; it seems to be more of an issue in games with more theme.

"*If I'm playing, say, Haunted House on the Hill, or Arkham Horror, then I want us to really experience the flavor of the game, and play like you're supposed to. If someone treats it like just another game, it really ruins the experience.*"

"*People will sometimes refer to the 'spirit of the game' or the 'theme' to force you into a specific style of playing, but it just isn't right- you have to be allowed to do whatever you want. If the game has such problems, I say it's just bad design*"

3.1.4 Taking Back a Move

Both contested and with significant exceptions, few gaming groups fail to discuss this at least once. Most seem to adopt a policy of "no takebacks", but a significant number allows it if the next player hasn't made his move yet. The specifics vary greatly between groups, though. Notable exceptions are (sometimes) made if someone makes a game-breaking mistake very early or if someone is a beginner. Then there is the system error exception, see below.

"*Beginner or veteran, casual or serious, every board gamer has had at least one argument on takebacks. We try to be all hard-core about it, but we're really not that consistent, and people take moves back in at least one out of two or three games.*"

"*Since we play wargames mostly, [a subcategory of board games] which are complicated and time-consuming, we are very casual with allowing people to undo their moves. Generally it is always accepted if the opponent hasn't revealed any information yet or dice has been thrown, and sometimes, if the opponent agrees, even if that has happened. Seeing a 60-100 hour game go sour early on because of a mistake isn't anything anyone wants, but as the endgame approaches we become stricter.*"

3.1.5 Handling Mistakes

Not as much a contested issue as one where there are a lot of different conventions, each gaming group seems to develop its own policy when it comes to handling mistakes concerning the system of the game. What seems important here is not the exact method used, but rather that a method is actually used, that all players are familiar with. This is often not the case, and arguments arise on whether to reroll dice that end up on the floor or on uneven surfaces, whether to allow someone to draw a card that he or she would have been entitled to earlier, whether to retrace the steps to resolve an earlier mistake, and so on.

"If any dice goes on the floor or is misaligned in any way, we reroll all dice in that roll, no exceptions. It's better to be strict like this than to invite arguments that always spoil the mood"

3.2 The Group-focused Rules

This category includes rules that are more focused on the group of people playing, and proper behavior while playing. The rules in this category seem to elicit much more friction between gamers than the rule-focused category, and less clear conventions exist. The respondents state that this "*is more about the people than the game, so people become much more frustrated and/or angry when there is disagreement*".

3.2.1 No Early Exit

This is one of the least contested rules; you are in the game until it ends, unless an early exit was agreed upon beforehand or there is agreement among all players.

Note the difference between "early termination" and "early exit" – early exit is someone leaving the game before it is finished; early termination is causing the game to finish, within the established rules.

"Everyone hates a quitter, but it happens, particularly among gamers that are not that serious. It always leaves the game in a mess"

3.2.2 No unacceptable whining during game on your position or the quality of the game

Opinions differ greatly on how much and what type of whining is acceptable, but all seem to agree that whining really comes in two flavors- "acceptable" whining and "unacceptable" whining. Some whining is merely considered entertaining, while other whining is considered a bother. Which is which differs between groups of gamers, on who is doing the whining and the "tone" of whining; the exact variables are hard to pin down.

"Some people can whine and it's like, everyone laughs and is entertained, some can't and it's really a pain in the … , it is as simple as that."

Whining on your position in the game seems more accepted than whining on the quality of the game though, which is generally said to be unacceptable, unless the game is really poor and the players "seem to be in agreement" on this.

"No whining on the game until afterwards, I'm serious, it can really ruin the mood. No exceptions, except perhaps, if the game is like completely broken, but then everyone can laugh as we just try to get through it and bash the game together"

3.2.3 No Serious After Game Gloating/Sulking

Players are expected to neither gloat (in case of victory) nor sulk (in case of losing), but only "serious" gloating or sulking counts. One respondent even went so far as stating that a player that seemed to unconcerned about his or her loss took away some of the fun of winning:

"If someone doesn't care whether they win or lose, winning just isn't as fun, I think. You have to care, but of course, they mustn't care 'for real' so to speak."

3.2.4 Gaming Etiquette

Different gamer groups have widely different views of etiquette when it comes to the eating of snacks around the gaming table, the handling of materials, taking pauses, and so on. Although etiquette certainly affects the game experience, it is better classified as belonging to the game's social context and varies as much with the social structure of the group gathered to play as with the game they play.

"Usually the owner of the game decides whether it is ok to eat and drink at the table. Some are really anal about it, others don't mind at all."

3.3 The Rules In Between

These are the rules that fall somewhere in between the group and the rules, often concerning the boundary of the magic circle. These are perhaps the rules that cause the most caustic friction between gamers when they are transgressed, and it is difficult to find conventions on how to handle problems when they arise.

3.3.1 No Between Games "memory"

Basing your decisions in one game on what took place in another game is usually frowned upon, such as "attacking" another player because of what he or she did to you in an earlier game. Players are however quick to point out that this is not the same thing as "knowing your enemy", i.e. deducing details about another's playing style and letting this guide your actions. The difference seems to lie in whether there's a discernible pattern, or if it is just getting even for some past imagined slight.

"Someone does this and they are done in our group, completely. Some dude tried to defend himself with 'I'm trying to teach people not to attack me' but that doesn't fly. It's no problem if I'm like 'Martin always goes for a [specific strategy], so I better counter this' but this is different, it's like he couldn't separate the people, the game and the moment, so to speak."

3.3.2 No Metagaming

Breaking the boundary of the game by allowing undue outside influences to affect the game, or vice versa (such as threatening a player with off-game consequences if he or she takes (or doesn't) a certain action in game) is considered very bad form, no exceptions, but players sometimes jest about such things.

"I don't really want to bring it up since it's such a cliché, but of course the example that always comes up is two spouses cooperating, or doing each other favors in the game. But it never happens that way, not in my experience. People joke about it, like 'give it to me or the bed will be cold tonight' or 'remember who your game master[4] is', but everyone knows it's not serious. If anyone ever did something like that it would be an instant gamebreaker."

3.3.3 Table Talk, Deals and Cooperation

There seems to be little consensus here, as the amount of cooperation between players allowed depends largely on the game being played, but also on the playing-style of the particular group. Some games are designed specifically for a lot of deal making and diplomacy, in other games such is viewed with suspicion. Most players seem to agree on that an instant deal "I'll give you this if you give me that" is binding, but that a deal that stretches over time "I'll give you this now, if you do this next turn" is not, a sentiment that is echoed in the formal rules of many games. There is also the understanding that if the game rules do not mention the transfer of a given game token between players, it is not allowed.

If a game does not seem to be specifically geared toward cooperation and alliances, "undue" cooperation between two (or more, but this is unusual) players is considered bad form, even if it is completely within the rules. This holds true even if these two players stand to increase their respective chances of winning compared to the other players.

"It's difficult to say which cooperation is 'ok' and which is 'not ok'. I guess that if it's more systematic, or excludes obviously better deals from other people, it is more 'not ok'. But you can usually smell a couple of 'co-ops'[5] easily."

Advice on how to play is a different type of table talk and is usually only allowed if someone is a real beginner, and it is considered good form to present possibilities rather than telling someone exactly what to do. There seems to be an exception for "advise" that is clearly beneficial for the advisor and doesn't "trick" someone who is inexperienced. This seems closer to

[4] A reference to role-playing see e.g. [7]

[5] Translated colloquial expression

someone trying to talk someone else into a particular course of action, which is generally considered ok.

Advice from bystanders is generally unacceptable, but they are allowed to point out breaches of the rules or other misunderstandings, or to guide a beginner if he or she is asking for help.

"People can really clash when it comes to table talk; I've seen some vicious arguments. It's largely a [gaming] cultural thing and can be very difficult when people from different circles play together. I mean, usually it works out, but I've seen people walk from the table over this"

3.3.4 Discussing rules

The respondents seem divided over how much argument should be allowed during a game if a rule (or more often, the interpretation of a rule) is in dispute. Some are inclined to postpone all argument to after the current game as to not ruin it, settling the dispute temporarily with e.g. a coin toss. Others claim that it is more important to get it right at once, and view a rules discussion as less problematic.

"I don't do games where there are rules discussions; I don't play with people who argue rules. Nothing is as frustrating as having to listen to two people who just won't back down grind on and on over the same ground, the mood turning worse and worse as the argument drags on. I say just let the dice settle the matter and play on!"

"I think it is really important that you do not rush a decision; that would invalidate the game completely for me. People who want to decide important rules with a coin-toss perhaps don't regard games as seriously."

With the appearance of the Internet and sites dedicated to the discussion of games (such as Boardgamegeek[6]), coupled with the proliferation of Internet access, FAQs and rules clarifications posted online have made it possible to shorten rules discussions considerably – the players simply look up the game and see if there are others who have had the same problem.

"Earlier, rules discussions could go on forever, and some games were even avoided since we knew they would flare up as soon as the game hit the table, but nowadays you can find answers to almost anything online. If you're in the correct forum, you might even get an answer directly from the designer!"

3.4 The Almighty Consensus Exception

One type of exception not mentioned above is one that covers all rules and situations, and even the gaming activity itself; the consensus exception. If everyone is in agreement, any rule can be bent or broken, sessions terminated and restarted, exceptions made, and so on. The common consensus between the players is what constitutes the gaming agreement, so it follows logically that if there is another consensus, it takes precedence.

"*Of course, if everyone is in agreement, any rule can be changed, I mean, if it is ok with everyone, why shouldn't we, it's our game? It doesn't happen that often, but it does happen that everyone is like, 'let's drop this bullshit, it isn't working'* "

[6] http://www.boardgamegeek.com/

Some state however that sometimes they feel that they should finish what they started, and can do something else next time, even if they and everyone else really think differently.

"Once I'm set, I'm set, and while I might disagree with for example a particular rule, I usually think that we owe it to the designer to play it to the finish, there might be things that we've overlooked."

The respondents also mention that it can be difficult to check for consensus on for example terminating a game early, because of the "no whining" rule above.

"Not until afterwards did we discover that everyone thought the game was horrendous, and that no-one would have minded if we quit early, but no-one wanted to spoil the experience by saying so mid-game."

3.5 Violating the Implicit Rules

The issue of transgression of the implicit rules is a complicated one and did not come up spontaneously during the interviews. When asked, the respondents agree that it is very complicated and that there exists little consensus or consistency among players.

"Oh, we don't talk about that much in the open, but of course it happens that so-and-so is badmouthed behind his or her back and such things, there is no open atmosphere on these issues [the punishment of transgressors]"

The nature of transgression and the treatment thereof seems to differ somewhat between the three different categories of implicit rules:

For the game-focused rules it appears to be mostly an issue of finding an agreement on the issues mentioned. Many agree that it does not matter which, just as long as everyone knows what the agreement is. Friction mostly occurs when there is disagreement during an ongoing game and not in between games. According to the respondents they feel that rules in this category are either self-evident, such as "strive towards game goals/optimize position" or does not elicit strong reactions because one position isn't viewed as more right than another.

The group-focused rules on the other hand were surrounded by much more friction and spirited conflict. With these rules, people's positions were much more firm and subsequently believed that their position was more "right" than those of others. Since these rules are closer to social rules, transgressors are viewed in a much worse light than with the game-focused rules, and the transgression is more commonly attributed to shortcomings of a player's personality rather than knowledge of the implicit rules. Given this, the amount of "hard feelings" was considerably greater.

The rules that caused the most acerbic emotions were however those that fell between the two and concerned both the gameplay and the social contract. The reason is unclear, but a hypothesis is that players who break these rules are viewed as breaking both sets of rules, the group-focused and the game-focused. When asked about the rules that caused serious problems for continued enjoyment of the activity together with a certain person or group, it is these rules that were cited first and foremost.

There appears to be five main means of "punishing" transgressors in ascending order of seriousness:

1. Verbal rebuke during an ongoing game; "you shouldn't do that", or often "we don't do it like that". The most common form of "punishment" when there is disagreement. Sometimes leads to further discussion, which might lead to more serious conflict.
2. Verbal rebuke between games; considered more serious than a rebuke during a game, (which might seem counter-intuitive since someone stands to lose more face if it is done openly) probably because "*if you need to take your time to talk to someone outside the game, then it's really a problem*". Rare.
3. Badmouthing between games; sans the offending party. Occurs frequently according to the respondents, when players "vent" regarding a troublesome player. Also used to reinforce the players' collective understanding regarding the behavior.
4. Exclusion from future games; allegedly rarely explicit, players just tend to avoid other players who regularly violate the implicit rules, or go by an incompatible set of rules.
5. Termination of an ongoing game; "leaving the table" is rare but not unheard of, and considered a very strong reaction. So strong, that the person doing it sometimes is considered as violating the "no early exit" rule, earning rebuke in turn.

4. DISCUSSION

This study set out to explore the (more or less) implicit rules that players of board games adopt when playing, what rules are commonly agreed upon and what rules are contested/problematic. Several such rules have been identified and laid out, complete with points of contention and degree of consensus.

From the results above, it is clear that the board gamers in the sample regularly discuss and argue about the "implicit" rules of gaming. This shows that so called "implicit" rules often are made more explicit, but because of the difficulties inherent in formalizing them completely, different players/groups form different conventions and arguments ensue. But it needs to be repeated that this very fact is what makes the implicit rules observable – implicit rules which are never broken or called into question remain completely implicit and below the surface.

In *Rules of Play*, authors Salen & Zimmerman [21] describe a collection of player types with their own approach towards rules, both explicit and implicit – the "standard player", "dedicated player", "unsportsmanlike player", "the cheat" and the "spoil-sport". Given that the respondents insisted that many of the mentioned rules where different for different players, and perhaps more importantly, caused different amounts of friction depending on the players, this perspective might prove useful when digging further into these issues. Salen & Zimmerman [21] focuses completely on the individual, however, and many of the respondents mentioned that there existed huge differences among "groups" of players. A similar categorization of players can be found in "Players who suit MUDs" [3] and is more geared towards groups of players, but is focused on a very specialized type of computer gaming.

Looking at the results in the light of Sicart's player virtues [24] mentioned in the introduction, the results do seem to support this view, at least in part. A good example would be the virtue of "sense of achievement" the sentiments of which are echoed in the paragraph on "acceptable sulking/gloating" above. However, given the propensity to inhibit vastly different positions on the scale of more/less of a specific virtue, it is doubtful that one could ever pinpoint a specific point where a player is at his or her "most good". Players are relational beings, and what is considered virtuous in one gaming group might be completely inappropriate in another.

Going back to Wood's study [27], it is clear that his findings in many cases support those in this article, for example when it comes to the ambiguity surrounding the adherence to the goal of the game or that surrounding deception. To avoid confusion it is probably best to point out that his definition of table talk is not shared by the respondents, who define it as "talk that concerns the ongoing game", quite the opposite of Wood's, who places similar concerns under "deception". With similar focus but complementary methods, these two works should give a plausible overview of the issues surrounding the specific social contract/magic circle of games.

In earlier work by the author [15], gameplay properties are combined into aesthetical ideals of gameplay; player experience preferences articulated in what properties give rise to them in a game. One of these ideals is the "Fundamentals" of game design that contain properties that would benefit any game. It is possible that the degree to which a game is prone to conflict over implicit rules (by having rules open to interpretation, for example) could be construed as another property of the fundamentals ideal.

Hopefully, a study such as this can be used by players themselves, in order to form a basis for discussions on rules and gaming; hopefully reducing time-consuming and experience-lessening arguments during, before and after the actual gaming event.

While the explicit rules of the game usually come from the designer of the game, the more or less implicit rules arise from the players themselves to a much greater degree, leading to the conclusion that knowing about these rules lead to a greater understanding of the players and what is actually happening in the gaming situation.

One of the main benefits however, that might lead to tangible results and heighten the gaming experience for players of board games is the insight that good design actually can reduce the need for ambiguous argument and contention-prone implicit rules, but in order to create such design solutions, one must first understand where the points of contention are. It is probably never possible to design a game that eliminates such conflicts completely, but a designer could go far towards limiting at least the conflicts arising from the game-focused implicit rules. Further research on games and gaming along similar lines could very well be focused on these design solutions.

Role-playing games are different enough to require a whole different set of rules however, while there might be some overlap. They are also helped by the presence of a game master in his or her arbitrator role who can settle disputes and make calls on what is acceptable [7].

What is written above is significantly less applicable in games with one or two players, and the perspective is mainly that of gaming with more than two players. For a solitaire game this is obvious, as no common agreement is necessary. With two players,

beyond the fact that it should be easier to form an agreement, issues concerning the termination of the game, kingmaking, table talk, the value of position, etc. becomes more or less moot.

It is worth mentioning that the study does not address the reasons behind why a certain rule is used; just that it is indeed used. In many cases this is self-evident, but a follow-up study could perhaps reveal further insights in this matter. The roots of specific gaming conventions could also be interesting to dig into, but might be hard to find.

Despite the presence of cooperative games where the players strive towards a common goal - with or without a "traitor" player - (e.g. Lord of the Rings [11], Shadows over Camelot [14] or Battlestar Galactica [12]), this perspective have not been included in the study, mainly because they were not that commonly played among the respondents. How/if the implicit rules change when playing such games needs more data and perhaps its own dedicated study.

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6. REFERENCES

[1] Abbot, S., Haney, C. 1982. Trivial Pursuit. Parker Brothers.

[2] Aristotle. 2006. A new Translation of the Nichomachean Ethics of Aristotle. Hesperides Press, Oxford.

[3] Bartle, R. 1996. Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 754-787. MIT Press, 2006.

[4] Björk, S., & Holopainen, J. 2005. Patterns in Game Design. Charles River Media, Hingham MA.

[5] Björk, S. 2008. Games, Gamers and Gaming – Understanding Game Research, Mindtrek 2008.

[6] Booth, M. 2008. Left 4 Dead. Valve.

[7] Fine, G. A. 1983. Shared Fantasy –Role-Playing Games as Social Worlds. The University of Chicago Press, Chicago and London.

[8] Glaser, B. G., Strauss, A. L. 1967. The discovery of Grounded Theory: strategies for qualitative research. AldineTransaction, New Brunswick.

[9] Hughes, L. 1983. Beyond the Rules of the Game: Why Are Rooie Rules Nice?. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 504-516. MIT Press, 2006.

[10] Huizinga, J. 1950. Homo Ludens. The Beacon Press, Boston.

[11] Knizia, R. 2000. Lord of the Rings. Kosmos.

[12] Konieczka, C., Lang, E. M. 2008. Battlestar Galactica. The Board Game. Fantasy Flight Games.

[13] Kvale, S. 1997. Den kvalitativa forskningsintervjun [Eng.: The qualitative research interview]. Studentlitteratur AB, Lund.

[14] Laget, S., Cathala, B. 2005. Shadows Over Camelot. Days of Wonder.

[15] Lundgren, S. et al. 2009. Exploring Aesthetic Ideals of Gameplay. Paper at DiGRA 2009: Breaking New Ground: Innovation in Games, Play, Practice and Theory. London, UK.

[16] Magie, E., Thun, L., Thun, F., Darrow, C. 1935. Monopoly. Parker Brothers.

[17] Mason, K. 2004. SingStar. Sony Computer Entertainment Europe

[18] Parlett, D. 1999. The Oxford History of Board Games. Oxford University Press, Oxford

[19] Pulsipher, L. 1986. Brittania. Gibsons Games.

[20] Rambusch, J., Jakobsson, P., Pargman, D. 2007. Exploring E-sports: A Case Study of Gameplay in Counter-strike. Situated Play, Proceedings of DiGRA 2007 Conference.

[21] Salen, K., Zimmerman, E. 2004. Rules of Play. The MIT Press, London.

[22] Seyfarth, A. 2002. Puerto Rico. Rio Grande Games.

[23] Sniderman, S. 1999. Unwritten Rules. In Salen, K. & Zimmerman, E. (eds.) The Game Design Reader: a Rules of Play Anthology, pp. 476-502. MIT Press, 2006.

[24] Sicart, M. 2009. The Ethics of Computer Games. MIT Press, London.

[25] Teuber, K. 1995. Die Siedler von Catan [Eng.: The Settlers of Catan]. Franckh-Kosmos Verlag.

[26] Thomsson, H. 2002. Reflexiva Intervjuer [Eng.: Reflective Interviews]. Studentlitteratur AB, Lund.

[27] Woods, Stewart J. 2009. (Play) Ground Rules: The Social Contract and the Magic Circle. Observatorio Journal 8, p204-222

[28] Yang, C. F., Koivisto, E. M. I. 2004 Defining grief play in MMORPGs: player and developer perceptions. Proceedings of the 2004 ACM SIGCHI International Conference on Advances in computer entertainment technology.

[29] Zagal, J. P. 2010. Ludoliteracy – Defining, Understanding and Supporting Games Education. ETC Press, http://etc.cmu.edu/etcpress/

Creativity Rules

-how rules impact player creativity in three tabletop role-playing games

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ABSTRACT

This article sheds light on how different rules systems for tabletop role-playing games (TRPGs) impact players' sense of creativity. It looks at three very different games played by six role-playing ensembles, and uses interviews and group discussions to make the players reflect on how they are influenced by the rules used during play. While the sometimes insular nature of TRPG gaming became evident, it was also clear that there are several different phenomena that occur in a TRPG that can be labeled as "creative". Aiming to provide a tool for discussion on TRPGs, six different types of creativity is outlined in the article, as well as a number of different examples of the role that the rules play in influencing these.

General Terms

Design, Human Factors, Theory.

Keywords

Tabletop role-playing, rules systems, creativity.

1. INTRODUCTION

The tabletop role-playing game (TRPG) as we know it appeared in the world of gaming sometime in the seventies, initially as an off-shoot of war games in a fantasy setting, where each player would command only a single character instead of a unit of troops (Fine, 1983, Mackay, 2001). While inexorably linked to gaming in a more board-game sense for the first few years, it soon became apparent that TRPGs held much wider potential in its capacity to serve as a modern day vessel for storytelling. The TRPG brought rules that regulated the activity, and a more systematic focus on co-creation and participation. There is currently a plethora of TRPG systems and settings available, both commercially (Schick, 1991 list well over a hundred, and there has been many more since) and under a creative commons license (e.g. Boyle and Cross, 2009).

One of the problems of TRPGs is that the genre suffers when it comes to expressing what makes a game good, just like games in general (Lundgren, Bergström and Björk, 2009). Opinions differ greatly, and many role-players have deep-seated prejudices towards the way other role-players play, or the systems that they use; added to this is the often insular nature of the TRPG community (a sentiment echoed by Hendricks, 2006). Even if members come and go, the player groups are often rather solid, and players seem to seldom discuss their play in depth with others, something which is possibly linked to the earlier stigma associated with TRPGs (Bowman, 2010). Even if the internet created forums for debate, far from every role-player takes part in the debate, and it seems there is a lack of a common language of expression. Likely, this hampers the development of TRPGs and the creation of theories on the activity – Greg Costikyan (1994) lamented this very fact as applied to the wider field of games in his *I Have No Words & I Must Design*.

Comparing with live-action role play (LARP), where larger player groups (often in the hundreds, compared to the 5-6 participants in a TRPG group) contributes to a less insular community, one finds that the debate, both scholarly and otherwise is a lot more open and accessible. As an example, the yearly Nordic conference "Knutepunkt" has published books on LARP theory and practice since Gade, Thorup and Sander (2003) and draws an international crowd. There is nothing similar in the TRPG community – despite several conventions no comparable culture of meta-discussion has developed. The *Interactive Fantasy* (Rilstone, 1994) journal was an early attempt at developing a discourse on role-playing, but only lasted four issues.

Since TRPG players often state that a sense of creativity is central to their experience (Fine, 1983, Bowman, 2010) and that some type of rules system is inherent in all TRPGs (Montola, 2009), looking at how rules impact the players' sense of creativity could be a fruitful starting point for looking at why some perceive a specific system as good, and some do not.

The purpose of this article is to examine how three different rules systems, chosen for breadth, impact the perceived creativity of the players. "Perceived" since no formal or quantitative measure of creativity will be used, (such as Carson, Peterson and Higgins, 2005) because no such measure exists for TRPGs, and translated existing measures would probably lend themselves poorly to their evaluation.

Although there are plenty of other formalized systems available for the co-creation of stories, such as *Once Upon a Time* (Lambert, Rilstone and Wallis, 1995) or *Universalis* (Holmes and Mazza, 2002), TRPGs were chosen because player groups tend to play the same game extensively, and with some solidity when it comes to the people they play with, making systematic study easier.

With all the talk of games and systems, it is easy to view this as a "game-centered" article (Björk introduced the delineation of game studies into the study of games, gamers and gaming in a 2008 article), but this would be a mistake. At heart, it is primarily focused on the players of TRPGs ("players" is used rather than "gamers" in this article, since a TRPG is not strictly a traditional game and the term "gamer" more frequently conjures up images of someone who plays digital games) and their creativity, here expressed through the respondents of the study.

2. BACKGROUND

In a summary of creativity research, Michael Mumford (2003) claims that there is general agreement that creativity involves the production of "novel, useful products", but applied to TRPGs, this definition is inherently problematic. TRPG players do not produce

products, but the creative aspects of role-playing are hard to deny. You can also debate the nature of "usefulness"; the fruit of a role-player's creative endeavor is not, as with a writer or composer, a book or a song, but rather something altogether ephemeral, existing only as it is being made, and afterwards mainly in the minds of the participants, save for notes and/or props. In this, it is more similar to a performance of improvisational jazz.

This study will not delve into the debate on the nature of creativity at length (see e.g. Kaufmann and Sternberg, 2010), but rather establish that for the purposes of this work, it is the player's own experience of creativity that is in focus.

Fine (1983) who wrote about the then-budding hobby using anthropological methods in the 1970s was first out, but besides him tabletop role-playing was previously a distressingly under-researched subject. Since then, researchers Mackay (2001) (role-playing as performing art), Cover (2010) (how narrative is created in TRPGs), Bowman (2010) (benefits of role-playing) and Tresca (2011) (how role-playing games have evolved over the years) have looked at various aspects of TRPGs. Tychsen et al (2007) has made a fruitful comparison between the tabletop and digital varieties of role-playing – finding that although the subject matter is similar, there are fundamental differences, the presence of actual role-playing being one.

When it comes to the rules of role-playing games, Montola (2009) navigates the difficult waters of the role-playing process and outlines three key components: an imaginary game world, a power structure and personified characters. He also points out that the rules of TRPGs are significantly different from those of e.g. board games as described in e.g Salen & Zimmermans *Rules of Play* (2004).

LeBlanc (2006) introduced the mechanics-dynamics-aesthetics model, which shows how the rules of a game (the mechanics) influence the experience of a game (the aesthetics) through the behavior of the game that emerges from the rules (the dynamics). Hunicke, LeBlanc and Zubek (2004) also introduced eight types of aesthetics in order to create a more "directed vocabulary" for describing the players' experiences of a game.

Using LeBlancs model, Lundgren, Bergström and Björk (2009) presented the idea of "aesthetical gameplay ideals"; specific concentrations of gameplay design patterns (Björk and Holopainen, 2005) showing how one could describe the aesthetics of a game through its mechanics and dynamics. Although limiting themselves to board- and computer games, these ideas should also be applicable to TRPGs, albeit with a slightly different methodology.

In an early attempt to do something similar for tabletop role-playing, Edwards (2001) put forth the "GNS-model" which has since gained some traction in parts of the TRPG community. It presents three different "creative agendas" – the "gamist" style, concerned with competition; "narrativist" style, concerned with the creation of a good story; and "simulationist" style, concerned with the accurate simulation of a diegesis. The GNS-model has been the subject of much debate since its initial inception and is part of a larger corpus of role-playing theory called "Forge" theory (a useful summary of which can be found in Boss, 2008).

3. METHOD

Rather than studying the game artifact solely as in Lundgren, Bergström and Björk (2009), it was felt that a similar study of TRPGs also demanded user data. TRPGs are much more concerned with players' creativity and have (almost) limitless possibilities compared to board- and computer games. However, in order to focus the discussion and provide a similar frame of reference, three specific game systems were chosen for analysis.

The three systems chosen were *Dungeons & Dragons*, both in its 3.5 (Cook, Tweet and Williams, 2003) and Pathfinder (Bulmahn, 2009) incarnations, *World of Darkness* later edition (Bridges, Chillot, Cliffe and Lee, 2004), and *Legends of Anglerre* (Newton and Birch, 2010). Additionally, the participants were encouraged to comment and compare with other systems if applicable.

Six player groups were picked, with every group having at least extensive experience with one game system and moderate familiarity with another, but often considerably more. All groups were also at least presented with the third game, if they had no previous experience with it. Every game had two groups for which that game was their main experience. Note however that "extensive experience" is not necessarily the same for all three systems; as some have been around longer, players are naturally more experienced with them. The player groups were far from homogenous, with different members having markedly diverse levels of experience with TRPGs, from a couple of years to more than twenty-five years, with the median around 10-15 years. Several reported that they had two "blocks" of TRPG experience, one from when they were younger, and one from when they "rediscovered" the hobby later in life. They all played in other TRPG groups than these from time to time, and were familiar with several other systems. The respondents were of mixed ages, from early twenties to late thirties, and while there was an overrepresentation of males, the gender composition was probably at least comparable the hobby at large. The groups did not stay completely fixed throughout, and three players appeared in more than one group. All in all, about twenty-five people contributed data to the study in this stage.

Several different data collection methods were utilized; interviews with select participants (interviewing all participants would not have been feasible given time, resource and access constraints), participatory observation and observation by the researcher - TRPG researchers Fine (1983), Mackay (2001), Cover (2010), Bowman (2010) and Tresca (2011) all use similar methods, but Fine is the earliest and speaks most about methodology. The most prolific data source was however group discussions, both within the selected groups, and at two occasions between groups when members from several groups gathered.

The interviews and some of the group discussions were more formal, structured affairs compared to the other data collection, but still loose enough to encourage reflection and free association on the subject, very much in the vein of Thomsson (2002). This also meant that the respondents were presented with the work in progress, what others had said before them and invited to take part in the analysis.

For the interviews and formal group discussions, participant consent was secured beforehand, but for most of the other data collection consent was only secured *post-hoc*. What might have been a serious breach of researcher etiquette in a more sensitive field was considered unproblematic given the subject matter. No participant had any problems with this, and no-one refused participation. No recordings were made, but extensive notes were taken. The respondents were asked specifically if the anonymization standard on their quotes could be relaxed somewhat, so as to be able to include group-specific rulings, sayings, etc. and everyone agreed.

When the study was almost done, the analysis and findings was presented to another, separate group of TRPG players with at least considerable experience to provide greater external validity. They

had the opportunity to ask for clarifications, point out errors/findings that did not concur with their understanding. This because the six groups showed remarkable diversity – further emphasizing the point made in the introduction; while this provided the study with rich data, it also raised questions on the reliability of the study, despite the fact that the participants often were in agreement.

The study has two main limitations; the geographically limited sample (Nordic participants only) and the possibility of confounding variables.

While there is no systematic study published on the differences between role-players from different countries, the players themselves maintain that there are many differences, mainly when it comes to the role of the rules. This is however a one-sided assessment since no foreign players has been asked, and in any case it is unlikely that they would have developed opinions on Nordic players. Given the amounts of prejudice generally displayed by role-players (Fine (1989) also reports on this, some twenty-five years earlier) it is probably safe to say that these views are fraught with bias. Nevertheless, this does not mean that concerns over significant geographical differences can be discarded outright. If we turn to the sibling LARP community, there is at least one published work that purport to highlight the differences of "Nordic-style" LARP, entitled simply Nordic LARP (Stenros and Montola, 2010). Further research in the same vein on other samples will hopefully shed light on whether the differences are significant, or if the findings in this study are generalizable to the larger TRPG community. A randomized international sample of TRPG players and e.g. a questionnaire study would also suffice, but is hardly feasible due to resource and access constraints, not to mention the loss of depth/detail that a questionnaire would entail.

The greatest risk of confounding in the study comes from the fact that TRPG games comes with more than rules. There is also setting (sometimes published separately from the rules, see e.g. *GURPS* (Jackson, 1996)) - the diegetic world in which the game takes place, as well as presentation, illustrations, layout etc. of the game. Either of these has the potential to significantly influence player creativity, confounding the relation between the rules system and player creativity. Throughout the interviews and groups discussions the participants were asked to focus on the role of the rules and not the setting of the games, and this was kept in mind during the study.

In addition to the limitations mentioned above, there is also the constant risk of bias introduced by dissimilar respondents, when it comes to e.g. eloquence. Some respondents are naturally much more interested in the topic than others, and some reported a marked disinterest in the rules system altogether. Although this is a risk one runs with almost all interview studies (see e.g. Kvale, 1997) it is mentioned here because the effect might have been somewhat more present.

The results of the study are presented below, first a description of the three systems and player commentaries on them, then a section on the different role of rules, and on different kinds of creativity. The games are described with a short paragraph on setting and type of game, the traits of a character and other notable rules features. All quotes are translated from the native Swedish, edited for brevity and readability, and anonymised.

4. THE GAMES

The three systems were chosen on the basis of breadth – they represent somewhat radically different approaches to tabletop role-playing – their status as "established" TRPG systems and researcher access to player groups. While some of the more "niche" rules systems (e.g. Czege, 2003) probably could have provided even more breadth, it is in the naturally the case with more obscure games that fewer people play them, thus making it difficult to locate a satisfying sample.

4.1 Dungeons & Dragons 3.5 / Pathfinder

Dungeons & Dragons (D&D) remains a classic tabletop role playing game years after its initial launch in 1974 (Gygax and Arneson, 1974). In many ways it is the "grand old lady" of TRPGs, and is currently in its fourth edition (Collins et al, 2008). In this study it is the earlier 3.5 edition (Cook, Tweet and Williams, 2003) and the later development of Pathfinder (Bulmahn, 2009) that is the object of study, since these are the versions the respondents had familiarity with. For the purposes of this article, the two are considered as the same system. Of the three systems, this is probably the most rules-heavy.

The settings were Eberron (Baker, Slavicsek and Wyatt, 2004) and the Pathfinder setting (Jacobs, 2011); these are more or less classical fantasy settings in which the players portray bold adventurers seeking treasure and experience. Gameplay generally revolves around slaying monsters, overcoming adversaries and fulfilling quests, revolving heavily around armed conflict. As characters progress, they earn experience which grants them additional capabilities.

The D&D character has several components – race, class, attributes, skills, feats, gear, spells if applicable, and sometimes other special abilities; but most important is "level", a general measure of the characters advancement derived from amassed experience. There is also a host of other statistics such as armor class, saves and movement speed derived from the above components. Race (e.g. human, dwarf, elf) gives modifications to attributes and sometimes other abilities (such as low-light vision); class (fighter, ranger, monk, etc.) describes roughly what your character does in the group, but this is not set in stone.

> *"Generally, the fighter fights in close combat, the 'caster* [someone who has access to and can cast spells] *stays back and provides support, the rouge sneaks and so on, but part of the fun is to challenge these things and play with the roles"*

Most traits are chosen by the player for his or her character, with the exception of attributes which are sometimes rolled for randomly.

> *"In all honesty, despite those that claim otherwise, this game is geared towards combat. Sure not *only* combat, but I have never been in a game that hasn't had plenty of it. That's not necessarily bad, though, it's just that it's more like an action movie than a drama. The game is complicated for a reason; you're supposed to be able to explore the mechanics of the game when you play."*

> *"For me, this game is completely unfathomable; the* [D&D] *rules are the very anathema of creativity and role-playing. There is so much to keep track of, so much flipping through a heap of rules books and you are constantly penalized if you don't know the rules, so you're not encouraged to experiment at all."*

As is evident from the sentiments above, the respondents were mixed on the merits of the D&D rules. Some pointed at the creativity inherent in using the rules, others felt that the many

rules stifled and dampened their creative expression. It was also evident from the respondents that a system such as this required all participants to know the rules to a much greater degree than in other systems, where only the GM (Game Master/Moderator) might have a firm grasp of the system.

4.2 World of Darkness (new edition, diceless)

The "world of darkness" (WoD) came into being in 1998 with the launch of the first edition of *Vampire the Masquerade* (Achilli et al, 1998). Since then several different games have been published that have compatible rules and are set in the same world, allowing characters from the different games to be present in the same group. In 2004 the game was rebooted and a core rulebook for the "new world of darkness" (nWoD) was introduced (Bridges et al, 2004). The system generally uses dice, but can also be played diceless, as it was in this case. The rules are designed to be fast and comparatively easy to learn, but it is by no means rules-light.

The WoD setting is a sort of "shadow-version" of contemporary earth, where supernatural beings such as vampires and werewolves prowl the night. The genre is called "gothic-punk" and attempts to deal with more mature themes. The players can portray any number of supernatural creatures, or normal humans, and gameplay usually explores themes of personal horror – the sense that you are losing what makes you human and degenerating into the unknown.

The nWoD consolidated the rules, even if the rules of the earlier games were already pretty similar. Characters have attributes, abilities, merits, (sometimes) supernatural abilities and a morality trait.

In this case, the players used the same system but dispensed with the rolling of dice, instead allowing the game master (in WoD called the "storyteller") to judge based on the characters score and the interest of the story. The players could spend willpower points to increase their score. In one of the groups the players also had "drama points", inspired by games such as *Buffy the Vampire Slayer RPG* (Brannan et al, 2002), with which they could influence the story and resurrect their characters. Similar systems nowadays exist in numerous TRPGs, such as "perversity points" in *Paranoia* (Varney, 2004) and fate points in *Warhammer Fantasy Roleplay* (Pramas, 1986) or *Dark Heresy* (Barnes, Flack and Mason, 2008).

> *"We want things to go as fast as possible and wouldn't let a bad dice roll get in the way of a good story. The 'dots'* [WoD stats are often called dots because of how they are depicted in the rulebook] *simply illustrate what your character is good at and is used in a purely descriptive sense"*

> *"I like dice. They provide uncertainty, dispel some of the arbitrariness that would otherwise occur, and allows for a much more dynamic story to 'grow' from the interactions between the players; the random results also forces you to be creative in new and unexpected ways"*

The respondents were again of different minds on the use of dice; while some abhorred it and some felt it "almost necessary", some occupied a more moderate middle ground.

4.3 Legends of Anglerre

Legends of Anglerre (LoA) (Newton and Birch, 2010) is the fantasy version of the popular *Starblazer Adventures* (Birch, Donachie, Newman and Nicol, 2008) role-playing game, and uses the FATE (Donoghue and Hicks, 2003) system. It is meant to be rules-light, streamlined, and to encourage a narrative style of play.

The rules can be used with a number of settings (two examples are included in the product); one of the groups had created their own generic fantasy world before play, the other created theirs "on the fly" during play, changing the setting every couple of games.

A LoA character is defined by his or her skills, stunts and aspects. Aspects are short sentences that describe the character and that can be brought into play through the use of "fate points", that are gained if the aspect is negative (in a given situation) for one's character, and spent if it is positive.

> *"Let's say my character has the aspect 'light sleeper'. If I need to roll in order to wake up when someone sneaks into my room, I can spend a point and get a bonus, but if there is lots of noise during the night, perhaps I don't get much sleep at all and wake fatigued; then I would get a point instead"*

Fate points also serve the same function as the drama points mentioned earlier, allowing the players to affect the story directly through their expenditure.

> *"If I come up with something that my character could do something really cool with if it was in the story, then the GM might allow me to spend a point, and it is there. Or maybe I forgot to state something important earlier, then maybe I can spend a point and I didn't."*

LoA is a game with few rules, and those that are all work more or less in the same way.

4.4 On house rules and group adaptations

None of the groups ran their game exactly as the rules were written, instead substituting unwanted rules with their own interpretations, removing superfluous rules (seldom explicitly, more often they would just not use them) and making additions, often taken from other systems, such as the drama point example above. While this might seem to make it more difficult to evaluate a given rules system it is not necessarily so. These are often minor alterations and adaptations, fully comparable to the house rules and other agreements that occur when playing other types of games, such as board games (Bergström, 2010). Adapting the rules can also be seen as a creative pursuit, see below.

5. THE ROLE OF RULES

Presented here are a number of different roles that the rules play for the creative process during the game. They emerged during the interviews and later solidified during the discussions.

5.1 The rules as "narration first" or "rules first"

An important difference between the rules systems was the distinction between "rules first" and "narration first" systems. In a narration first system (WoD) the player would narrate the actions of their character first, and the rules interpretation would come afterwards, in a rules first system (D&D, LoA) the mechanics precede the narration.

> *"Oh, this one is a little bit complicated – with rules first it's like no matter what I do, the rules stay the same, so I have enormous freedom. All magical ranged attacks in LoA are the same, so I can describe it in whatever way I like; freezing blasts, Darth Vader style choking, or whatever. With narration first I have to be more careful, but on the other hand, what I say matters more, 'cause*

if I do something smart, for example, that will be reflected in how the rules resolve the action"

"These are two completely different narration styles, and I can't honestly say that I prefer one over the other; one is good if you want a colorful story, the other if you want to be more problem-solving creative, so to speak."

5.2 The rules as arbitrator

Tabletop role-playing is a collaborative, co-creation effort, but as in all groups that do something together, different opinions sometimes clash. Two players can have a different view of what makes an interesting story, or what would be possible for a character, for example. While the GM usually fulfills the arbitrator role, the rules also carry this capacity, and are often viewed as more impartial. Often used in player vs. player conflicts. In this way, the rules can function as an arbitrator of player creativity, helping to ensure equality between the players. However, the rules often fail in this regard according to the respondents.

"Of course it happens that two people are of a different mind on what should happen, and the GM might not be able to resolve it. Then we might go 'let's ask the dice, shall we?' and in effect, the rules decide."

White (2009) has a good example of this: "*[13-23] shows the GM reframing his diegetic attempt game-mechanically rather than narratively*..." (p. 179), where the GM uses the rules to arbitrate.

5.3 The rules as creative coolant

While a very open system might engender free and open narration, this can sometimes become too boundless, and in this case the rules system can act as a "coolant" that prevents the narrative from becoming too fantastic. The three systems in the study were cited as placed more or less on a scale, with D&D as most coolant, nWoD in between, and LoA least. The respondents seem to indicate that there is a difference between creative quantity and creative quality, but that the relation between the two is far from straightforward. Note that a story can be fantastic, but still internally consistent, which differs this role from the one below.

"When we play a more open, free form game where the rules basically don't restrict you at all, the narration often becomes very fantastic and far-fetched. This is fun now and then, but seldom produces the more tight, believable stories. The rules 'bound the sandbox' so to speak, and makes sure the sand doesn't go everywhere"

5.4 The rules as consistency-provider

Diegetic consistency is an issue in both TRPGs and other narratives, such as books and movies, but where someone might review the script of a movie and spot inaccuracies, TRPGs lack the presence of a script. Rules can often provide some consistency, a stable, quantifiable point in the diegesis that change in more or less pre-set ways, that the players can come back to and make sure that consistency is maintained; or to quote one respondent, "*at least isn't completely out the window*".

"Sometimes people smirk at the notion of realism in obviously fantastic settings, but what they don't release is that it isn't about realism, it is about internal consistency and that that the world makes sense 'in that world' so to speak."

5.5 The rules as inspiration

Many rules-set, include several different options for creating your character, pre-selected skills and other abilities. The systems in this study are no different, and are quite rich with examples and possibilities. Along with the game's setting, these can also provide inspiration, both for characters and for stories, which the players might not have thought about otherwise.

"It's sometimes hard to say where the setting ends and the rules begin, in some cases they are inextricably linked. They can provide great inspiration towards what the game is really about, so to speak, and gives a sort of 'easy access' to the setting."

5.6 The rules as support

While all players are equal on paper (there are no handicapping rules in TRPGs) the players often differ in levels of experience with the game (both rules and setting) and creative ability. The rules can serve as support for inexperienced players and show what you can do and not, what the chances of success for a particular action might be, and as was mentioned by the respondent above, allow access to the setting.

"Say what you want about D&D, but it is a gem for beginners if they play with someone who really knows the game. Your options are all laid out for you, but there is still depth as you level up. Combat is simple, and the rules regulate everything, so there is no need to feel like you don't 'get it'. Sure, a good player gets more done, but it's not the same as if you have a more abstract system"

"For someone who isn't as into the geek stuff as us, the rules help level the playing field, so to speak, and I know this might seem like a paradox, but it really isn't"

According to the respondents, it is very different to not know the rules, and knowing them but not being good at using them, the former leading to much more trouble as players "freeze up" when they become uncertain.

5.7 The rules as communication

The rules system, particularly the numbers on different traits, serves an important communicative purpose during the game. While verbal descriptions usually suffice, putting numbers on abstract concepts can ease communication and make sure that there is a greater similarity of understanding in the group. By using the rules when communicating, skilled role-players can distribute creativity in the group, without sacrificing consistency.

"I'll give you an example - if my character receives damage, for example, I want to know more exactly how damaged, but this can be hard to describe exactly in words. If the game master can put a number to it instead, I can interpret the numbers and play from there."

5.8 The rules as randomness

Only two of the systems in the study had randomness (the WoD system has randomness as written, but this was removed by the player group) and while undesired results can disrupt the activity as a whole, everyone agrees that it also can serve as a potent source of new creative angles. Whether it is a failed roll when overcoming an obstacle, or a roll on a random encounter table, the dice (dice provides the randomness in almost all TRPGs) have the potential to surprise the entire group, including the GM.

"Randomness makes the story more organic, more uncertain. You never know exactly what will happen and often the unexpected occurs, forcing you to think in new ways. Without randomness you are safer, and you can be more long-term, so to speak. Both ways have their merits."

5.9 The rules as diegetic control (distribution) mechanism

Diegetic control[1] and the distribution thereof can be a sensitive thing when playing TRPGs, and it has a direct and obvious effect on player creativity. It refers to who has the power to decide what is true or not in the game diegesis, that is, the alternative world that is created by the narrative (compare "alternative possible world" in Cover, 2010). The GM usually has "ultimate authority" but this picture is overly simplistic. Tradition, specific agreements for the player group and the system being played all contribute to an often complex pattern of who gets to enter things into the narrative. Worthy of an article all on its own, details will not be provided here beyond the facet of the rules. Both the WoD and the LoA games had a specific game currency to allow players to enter specifics into the diegesis beyond their characters.

"It usually isn't stated right out, but sometimes it is, but all systems also carry their own more or less implicit understanding of the power of the players vis a vis the game master. In D&D, while 'the GM is god', s/he is also assumed to stick to the rules of the game and not change anything on the fly, on the other hand, because of the 'gaminess' of the rules, the players are also bound very strictly. In WoD, whatever the GM says goes, all the time. In LoA authority explicitly rests with the table, i.e. the group, and not solely the GM." [respondent refers to the specific games among the groups in this study, not those systems in general]

6. FLAVORS OF CREATIVITY

As is evident from the respondents and earlier research, tabletop role-playing games elicit several different "brands" of creativity, which is affected greatly by the role rules play in a specific game. Six of the more prominent are outlined below, with the most important roles rules play (italicized) for each.

Rules as support and *rules as diegetic control mechanism* is not linked to any specific type of creativity, instead having a more broad effect on the creative process.

6.1 Narrative (story) creativity

Narrative creativity refers to the ability or potential to create a good story, usually going outside your specific character (if you are not the GM) and looking at the story as a whole. Introducing new elements and re-visiting older elements (a hallmark of good narrative, according to Johnstone (1979)), developing the ongoing story and coming up with new arcs are all part of narrative creativity.

"*Depending on the rules, you are either required to influence the story with only your character, or there might also be other venues afforded by the rules, such as with fate- and drama points. You can also make off-game suggestions, for example, but this is received differently in different groups.*"

Rules as creative coolant and *rules as consistency-provider* are most important for narrative creativity; both making sure that the story does not become too farfetched and retains internal consistency.

6.2 Acting creativity

Acting creativity is about being creative in the portrayal of your character (or characters, in the case of the GM), what many players consider the "core" of role-playing. Initially it was not separated from narrative creativity, but this is apparently a point of contention among players. Some think that a player should only concern him- or herself with this type of creativity, others think that narrative creativity is much more important.

*"I normally don't concern myself with the overall story that much, I like to immerse myself in the character completely, and really try to *be* that person. And since he or she doesn't look at his or her life as a story, neither do I – but of course I try to retain some sense not to ruin things completely."*

For acting creativity *rules as communication* is important, since it frees up the player to act on system inputs, as is *rules as randomness* which provides new angles to act upon.

6.3 Gaming creativity

More directly related to the rules system, this is the type of creativity exhibited when utilizing the rules towards some specific outcome. For many players this is "optimizing" their character, choosing the traits and abilities that will allow the character to succeed as much as possible, but also choosing the correct action rules-wise at any given moment. Heavily dependent on the rules-system used, which must be well-written and interesting if players are to bother.

"Comparing builds [a specific combination of character traits and abilities]*, scouring the rules for powerful combinations or ability synergies, finding how elements work together for maximum effect – this is the heart of D&D for me. But with other systems, this just isn't as possible"*

The *rules as arbitrator* is central for gaming creativity, as it provides a sense of fairness and levels the playing field, emphasizing the "game" aspect of the TRPG. *Rules as randomness* is also important, since randomness affects everyone alike, and is something that can be manipulated through usage of the rules.

6.4 Problem-solving creativity

One of the focus points of Bowman's (2010) book, most TRPG scenarios include plenty of problem-solving. The problems come in a wide variety; tactical, social, political, strategic and more. This has to be balanced with acting creativity, lest the believability of a player's portrayal of his or her character suffers. While gaming creativity also covers some problem-solving, that is always under the auspices of the rules system and its mechanics, while this refers to more open-ended problem solving, such as coming up with a good plan or compromise between two conflicting factions.

"Almost none of the problem-solving we do have anything to do with the rules, the boundaries come from the setting, the situation and or characters."

[1] "Diegetic control" is who has the power or authority to enter things into the diegesis, i.e. "to make things true in the story".

> *"Problem-solving can be difficult, because you want to be smart and come up with good solutions, but at the same time you mustn't overplay* [e.g. playing smarter or more skilled than the character is rules-wise] *your character too much. But it can be very difficult playing dumber than you are, so we are usually pretty lenient with that."*

Problem-solving creativity is among the things affected by *rules first vs. narration first* – in a rules first environment it can be difficult for good problem-solving strategies to gain traction, since the rules remain the same despite clever strategy. *Rules as consistency provider* is also important, since problem-solving can be difficult (or too easy) in a world with little consistency.

6.5 Game-world creativity

This is the creativity used to create the setting and elements within, such as your characters backstory, the geography or inhabitants of a region, organizations in the game world, and so on. This is generally uninfluenced by the system used, and heavily dependent on the division of diegetic control in the group and its traditions. It is closer to the craft of a writer, but not wholly, as care must be taken to adapt the world to the role-playing format.

> *"When we play LoA, we usually create the world together, relieving the burden on the game master and giving everyone the opportunity to be creative in constructing the setting. The GM acts as facilitator, but everyone introduces elements and develops each other's elements, provide suggestions, and so on"*

> *"Since our WoD game is so dependent on the sense of mystery, the players participate very little in the world creation, instead uncovering the secrets of the GM piece by piece. But of course we have some influence, saying what elements we like, and so"*

> *"The Pathfinder setting is pretty much written already, but you always get to make the background of your character and how it fits into that world"*

Game-world creativity is largely influenced by *rules first vs. narration first* – rules first frees up the player to describe things very freely in the game world, since the descriptions do not affect the underlying rules much. *Rules as inspiration* is also important, the rules feeding information on the game world to the players.

6.6 System creativity

A form of meta-creativity, this is the creativity required to adapt the rules system to the specific group and its needs and wants. In many cases this is perceived as necessary to fix flaws and/or bugs in the rules system, often by removing parts deemed "unbalanced", but whole new elements can also be introduced, such as in the WoD game.

> *"Very few games can be played RAW* [Rules As Written]*; there is always something that doesn't suit our style of play, or is just plain broken. Often it is easy to fix, but sometimes you have to get really creative or rewrite sections altogether. And of course, sometimes we add entirely new rules structures, often adapted from other games"*

System creativity is not particularly influenced by any of the roles, and this is hardly surprising given that system creativity is concerned with being creative with the rules themselves. Often players will try to bolster one or more of the roles above, often striving towards or just removing obstacles for their preferred type(s) of creativity.

7. DISCUSSION

The notion that TRPG groups usually do not engage in discussions with one another on the nature of their activity was readily supported by the respondents. Only a handful admitted to ever having talked beyond the superficial with another role-playing group, and many claimed that even within the group there was a significant lack of discussion on e.g. what the different players wanted out of the activity.

> *"I don't think I've ever talked to another role-playing group on issues beyond specific rules, personal characters or the like - and certainly never as a group. Problem is that even if I/we did, I'm not sure what we'd be talking about."*

During the group discussions many seemed to experience their first real, in-depth discussion on what they got out of role-playing games, but the prejudices held against other role-players also came to the fore.

> *"What they are doing is not even role-playing in my book, it's just dice rolling and normal gaming, not unlike a computer role-playing game. Why anyone would waste time with it is beyond me."*

While the existence of multiple forms of creativity in TRPGs is by no means a significant find on its own, it is important to understand its relation to the rules system used and that different systems cater to different individuals, because they prefer different forms of creativity.

The respondents also confirmed the lack of language when discussing TRPGs, and often retorted to the use of examples of other systems during the discussions, leading to some difficulty since all were not familiar with the examples.

Looking back at the GNS-model (Edwards, 2001), the gamist, narrativist and simulationist styles map quite well towards the gaming creativity, narrative creativity and acting creativity. The latter is probably the worst fit, since acting creativity does not necessarily imply a simulationist style. It is also important to mention that the respondents did not see the "competition" in the gamist style, and instead focused on the use of rules. This is probably because the GNS model has been presented somewhat differently than originally incepted in Swedish RPG circles. The inherent differences between the styles was also evident through the respondents in this study, showing that it can be hard to reconcile different playing styles and that it is difficult to find rules that cater to all kinds of creativity.

Of the eight types of fun mentioned by Hunicke, LeBlanc and Zubek (2004), it is only the first, *games as sense-pleasure* which is not readily applicable to TRPGs – although it is not impossible that there is some ensemble out there that derive sense-pleasure through e.g. beautiful language, none of the respondents mentioned this. Out of the remaining seven, *game as make-believe*, *game as drama* and *game as obstacle course* can be associated with the creative aspects of the TRPG. Game as make-believe is closest to narrative creativity and game-world creativity, game as drama to narrative and acting creativity, and game as obstacle course to gaming and problem-solving creativity.

The respondents pointed out that although creativity in its many facets probably was the main reason they played TRPGs, creativity is not the only thing you get out of a TRPG. There is

also the thrill of uncertainty, often aided by the rules' fortune aspect, the joy of camaraderie (a design ideal covered in Bergström, Lundgren and Björk, 2010) and the delight in exploring other worlds, maybe testing things that you would not do otherwise (Bowmann, 2010) – all of which corresponds rather well towards the remaining types of fun mentioned by Hunicke, LeBlanc and Zubek (2004). Thus, it could be unwise to tailor a game exclusively towards the facilitation of creativity at the expense of other areas.

One could argue that since players adapt the systems so much, and tend to chose systems that fit their style of play, a more relativist position – saying that the actual game artifact matters so little in relation to the group that uses it that a study of this kind becomes moot - but this would be unnecessarily shortsighted; the artifact does matter, at least according to the respondents. They all agree that significant adaptation takes place, but at the same time not everything has been written, and there just are not systems for all tastes out there.

At the same time, one must also be careful not to underestimate the impact on creativity from other sources than the rules system; as was mentioned in the methods chapter. However, the respondents mentioned that many of them never saw anything of the artifact except the rules as they were explained to them, perhaps a character sheet, which further complicates the matter.

7.1 The importance of diegetic control

Initially, the role rules played as distribution of diegetic control was not emphasized by the respondents, the reason probably being that diegetic control can be a sensitive subject, and that different groups have quite entrenched traditions on what the distribution should be, to the point that some did not even recognize the presence of alternative paradigms at first. However, as the discussion deepened, it became clear that it was how the rules tackled the distribution of diegetic control that seemed to have the most effect on player creativity. Also observe that "diegetic control" is equivalent of the power structures mentioned as a key component of the role-playing process in Montola (2009). Therefore it is interesting to go back to the games covered in the study, and look at how they influence what types of creativity becomes important through how their rules approach diegetic control:

In a game with strict diegetic control, such as D&D, where not only the roles of player and game master is rigidly defined but the rules also regulate the diegesis to a large extent, the players naturally turn to gaming creativity at the expense of narrative creativity. But with a very clearly defined rules-set there is also a tendency towards less problem-solving, as it can be difficult to undertake actions not covered by the rules. The importance of rules gave rise to system creativity, but mostly in a "fix" capacity, and not the introduction of new elements. This might not be the case for an audience less willing to play (or less familiar with) alternative systems, such as those that use the D&D rules for a greater diversity of games (Cover, 2010, Bowman 2010). This would make them adapt the system instead of choosing another, which in turn also fosters system creativity.

In the nWoD groups, diegetic control was significantly relaxed in comparison, with both the players being allowed (slightly) more leeway and the rules occupying more of a descriptive and advisory position. Accordingly, gaming creativity was largely absent and acting creativity more emphasized. Through drama points and the option to narrate entire sequences without explicit involvement of the GM, narrative creativity was possible to a great extent. System creativity was absent during the game as the rules remained fixed, but the game groups had both adapted the system beforehand to suit their needs and wishes.

The LoA groups were somewhere in the middle rules-density wise, with clearly defined but loose rules. There was also a clear "rules first" focus which de-emphasized problem-solving and instead encouraged narrative creativity. The simplicity of the rules removed gaming creativity, but the aspect- and fate-point system further boosted narrative creativity. Because the players were relatively unfamiliar with the system – FATE has not been around as long as the other systems – interpreting and adapting the rules required some system creativity. LoA was also more or less unique in its facilitation of game-world creativity, because of an emphasis on player created worlds and elements.

8. CONCLUSION

This article has studied what role three TRPG rules systems have in facilitating player creativity through interviews and observation of six player groups. It has outlined nine different roles that rules can play in fostering player creativity, and how these influence six different types of creativity associated with tabletop role-playing. The most important probably being the distribution of diegetic control, which seems to have a far reaching effect on the creative expression.

This work is aimed at scholars interested in TRPGs and those looking to design TRPG systems, as well as TRPG players, or anyone else interested in the rather unique mesh of game-like rules and play-like creativity in TRPGs. The study provides greater insight into how the two fit together, help in the design of TRPG systems if looking to tailor them towards creativity, and offer more information on the creative expression of players of TRPGs. It also outlines a language of expression for some parts of the TRPG activity, which through the respondent-close methodology is hopefully as useful as possible to those that might need it.

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10. REFERENCES

Achilli, J. et al, 1998. *Vampire: The Masquerade*. Atlanta: White Wolf Publishing.

Baker, K., Slavicsek, B., 2004. Wyatt, J. *Eberron Campaign Setting*. Renton: Wizards of the Coast.

Barnes, O., Flack, K., Mason, M., 2008. *Dark Heresy*. Roseville: Fantasy Flight Games.

Bergström, K., 2010. The Implicit Rules of Board Games – on the particulars of the lusory agreement. In: Mindtrek, *Mindtrek -Envisioning Future Media Environments*. Tampere, Finland 6-8 October 2010. ACM Digital library.

Bergström, K., Lundgren, S., Björk, S., 2010. Exploring Aesthetical Gameplay Design Patterns –Camaraderie in Four Games. In: Mindtrek, *Mindtrek -Envisioning Future Media*

Environments. Tampere, Finland 6-8 October 2010. ACM Digital Library.

Birch, C., Donachie, D., Newman, S. Nicol, D., 2008. *Starblazer Adventures*. Oxford: Cubicle 7 Entertainment.

Björk, S., 2008. Games, Gamers and Gaming – Understanding Game Research, In: Mindtrek, *Mindtrek-Entertainment and Media in the Ubiquitous Era*. Tampere, Finland 7-9 October 2008. ACM Digital Library

Björk, S., Holopainen, J., 2005. *Patterns in Game Design*. Hingham MA: Charles River Media.

Boss, E. C. 2008. *Key Concepts in Forge Theory*. In Stenros, J. & Montola, M. (eds.) Playground Worlds, pp. 232-247, Helsinki: Ropecon.

Bowman, S. L., 2010. *The Functions of Role-Playing Games*. Jefferson: McFarland & Company.

Boyle, R., Cross, B., 2009. *Eclipse phase -The Roleplaying Game of Transhuman Conspiracy and Horror.* Lake Stevens: Catalyst Game Labs.

Brannan, T. et al, 2002. *Buffy the Vampire Slayer Roleplaying Game*. Loudonville, NY: Eden Studios.

Bridges, B., Chillot, R., Cliffe, K., Lee, M., 2004. *The World of Darkness*. Atlanta: White Wolf Publishing.

Bulmahn, J., 2009. *Pathfinder Roleplaying Game Core Rulebook*. Redmond, VA: Paizo Publishing.

Carson, S. H., Peterson, J. B., Higgins, D. M., 2005. Reliability, Validity, and Factor Structure of the Creative Achievement Questionnaire. *Creativity Research Journal,* 17, pp. 37–50

Collins, A. et al, 2008 *Dungeons & Dragons 4th Edition*. Renton: Wizards of the Coast.

Cook, M., Tweet, J., Williams, S., 2003. *Dungeons & Dragons 3rd edition*. Renton: Wizards of the Coast.

Costikyan, C., 1994. I Have No Words & I Must Design. In Salen, K. & Zimmerman, E. (eds.) *The Game Design Reader: a Rules of Play Anthology*, pp. 192-211, Cambridge, MA: MIT Press

Cover, J. G., 2010. *The Creation of Narrative in Tabletop Role-Playing Games*. Jefferson: McFarland & Company.

Czege, P., 2003. *My Life with Master*. Livonia, MI: Half Meme Press.

Donoghue, R., Hicks, F., 2003. *FATE*. Silver Spring, MD: Evil Hat productions LLC.

Edwards, R., 2001. GNS and Other Matters of Role-playing Theory*, Adept Press*, [online]. Available at: http://www.indie-rpgs.com/articles/1/ [Accessed 1 August 2011]

Fine, G. A., 1983. *Shared Fantasy –Role-Playing Games as Social Worlds*. Chicago and London: The University of Chicago Press.

Gade, M., Thorup, L., Sander, M. (eds.), 2003. As Larp Grows Up. *Knudepunkt 2003* [online]. Available at: http://www.laivforum.dk/kp03_book/ [Accessed 1 August 2011]]

Gygax, G., Arneson, D., 1974. *Dungeons & Dragons*. Lake Geneva: TSR Inc.

Hendricks, S. Q. 2006. Incorporative Discourse Strategies in Tabletop Fantasy Role-Playing Gaming. In Williams, J.P., Hendricks, S. & Winkler, W. K. (eds.) *Gaming as Culture*, pp. 39-56, Jefferson: McFarland.

Holmes, M., Mazza, R., 2002. *Universalis: The Game of Unlimited Stories*. Peoria, IL: Ramshead Publishing.

Hunicke, R., LeBlanc, M., Zubek, R., 2004. MDA: A Formal Approach to Game Design and Game Research. In: *Association for the Advancement of Artificial Intelligence*, *Nineteenth National Conference on Artificial Intelligence*. San Jose, CA 25-29 July 2004. AAAI Press

Jackson, S., 1996. *GURPS Basic set Third Edition Revised*. Austin TX: Steve Jackson Games.

Jacobs, J., 2011. *Pathfinder Campaign Setting – The Inner Sea World Guide*. Redmond, VA: Paizo Publishing.

Johnstone, K., 1979. *Impro: Improvisation and the Theatre*. London: Faber and Faber Ltd.

Kaufmann, C. J., Sternberg, R. J. (eds.), 2010. *The Cambridge Handbook of Creativity*. Cambridge, UK: Cambridge University Press.

Kvale, S. 1997. *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur AB.

Lambert, R. Rilstone, A., Wallis, J., 1995. *Once Upon a Time (extended edition)*. St Paul, MN: Atlas Games.

LeBlanc, M. 2006. Tools for Creating Dramatic Game Dynamics. In Salen, K. & Zimmerman, E. (eds.) *The Game Design Reader: a Rules of Play Anthology*, pp. 438-459, Cambridge, MA: MIT Press.

Lundgren, S., Bergström, K. J., Björk, S., 2009. Exploring Aesthetic Ideals of Gameplay. In: *Digital Games Research Association*, *Breaking New Ground: Innovation in Games, Play, Practice and Theory*. 1-4 September 2009. Digra.

MacKay, D., 2001. *The Fantasy Role-Playing Game: A New Performing Art*. Jefferson: McFarland & Company.

Montola, M. 2009. The Invisible Rules of Role-Playing- The Social Framework of Role-Playing Process. *International Journal of Role-Playing 1*, pp. 22-36.

Mumford, M. D., 2003. Where have we been, where are we going? Taking stock in creativity research. *Creativity Research Journal, 15*, pp. 107–120.

Newton, S., Birch, C., 2010. *Legends of Anglerre*. Oxford: Cubicle 7 Entertainment.

Pramas, C., 1986. *Warhammer Fantasy Roleplay*. Nottingham, UK: Games Workshop.

Rilstone, A. (eds), 1994. *Interactive Fantasy*. London: Hogshead Publishing.

Salen, K. & Zimmerman, E. 2004. *Rules of Play*. Cambridge, MA: MIT Press.

Schick, L. 1991. *Heroic Worlds: A History and Guide to Role-playing Games*. Buffalo, NY: Prmoetheus Books.

Stenros, J., Montola, M. (eds), 2010. *Nordic Larp*. Stockholm: Fëa Livia.

Thomsson, H., 2002. *Reflexiva Intervjuer*. Lund: Studentlitteratur AB.

Tresca, M. J., 2011. *The Evolution of Fantasy Role-Playing Games*. Jefferson: McFarland & Company.

Tychsen, A., Newman, K., Brolund, T., Hitchens, M., 2007. Cross-format analysis of the gaming experience in multi-player role-playing games. In: *Digital Games Research Association*, *Situated Play*. 24-28 September 2007. Digra.

Varney, A., 2004. *Paranoia XP*. Swindon, UK: Mongoose Publishing.

White, W. J. 2009. Face and figuration in RPG play. In Holter, M., Fatland, E. & Tømte, E. (eds.) *Larp, the Universe and Everything*. Köpenhamn: Knutepunkt