

Master Thesis in Informatics

Game Design Patents

- Protecting the Internal Mechanisms of Video Games?

Ola Davidsson

Göteborg, Sweden 2004



IT University
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GÖTEBORG UNIVERSITY AND CHALMERS UNIVERSITY OF
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SUMMARY

The aim of this thesis is to investigate the importance of patents as a means to protect the design of video games. It also includes a survey of relevant patents in the on-line database of the United States Patent and Trademark Office (USPTO).

The background theory explains the basics of Intellectual Property law, and attempts to highlight the differences in protection provided by trademarks, copyright, trade secrets and patents. Furthermore, the video game industry of 2003 is analyzed; a review of the different types of companies involved in game production is presented and their internal relationships and dependencies are reviewed. This section also describes the cycle of innovation in games and introduces two important concepts; Game Design Patents and Game Design *Patterns*. The former defines a specific category of patents aimed at protecting the mechanics and design of video games, while the latter is a methodology describing different interaction elements in games. The findings from these sections are applied to research, which includes interviews with a game designer, a patent attorney and a summary of opinions posted on discussion forums on the Internet, to form a coherent picture of the current status of patents in the video game industry.

The second part of the report includes an in-depth study of 50 relevant design patents, an analysis of the current classification in the database of the USPTO and a number of alternative classification methods to further investigate the character of these patents. The results have been used to see if there is any other way, besides the current classification, to arrange the patents to the benefit of game developers or pretty much anyone who does not have the legal and technical competence of a patent attorney.

The report concludes that currently, patents are not considered an effective way to protect the design of a video game, and developers mainly rely on copyright and trade secret law to protect their work. Developers are generally not concerned with the risks of patent infringement, as most patent owners do not actively enforce their patents. However, a number of future scenarios were discussed in which patents may gain increased importance. As for the second part of the survey, it proved extremely difficult to find an alternative way to categorize game design patents since they are built on established legal abstractions constructed solely to aid the examiners at the patent office. Attempts were made to use game genres and design patterns to model the substance of each one of the 50 design patents, but none of the methods proved adequately satisfying. The study of patent references show that a number of patent classes are particularly relevant, and these should be monitored in order to keep track of new issuances. Coming up with a solution that effectively manages the pool of existing patents is another matter though and this is particularly troublesome since patents can stay valid for up to 20 years.

The report is written in English.

Keywords: IP, patent, game development, game design

Game Design Patents

- Protecting the Internal Mechanisms of Video Games?

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SUMMERING

Syftet med denna uppsats är att undersöka betydelsen av patent som ett sätt att skydda utformningen av datorspel, och inkluderar även en kartläggning av relevanta patent i det amerikanska patentverkets (USPTO) databas.

Bakgrundsteorin behandlar grunderna i immaterialrätt, och betonar skillnaderna i det skydd som utgörs av upphovsrätt, varumärkesskydd, affärshemligheter och patent. Vidare analyseras datorspelsbranschen 2003, och förhållandet mellan de olika företag som är inblandade i produktionen av spel presenteras. Teoriavsnittet inkluderar även en studie av hur innovation i spelbranschen sker, och introducerar begreppen speldesignpatent och speldesignmönster. Det förstnämnda är en egenutvecklad definition och inbegriper de karaktärsdrag som utmärker patent som är särskilt relevanta för speldesigners, det senare är forskningsområde som syftar till att på akademisk väg beskriva och analysera olika interaktionselement i spel. Resultaten från teorigenomgången har applicerats på forskning som inbegriper intervjuer med en speldesigner och en patentadvokat samt en sammanfattning av åsikter som förts fram i diskussionsgrupper på internet, för att skapa en sammanhängande bild av hur man ser på patentskydd i branschen.

Den andra delen av rapporten omfattas av en ingående studie av 50 relevanta speldesignpatent, en analys av den nuvarande klassificeringen av patenten i USPTOs databas samt ett antal olika alternativa klassificeringsformer avsedda att vidare undersöka dessa patents komplicerade natur. Resultaten har använts för att undersöka om det finns ett alternativt sätt att ordna och kategorisera patenten som kan vara användbart för dem som inte har juridisk och teknisk kompetens (t ex spelutvecklare).

Sammanfattningsvis kan sägas att patent för närvarande inte betraktas som ett effektivt sätt att skydda utformningen av ett datorspel. Utvecklare är i första hand beroende av upphovsrättslagstiftning och affärshemligheter för att skydda sina produkter och ideér. Utvecklare bekymrar sig inte heller för att begå patentintrång, eftersom de flesta patentägare inte arbetar aktivt för att skydda sina patent. Det finns emellertid indikationer på att patent kan komma att bli allt viktigare i spelbranschens framtid. Det visade sig extremt besvärligt att hitta fungerande alternativa sätt att klassificera speldesignpatent, eftersom patentbeskrivningarna bygger på etablerade juridiska abstraktioner som är utformade för att underlätta arbetet för patentverkets utredare. Försök gjordes att använda spelgenrer och designmönster för att modellera innehållet i vart och ett av de 50 speldesignpatenten men inga av metoderna gav tillfredsställande resultat. Studien av patentreferenser visade att vissa patentklasser är särskilt intressanta, och dessa bör övervakas för att följa med i utvecklingen av nyutfärdade patent. Det är däremot svårt att komma fram till en lösning som på ett effektivt sätt kan hantera redan existerande patent, detta blir särskilt komplicerat då patent kan gälla i uppåt 20 år.

Rapporten är skriven på engelska.

Nyckelord: Immaterialrätt, patent, spelutveckling, speldesign



*Eternal Darkness- Sanity's Requiem (2003):
Patent pending*



Friday 13th (1985): Prior art?



*Project Gotham Racing (2001): In violation of
6,488,505?*



*Jet Set Radio Future (2002): Infringing on
6,200,138?*

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I would also like to pay my respects to the heritage of past generations: the ZX Spectrum, the C64, the Amiga and the Atari ST, all the retired, recycled and reincarnated pieces of plastic and silicon that spun those little electrifying dreams. This one's for you guys.

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1 Introduction

During the past 30 years, computer and video games have grown to become a dominant force in entertainment. The bulky boxes that provided the primitive eye-candy and simple delights of *Pong*, *Asteroids* and *Pac-Man* and screamed for attention from the back room of a bar or pizza parlor in the early 1980s have transformed into slick home entertainment systems providing *Homo Ludens*¹ with a leisure pastime as important as music and film.

Global sales of computer and video games reached \$30 billion in 2002, and by that widely surpassing the movie industry². Game development, once a one-man³ operation, has turned into massive projects involving upwards to one hundred people proficient in 3D-animation, AI-programming and sound engineering. Budgets occasionally exceed \$10 million and production times between 3 to 5 years are not uncommon, during which it must constantly be affirmed that the product is keeping pace with technology and thereby meeting the demands of a growing community of fastidious consumers. Financially, this hard work often does not pay off, as the winning formula of a hit game is not easily uncovered.

The game industry has largely come to rely on synergy with other media to better the odds of success. The Game & Movie relationship has never seemed so close, sharing similar production methods, contents and form⁴. In a strictly financial perspective though, this synergy refers to the exchange of *intellectual property*⁵ between the two worlds. Video game protagonists such as Lara Croft may have appeared in a number of (moderately) exciting screenplays, but her adaptation to the world of “passive linearity” has not been regarded nearly as successful as the Fellowship’s venture into the land of “linear-interactivity”⁶. Movie and product

¹ *Homo Ludens*, an expression coined by Dutch historian and linguistic Johan Huizinga, who claimed that any aspect of society can be explained through the act of playing.

² <http://www.wired.com/news/games/0,2101,61358,00.html>

³ Chris Crawford, Jordan Mechner, Ed Logg, Sid Meier, Peter Molyneux, Yu Suzuki- are indeed men. Phasing women into game development has been a painfully slow process.

⁴ For example, video games have adopted movie-like narratives, while the unique aesthetics of video games inspire filmmakers.

⁵ Intellectual Property: “Intangible creations of the human mind”

⁶ This bold statement is limited to *critical acclaim*, and thereby effectively undermining the point of discussion. According to the IMDB, *Tomb Raider- the Cradle of Life (2003)* grossed almost \$66 million in the US alone.

licenses, games tagged by professional athletes and self-reliant sequels have become the bread and butter of the video game industry. While this does not necessarily mean games are less enjoyable, it is becoming increasingly difficult to receive funding for original titles, there is a widespread notion that video games have lost some of their soul and identity and developers are left with less room for creative expression.

As suggested above, games have not only become more complex technologically, but also *legally*. Modern games have been described as a “soup” of Intellectual Property (IP); a messy mixture of copyrighted code and artwork, trademarked character names, and patented game mechanics. Though game developers occasionally get caught up in some bizarre and unpredictable legal entanglements involving disgruntled wrestlers⁷ and particular Parisians⁸, the definitions and boundaries of copyright, trademarks and trade secrets are perceived as relatively clear.

Patents however, have a unique position among IP-rights. Patents protect the embodiment of an invention or process, disclosed in a technical document that can be difficult to interpret for those who lack legal and technical competence. The scope of patent protection is not clear, and is further complicated by the elusive nature of computer software.

The first part of this report investigates the importance of patents in the video game industry. Attention is devoted to patents that protect the *design* of a video game, patents of a peculiar nature that are so far only issued in the United States.

Example: “Sanity system for video game”

Listed among published applications in the USPTO (the United States Patent and Trademark Office) patent database is an application described as follows:

“A video game (54) and game system (50) incorporates a game character's sanity level that is affected by occurrences in the game (54) such as encountering a game creature or a gruesome situation. A character's sanity level (10) is modified by an amount determined based on a character reaction to the occurrence such as taking a rest or slowing game progress and/or an amount of character preparation. That is, if a character is prepared for the particular occurrence, the occurrence may have little or no affect on the character's sanity level. As the character's sanity level decreases, game play is effected such as by controlling game effects, audio effects, creating hallucinations and the like. In this context, the same game can be played differently each time it is played.”

⁷ In July 2003, retired professional wrestler Darryl Peterson a k a *Maxx Payne* filed a lawsuit against the creators of successful action game *Max Payne*, claiming they stole his identity.

⁸ Anonymous sources state that the people of Paris are very particular as to how the “natural glow” of the Eiffel Tower is reproduced in video games.

This patent, protecting one of the distinguishing features of Nintendo's *Eternal Darkness: Sanity's Requiem*, has the potential of becoming highly relevant to anyone creating a game within the popular 'survival horror'⁹-genre of video games.

The second part of the report aims to locate game design patents in the USPTO database, to provide developers with a plan to avoid infringement. Also included is an in-depth study of 50 relevant patents, an analysis of the current database classification and a number of alternative categorization methods to further investigate the character of these patents. One method evaluates the concept of *Game Design Patterns*, a methodology focused on identifying separate interaction elements in games, as a means to classify patents.

The thesis is intended to provide an interesting view to professionals as well as novices in the game industry, covering an important subject that has not been previously explored (academically) to any greater extent.

“Legal disclaimer”: The author's academic background lies in the fields of electrical engineering and Information Technology. Given the subject of the essay, this may have lead to some wrongful assumptions and oversimplification concerning legal matters in the sections ahead. Still, it has hopefully not had a major effect on research results and conclusions.

⁹ *Alone in the dark* (1992), *Resident Evil* (1996) and *Silent Hill* (1999), including numerous sequels, are considered the overlords of the genre.

2 Problem

This report aims to investigate in what way and to what extent patents are relevant to game developers. How can they be described, categorized and organized to their benefit?

In order to answer these questions the following issues need to be addressed: What is the nature of these patents? How, if necessary, may they be classified to suit those unaccustomed to the prevalent classification method used by the US Patent and Trademark Office?

This complex of problems has been summarized in the following set of questions and assumptions:

- In what way are patents a concern to game developers?
 - What are the risks associated with inadequate knowledge of patent law and patents related to video games?
 - Presumed that patent issues are a low priority to game developers, why is this usually not a problem?
 - How can the risks of patent-related problems be minimized?

3 Delimitations

The study is focused on patents relating to game design, a phenomenon that exists exclusively in the United States. The fact that the database of United States Patent and Trademark Office is easily accessible and few game developers today can afford to stay off the American market, are other reasons to motivate this choice of delimitation.

4 Method

The author was first introduced to the problem area during the summer of 2003 by Staffan Björk, researcher at the PLAY studio of the Interactive Institute in Gothenburg, Sweden. In his dialogue with game developers he had learned that the United States patent office occasionally issued patents that seemed closely related to the design of video games. While investigating the possible applications of their own research on Game Design Patterns, it was suggested that attempts be made to see if patterns could be used to analyze and describe this particular type of patents. To affirm the relevance of this study, the importance of patents in the game industry needed to be thoroughly examined.

Patel & Davidson (1994) has provided much of the background theory upon which the research method is based. This is reviewed below, as the four major parts of the research are described in closer detail. In its entirety, the project can be described as being of an *explorative* nature, aimed at filling the gaps of “public knowledge”. This includes a comprehensive study of the problem area, with the purpose of acquiring knowledge that can hopefully lead to new ideas and insights promoting further studies. One of the traits of explorative research is that it often employs many different techniques to collect information. Jag trodde aldrig att jag skulle få kontakt med särskilt många respondenter

1) Building a theoretical and an empirical framework

Studying background theory included previous research and knowledge on the topics of Intellectual Property and patent law and preferably finding cases where this was connected to video games and video game design. The empirical framework included a study of the video game industry and a survey of the different companies involved in the production of games. Issues such as financial dependencies, creativity and innovation were believed to be of particular interest. This also included building a theoretical definition of the key concept *Game Design Patents*, and their existence needed to be proven through searches in the USPTO database.

2) Developers' opinions on patents

This phase largely aimed at investigating the current role of patents in the video game industry focusing on the opinions of game developers. *Game Design Patents* were believed to be of particular interest to this group, both in how they could potentially affect creativity and the business of game development. Aside from contacting and performing interviews with employees from a variety of development studios,

independent as well as contracted, attempts would be made to get in touch with publishers, law firms and patent attorneys to get a complete picture. The goal was to conduct “personal” interviews to the greatest extent possible, but as many interested parties were located in the United States, communication would have to be limited to e-mail.

Patel & Davidson (1994) makes a distinction between *qualitative* and *quantitative* methods of processing information. While the quantitative approach is often employed to make *statistical* analyses, the qualitative method is used to conduct *verbal* analyses; preferably used when the objective is to describe the perceptions of human beings. Qualitative analysis is also more open to a continuous evaluation of research results, whereas quantitative ditto usually does not process information until it has all been gathered. Thus, the qualitative approach seemed better fitted given the premise and goals of the investigation. In addition to this, many of the issues that were to be explored seemed too complicated and possessed such depth (ex “In what way are patents important to you?”), that a quantitative analysis could not be performed giving adequate results. A statistical survey could probably not have been conducted in a large enough scale.

This part of the study was meant to answer the first three problems cited in section 2

3) Video game patents in the USPTO database

This part involved practical work with the contents of the patent database, with the purpose to answer the following questions:

- What is the internal structure of the database?
- How can its contents be accessed?
- How can video game-related patents be found?
- Who owns these patents?
- What is the current trend in video game patent applications/issuances?

While browsing the contents of the database, patents that were believed to fulfil the design criteria (as formulated in section 6.4), were collected continuously and saved for further analysis. As a first step, these patents were to be examined “superficially” by answering the questions:

- What patent classes do they belong to?
- How are they described?

4) Alternative ways to categorize patents

The purpose was twofold: Gaining a deeper understanding of the contents of the 50 design patents, and ultimately see if there was a usable alternative of “mapping the contents” of the patents to help those unaccustomed to the prevalent classification of the USPTO, for example the design patterns identified by the PLAY research studio. The strengths and weaknesses of the different methods were to be evaluated. To find out if and how an alternative classification could be performed in practice, developers, publishers and law firms were asked to share some of their experience as to how the vast contents of the database could be managed effectively.

5 Theoretical background

5.1 What is Intellectual Property (IP)?

Durham (1999), defines Intellectual Property as “intangible creations of the human mind”. It is a concept that has evolved over the past 500 years, rooted in 15th century Italy. Currently, Intellectual Property incorporates copyright, trademarks, trade secrets and patents, which despite some overlap are each designed to protect different sorts of intellectual creations.

5.2 Copyright

Durham (1999), IGDA (2003) and Gloster & Maximov (2000) provide a uniform view on the basics of copyright protection. The purpose of copyright is to protect *original works of authorship*. This includes producing copies of the work, issuing copies to the public, showing or performing it publicly as well as creating derivative works (e.g. the translation of a book or the production of a video game based on a movie). Most importantly, copyright protects the *expression* of ideas, not the ideas themselves.

Copyright is easy to obtain, it takes effect once a work is “created and fixed in a tangible medium of expression” [IGDA(2003)]. A formal copyright registration is not necessary in the United States, though it provides an advantage if the work is subject to infringement. The duration of a copyright under international law is the remainder of the creator's life plus 50 years.

Anawalt & Enayati (1996) point out that software copyright is particularly complicated, since courts have ruled that copyright extends to the ‘look and feel’ of a computer program. Hence, according to Wehrli (1996), if one screen of a program looks similar enough to the screen of another program, this can be regarded as copyright infringement. Computer software is an area where the scopes of patent and copyright protection converge as the boundaries between a machine and a “work of authorship” has become difficult to interpret. Defining their respective applications has occupied courts and scholars for decades [Durham (1999)].

Video games are by definition computer software, which means they share the same problem. According to IGDA (2003), determining the elements of a video game that are covered by copyright protection is “mind-boggling” as copyright protects the game’s source code, but also its artwork and plot elements.

5.3 Trademark

IGDA (2003) describes the basics of trademark protection. A trademark is used to indicate that specific goods or services are provided by a specific person or business. A trademark can be described as a distinctive sign in the shape of letters, words, numerals, drawings and symbols. Even vocal sounds, music and fragrances can be trademarked. Trademarks are applied for at the USPTO, and applications are usually preceded by a thorough search among previously registered trademarks.

5.4 Trade secrets

Trade secrets are secrets that constitute business assets by virtue of their secrecy. This includes information in the shape of formulas, recipes, programs, devices, techniques and processes that bring a commercial advantage to the owner of the information [Brinson & Radcliffe (1997); Durham (1999)]. As long as the trade secret owner can prove that measures have been taken to protect it (through Non-Disclose Agreements, secure storage etc.), anyone who has compromised its secrecy (e.g. an industrial spy) may be prosecuted in a court of law. Facts that are regarded as common industry knowledge cannot be claimed as trade secrets [IGDA (2003); Gloster & Maximov (2000)]. For game developers, trade secrets can include game ideas, design tools and even lists of potential investors [Gloster & Maximov (2000)].

5.5 Patents

Patents exist to protect inventions (processes, machines or improvements thereof) that are new, useful and non-obvious [Durham (1999)]. Patents are issued by government, and grant an inventor the exclusive right to produce and distribute the invention. Anyone who engages in these activities without the consent of the patent owner is subject to patent infringement. The goal is to obtain a broad protection, and thereby covering as many different embodiments of the invention as possible [IGDA (2003)].

The patent system is intended to promote innovation. The inventor is granted a period of exclusivity, and in exchange has to share his knowledge by publicly disclosing how the item was created, so that it can be understood by those skilled in the particular field [Durham (1999)]

Patents are valid for 20 years, counted from the *date of application*, and as some cases take years to investigate, patent lifetimes may vary [Durham 1999]. Expired patents become fall into the *public domain* [IGDA (2003)].

As for the criteria of patent protection, the *novelty* requirement means that the invention must, in some aspect, expand the scope of existing knowledge [IGDA (2003)]. By being *useful*, the invention has a practical use. According to Durham

(1999), this definition is rather lax as patents are granted on toys and the like, and *useful* simply means the invention serves a purpose. The *non-obvious* requirement aims to evaluate the “height” of the invention, certifying that there is a significant difference between the claims of the patent and previous patented technology. Hence, it must not be considered *obvious* in the mind of a “person of ordinary skill in the art”.

The USPTO uses three main categories to define patents. Quoting www.uspto.gov:

1: “*Utility patents* may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or compositions of matters, or any new useful improvement thereof”

2: “*Design patents* may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture”

3: “*Plant patents* may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plants”

This yields that the patent definition presented above applies to *utility* patents. *Design* patents are “curious hybrids” [Durham (1999)] that share some of the traits of utility patents, but incorporate an artistic quality that make them more similar to works traditionally protected by copyright and trademark-law. For instance, while a painting would not qualify for patent protection, a vase displaying the very same motif could. According to www.ipwatchdog.com, design patents generally provide weak protection and are quite easy to acquire, nevertheless they can be a useful part of a patent portfolio in providing overlapping protection and for marketing purposes.

5.6 Applying for a patent

This section is a summary of Durham (1999), chapter 5 on patent prosecution.

A patent application is initiated when the inventor files the “first draft” patent documents to the USPTO, including a detailed description of the invention, claims and related drawings. The application is assigned to a patent examiner skilled in the relevant field of technology, whose task is to determine if the invention is really new, useful and non-obvious. This is done by researching *prior art*, previous patents granted on similar inventions. The examiner also verifies that the patent claims are sufficiently defined. It is important to point out that patent prosecution is “*ex parte*” meaning that there is no one representing the opposing viewpoint. The applicant is expected to bring to the courts attention any known prior art that may question the validity of the patent.

An application is usually sent back and forth between the assignee (inventor or company owning the rights to the invention), many times before an application is either approved or rejected. This evaluation process commonly takes about 18 months, but has been known to take up to three years.

The assignee can choose to keep the application secret until the date of issuance, and by that still receive protection under trade secret-law should the application be rejected. Alternatively, the application can be publicized and thereby being granted the use of the term “patent pending” on related products. This can be a valuable business/marketing asset.

According to www.ipwatchdog.com, the cost of obtaining a patent may vary greatly and is dependent on the complexity of the invention (i.e. the number of claims) and to what extent the services of a patent attorney are needed. The final cost may end up anywhere between \$5,000-\$30,000, and even beyond.

5.7 Patent infringement

Patent infringement occurs when an individual or company unlawfully engages in any of the activities reserved for the patent holder concerning the patented invention, who may choose to take legal action. Durham (1999) emphasizes “the intentions of the infringer are irrelevant. A patent can be infringed even by someone who is unaware that the patent exists”.

Furthermore, an important fact to consider is the so-called ‘all-elements’ rule which states that “each and every element of the claimed invention must be found in the infringing product”, and “overall similarity is insufficient if any claim element is entirely missing”. However, a single component of an accused product can perform the functions of several components described in the claim, there is not necessarily a one-to-one correspondence. To cover as many embodiments of the invention as possible, claims are written in a generalized, broad manner. Complementing the literal interpretation of the patent claims is the *Doctrine of Equivalents* [Badenoch (1992)], which is constructed to prevent a potentially infringing party from avoiding liability of infringement by simply changing minor details of an invention.

Once a product is charged with infringement, the plaintiff works to prove equivalence between the patent claims and the features of the allegedly infringing product, while the defendant works in the “opposite” direction. A counter-offensive method that may be used by the defendant is to prove that the patent is altogether invalid, and should not have been allowed to issue at all. This process includes thorough research of prior art that contradicts the novelty, and non-obviousness criteria of the plaintiff’s patent and that may have been neglected during the process of evaluation. Prior art extends to include *prior knowledge* of the patented invention that

was available to the public before the patent was applied for, i.e. printed publications (including all forms of distributed media). For practical purposes, this method is not practiced during the application process. If a patent is invalidated, anyone can freely use the technology. However, if the court rules in favour of the plaintiff, the infringer can be sued for money damages, and be ordered to cease the infringing activity. Lafuze and Mims (1996) point out that the patent owner must carefully consider the risks and rewards of litigation, including costs and a potential outcome that could invalidate his patent. Also, companies that are known for aggressive behavior in protecting their patents often deter potential infringers even if infringement or patent validity is questionable.

5.8 Patents as part of a business strategy

As stated by numerous sources, e.g. IGDA (2003), the patent system is built to promote innovation. By granting exclusive rights to the company or individual behind an invention, they are allowed to recoup their research and development costs. Without patent protection, competitors can simply “reverse engineer” innovative technology, spend significantly smaller amounts on R&D and consequently offer a cheaper product. Inevitably, innovation does not pay off financially and technological progress halts. As mentioned in the previous section, innovation is also spurred by requiring the inventor to share his/her knowledge by describing in detail how the invention works.

Hence, patents constitute a *Barrier to Entry* [Hall & Kaiser (1995)] that can be utilized in different ways. *Patent licensing* is a legitimate and potentially lucrative business, where the patent holder may act as a gatekeeper and competitors are forced to pay licensing fees to gain access to a certain market, or be permitted the use of an attractive brand name. Companies with interests in the same market may apply this course of action collectively by signing cross-licensing deals, allowing each other to use patented technology from their respective portfolios and by that creating barriers to entry towards those not included by the agreement [Anawalt & Enayati (1996)]. Consequently, those who do not possess any valuable IP lack the power to negotiate and do not get to “play”. While the patent system is often claimed to be the only effective means for smaller companies or individuals to defend their rights against large corporations, the latter usually has the advantages of larger financial resources, a team of corporate attorneys and often a portfolio of related patents that can be used in a countersuit. A subtle threat may sometimes be enough to keep smaller competitors in check. The concept of “stifling innovation” is often mentioned as a negative side effect of current patent legislation: this is when patents are acquired with the sole purpose of blocking competition. For example, a company may protect its patented core technology with a number of related patents that prevent competitors to build products that are even remotely similar.

5.9 The controversy of software patents

Since the legal precedents of cases *Benson* (1972), *Flook* (1978) and *Diehr* (1981), computer programs are considered patentable subject matter. While the code of a program is guarded by copyright, patents are used to protect its specific functions [Durham (1999)]. Despite the previously mentioned difficulties in separating the two concepts, copyright alone is not believed to provide sufficient protection as computer code can be rewritten to copy these functions without literally copying the code.

The 1990s saw an explosion in the number of software patents issued by the USPTO, and they are becoming an increasingly controversial issue.

Though software does possess characteristics that qualifies for patent protection (a program is literally a *process* that runs on a computer, a *machine*), there are two fundamental legal objections according to Durham (1999):

- Patents cannot be granted on a law or principle of nature. This extends to some degree to the mathematical algorithms executed by computer programs.
- “The mental steps” doctrine states that “a process is unpatentable if an essential step of the process requires human thought”. This was a long-standing argument based on “the notion that a computer program is a mechanical analogue of human thought processes”.

Currently, much of the controversy involves the so-called ‘E-commerce’-patents, protecting methods to buy and sell products over the Internet. This category of patents, that have followed from the State street bank decision¹⁰ in 1999, is perhaps best represented by the (in)famous Amazon “1-click” patent (patent number 5,960,411) which allows an online user to order a product instantly by clicking a single button [Lessig (2001)]. According to Quinn (2002), these patents protect methods of doing business that have been known and practiced for centuries, and therefore cannot be regarded as new and non-obvious; still they enjoy this “special treatment” simply because they are now implemented electronically.

In 1991, *the League for Programming Freedom* released a paper, which stated a number of reasons why patents are bad for the software industry (note that this was written well before the “internet breakthrough”):

- The USPTO is ill prepared for handling these cases as they do not offer competitive salaries, and their examiners lack the competence needed to conduct proper evaluations. Gloster & Maximov (2000) claims that the ‘non-

¹⁰ In short, *State Street Bank & Trust Co. v. Signature Financial Group, Inc. (1999)*, eliminated the previous exception in which business methods were excluded from patentability [www.ipwatchdog.com].

obvious' criteria is particularly difficult to judge as researching prior art is more complicated in the case of computer software.

- Inventions that are deemed 'obvious' by most programmers are granted patents, and since no one expects a patent on a seemingly trivial feature, patent searches are not conducted which increases the risk of infringement.
- Software is cheaper to design and manufacture than hardware systems. Hence, awarding an inventor with exclusive rights is not motivated.
- Since software designers often operate on a modest budget, they do not have the money to pay for patent licenses. Furthermore, there is no guaranteed way to steer clear of infringement. Patent searches are unreliable and too expensive to use for software projects.

They conclude that software patents do not promote innovation, hence oppose the basic idea of the patent system and will put an end to software entrepreneurship. This is also discussed by Perchaud (2003) who argues that the current 20-year patent lifetime is a problem since it is not compatible with the *cycle of innovation* in the software industry, currently about three years. This combined with the fact that for decades, the industry has developed through *sequential innovation* where new products have incorporated and built on existing features, indicates that reliance on patent protection could hamper software innovation in the future.

It is not within the scope of this essay to thoroughly investigate the status and development of software patents in 2003. IGDA (2003) concludes that software patents have existed for a long time in the game industry, but have not been given much attention. However, the relationship between patents on 'useful' software inventions¹¹ and patents on video game software has not been explored to any greater extent. It is clear though, that video games constitute a very specific kind of software with large budgets¹² and extremely short product life cycles. In recent years, projects have become increasingly ambitious and upcoming titles such as *Half-life 2* have the characteristics of complex research projects where developers experiment with revolutionary technology¹³.

¹¹ In this context, using the word 'useful' is perhaps a bad idea. It simply means the invention is not primarily for entertainment purposes, and is not the equivalent of the previously described "legal" definition of the word.

¹² This is particularly true for the console market. Licenses and approval from hardware vendors is required to produce game titles for each respective system (see next section). Games for the PC-market can be developed more cheaply (and may be distributed electronically), however profits are also significantly lower [Bethke (2003)].

¹³ <http://ps2.ign.com/articles/423/423548p1.html>

5.10 Game Design Patterns

Even though video games have had a strong cultural presence for decades, it is only in the past few years that they have found a place in contemporary academics. *Ludology*, the study of games, constitutes a broad field of research that borrows elements from sociology, pedagogy, literature studies, media studies, and computer science [Björk et al (2003)]. This research discipline recognizes the complexity of games, and their great variations in content and gameplay, medium and why they are played. Researchers at the PLAY studio of the Interactive Institute have, in co-operation with the Nokia Research Center identified the need for a common language to support the design, analysis and comparison of games. They propose models based on *Game Design Patterns*, which they define as “descriptions of recurring interaction elements relevant to gameplay”. Game studies have often used terms and concepts from literature, theatre and film and thus focused on the *narrativity* of games and consequently neglected their defining characteristic: *interactivity*. Traditionally, video games have been categorized by genres, but this is an obtuse method that is becoming less useful as genres merge. Patterns are believed to have greater flexibility as well as providing a fresh new perspective.

So far, the studio has developed and tested over 200 patterns, listed in Appendix E. Each has been given a name and a description, the consequences of using the pattern have been analyzed, and its relationship with other patterns investigated.

6 Empirical background

6.1 The Interactive Electronic Entertainment Industry 2003

6.1.1 Platforms

The next page shows an overview of current platforms for electronic gaming. The major consoles (the Sony Playstation[®]2, Microsoft Xbox[™] and Nintendo GameCube[™]) dominate the field (\$5.5 Million in game sales 2002), followed by games for Personal Computers (\$1.4 Million) [IDSA (2002)]. Handheld devices are becoming increasingly popular, a segment that has been dominated by the Nintendo GameBoy[™] for several years. Nokia recently released a mobile phone dedicated to gaming, and Sony's announced plans to release a portable system of their own are well under way. The LBE (Location-Based Entertainment)-systems popularly referred to as "coin-ops" is a declining segment which propelled video game evolution before gaming became a "domestic" activity [Williams (2002)] (note that coin-ops include all sorts of coin-operated amusement machinery; pinball, pool tables and dart boards are examples of other "contents" besides video games).



6.1.2 Industry players

There are a number of key players involved in the design, development, production, marketing and distribution of video games. The purpose of this review is to highlight the complex relationship and interaction between these different parties.

This is a modified version of the industry overview provided by Obscure Game Design & Development consultancy, complemented by Gamasutra's list of employers in the game industry.

Developers

The staff of development studios commonly includes programmers, artists, designers, sound engineers, musicians and writers who create the games. They can be independent, part owned or wholly owned by a publisher, hardware manufacturer or distributor.

Publishers

The role of publishers is somewhat similar to that of record companies in the music industry. In addition to handling marketing, PR and sales and funding the development and distribution of games they may also act as producers and by that controlling the development process to a certain degree.

Hardware manufacturers

Microsoft, Nintendo and Sony currently dominate the console market, and all act as publishers and have in-house development of game titles for their respective systems. This arrangement appears somewhat similar in the field of portable devices. When considering the PC/Macintosh segment, hardware manufacturers generally take no active part in game production (this definition of 'hardware' does not include important suppliers (i.e. graphics- and sound card manufacturers) who allegedly cooperate closely with game developers).

In the declining "arcade", "coin-op" or LBE- segment, hardware- and game design historically has been more closely connected. For games such as *After Burner*¹⁴, the design of the console and its interaction devices were an integral part of gameplay. In the past years, the giants in this field like Sega, Midway, Konami and Namco have expanded their focus to include publishing and development of games for all the major consoles, whose originators in return have shown an interest in the arcade market by creating systems based on their console hardware¹⁵.



After Burner ruled the arcades in 1987

¹⁴ After Burner, by Sega, 1987

¹⁵ http://www.gamesindustry.biz/content_page.php?section_name=pub&aid=1332

Software developers

These create the tools used by game developers. However, developers often create additional tools (level editors etc.) tailored for specific projects [Bethke (2003)]. In some cases these applications prove to be particularly useful and can be licensed to other studios developing similar products. This is the case of the successful 3D-engines from Quake¹⁶ and Unreal tournament¹⁷.

Distributors

As publishers do not deal directly with the shops, distributors are responsible for getting the finished games to the consumers. This also includes providing storage facilities.

Contractors

It is fairly common that outside contractors are employed to handle certain parts of a project [Bethke (2003)]. Legal representation, testing etc. but also content-related matters: professional voice actors are often used for in-game cut-scenes. Visual arts, motion capture and audio production is sometimes outsourced even though it is usually considered part of the development team's core competence.

6.2 The developer/publisher relationship

Developers are commonly funded by publishers to produce a game. A developer may approach a publisher with a game prototype and design documents, hoping to receive funding for further development in exchange for future royalties. While not quite as common, developers sometimes fund their projects themselves or raise venture capital for this purpose.

Conversely, prominent development studios can be contracted by publishers to produce game titles based on intellectual property owned by the publishers: The task may be to create a high profile launch title to showcase the technology of a new console system¹⁸, the next instalment in a game franchise owned by the publisher¹⁹, or a game based on the latest Hollywood action blockbuster²⁰ for which a publisher has acquired the necessary rights. A studio may become successful enough to develop their own titles using their own capital, and also expanding into the realm of publishing.

¹⁶ *Quake*, by ID software, 1996

¹⁷ *Unreal Tournament*, by Epic games, 1999

¹⁸ *Halo*, developed by Bungie for Microsoft, 2001

¹⁹ *Midtown Madness 3*, developed by Digital Illusions for Microsoft, 2003

²⁰ *Enter the Matrix*, developed by Shiny for Atari, 2003

Some of the major publishers today (Electronic Arts, Sierra On-line) started out as game developers.

Clearly, experienced studios are in a much better position to negotiate deals with publishers, in which IP is often part of the bargain. IGDA (2003) points out that developers in many cases willingly assign original IP to publishers in order to secure a deal, and that the value of this property is seldom acknowledged. If the developer then wants to further exploit this IP (e.g. produce a sequel), a license from the publisher is required.

6.3 Patent concerns for game developers

The studied books on game design and development are all very brief when it comes to discussing intellectual property and patents. *The Art of Computer Game Design (1982)* by Chris Crawford is, despite its age, still considered a work of reference and points to some of the core issues that need to be addressed in order to make a “good” computer game. At this time, game design and production was often a process involving few people, the scale of the industry was very modest and designers were generally not interested in the business side of game development (the author, particularly respected for his contributions in the field of interactive storytelling, owns a (double) patent issued in 1997: 5,604,855 “Computer story generation system and method using network of re-usable substories”, listed as number 9 in Appendix C).

Rouse (2001) does confess that he has drawn great inspiration from Crawford’s work in creating his own, in many ways an “update” of the AoCGD, in which he presents a thorough review of - and emphasizes the importance of – the contents of the game design document and the importance of play testing.

As a well-written design document is vital in getting a deal with a publisher, this discussion could suggest that Rouse has business issues in mind. However, this is only mentioned briefly, the main purpose of the design document is first and foremost a way for the game designer to structure his thoughts and the project as a whole.

Bethke (2003) has a noticeably different approach: while he still has the ambition to cover as many of the essential *design* issues as possible, the title implies a focus on game *production* as well. He suggests an approach to game development with “business context first”; establishing a project plan, keeping budgets and deadlines and applying suitable outsourcing strategies. However, the term ‘intellectual property’ is never mentioned. The author provides a “legal disclaimer” and the book contains no advice on negotiating IP-deals with publishers.

IGDA (2003) attempts to investigate the importance of different Intellectual Property Rights (IPR) in the game industry. They conclude:

- Copyright is the best-known and most important IPR to the game industry at large. Patents are less relevant for a number of reasons (this is partly confirmed by Gloster & Maximov (2000) and Brinson & Radcliffe (1997)):
 - Patent infringement is difficult to prove
 - Patents are difficult and expensive to obtain, and patent prosecution is a lengthy and complex process which makes it unsuitable for the high-speed video game industry. Consequently, the value of an invention must be realised during early research and development to obtain protection in time.
- Patents are definitely the most controversial IPR to the industry – a growing number of software patents exist that have the potential of becoming highly relevant to game production.
- Patents are valid for approximately 20 years, and this is a long time in game development. Patents may be used more aggressively in lean times.
- A patent can still be a very valuable business asset.

Whether the final statement holds for both patents aimed at game “implementation technology” and game design (one objective of this thesis is to make a distinction between these two concepts) is not revealed. IGDA (2003) concludes that patents may affect a large number of areas in games; areas such as “display presentation”, “menu arrangement”, “control functions” and “user interface features” can be argued to be part of the game *design*. However, this is not considered explicitly in the report.

6.4 Game Design Patents: definition

The concept of *Game design patents*, invented during the production of this report, are a specific type of patents that aim to protect the design, “idea” or gameplay core of a video game. These are patents that concern the *game designer* more than anyone else. Ideally, potential infringement should be possible to detect while the game is still in its “prototype”- phase, when the designer visualizes the game’s appearance and gameplay.

Looking back at some of the arguments mentioned against software patents, it becomes apparent that game design patents would be placed in the same controversial category, further stretching the bounds of patentable subject matter: patents that almost touch the copyright realm of ‘look and feel’. They protect the “effect” that is produced in the video game.

When breaking down the design elements of a game, it is important to note that there are some significant differences between digital games and games “fixed in a tangible medium”: While changing the color and shape of the pieces of chess would not change the design of the game, changing the look of the characters and the battle grounds of Mortal Kombat would. Hence, visual representation invokes a particular

mood and is an intrinsic part of gameplay in (most) digital games [Casey (1997)]. Following this rationale leads to some problems, for example, would chess implemented in a computer be a different game compared to its “analogue” counterpart? And is Battle Chess²¹, a computer game featuring a slightly tilted board and medieval-fantasy style battle animations, a different game than regular chess? Rouse (2001) addresses this in an early chapter when trying to define the concept of gameplay: “the degree and nature of the interactivity that the game includes”. This definition does *not* include the way the game world is presented visually, however, he points out that this is a topic where opinions diverge.

Generally, modern video games are not replicas of board games; they present atmospheric virtual worlds and offer experiences that are radically different from those offered by other media. Thus it can be argued that “visual effects” are indeed part of the game design.

In conclusion, Game Design Patents protect both what is traditionally perceived as game mechanics or elements of gameplay, as well as how features are represented visually.



*Battle Chess(1988):
Reinventing the game of chess?*

6.5 Patent disputes in the video game industry

After investigating the area, only two cases of patent infringement involving ‘game design’ have been identified. Copyright is clearly a more common source of conflict, and video game history has had its fair share of court battles²².

Sega vs. Electronic Arts²³

On December 5, 2003, Sega filed a lawsuit against Electronic Arts, Fox Entertainment and developer Radical Games, claiming that the defendant’s product *The Simpsons Road Rage (2002)* was an obvious rip-off of Sega’s *Crazy Taxi (2000)*. The case, which at the time of writing is yet to be settled, involves a patent popularly referred to as the ‘138 patent’²⁴ owned by Sega which protects some of the design features of Crazy Taxi. Whether the lawsuit is focused on patent or copyright infringement is

²¹ Battle Chess, by Interplay, 1988

²² Midway Manufacturing v Arctic Int’l (1983), Atari Games Corp. v. Nintendo of America (1992), Sega Enterprises Ltd. v. Accolade, Inc. (1992)

²³ <http://cube.ign.com/articles/445/445009p1.html?fromint=1>

²⁴ Most likely patent number 6,200,138: *Game display method, moving direction indicating method, game apparatus and drive simulating apparatus*

however not completely clear. Sega is quoting game reviews that point out the similarities between the two games, and has requested that the court stop the sale and import of *The Simpsons Road Rage*.

Another article²⁵ made some interesting comments on the case. It most likely will not end up in court, which means no legal precedence will be set, but nevertheless can become important to the business processes of game development and publishing. Gameplay patents like this could possibly encourage more innovation in games, as original and innovative titles often spawn a seemingly endless number of clones. The article points out that a verdict in Sega's favour also could lead to some less pleasant scenarios: What if Bungie would have patented the control system from *Halo*, (generally agreed to be the optimal way of controlling First Person Shooters on console joypads), forcing other developers to choose other, most likely inferior, methods?

Enokian vs Apogee²⁶

In August of 1997, Scott Miller, CEO of Apogee Software, was contacted by the legal counsel of Craig Enokian, IL demanding that his company immediately cease and desist from further manufacture and sale of their popular video game *Duke Nukem 3D*. Enokian holds a patent on *Video Game with Playback of Live Events* (patent number 4,662,635), and claimed that the Full-Motion-Video sequences used in the game were within the scope of his patent and hence made it a subject of infringement. Miller questioned the validity of the patent and claimed that it was so broadly defined that it would apply to almost all game titles incorporating FMV-sequences. Adding to the controversy was the fact that the patent was issued as early as in 1987, Enokian's detractors said this was an example of old patents being pulled out from the "technological Stone Ages" in a shameless attempt to apply it to modern day technology. Other voices were raised in the defence of Mr Enokian, pointing out that patents are still one of few methods that can be used by "the little guy" against large corporations.

6.6 Innovation in games

What is an original game? As suggested previously, it can be defined as a product that only contains intellectual property that is wholly created by the development team themselves. In other words, it is created 'from scratch', it is not based on product or movie licenses and is not part of a franchise. However, this definition does not automatically imply that an "original" game title is innovative, that it gives the

²⁵ http://www.gamesindustry.biz/content_page.php?section_name=pub&aid=2665

²⁶ <http://www.wired.com/news/politics/0,1283,6252,00.html>

audience something they have never seen before, and it does not mean that a licensed game in its turn cannot be innovative [Charla (2003)].

In the harsh economic reality of game production in 2003, the industry is becoming reliant on licensed products (as shown in statistics published by IDSA (2002), *Halo* was the only original top-selling game of 2002). While IP-licenses can be expensive to obtain, the general opinion is that a product based on licenses needs less production efforts, while an original game, not yet “in the minds” of media consumers, needs innovative gameplay, favourable reviews, and massive marketing campaigns to succeed. Some perceive this as a sign of stagnation, while others say it simply means that developers need to adapt to this new scenario and be creative within the framework of licensed IP. It has become increasingly difficult to receive funding for original game ideas, and developers are not given the chance to break into the industry since game production is too costly to finance independently.

While video game history has experienced plenty of groundbreaking, revolutionary titles, game evolution is a slow-paced process. Ever since the days of *Space Invaders*, developers have copied, cloned and taken inspiration from each other’s work. There is a fine line between “inspiration and plagiarism” (discussed in Chris Burke’s opinion essay *The Grey Zone*, published in IGDA (2003)), and it is a constant source of controversy in the industry. New releases are often described as to how they relate to previous, similar titles: “It’s like StarCraft, only better”. Järvinen (2003) makes an interesting point in his analysis of *Halo*, a game that received universal acclaim from game critics and was regarded as highly innovative. Järvinen believes that Halo’s strength lies in the way it mixes existing features from multiple game genres and presents them as a an “enjoyable and polished whole”. This is reminiscent of Perchaud’s thoughts on sequential innovation in the software industry: It seems development of game mechanics and gameplay features follows a similar path.

The reader is reminded that a patent is supposed to guarantee that an invention is *new*, *useful* and *non-obvious*, and since it is entirely up to the appointed examiner to verify this, it does indeed require extensive knowledge of video game history on his behalf as well as an understanding of the industry’s peculiar nature. As mentioned in a previous section, patents may be infringed “by accident” and developing original IP for an original game does not mean that you automatically steer clear of patent infringement.

7 Results

7.1 Patents in the game industry

The two preliminary interviews were conducted on two separate occasions in October and November of 2003. The conversations were recorded and transcribed.

7.1.1 *Interview: Game designer*

The respondent works as a game designer on a successful, internationally renowned development studio. This is a summary of his thoughts and opinions about patents in the game industry.

Generally, game designers would like to see as few patent issuances as possible. He thinks the USPTO is becoming increasingly competent (i.e. *critical*), in judging patent applications related to game design.

Patents are mainly used in two ways, of which the first is far more common than the second:

- As “trade goods”. For instance, if company A wants to make a racing game which incorporates a specific patented feature owned by company B, they can usually rather easily acquire these rights by offering one of their own patents in return. This of course requires the support of an extensive patent portfolio. However, patents are rarely used aggressively, and even if a developer would use this feature without permission it would unlikely have any severe consequences. Cross-licensing deals may also include other IP, the rights to a patented feature may be exchanged for a particularly useful, advanced implementation method.
- As a means to exercise pressure on competitors. Still, for this particular purpose patents are considered a somewhat dull weapon. Atari started a number of infringement lawsuits during the late eighties but this proved to be an unsuccessful strategy.

The respondent points out that even if some of the bigger companies get into an occasional scuffle, developers are not out to hurt each other. The recent source code theft that struck Valve Software and their eagerly awaited *Half-life 2*, enraged the worldwide community of game developers even though some would no doubt benefit

from a HL2 delay. They felt the “action” was particularly misdirected considering Valve’s status in the industry: the enormous success of *Half-life* had earned them the financial strength to work on the sequel without involvement from publishers, and this independence and artistic freedom is what most developers strive to achieve. It ended up hurting “the little guy”, as opposed to the giant corporations that are normally targeted by hackers.

The studio that the respondent works for has been around for more than ten years, and has had the time to develop a working business methodology. Sticking to this formula may be more efficient, but it is also less fun this way. Lionhead studios is mentioned as a counterexample here, representing a more experimental type of development studio.

Even if developers and publishers sometimes see things differently, developers are usually sympathetic to the publishers’ needs. They put a lot of money into game development and need to focus on the mainstream products to survive. Compared to other branches of the entertainment industry such as music and film, there is no “independent”- movement running alongside of the generic productions. It is still possible to produce cheaper titles with a small development team to the PC, but usually the backup of publishers is a necessity especially for high-end titles for the major consoles (where each title requires approval from console manufacturers as well as licensing fees). Publishers should still receive credit for putting money into unconventional projects; Sony launched a massive campaign to promote *Ico*²⁷ which was far too peculiar to appeal to a mass audience. Capcom is another publisher with an attraction towards deviance with titles such as *P.N.03*²⁸ and *Viewtiful Joe*²⁹. These are some of the most powerful players in the industry, the respondent points out that Electronic Arts went along to produce and promote *the Sims*³⁰, which was deemed unplayable by focus groups and later became the greatest hit in video game history.

The respondent believes that it is not possible to generalize at what specific points during design and production different IP-related problems occur. When it comes to developing your own IP, ideas evolve through sketches, models and storyboards, a prototype is put together and the entire game exists “in theory” before production starts and business and legal issues are taken into consideration. Still, studios that do not acknowledge patent issues usually are not affected in any serious way.

²⁷ *Ico*, by Sony Computer Entertainment, 2001

²⁸ *P.N. 03*, by Capcom, 2003

²⁹ *Viewtiful Joe*, by Capcom 2003

³⁰ *The Sims*, by Maxis, 2000

7.1.2 Interview: Patent attorney

The respondent is a patent attorney specialized on software patents, working for a well-known and respected firm. He was asked to share some of his experience in handling these types of cases, to explain how a patent attorney works, how they work with the contents of the USPTO database and how patents are viewed in a business context.

The respondent explains that it is important to understand that patent classes are instruments designed to support the work of the examiners at the patent office. It is not built to meet outside interests, and to anyone on the outside the classification probably seems illogical and altogether ambiguous. A patent is classified based on its claims, a legal abstraction constructed to provide the broadest protection possible. A patent attorney needs to be familiar with the classes and subclasses, and primarily uses the search engine on the USPTO website. Patent descriptions are complicated and need to be studied in detail.

The respondent points out that he has no experience of investigating patents on video game design, as they do not exist in Europe. The American system is more liberal; an invention simply needs to be “useful” whereas Europe has a stronger emphasis on technology.

Furthermore, there is no use in applying for a patent just because you have an invention. There needs to be backed by a clear business strategy and there must be a way a way to get a return of investment. Patents have many uses: owning patented technology may be an effective way to attract customers, and can serve a purpose in itself. It is quite rare that a patent is obtained with the main purpose of reserving the exclusive rights of the inventor.

Most conflicts that arise from patents are solved outside the courtroom. A severe conflict usually does not occur until a company loses a considerable market share to a rival that exploits patented technology. The respondent recognizes the difficulty of detecting infringement in video games as they are in essence very complex “machines” whose separate parts are not easily identifiable. It seems unlikely a company would include patent licensing, of one of these parts, in their business model. Patent licensing is in general an activity predominantly used by big corporations such as Philips, Texas Instruments, IBM etc. It is an important source of revenue during recessions, and they are often used to support a weak annual report. Also, bigger companies are usually in an advantageous position should a patent conflict occur.

There is a liberal attitude in the software industry, which comes from the fact that it is still a small-scale industry. The patent system has some obvious downsides: the prizes on commercial medicine go up because the contending parties have to defend their patents. Still, had it not been for the patent system these medicines probably would not have existed at all, since it would have been difficult for companies to recoup the enormous amounts spent on research and development. There are many

areas of technical innovation that would not have developed as fast without the patent system, and there is really nothing that says the software industry would be an exception. It may seem like the patent system is a bit obtuse when it comes to software and game patents, but this is probably just a passing phase - this happens when technical evolution takes revolutionary steps. It is not supposed to be possible to trick the patent office and that is why patents can be overturned by proving prior art. A suggested measure is however to lower the “time of validity” for software patents.

Returning to the game industry, the high rate of failure suggests the industry is overcrowded, and the patent system probably has no effect here. Market forces will help establish equilibrium. Industry leaders probably do not credit patents for their success as it is more likely the effect of huge marketing resources

There is no way to be completely safe from infringement; there are just too many patents to keep track of. There are companies who market and sell doubtful “insurances” but they are often hideously expensive and still quite limited.

7.1.3 Consulting the Internet

During the production of this essay, the author has surveyed and participated in a number of discussion forums on the internet, particularly those connected to www.gamedev.net and www.igda.org, websites dedicated to the different aspects of game development. Little is known about the participants, but they all share a common interest in game design, on a professional level or as amateurs. This correspondence, centered on the topics of IP, patents and game design is meant as a complement to make up for the lack of “personal correspondence” with developers and publishers.

This correspondence is submitted as Appendix A. Some general opinions, and interesting remarks, are described below.

Clearly, the subject of patents is emotionally charged and evokes emotions of confusion, anger and anxiety. Applying a concrete method to decide if two products feature the same gameplay, and thereby detecting potential patent infringement, seems impossible. Many seem unfamiliar with the concept of patent protection and what it entails exactly. Also, this particular type of game design patents invade the realm of copyright, and many feel that they are not valid since they only protect abstract ideas. Developers are clearly not used to thinking like this; ideas are traditionally seen as public property.

Furthermore, there is a fear that patents may instigate an “arms race” in the game industry, and that this may create entry barriers that are difficult for smaller companies to overcome. Few believe that patents can be beneficial to the industry as a whole, and are rather prone to hurt creativity and innovation. Patent examiners at the USPTO are too liberal in granting patents and are badly prepared to handle these cases. A possible future horror scenario was discussed in which a patent attorney had become a necessary

addition to the staff of development studios, approving each ‘gameplay mechanic’ to guarantee that infringement is avoided.

Independent developers signing their first contract with a publisher can expect to have to take full responsibility for IP and patent infringement. An experienced developer on the other hand, is in a better position to negotiate. Another remark points to the fact that independent studios often enjoy the advantage of relative anonymity, they do not constitute a real threat to bigger players and therefore the risk of ending up in a lawsuit is rather small.

Patents are not considered useful for game developers for a number of reasons. They take too long to issue to be effective in the fast-moving game industry, and with budgets being as tight as they are all the money has to be spent on development.

There are still a few voices urging developers to recognize the threats and opportunities associated with patents. Developers need to make the best of the situation by acting proactively, getting an overview of relevant patents as well as looking to acquire patents of their own.

7.1.4 Short comments

An employee at Bizarre Creations, creators of popular Xbox racing game Project Gotham Racing commented on the question: “As game developers, do you feel that patent issues concern you?”, posted on their web forum³¹:

“It's not really got in our way as such... you need to be aware of such things, but MS legal deals with all this for us...
If you do driving games there's a couple of major features patented... like the Midway ghost³² one you list... but if I remember correctly SEGA have multiple camera angles behind a car, and other people have weird stuff too...
I guess it all depends on what they have patented... and how much they want...”

Scott Miller, CEO of Apogee software whose company was targeted by a lawsuit for patent infringement in 1997, was asked to comment on the aftermath of this case that was given so much attention:

“In short, we won, but at a considerable cost, around \$400,000 USD for legal fees. Had we not won, the entire game industry would have been in a stranglehold, because the patent was so broad that it practically included every game with human animation.

Because of the important nature of this case and how it could have impacted the entire game

³¹ <http://www.bizarrecreationsforum.com/phpBB2/viewtopic.php?t=715>

³² Reference to Pat. No. 6,488,505, “System and method of vehicle competition with enhanced ghosting features”.

industry, we tried to get the SPA³³ involved to help us out, but they refused to help, so we were on our own”.

7.2 The USPTO patent database

7.2.1 About the United States Patent and Trademark Office

As an agency of the United States department of commerce, the major functions of the Patent and Trademark Office are the examination and issuance of patents and the examination and registration of trademarks. Since 1991 it has been operating much like a private business and is completely dependant on customer fees to fund its operation without any financial aid from the US government. The office employs more than 6000 people, and receives over 300 000 patent applications each year.

The US Patent and Trademark Office web service provides full access to the patent database (with searchable text since 1976, scanned images since 1790), along with tutorials on examination and evaluation procedures and other resources regarding status on trademarks and patents. It also provides a filing system for submitting patent applications electronically and offers the possibility to continuously monitor the evaluation process of a pending patent.

Over 6 million United States patents have issued since the first was granted on July 31, 1790. To facilitate the use of this large body of technology, these documents have been "classified" (categorized) into roughly 460 broad technological categories (called classes) and approximately 150,000 specific technological categories (called subclasses). Together these classes and subclasses form the structure of the patent database, the electronic representation of what is referred to as the 'patent-file'. Copies of a patent are placed in more than one subclass of this file when the patent contains significant technology applicable to more than one subclass. With such multiple placement or "cross-referencing", the patent file has grown to contain nearly 22 million U.S. patent documents (as of April 2002) and by that spanning the entire technological spectrum.

7.2.2 Searching

The web service offers the possibility to conduct quick and advanced searches among issued patents as well as published applications. The quick search allows the user to search for two terms (separated with Boolean operators) within two different fields among the following:

³³ SPA, the Software Publishers Association

Title (TTL)	Inventor Name (IN)
Abstract (ABST)	Inventor City (IC)
Issue Date (ISD)	Inventor State (IS)
Patent Number (PN)	Inventor Country (ICN)
Application Date (APD)	Government Interest (GOVT)
Application Serial Number (APN)	Attorney or Agent (LREP)
Application Type (APT)	PCT Information (PCT)
Assignee Name (AN)	Foreign Priority (PRIR)
Assignee City (AC)	Reissue Data (REIS)
Assignee State (AS)	Related US App. Data (RLAP)
Assignee Country (ACN)	Referenced By (REF)
International Classification (ICL)	Foreign References (FREF)
Current US Classification (CCL)	Other References (OREF)
Primary Examiner (EXP)	Claim(s) (ACLM)
Assistant Examiner (EXA)	Description/Specification (SPEC)

The Advanced search option expands the search field to include multiple keywords within any specified field of choice (from above).

The author has not fully elaborated on the possibilities and explored the depth of the contents of the database. There is a separate branch of the USPTO, called TAF (Technology Assessment and Forecast) dedicated specifically to this purpose.

7.2.3 Understanding a patent description

A patent description contains a full-text page and a part with related drawings. The text part is made up of fields (that provide the basis of the search engine) that constitute the patent definition.

The reader is recommended to study chapter 3 of *Patent Law Essentials* by Durham, or chapter 1, §1.02[7] in *IP Strategy- Complete Intellectual Property Planning, Access and Protection* by Anawalt & Enayati for an extensive review on how to understand patent descriptions.

7.3 Finding video game patents

Generally, patents that relate to video games belong to the category of *utility*-patents. Given the arguments presented in the theoretical background, the *design*-patent category simply is not defined broadly enough to include patents that protect the design of a video game.

A number of different methods have been used to find patents that are relevant to the investigation. Initially, a simple overview was desired and a search was conducted on the key terms “video game” and “computer game” in the ‘abstract’- field of the

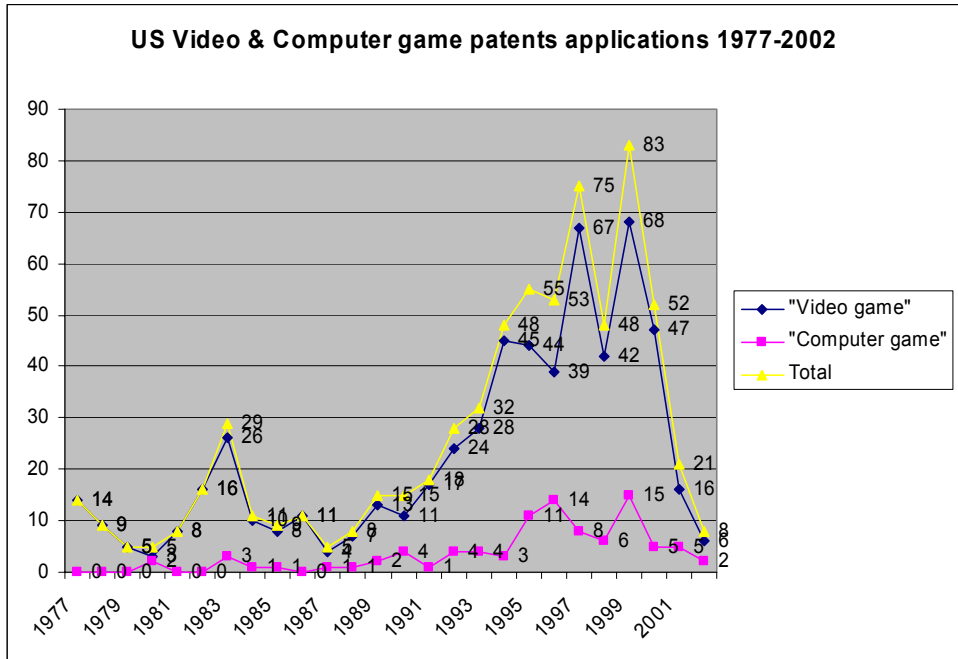
patent text page. Search on the first term yielded 597 hits, the second 91 and 7 were found to be overlapping, that is contained both search terms. According to the USPTO, “the abstract contains many of the relevant key words of a patent”, and was for this reason chosen as the primary search field.

7.3.1 What is the current trend?

Search string: ABST/"video game" AND APD/01/01/1977->31/12/1977
 ABST/"computer game" AND APD/01/01/1977->31/12/1977

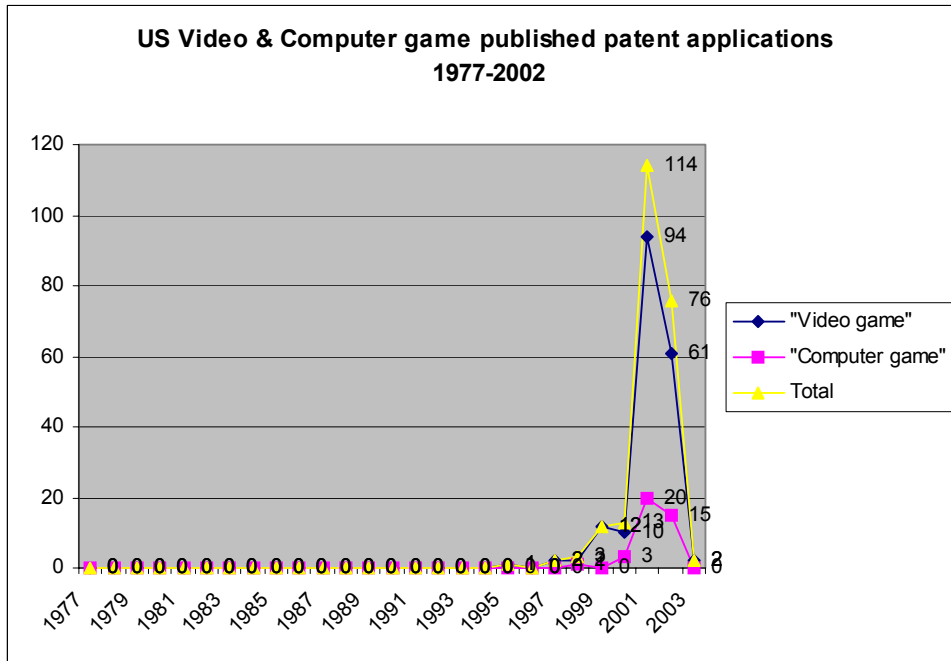
The second examination aimed at finding the distribution of video and computer game patent applications and issuances over time. The numbers of hits for the two search terms respectively were plotted FOR EACH YEAR ranging from the 1977 to 2002, and the results are shown in the graphs below (overlapping hits have not been counted given their low numbers).

The patent search page on the USPTO website contains two separate search categories, allowing visitors to search among issued patents and published applications. Image nr 1 was produced through sorting hits by APPLICATION year in the former category.



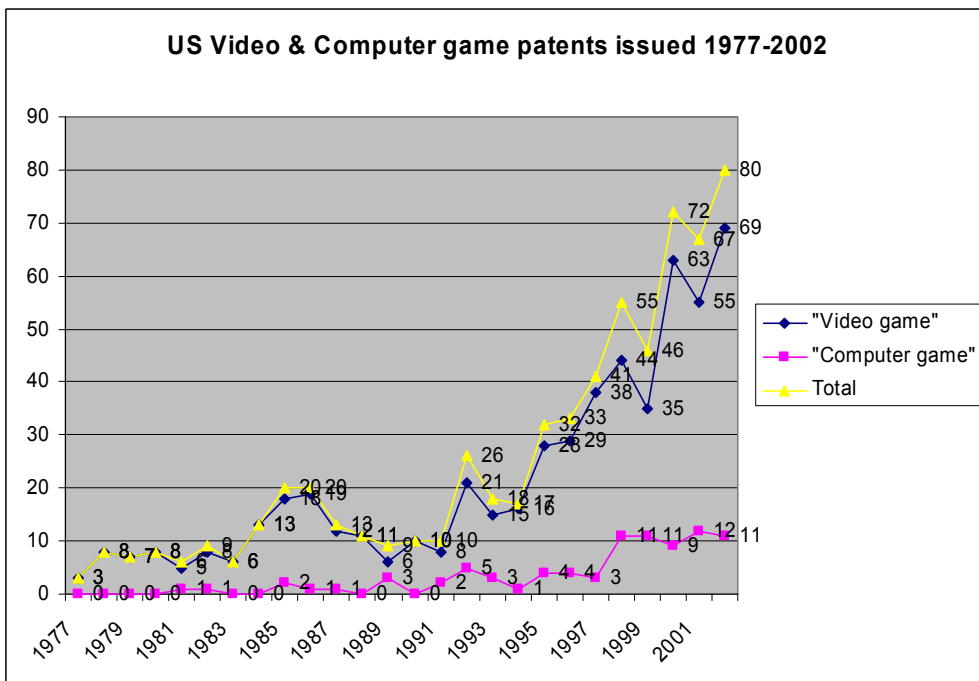
The steady decline at the end of the curve can easily be misinterpreted. Since most of the applications filed after 2001 are still being processed, they are unlikely to be found

in a category that only contains issued patents. Hence, these results need to be complemented with a search among published applications.



Since applicants may choose not to make their applications public until the day of issuance, it is difficult to draw any conclusions regarding the development the past few years. The small number of published applications during 2003 (excluding the month of December), shows that few applications are made public from the beginning.

The last plot is based on the number of issued patents for each year:



Criticism

- Neither “video game” nor “computer game” are completely reliable search terms to find all relevant patents. Several patents have been found that do not include these expressions. However, an expanded search on the keyword “Game” yields over 10,000 hits and consequently becomes much more difficult to manage.
- Searches have only been conducted in the ‘abstract’ - field of patent pages.
- Andra sökord?

Conclusions

- “Video game” is a far more common term to describe the broad concept of interactive, electronic games than “computer game”. The term video game also suggests a closer connection to incorporated hardware technology.
- The number of applications and issuances are on a steady rise, suggesting an increased importance.
- Few applicants choose to publicize their applications from the very beginning of prosecution.

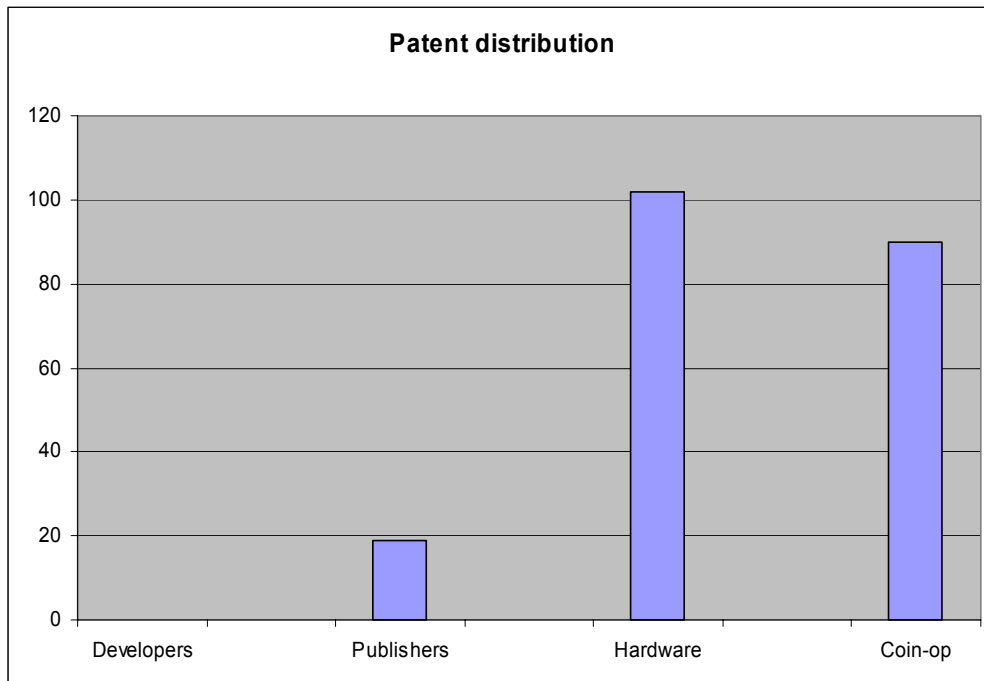
7.3.2 What type of companies in the industry own patents?

Search string example: ABST/"video game" AND AN/"Electronic Arts"

The purpose of this investigation was to place patents within the industry too see what type of companies owned the patents. Making a fair division proved most difficult and was a true testament to the complex relationships between the companies in the game industry, as described in section 6.1.2.

The different categories show the sum of patents owned by the companies included in each category respectively. The motivation for including the “coin-op” company segment comes from the observation that quite a few interesting design patents turned out to be owned by companies with their roots in this business. The companies included in this survey were chosen “instinctively”, and readers will notice that a few participants are no longer active. Also, given the spontaneous characteristic of this investigation, the “software” – segment was excluded simply due to the author’s limited knowledge.

Developers	Publishers	Hardware	Coin-Ops
Bungie	Electronic Arts (7),	Microsoft	Midway (7)
ID Software	Take2	Sony (14)	Sega (31)
Rockstar	Eidos	Nintendo (62)	Taito
Valve	Sierra On-line (6)	IBM	Konami (48)
Blizzard	LucasArts	Commodore(3)	Namco (4)
Bizarre	UbiSoft	Atari (23)	Capcom
DigitalIllusions	Ocean	Dell	
Firaxis	Majesco	Compaq	
Lionhead	Psygnosis	Nvidia	
Looking-glass	MicroProse		
Rare	US Gold		
Raven	Tengen		
Remedy	Vivendi		
Bioware	Sony Computer		
Ion storm	Entertainment (6)		



Criticism

The criticism that can be directed against this survey is seemingly endless. Because of the ambivalent nature of the companies involved in the development and production of computer and video games, it is difficult to draw any clear lines.

- Some companies that started out as studios now act as publishers but are also developing games in-house.
- The (short) average longevity of game development studios should be considered, and an investigation like this would be much more reliable if conducted from an historical perspective. Only developers that are currently active are accounted for.
- Some of the biggest names in the coin-op industry, such as Sega, Midway and Konami have surrendered their old territory and moved on to game publishing and development. However, they are not represented in these categories.
- There are some obvious difficulties in separating the hardware from the coin-op category: Nintendo makes a significant contribution to the first category, and although Sega belongs here as well that company has been classified as a coin-op company.
- Is Atari primarily a hardware or software manufacturer?
- Only about one third of the total amount of ‘video game’-patents has been covered, using this list of companies.
- All in all, a timeline marking important business transitions as mentioned above would be a valuable and necessary addition to make the survey trustworthy.
- There is a chance that, in some cases, improper search terms have been used causing patents to “slip through”.

Conclusions

Despite this doubtfulness, the graph makes some interesting indications that are worth investigating further:

- Developers do not own patents. Some companies (like ID software) are thought to have been around long enough to have the chance to evaluate the possible benefits of patent protection.
- Major publishers such as Electronic Arts that have been in the industry for a long time and lack any known affiliation to the coin-op or hardware segment still own few patents.
- Companies that used to be big in the ‘coin-op’ – segment own a notably large amount of patents. Also, the previously shown dominance of the “video game”

expression over “computer game” may be interpreted in favour for the coin-ops; after all computers have been a prominent gaming platform at least since the beginning of the 1980s, and should, in the author’s opinion, have been mentioned more frequently if protection aimed at game design was intended.

7.3.3 Follow-up investigation

The interesting results obtained in the previous section lead to a more thorough investigation of patents in the coin-op segment. A more detailed list of Coin-op companies was provided by Williams (2002):

Atari (23), Midway (7), Namco (4), Taito, Data East, Sega (31), Capcom, Toaplan, SNK, Jaleco, Square (14), Konami (48)

This enhanced search resulted in 122 patents belonging to the ‘video game’- category: approximately 1/5 of the total amount of patents. The owners of the remaining patents are however not easily revealed since they are sorted exclusively by patent number and only represented by number and title.

7.4 Finding video game design patents

One tangible result of the USPTO database survey is, that most video game – related patents, as well as the ones informally classified as ‘game design patents’- contain at least one reference to class 463: Amusement devices and its subclass:

463/1, Including means for processing electronic data (e.g., computer/video game, etc).

This class, along with its inherent subclasses, has been thoroughly explored in order to locate the 50 design patents that constitute the raw material and the basis of this survey (listed in Appendix C). Others have been found through simple keyword search (“Video game” and “Computer game”), and a large number comes from the portfolios of companies such as Sega, Midway, Konami etc. A few patents that have enjoyed public attention and controversy, such as nr 4,662,635 (Enokian) and 5,604,855 (Crawford) have been located through media and by “word of mouth”. Patents have been reviewed and evaluated based on their qualities as design patents, which has resulted in a large number of patents coming from the same companies (such as the American and Japanese divisions of Sega Enterprises). This over-representation is not completely descriptive of the game industry in general, but it is fair to say that the former coin-op segment own a large part of the design patent “stockpile”. Many of

these were also believed to primarily protect a hardware configuration, often a lavish console design or interaction devices - and were not considered interesting for this reason as they cannot be considered “platform independent”. This yields a clarification of the definition of game design patents: interaction devices are not part of the game design.

Appendix B shows the classes that are referenced in the 50 researched patents. 463/1 (and its subclasses) has the most references by far, but the ever-evolving character of the patent file adds some confusion. Classes are constantly transformed as technology advances, and they take over each others’ responsibilities. For example: class 273, to which some of the patents refer, is eventually intended to be replaced by classes 463: “Amusement Devices – Games” and 473: “Games using tangible projectile”. There are patents that protect the design of a board game as well as the same game implemented in the form of a computer program, and hence belong in both categories since it exhibits both “tangible” and “intangible” qualities.

Class 463/1 is a rather crude collection of gameplay elements (“simulated projectile”), game genres (martial-arts, race game, maze game), and game accessories (interaction devices, storage mediums). When looking at the distribution of references, it is clear that a large number of patents seek to patent technology that concern visual effects, three-dimensional characterization and camera movement in virtual space. The references confirm their status as design patents, even though a majority also include hardware claims. The references are valuable sources of information but require advanced data-mining tools to be handled effectively; a thorough mapping of cross-references could possibly yield some interesting results.

7.5 Patent rhetoric

It is difficult to perform a “shallow” patent evaluation, and to fully understand the significance of a patent one needs to carefully study what is claimed. The claims are the basis of the patent classification, and research has showed that the title and abstract fields do not give sufficient, or even accurate, information on the protected features of the invention. This of course affects the ability to make a proper evaluation without profound knowledge of the specific field of technology combined with legal competence, and needless to say has had a significant impact on the alternative classification methods presented in this essay. A somewhat absurd example is the abstract of patent number 6,486,870: ”Character input control equipment”:

“Character input control equipment enables the decrease of moving distance of a cursor between key positions and also enables efficient key input. The character input control equipment includes character input display field display controller for displaying a plurality of character input display fields in a display part, cursor movement controller for specifying one character input display field out of the plurality of character input display fields

displayed in the display part by moving the cursor, and input character selector for selecting one character out of the plurality of characters corresponding to the one character input display field specified by the cursor movement controller wherein a plurality of characters correspond to each one of the plurality of character input display fields.”

Browsing the database and examining the patents yields an extension of the definition of the ”design patent”- concept presented in section 6.4. A bit trivial perhaps, but it is still important to point out that a patent needs to have explicit *method* – claims to belong to this category.

The abstract is submitted by the assignee along with the original patent application, one that is revised continuously during the time of examination which can last for up to 3 years, in some cases even longer. The claims approved by the patent office may not correspond to the initial claims of the assignee and for this reason the abstract of a patent description is to be considered less reliable. Though the scope of patent protection may have been affected, it obviously has not changed the “field” of the invention and consequently has not affected previous investigations using searching for key words in the patent abstracts.

Claims are written more formally, and it is still a good idea to study the ‘abstract’ and the ‘Background to the invention’, which illustrates the problem area.

The patent title is equally troublesome. Naming conventions are surprisingly unimaginative which makes patents easy to mix up. As in the case of patent number 6,468,157, simply titled “Game Device”, the focus is paradoxically on a number of methods closely related to gameplay. Also, patent names are not exclusive and often consist of different permutations of key expressions such as “Game apparatus”, “Game machine”, “Game device”, “Image display device”, “Image processing method”, “Picture processing method”, “Method for executing game”, “Recording medium”, “Storage medium”.

7.6 Alternative ways to categorize patents

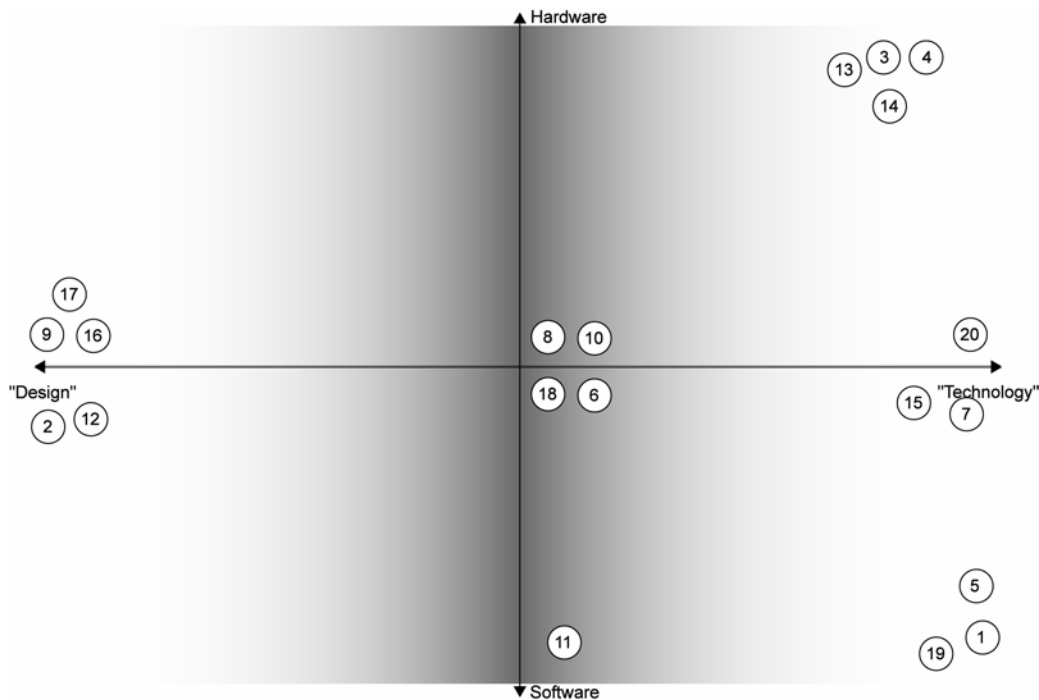
A number of different methods were used to further examine the nature of video game patents. The last two methods (game genres and design patterns) have been tried as “alternatives” to the current USPTO classification, if a developer wanted to create his own database of relevant patents.

7.6.1 ”Design” vs ”Technology”

Search string: ABST/”video game”
ABST/”computer game”

Search results from the investigation of section 7.3, ten random hits on ‘video game’ and ten random hits on ‘computer game’ were used in an attempt to find out if the

patents were focused on method protection or were primarily dealing with hardware technology. The method claims were reviewed in depth to find out if they are connected to the ‘look and feel’ of a computer game, and thereby qualifying as design patents. Note that the vertical axis is applicable only to the “technology”-side of the diagram, otherwise the axes represent sliding scales and the area surrounding the vertical axis is a “grey zone”. Appendix D lists the 20 randomly chosen patents, where numbers 2 (Wintersteen), 9 (Atari), 12 (Mraovic), 16 (Jacobs) and 17 (Silver) are believed to fulfill the design criteria.



Criticism

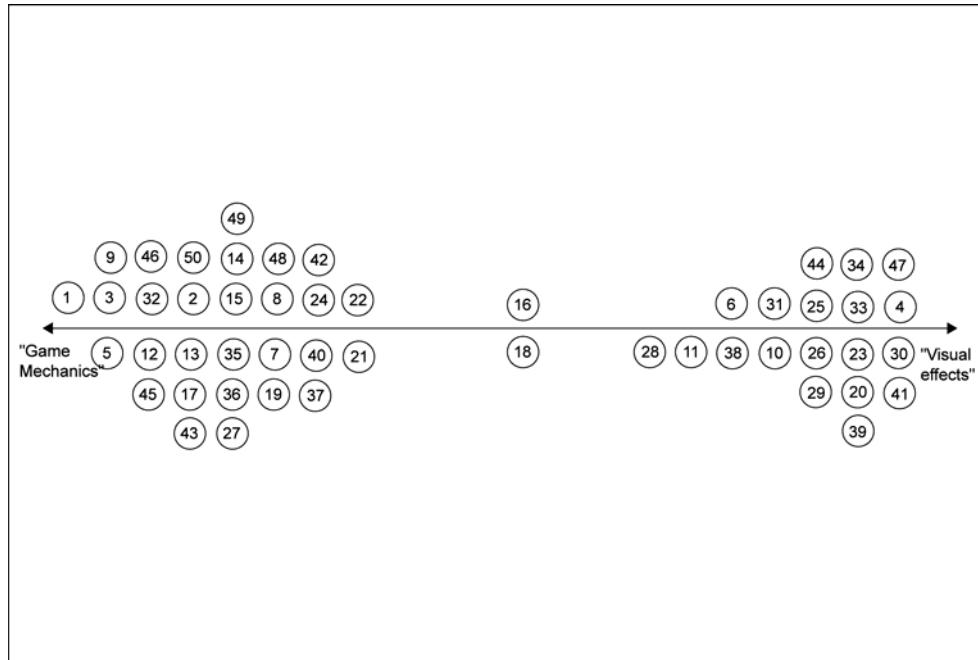
- Generalizing the results cannot be done adequately since such a small number of patents have been examined
 - This in turn due to the fact that evaluating patents is a complex process.
 - ...and this complexity introduces some other significant errors.

Conclusion

- The result suggests that approximately 25 percent of the total amount of computer and video game patents are focused on game design.

7.6.2 "Game Mechanics" vs "Visual effects"

Moving along to the 50 design patents, an initial investigation aimed at trying to figure out if their purpose was to protect visual effects or the more elusive concept of "game mechanics", or core gameplay elements.



Criticism

- Same as before, patents need to be studied in great detail for a survey like this to be valid. With a total of 50 patents, there is bound to be some mistakes and misinterpretations.
- Separating the two concepts proved difficult, for instance in cases such as design patent number 20.

Conclusion

- Despite the relatively high level of inaccuracy in the survey, it is safe to say that there are quite a few patents focused on visual effects in games. Patents focused on game mechanics can be argued to have stronger "machine-like" qualities and therefore be considered more true to the "nature" of patents.

Patents on “visual effect” on the other hand are closer to being within the scope of copyright.

7.6.3 *Game genres*

The first attempt of finding an alternative to the USPTO patent classification employs the concept of game genres (provided by www.gamespot.com). The reader is assumed to be familiar with the different genres, and no definitions are provided here. Note that Gamespot also uses a tree structure to define genres in greater detail, for example, Call of Duty³⁴ belongs to subcategory Action > Shooter > First-person > historic. However, no information on the different branches has been found and consequently the classification is limited to the eight “basic” genres.

³⁴ Call of Duty, by Activision and Infinity Ward, 2003

7.6.4 *Analysis*

- The image shows that patents are not easily classified using this method, as few have a clear enough focus on a certain theme
- Class 463/1 contains subclasses devoted to the “race game” and “Martial-arts” - genres in particular (patents referring to these categories are placed under “Driving” and “Action” on the previous page).
- The Strategy, Adventure and RPG genres proved difficult to separate. Allowing multiple genre references, similar to the cross-references to different patent classes used by the USPTO, could perhaps make this easier.
- Game genres are constantly evolving. The past few years, a large number of games have been released that transcend this traditional and simplified view on games. This suggests that game genres may not be the most effective way to describe the different characteristics of video games.

7.6.5 *Game Design Patterns*

As a final study of the nature of the patents, an attempt was made to see if the design patterns identified by the PLAY research studio could be used to “accurately” model the substance of the patents. Each patent, along with its corresponding patterns, is presented in Appendix C, where particularly relevant patterns are marked in bold writing.

7.6.6 *Analysis*

- Maintaining consistency in the evaluation and deciding when a certain pattern is particularly relevant proved difficult. On some level, patterns such as **Avatar**, **Varied game play** and **Movement** may be attributed to almost every patent. Without making a thorough review of the patent description, it is very difficult to find out exactly what a patent protects.
- In some cases, patents have clearly been derived from classic video games. Patterns are more easily applied when a particular GAME is evaluated, but since only certain features are protected in the patent, mistakes are easily made.
- Patterns cannot be used effectively to describe patents that protect “visual effects” (e.g. nr 30) or sound effects: these are patents that strive to protect a ‘dramatic effect’ and are limited to a small number of non-descriptive patterns such as **Tension**.
- As indicated by the large number of references to subclasses 30-33 in 463/1, many patents have a visual quality (camera positioning etc.) and it is difficult to see how these patents could be classified intuitively using design patterns.

These patents are described by patterns **Third person view, Movement, God view**.

8 DISCUSSION

8.1 Method evaluation

Regarding the investigation as a whole, there are a few things worth pointing out. Considering its “interdisciplinary” character, and that the objective has been to provide an overview of a topic with many complex parts, this ‘width’ has resulted in an inevitable loss of ‘depth’. Also, the topic of the essay is believed to be previously unexplored, and the author has been forced to use some source material of doubtful academic quality.

As for the first part of the investigation which aimed at trying to find out the importance of patents for game developers, results have been generalized based on a relatively limited amount of sources. This is mainly due to the lack of feedback; many proposed respondents have chosen not to participate in the survey. These included law firms, game developers (both contracted and independent) and publishers with patent portfolios. There are a number of possible explanations to their “demise”:

- Questions may have been formulated in a fashion that respondents could not relate to. Inquiries were based on “quality” that required a higher level of commitment from respondents.
- Many respondents were located in the United States, and were contacted by e-mail. To ensure participation, personal contact via telephone would have been preferable.
- Assuming that many developers know little about patent and legal issues, admitting this lack of knowledge may have been perceived as difficult and embarrassing.
- IP is obviously an important business asset and many respondents consequently treat these issues as business *secrets*. There was maybe not a clear incentive as to why they should share this information.

Their contribution would have been valuable in giving a complete picture. As an alternative, comments from discussion forums were used, which resulted in a larger uncertainty regarding respondents’ backgrounds and “agendas”. This also made it more difficult to determine the urgency of patent issues for different kinds of developers.

In retrospect, it might have been possible to use a “quantitative” approach: www.gamasutra.com has an extensive list of companies involved in the industry along with contact information. An e-mail with short, concise questions that guaranteed that their responses would be treated anonymously and held in strict confidence could perhaps have been more successful. Asking things like:

“Did you know that there are patents that protect the design of video games?”

“Have you ever conducted a patent search?”

“How many projects has your company worked on?”

Ludology may very well be an “up and coming” research discipline but there is still relatively little material available, and the interdisciplinary character of this essay makes it particularly complicated. Ludology is currently devoted to examining the *activity of gaming*, and the *business* of game development has not been given much attention so far. Conversely, those who study IP and patent law are still preoccupied with the controversy of patents and copyright on computer programs.

Game Design Patterns were originally supposed to be given more attention in the essay. After a few weeks of preparatory studies, the complexity of the problem area was realized. The author also acknowledged other areas that could be favorably contributed to, which is why the focus on design patterns was reduced.

The second part of the investigation involved more practical work with the contents of the patent database. This content was analyzed “manually” using the database’s incorporated search tools. This could possibly have been done more effectively with dedicated software, such as data mining tools. The following notes and observations are a result of working with the patents:

- The different classifications are arbitrarily based on the ‘abstract’, ‘claims’ and ‘description’ fields of each respective patent page in the USPTO database. Later it was learned that the abstract is not necessarily an accurate summary of the claims of the invention, and therefore ideally should not be used as a basis. Still, since time-consuming revisions were not an option at this point, the ‘summary’ of each reviewed patent may contain fragments from all of the above-mentioned sections.
- Making a “quick and dirty” patent evaluation is difficult since all fields in the patent description except ‘claims’ can be unreliable. Claims are written in a formal manner. Maintaining consistency in the different categorizations proved extremely difficult.
- Studying 50 patents in detail turned out to be very laborious, and progress was frustratingly slow at times. This “impairment” was transformed into one of the

conclusions of the essay: For a developer to gain a detailed overview of the current video game patents contained in the database is practically impossible.

It can be argued that the scope of the essay is too wide. Alternatively, the second part, focused on the database contents that attempted to answer the question how patent-related problems could be minimized, could have been abandoned in favor of a more thorough investigation about the opinions of developers. Thus, the second part of research is more dependent on the first, than the other way around. Still, some valuable research results have been obtained and this is by no means considered wasted labor.

8.2 Future research

It would be interesting to see other researchers exploring some of the questions raised, and confirm/deny the theories brought up in this report.

- Patent trends, where is the industry heading? Is there reason to expect the predicted horror scenario where developers have to license 30 game mechanics to make a game?
- To what extent are patents “trade goods” in the industry? How often are patents included in cross-licensing deals? How do publishers, more closely connected to the business side of game production, look at patents?
- Detailed studies of the 600+ “video game” patents. How many of these are design patents? To help independent developers, a threat assessment could be made that investigated what companies have included patent licensing in their business model.
- Is patenting a “revolutionary” game feature during the course of development an option considered by game developers today? This “proactive approach” was not discussed in any greater detail. At this time, developers rely on trade secret protection for their ideas.
- What is the relationship between the game design patents presented in this essay and “ordinary” software patents?

8.3 Interpreting the results

8.3.1 *In what way are patents a concern to game developers?*

Traditionally, game developers have had a somewhat idealistic view on their work/hobby. While seldom motivated by the prospect of making heaps of money³⁵, game design is more of a creative outlet, to some degree fueled by the desire to gain respect and admiration in a community of like-minded. Consequently, developers have not been very interested in the business and legal issues of game production that have grown to become increasingly relevant as the industry has expanded and become more competitive. There is a strong sense of solidarity among developers which does not provide conditions for aggressive behavior (involving patents). This is supported by the fact that literature on game design usually does not treat these issues.

Previous studies conclude that patents are the least-known and least important IP-right to game developers, who mainly rely on copyright and trade secrets to protect their work. Clearly, the patent concept is surrounded with much mysticism; it stands out from other IPR with its hardcore technological characteristic. While recent publications such as IGDA (2003) give patents renewed attention, a study is yet to be conducted that explicitly treats game *design* patents (aside from this one) that have the potential of drastically changing the conditions of game development and production (though a minority of video game – related patents were found to fulfill the ‘design’ criteria 7.6.1). It can be assumed that a major part of developers know little about these patents, however, they provoke very strong feelings among those who do. The general opinion is that as companies in the industry grow a habit of acquiring patents, and more importantly adopt a litigious attitude, this will end up hurting creativity and providing large companies with an unfair business advantage. Patent examiners are not believed to be competent enough to make fair and proper evaluations, and the current 20-year patent life span is considered too long for the fast-moving video game industry. While there are some practical objections against patent prosecution (the process is too lengthy and expensive, and once issued, patents do not constitute a very effective weapon against competitors) they may still become necessary to stay in the “game”. Some encourage developers to take more efficient measures in protecting their intellectual property, including patenting innovative gameplay.

For independent developers, there are incentives to take on a proactive approach. If “independent” equals “inexperienced and poor” this also suggests they cannot pay for legal advice, and need to do some ground work on their own. Getting familiar with the structure and contents of the USPTO database is a valuable experience. It is important to point out that patent infringement is not necessarily avoided just because

³⁵ During the early career of legendary game designer George Romero, he allegedly signed his letters with “future rich person”. Disregard please.

you are developing an original game and not consciously copying someone else's work. Still, a small, independent developer can be invisible enough not to "trigger any alarms" among the bigger rivals.

When developing original game ideas (for non-franchise, non-licensed products), legal matters are not considered until later in the project. As the industry is becoming increasingly dependent on "IP-recycling" i.e. producing sequels this could motivate patent prosecution. Also, enforcing patents may be a way to handle the supposed stagnation of the game industry.

As for the involvement of publishers, their role is complicated and somewhat unclear when it comes to IP. A more experienced and successful development studio may be able to negotiate a contract in which the publisher takes full responsibility in the event of patent infringement, but this is anything but a standard clause. While both contenders want more responsibilities for the "opposing party", it is not clear how this affects the opposite struggle: Who earns the right to inventions that are potentially patentable? One might carefully conclude that publishers often cease this right (not a single development studio was found to own a patent), possibly without any strong objections from developers who simply do not consider patents to be a useful tool in their hands. Also, this right is often abandoned by contract. Following this train of thought suggests a future scenario where publishers have greater power and influence on the creative process of game design. Dramatizing further, a patent attorney may have to be present during the design- and production phases, and patent licenses have to be acquired to gather the building blocks of a simple shooter. The startup-screen of future games may feature a label similar to today's software: "Protected under U.S. law by pat. no...". The basic conditions for this exist today: what arcade-style racing game could do without "ghost cars" or multiple camera angles? How the owners of these patents act is something of a mystery and unfortunately, this essay has not been able to uncover just how important patents may be as "trade goods" and how often they are included in cross-licensing deals between publishers. Few cases end up in court, which suggests patents are not yet the main legal weapon in the game industry.

8.3.2 What are the risks associated with inadequate knowledge of patent law and patents related to video games?

Despite the speculations mentioned in the previous section, there is not yet a strong incentive for game developers to educate themselves on patent issues.

However, disregarding these may still have the following consequences:

- Developers can miss out on the opportunity to patent unique and inventive technology. As for game design and game mechanics, this technology clearly exists in a "legal" sense, it is up to developers to determine whether it is ethical to reserve the right to a certain gameplay feature. Some game projects, such as

Half-life 2, are starting to assume the characteristics of complex research projects. With technology this valuable, developers might start to look to patent protection.

- Inadvertent patent infringement. Patents are valid for up to 20 years and chances are at any point a patent may be brought out of “oblivion” and enforced. From a developer’s viewpoint, the collection of video game patents can be described as a “minefield full of duds”. Also, courts are relatively inexperienced in handling these cases, which may result in some unpredictable outcomes.
- History shows that a company may use patents more aggressively during times of financial hardship. This is the case with Atari, who went on a rampage to defend its patents during the late 80s and the early 90s. The video game industry is turbulent, developers and publishers are constantly eliminated and the small number of successful titles (that are VERY successful though) indicates that the market for video games is saturated, which suggests upcoming consolidations and eliminations. This in turn could result in a more fierce behaviour among companies with patent portfolios that are under pressure.
- The chances of patent infringement leading to severe consequences is deemed quite small, especially patents with a design focus. Enokian vs. Apogee is the only known case that has ended up in court. There is no reason to be afraid of patent infringement unless you have deliberately copied an invention.

8.3.3 Why is this usually not a problem?

- Lack of knowledge concerning patents is usually not a problem since very few patent owners in the industry seem determined to use them “offensively”, at least in the case of design patents. This survey has not been able to find their purpose or why companies decide to apply for patents that do not seem to have any practical use. This contradicts the statement that “there is always a business strategy behind patent prosecution”. Based on the findings of section 7.3.2 the following theory is presented: Game design patents originally come from the declining “coin-op” segment of video games, where each game was a uniquely designed console, both on the exterior³⁶ and in the matter of its ‘contents’, to catch the attention of gamers casually frequenting the arcades. Since each game was a separate³⁷ *machine*, and these machines were in direct competition with each other, it made sense to patent this unique combination of

³⁶ Take a look at pat. no 6,270,403 “Ski simulator” and its corresponding design patent D402,707 “Simulation ski game machine”. Note that the latter is a design patent in the formal sense, it protects the design of the console and its interaction devices.

³⁷ The author recognizes systems such as the Neo-Geo, which featured a number of games on the same console.

hardware and software. As power has shifted to home consoles, former coin-op giants such as Sega, Konami and Midway have moved into publishing and developing games for these platforms, bringing with them large patent portfolios. Some of these patents have claims broad enough to be regarded as platform independent, which creates an incentive for their new competitors to use generous software patent legislation to acquire patents of their own. The recent lawsuit involving Sega and Electronic Arts is particularly interesting; both companies have been around for decades but not until recently been in direct competition. Sega has a patent portfolio containing hundreds of patents while EA has less than ten. Should the case end up in court and patent infringement be established, it would most certainly have a dramatic effect on the importance of patents in the game industry. As for the behaviour of individuals owning game design patents, their actions are less predictable. The “Enokian vs Apogee” situation may very well repeat itself.

- Independent developers who have not gone through the trouble of searching for conflicting patents could possibly run into problems when they release a hit game and suddenly “show up on a competitor’s radar”.

8.3.4 How can the risk of these problems occurring be minimized?

- The dubious results from the alternative classification methods prove that it is practically impossible to offer a different window - or interface - into the video game patent jungle that is not in some way based on the original classification made by the USPTO.
- Since most game design patents refer to the subclasses of class 463/1, it is sensible to stay updated on new issuances in this class. Build a database of relevant patents that can be tailored to specific projects. Which method is best suited to organize patents has not been determined, though ‘game genres’ is probably the most intuitive method for game developers. Game design patterns allow a more detailed description of the patents, but do not cover all areas. To formally decide when a design pattern can be used to describe a patent turned out to be difficult.
- It is extremely difficult to find all relevant patents without ending up with a search result that is completely unmanageable. Also, patent titles are not necessarily named in a way to reflect their contents, which means each patent has to be reviewed in detail to properly judge their relevance. The abstract field can be used as a “gateway” even though it is potentially faulty. The PTO official gazette is an inexpensive service that lists abstracts of new patent issuances on a weekly basis.
- Alternatively, contract a patent information provider to obtain current information about the intellectual property that impacts your company's

market. Keeping up with new issuances should not be too laborious, but handling the existing patents in an effective way is another matter.

- Some game genres are indeed represented in the database. If you are making an arcade-style racing or martial arts game the corresponding classes is a good place to start looking for patents.
- Analyze the current situation in the business, and make projections for the future. Attitudes may change as the industry shows signs of saturation. Patents could possibly be used more aggressively.
- A concrete piece of advice, though perhaps not practically viable: Stay away from the American market. So far, these types of patents are only issued and enforceable in the United States.
- Acknowledge patent-clauses in contracts. Try to get your publisher to assume responsibility if infringement should occur, providing you accept the tradeoffs (that could involve giving up other IPR) this will most likely entail.

9 CONCLUSIONS

It is confirmed that for game developers, patents are still the least important form of IPR. Patents are considered too expensive to obtain, they take long to issue, and are believed to offer relatively weak protection. This is why developers still rely on copyright and trade secret law to protect their work. However, it is a general opinion that awareness of patents and IP in the industry is too low, and that developers should educate themselves on these issues as some indications show the climate may become harsher in a not too distant future. At the present time, patents do not affect the process of game development in any serious way. Disregarding patent issues may result in inadvertent patent infringement, but the risk of severe consequences is seen as relatively low since most patent owners are not working actively to enforce their patents. To minimize the risk of patent-related problems: Developers should acknowledge the existence of patents, in contract negotiations with publishers and learn to navigate in the USPTO database.

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10.2 Web resources

Chilling Effects Clearinghouse, URL: <http://www.chillingeffects.org/patent/faq.cgi>

A joint project of the Electronic Frontier Foundation and Harvard, Stanford, Berkeley, University of San Francisco, and University of Maine law school clinics focused on the misuse of intellectual property.

Foundation for a Free Information Infrastructure, URL:

<http://www.ffii.org/index.en.html#miso>: an organisation that supports free competition and open standards in the software industry

Gamasutra, URL: <http://www.gamasutra.com>: as a part of the CMP game group (also behind the Game Developer printed publication and the annual Game Developers Conference), Gamasutra provides resources on all aspects of game development

GameDev.net, URL: <http://www.gamedev.net>: provides resources on all aspects of game development and hosts a worldwide community of game developers & designers.

IPWatchdog, URL: <http://www.ipwatchdog.com>: A website dedicated to providing free information on IP-issues

The International Game Developers Association, IGDA, URL: <http://www.igda.org>

Obscure Game Design & Development consultancy, URL: <http://www.obscurer.co.uk>: Provides an overview of the video game industry

The League for Programming Freedom, URL: <http://lpf.ai.mit.edu>: an organization that opposes software patents and user interface copyrights

The United States Patent and Trademark Office, URL: <http://www.uspto.gov>: database of registered US patents and trademarks

11 APPENDICES

Appendix A: Discussion forum transcripts

Appendix B: Class references

Appendix C: 50 Design Patents and Patterns

Appendix D: 20 randomly selected 'video game' & 'computer game' patents

Appendix E: List of Game Design Patterns

Appendix A: Discussion Forum Transcripts

IGDA Forums > Game Development Topics > Game Design & Writing > **Hey, Let's All Patent Game Mechanics!**

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gamedev123
free user account

Registered: Jun 2003
Location: Brooklyn, United States
Posts: 44

Hey, Let's All Patent Game Mechanics!
<http://www.gamasutra.com/php-bin/ne....php?story=2692>

I've got a sleeper patent on a method for rapid "side to side motion" when faced with numerous enemy projectiles (see: "Strafing, a method of defensive locomotion for interactive entertainment platforms. A.Hole et al).

;-)

I am damn curious about Sega's patent and exactly what it encompasses.

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

It might be this one...

<http://patft.uspto.gov/netacgi/nph-...OS=sega&RS=sega>

You can do searches at <http://www.uspto.gov>

Here are all the ones that come up "sega":

<http://patft.uspto.gov/netacgi/nph-...&FIELD2=&d=ptxt>

My favorite is "Compositions Comprising Hedgehog Proteins" - it's not licensed to Sega, but mentions them because the scientists named a specific DNA encoding "Sonic Hedgehog"

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keiths001032
Verbose Member

Registered: Oct 2002
Location: Winter Park, United States
Posts: 113

Someone explain to me why they bothered to do this two years after Road Rage was released? Did the execs at Sega just get bored and pull the next thing they wanted to do out of a hat?

Keith Staines
keith@keithstaines.com
Liege
Personal Site

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

If you read the patent, you'll see that it was filed in Japan in February, 1999, and in the U.S. one year later.

It took 3 1/2 years for that patent to issue!

I don't know if that's the one Sega is using, but Simpsons Road Rage was released in November 2001, long after Sega's application for that patent was on file.

Sega's view might be that Simpsons Road Rage has had two years to eat into Sega's profits, and now it's payback time.

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understandingedds
free user account

Registered: Nov 2003
Location: Taylors, United States
Posts: 34

The problem with thinking that one can patent individual or collectively used game mechanics is that there is no logical end to it. Let's say Road Rage copied 10 of Crazy Taxi's game mechanics, and can therefore be sued because the end result was similar gameplay. If copying 10 interdependent mechanics makes a game "too" similar, then what is so special about the number 10? Why not 9? Or maybe 3? Or 1? Who can decide what is and is not "too" similar without be totally opinionative and arbitrary? Maybe the creator of Pong can sue everyone for stealing the concept of "Interactive game mechanics"!

The problem is that there is no non-arbitrary way to decide this case against EA / Fox. There is no concrete metric for deciding whether or not Road Rage is "too similar", and there is SURELY no concrete way to prove that Crazy Taxi lost ANY sales because of it. The sales of both can ONLY be linked in a speculative, unprovable manner. And speculation cannot hold up in court, and neither should anything that CANNOT BE PROVEN beyond a reasonable doubt - that reasonable doubt being a total lack of proof or provable metrics to show any relationship in the sales of the 2 products, and the fact that similarity does not prove theft, and that there is no non-arbitrary way to prove that Road Rage is "too" similar to Crazy Taxi.

This criteria alone show that justice can only be served by throwing the case out.

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

The whole subject of software patents stinks, and creates an "arms race" in the industry: big players develop portfolios of patents and then swap them as a kind of mutual non-aggression pact; small players are squeezed out.

Sure, a small player can patent a key, revolutionary technology and earn a killing - but it's really a game of inches, the sheer weight of little stupid utility and process patents that a major corporation can amass by assignment from employees create government-enforced entry barriers very difficult for smaller companies to crack.

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Balron
free user account

Registered: Jul 2003
Location: La Palma, United States
Posts: 30

quote:

Originally posted by serotonin

The whole subject of software patents stinks, and creates an "arms race" in the industry: big players develop portfolios of patents and then swap them as a kind of mutual non-aggression pact; small players are squeezed out.

Sure, a small player can patent a key, revolutionary technology and earn a killing - but it's really a game of inches, the sheer weight of little stupid utility and process patents that a major corporation can amass by assignment from employees create government-enforced entry barriers very difficult for smaller companies to crack.

I have to agree, software patents are definitely going to be a problem for the smaller developers and may result in a wholesale slaughter of the Indie developers ability to make a living if the patents are too broad.

understandingedds
free user account

Registered: Nov 2003
Location: Taylors, United States
Posts: 34

quote:

Originally posted by Balron

I have to agree, software patents are definitely going to be a problem for the smaller developers and may result in a wholesale slaughter of the Indie developers ability to make a living if the patents are too broad.

I have a tendency to agree, but ONLY in terms of patenting "ideas" and software "designs".

It is fallacy to believe that ideas are original and can or should be protected. The patents that I do agree are valid and should be enforced are "implementation" patents, that is to say, you can't rip out large chunks of another company's implementation code and use it in your own software without permission. That is literally copying, and is provably theft. Design, in terms of software engineering should also not be patentable. Otherwise, the original designers of Object Oriented Programming could

take a claim to any profit made off of any software that uses OO design techniques. That would be ludicrous, not to mention destroy the software industry itself.

gamedev123
free user account

Registered: Jun 2003
Location: Brooklyn, United States
Posts: 44

This is the first salvo...
...in a war that can only end in numerous "cease and desist" letters being sent to smaller developers/publishers without significant legal resources.

Big Guy: "Shoot, I can't think of any good games anymore. Its too hard to be original, and too hard to compete in my chosen 'me-too' genre on the basis of best 'avatar attitude' and most art assets... Thankfully I have a few sleeper patents specific to my genre as a competitive advantage. Payback for all my hard innovation."

Smallfry: "Why are you trying to scare me out of business with all these cease and desist letters? My game doesn't look anything like yours."

Big Guy: "NO, NO, NO. You misunderstand. It doesn't just have to look like my game. I can serve you if it functions like it too. You know. Similar movement - things like PowerUps - the use of particular glow effects. If you want to develop in this genre, just sign on the dotted line and I'll bring you into my fold."

Smallfry: "You mother@#\$%!"

Publisher: "Expletives? Insults? Well I have a patent on that gameplay mechanic too. So although you can curse in real life, just don't put it in a game.

Obviously this is an exaggeration. But come on! Even if Sega is warranted in feeling like their gameplay was ripped - can they honestly say that they haven't "leveraged pre-existing game mechanics and look and feel?"

I dunno... Working on original I.P. that potentially leverages existing game mechanics will become a crapshoot.

understandingedds
free user account

Registered: Nov 2003
Location: Taylors, United States
Posts: 34

I'd like to hear Mr. Buscaglia weigh in on this one

mikeisme77
Talkative Member

Registered: Nov 2003
Location: Greencastle, United States
Posts: 9

Personally, I see nothing wrong with the protection of ideas and mechanics by video game developers and publishers. Video games are an art form, similar to film, music, traditional art, and literature. All of these have laws and rules protecting them from being ripped off, but at the same time all of these also have individuals that borrow ideas from other works, but if an individual chooses to take a work and simply modify, then this is where they get in trouble for plagiarism. SEGA saw Simpson's Road Rage as an actual rip off of their work, not just an example of incorporating similar elements. Whether or not this is true will ultimately be decided by the courts, but I feel that such methods of protection of intellectual property is necessary. I also think that it should be pointed out that neither EA nor Fox Interactive, who were 2 of the 3 members sited in the suit are small players. Personally, I wouldn't consider Radical Entertainment, the last company sited in the suit, as a small player either... So, in reality this isn't a case of a big company picking on small companies, but a big company picking on other big companies. Also, the comment about a big developer running out of ideas picking on a smaller company to make up for it is also irrelevant in this case because SEGA, despite their financial troubles, still stands out as one of the most innovative game developers out there, with games like Billy Hatcher and the Giant Egg and Sonic Heroes as some of their more recent titles. True, this issue does stand a good chance of being abused, but I think this case, at least, is fairly reasonable. It all needs to just go on a case-to-case basis, as it does with intellectual property in other mediums.

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

quote:

Originally posted by mikeisme77
Video games are an art form, similar to film, music, traditional art, and literature. All of these have laws and rules protecting them from being ripped off, but at the same time all of these also have individuals that borrow ideas from other works, but if an individual chooses to take a work and simply modify, then this is where they get in trouble for plagiarism.

That's addressed by Copyright, the same law that protects other kinds of art also protects video games and video game characters.

But suppose Quentin Tarantino, after writing the script of "Pulp Fiction", had filed for a patent on "Cinematic Presentation In Which The Story Is Told Out Of Sequence and From Numerous Character Viewpoints", and the USPTO granted it, and then he'd sued John August and "Go" for patent infringement.

A lot of people would be crying "foul" and saying things like, "What about Night On Earth?" Yet those are the kind of patents being granted every day on software in the U.S.

If we're going to use the standards of other art forms to weigh the legal issues associated with video game IPR, software patents are way out of whack.

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mikeisme77
Talkative Member

Registered: Nov 2003
Location: Greencastle, United States
Posts: 9

quote:

Originally posted by serotonin
If we're going to use the standards of other art forms to weigh the legal issues associated with video game IPR, software patents are way out of whack.

I agree with that... software patents are out of whack, but a lot of that has to do with the fact that no real legal standard has been set up to correct this issue. What needs to be done is software developers all need to get together with lawmakers, who often don't understand the unique issues involving software, and set up some standards and guidelines to follow involving software copyright laws. However, in this specific case of SEGA vs. Simpson's Road Rage, I think that there is significant evidence that Simpson's Road Rage DID blatantly rip ideas directly from SEGA's Crazy Taxi. I'm not 100% familiar with what the lawsuit entails, but maybe the problem isn't so much that it shouldn't be happening but more so that they're suing over some of the wrong things.

wsaar
Chatty Member

Registered: Dec 2001
Location: Tyresö, Sweden
Posts: 45

quote:

Big Guy: "NO, NO, NO. You misunderstand. It doesn't just have to look like my game. I can serve you if it functions like it too."

I think you're being too optimistic here. A really sneaky Big Guy would say: "I know your game has nothing to do with my patent, so I'll be generous and license it to you for half of what it would cost you to defeat the patent in court."

William

Projects and bio: <http://saar.se/>

gamedev123
free user account

Registered: Jun 2003
Location: Brooklyn, United States
Posts: 44

quote:

Originally posted by mikeisme77
I also think that it should be pointed out that neither EA nor Fox Interactive, who were 2 of the 3 members cited in the suit are small players. Personally, I wouldn't consider Radical Entertainment, the last company cited in the suit, as a small player either... So, in reality this isn't a case of a big company picking on small companies, but a big company picking on other big companies.

No argument there. That's why I posited this would END in numerous cease and desist letters being sent to smallfrys... Basically I think the precedent will be abused.

Although Sega will have to go to court against a large company, they (or any other large company) could probably just send out cease and desist letters to get capitulation from smallfrys. Here I'm thinking that the budding MOBILE GAMES INDUSTRY will be a clear target. Just think of all those quick games based upon

simple retro mechanics, created by a few people for little money -- games that compete with the existing retro portfolios of Sega et al...

Now, let me also say I believe that any company should be able to defend its intellectual property in a court of law. And that a substantial duplication of the situations and gameplay of a non-trivial game (a grey area) should constitute an infringement of some kind, possibly copyright on the "character" of the game. However, many games these days leverage normal environments and/or historical situations (either recent or distant history) as their core game elements. For example:

- a war
- planes
- troops
- bullets
- 1940's environments

or

- a cab
- passengers
- city streets
- car collisions
- time pressure

Not every game can be a Qbert or Qix. Even Super Monkey Ball has a "few" elements that feel derived from Marble Madness.

Does any impartial person reading this have access to both games? Can we get an impartial viewpoint on the level of cloning taking place?

All times are GMT. The time now is 09:36 PM.

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IGDA Forums > Game Development Topics > Game Design & Writing > **Hey, Let's All Patent Game Mechanics!**

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GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Patent on a game?

<http://uk.games.yahoo.com/031205/39/egd1v.html>

Sega is suing over the Simpsons game that is basically like Crazy Taxi. The article mentions their patent on the game.

Didn't Hasbro also have a similar suit?

What could they possibly patent in the game? I mean, I know that software patents are given out for a lot of crappy stuff, like Amazon's One-Click patent, but I just want to know what this is about exactly. What is a "138 patent"?

According to another source (<http://cube.ign.com/articles/445/44....html?fromint=1>) this is "associated with the Crazy Taxi concept" but I thought patents weren't for concepts. My search on Google hasn't been fruitful, so if anyone has info on it or even on some suggestions for better search terms, that would be appreciated.

BuscagliaThomas
Moderator

Registered: Jun 2001
Location: Miami, United States
Posts: 178

A cheap guess - but no real idea.

Possibly a design patent...but I did not think anyone was actually using them for much in our industry. More likely a software patent, but as you said, that would not protect the design.

I'll take a look into it if I ever get some extra time...(not likely - it's Sunday and I am working on a Motion for Federal Court due tomorrow!).

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Toll Free 888-848-ILAW
<http://www.gameattorney.com>

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Apparently I can't delete the post. In that case, I will just post what I found:

<http://games.slashdot.org/games/03/...&tid=186&tid=99>

I should have checked Slashdot first. The comments are informative.

Apparently the patent is for algorithms to make pedestrians run out of the way, and to have a directional arrow point out where objects are, etc.

Nope. No prior art there. These patents suits are tiring. If they can actually patent such things, and Hasbro can patent the gameplay of Asteroids and such, then the video game industry will really be stagnant. Instead of trying to come up with innovative ways to get around patents, games won't be made at all because of the fear of similarity to existing games. Someone needs to come up with some reasons that software patents are actually good for customers, industry, and society because with Amazon, Hasbro, and Sega, it is getting really hard to see.

BuscagliaThomas
Moderator

Registered: Jun 2001
Location: Miami, United States
Posts: 178
Huh...Someone call me?

quote:

Originally posted by understandingeds
I'd like to hear Mr. Buscaglia weigh in on this one

You asked for it...but first a lawyerly disclaimer - I am NOT a patent attorney.

As an attorney with litigation background and self appointed Defender of the Indie Developer my biggest concerns are that patent claims tend to be very broad in application and are expensive to litigate. So they have a tendency to be abused. And of course, as a developer you take all the responsibility for any claim of patent infringement in a publisher deal.

Patent infringement (unlike copyright) is akin to a strict liability case where you don't need to have access or even know of the patented process or code to be found to have

infringed on it. IMHO it is a friggin nightmare. It is one thing to warrant that you own all the copyrights to your content...but to have to insure that there is not even a possibility of any design or software patent infringement is impossible - but necessary.

Maybe there is some sort of business practices insurance available for this, but it sure has a chilling effect on collaborative work and the creative process.

* * * * *

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* * * * *

ClingmanDustin
Verbose Member

Registered: Jun 2001
Location: Oviedo, United States
Posts: 418

As a quick comment, Why should we try to lay shackles on game mechanics? We are ALL inspired by games we have played.

I am opposed to patenting game mechanics for any reason. I cannot honestly say that the games I have played and will play do not inspire my work, plain and simple. I dont' want to go to court to explain something to a non-gameplaying chucklehead lawyer with dollar bills in his eyes...

Game design is an art, but the style of pointilism didn't just belong to Georges Seurat nor does the concept of a 2D platformer belong to anyone.

Bottom line, nobody cares when there isn't any money involved. Now that the game industry generates this sort of revenue, all sorts of legal pain and suffering are on the way.

It all reeks of ick!

Dustin

Dustin Clingman
Orlando IGDA Chapter Coordinator
Full Sail Real World Education
dclingman@fullsail.com

mikeisme77
Talkative Member

Registered: Nov 2003
Location: Greencastle, United States
Posts: 9

quote:

Originally posted by ClingmanDustin
Game design is an art, but the style of pointilism didn't just belong to Georges Seurat
nor does the concept of a 2D platformer belong to anyone.

That's because when Georges Seurat created pointilism, we didn't have the same rules about intellectual property. However, in the modern day and age styles of art forms ARE protected. There was a German artist, whose name currently eludes me, who used 3D photo techniques from some corporation and blended it with the technology from a plastic mold company. She created unique 3D figurines (action figures) of individuals she knew and they ended up selling for thousands of dollars to art museums and famous individuals came to her asking her to make the same figurines of them. The 3D imaging company she used decided that since all of these people were begging to have figures made of them, they would try to sell people figurines of themselves. The artist created a lawsuit against them for stealing her idea. The lawsuit never ended up going to court, however, so we don't know whether or not she would have won, but in this case it didn't matter because people weren't willing to just use the 3D imaging company because they wanted an official figurine by this artist (even though they were allowed to pose however she wanted and all she TECHNICALLY did was come up with idea of merging these technologies to create this art). True, law sucks, but intellectual property is very important. I still think some standards have to be made in regards to it though so there aren't bogus lawsuits over trivial mechanics and such.

ClingmanDustin
Verbose Member

Registered: Jun 2001
Location: Oviedo, United States
Posts: 418

I am in favor of delineating intellectual property, but as Tom said, patents are generally super broad. If a larger company words a patent correctly, they could easily

encompass a lot of related ideas as well. A company with money to burn and high paid legal divisions would easily bully people around with such legally backed control.

As things are now, the gameplay isn't patented and we can go around using or deriving new mechanics from old. Almost all RPGs derive from D&D mechanics in one form or another. The list would just go on and on.

Give me one good mechanic that deserves such protection.

Dustin

Dustin Clingman
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neoshaman
free user account

Registered: Aug 2003
Location: st luce, Martinique
Posts: 141

with this kind of philosophy matrix and star wars would have never born, there is some many rip off

i would imagine the world if such a thing was created while chinese have invented ink and paper >_<

well it's caricatural but you get the idea

a world based on possession is a world where creativity will be gone, i'm for copyleft

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

On the other thread discussing this, someone mentioned its "the 138 patent" that Sega is using in the suit.

If that's a reference to the last 3 digits of the patent number, it's this one:

<http://patft.uspto.gov/netacgi/nph-...8&RS=PN/6632138>

(edit: these links may expire...# is 6,632,138)

The thing Sega claims to own in that one is a racing game in which the race goes on forever, players can join at any time and pick any car, and you score based on how many cars you pass or a clock expiring.

Does anyone know for sure which patent Sega is suing over?

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magicback
Verbose Member

Registered: Apr 2002
Location: Central Midlevels, Hong Kong
Posts: 195

It would be really good to understand the patent Sega is suing over. Nevertheless, there is goodness in a software patent if it is narrow enough, given that patents are filed and open for review by everyone while code is generally not. When I say "narrow enough" I mean that the patent is for one specific process where people still can engineering or design around.

The more recent software case is the Unix mess that SCO (I think) is suing IBM over. It's like, whaaa how did I get sue over that! Whatever is being sue is so integrated (in my view) that it's hard to differentiate!

Another related game mechanic patent is Magic: The Gathering (card game) "tapping" mechanism. A frigging patent for "tapping" (turning the card to a horizontal position to indicate that it function is used). I think other companies found a way around it (which is good), but whaa a frigging patent.

I think a new, but necessary, business practice in the future is to hire a patent lawyer to do some patent infringement prevention.

Mr. Buscaglia, got any more quick suggestions on how to structure dev business entities to remedy possible patent lawsuits?

odie76
free user account

Registered: Jun 2003
Location: Gothenburg, Sweden
Posts: 2

Re: A cheap guess - but no real idea.
My guess is the article refers to pat. no. 6,632,138.

I am writing a thesis on game design patents and would very much like Mr Buscaglia to expand on his previous comments:

quote:

Originally posted by BuscagliaThomas

[B]Possibly a design patent...but I did not think anyone was actually using them for much in our industry. More likely a software patent, but as you said, that would not protect the design.[B]

Do you mean patents formally classified as design patents or utility patents with a strong focus on game design and game mechanics? If it is true that few patent owners actually enforce their patents, why bother to get them at all? There does not seem to be a clear business strategy here.

To what extent are game patents used as "trade goods" in the industry? Let's say you're an independent developer making a racing game, and like everyone else you want to allow the player to compete against a "ghost car". It turns out that this is a patented feature owned by Midway. What is the "regular" course of action: Contact their IP-infringement division and politely ask for permission or just keep quiet and hope there will be no repercussions?

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

(I too enjoy Thomas' insights on these matters)

I've taken a negative position w.r.t. software patents in this discussion, but I also hold several U.S. patents on software and served on committees (outside the game industry) that decided what software a major corporation would patent.

I fear that the patent behavior we saw in the telecommunication industry ten years ago is coming soon to the game industry.

I was told three things about patents my first day on the job as an Engineer:

1) The best patents are the most general

2) Patents are used as landmines - get them, keep them quiet, and wait for someone to step on them

3) Don't just patent the best way to do something, patent the five best ways

Later in my career I started to work on industry standards. I was told more about patents my first day on the job as a Standards Participant:

4) Try to get some company IPR into the standard (this, for voluntary standards not government standards). All of the serious companies will do this - they then swap the IPR to give themselves equal standing, and keep others without IPR out. The patent buys you a seat at the table.

5) If asked to guarantee that the Company has no sleeper patents related to the standard, reply (truthfully) that the Company is big, and there's no way you can track or know all of its patent portfolio. You can only make statements to the best of your knowledge.

Another routine part of my job was to review patents from other companies, and write convincing opinions on why our approach didn't infringe on the patent. And another thing I was taught: never put bad news in writing (including email).

I don't think the game industry is there yet - but in another thread someone asked what the industry will be like in 5 - 10 years. From a patent perspective, the above is my attempt at fortune telling.

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bgp
Tranquil Member

Registered: May 2003
Location: Salt Lake City, United States
Posts: 3

Sega
Sega's lawsuit is based on U.S. Patent 6,632,138, which issued on October 14, 2003.

Since the patent application from which the '138 Patent issued was not published in the U.S. (due to an effective 12/7/98 U.S. filing date), Sega will probably be limited to a "reasonable royalty" on games that were sold on or after October 14, 2003, and may be able to prevent Fox Interactive from selling more of the Simpson's games.

It looks like Sega felt like they had a good idea in 1996 (10/9/96), when they first filed a patent application in Japan, then had to wait for several years before they could pursue others who may have stolen their idea, which was published by April 16, 1998, or earlier.

The comments on the increasing frequency of patent infringement suits in gaming are very insightful. It's best (although potentially expensive) to take a proactive approach to both protecting your own technology (offensive) and making sure that you don't step on anyone else's toes by making yourself aware of the technologies others are attempting to protect (defensive).

Brick Power
IGDA, Salt Lake City Chapter
Registered Patent Attorney
TraskBritt, PC
Salt Lake City, UT
www.traskbritt.com

ambro25
free user account

Registered: Jan 2003
Location: Sheffield, United Kingdom
Posts: 3

My two cents' worth, as a UK-based software patent attorney with experience of EP and US patent drafting & prosecution:

The Sega 'suit' is not about software patent infringement, it is about business method patent infringement and yes, it is unashamedly about gathering revenue - but then again it's one perfectly legitimate use of patents.

I do not call it a 'software patent' because, as a patent application, it would never have flown in Europe, whether at the EPO or in any individual Member PTO, since it does not produce a 'technical effect' but is merely a particular method of presenting graphics and interacting therewith. Put bluntly, and apologies if I offend coders out there: OK, it's not Pong, but it's just a refinement, technically speaking ;-)

...whereby the deal wil not apply in Europe - if Fox has any sense and if a deal is to be made.

As was previously stated in the thread, Sega paid for the drafting/prosecution of this registered right in Japan and the US, now they have opportunities from this investment (someone stepped in... sorry, on it). Possibly, Fox Interactive chose not to follow - which game developer in his/her right mind would pay for patents, I ask you...

If Fox Interactive have some patents of their own, however, they'll just sit down, look at each other's portfolios and do a cross-licensing deal, and there you have it, now what's all this fuss about?

It is not only large players who do cross-licensing deals, but similarly-sized endeavours as well: the trick for indies is to have have SOMETHING in their armoury, not just verbal abuse to serve opportunists ;-)

Videogame is big-buck business these days, so the above practice should regularly feature in indies' business plans, under contingencies AND opportunities.

Videogames are the most fun you can have with anything that isn't breathing.

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

I just think it is sad that the software industry (and the video game industry specifically) has to resort to such deals.

Software patents in particular are bad because it allows companies to hold monopolies over stuff that would otherwise be obvious. For instance, patents over single-click purchasing on a website or patents over using menus in frames are both examples of stuff that shouldn't be patentable.

And if I have to be able to put up some patents of my own in order to make use of someone else's patents, then the barrier to entry in the business just got higher than it needed to be.

Please tell me how an independent developer is supposed to be able to work when it is all too possible for something that I make to be already patented by someone else. I am not just whining here. I really want to know how I can possibly come out with a product if I have to first consult a lawyer to determine that some of the most asinine parts of my program are actually already patented. The lawyer fees alone would prevent me from doing anything profitable.

All times are GMT. The time now is 09:46 PM.

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IGDA Forums > Game Development Topics > Game Design & Writing > **Hey, Let's All Patent Game Mechanics!**

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Author Thread

bgp

Tranquil Member

Registered: May 2003

Location: Salt Lake City, United States

Posts: 3

I've been trying to figure out how to reply to the last post all day. I understand that developers have "grown up" in an environment where things are shared, and that all of this legal maneuvering for the purpose of making more money is a bit foreign.

This is my attempt.

If you can't convince those with the intellectual property rights to use them in a way that won't stifle smaller developers and publishers, at least take some initial, possibly inexpensive, steps to protect yourself.

As the gaming industry matures and the potential prizes become more lucrative, the people involved begin trying to claim and protect things that they believe, for whatever reason, to be their territory.

You might be able to avoid getting caught up in legal disputes by making sure that everything you incorporate that comes from a different source obtained by legitimate means.

You can do some of the groundwork for determining whether others have protected or tried to protect ideas that you feel are innovative. The U.S. Patent Office's website has already been identified as a source for doing this. Others include the European Patent Office's website, which includes links to a much better search engine than the USPTO's, and www.delphion.com, which I believe charges a user fee, but provides access to published patent applications and issued patents all over the world.

In addition, you can initiate the process of protecting many of your ideas by filing so-called "provisional" patent applications. While it's always best to hire a patent attorney to prepare patent applications for you, the cost-conscious could certainly prepare this type of application on their own. The information for doing so is available from the U.S. Patent Office at www.uspto.gov.

Also, while intellectual property attorneys (especially patent attorneys) have reputations for being expensive (I always think of having to pay the dentist when meeting with new clients who don't have a lot of resources--I think we paid for a couple of the last dentist's new snowmobiles--but I digress), it is possible to find attorneys that are mindful of your needs and will provide you with top-notch services at reasonable rates. Although I'm not going to lie and say that it can be done cheaply, being prepared for a conflict beats the legal fees associated with getting sued.

That being said, in the spirit of Mr. Buscaglia's legal disclaimer above--I can't promise that small and independent developers will never be sued, but the fact that a small or independent developer is a small or independent developer may keep you off of the radar of those who try to enforce their IP rights--the stakes may not yet be high

enough for them to hire attorneys. But when you start making money, you might risk losing your profits or having your products pulled from the market.

For what it's worth, I hope this helps.

Brick Power
TraskBritt, PC
Salt Lake City, Utah
www.traskbritt.com

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Well, thanks for that information at least. B-)

That last paragraph of course doesn't offer much in the way of comfort.

<http://www.gamedev.net/reference/ar...article1013.asp>

This article is an analysis about the Hasbro suit mentioned before. Part of the conclusion:

quote:

Creating a new game genre from scratch is a long process, usually involving a number of released products. The first is the proof-of-concept. "Dune 2(R)" was the first RTS Westwood(R) created, not "Command & Conquer(R)". Every subsequent release in the series has been an evolution, a refinement, of that original concept. Each attempt was an attempt at improving the overall gaming experience.

Others, such as Ensemble(R), looked at these works and, instead of simply plagiarising it, they created their own 'take' on the basic concept called "Age of Empires(R)". This game is clearly based on the same concept used in Westwood's product, but the execution -- the actual gameplay -- is very, very different. The important issue here is that both games were successful in their own right.

But what's the point in spending all this R&D time and money on a game if people are only going to plagiarise and undercut you?

Well, if Westwood patented the idea of making a unit move towards a position when the user clicks somewhere, RTS games would not be a genre. We would have only one company producing them, or only companies who can afford the licensing.

And when I said "patented the idea" it wasn't a mistake. Sega's patent on the directional arrow or the algorithms to make people jump out of the way of cars are ideas. Yes, you can copyright the code that embodies such ideas, but patenting it is a bit much and I believe abuses the fact that the government isn't prepared to handle software patents.

I would probably try to patent an algorithm to put a stick in the ground in a game if I didn't already know there was prior art.

I wanted to start my own shareware company, and while I still do, these types of patents frighten me, and I am sure I am not alone. We already see the industry consolidating into a handful of major publishers. Finding out that there can only be a handful of developers because it costs too much to legally compete is not helping the industry at all. I would love to see someone prove me wrong and show that I am worried about nothing.

I am going to go see if the IGDA already has some white papers or something about this. I would really love to see the IGDA try to do something about software patents in general, and game-related companies using them in particular. I really do want to work in the game industry, but software patents aren't giving me a great incentive. If my lawyer misses something, and I can't see how it is possible to catch everything when it seems almost anything can be patented so long as you say "it must be on a computer", now I lost all of my profits and my game. Being too small to show up on someone's radar isn't a consolation as the principle of the matter is that I will unknowingly be breaking the law regardless if Company X notices me doing so.

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

This is not legal advice (I'm not a lawyer!), only a discussion of what is possible. GBGames, you might find it heartening 8)

It is possible to get a broad software patent, on something that really is "obvious to one skilled in the art." When this happens it's often because the Examiner made a mistake.

It is possible to overturn these kinds of mistakes in court, although nobody wants to go to court.

The holder of a questionable patent makes a dangerous bluff every time he/she takes someone to court, or is taken to court, over that patent. The patent itself is on the line,

and it's worth more as a standing, but questionable, patent than it is as one that's been invalidated by the courts.

Thus, the strategy of whether to take someone to court is a bit tricky, and it is possible that prosecuting infringement by a small company (little upside) might not be worth the risk.

It is possible that it's very difficult for someone to tell whether or not you've infringed on their patent - for example, if the patent has to do with internal workings that have no direct external manifestations (e.g. an AI algorithm).

What all of this means, I leave to you!

If you haven't read it yet, check out the IGDA IPR Rights white paper at http://www.igda.org/biz/ipr_paper.php

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GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Well while I see where you are going with this, it is still disheartening because the key thing is that going to court costs money, and bigger companies can leverage that money a lot better.

Another example of what I think is a bad abuse of government is the DMCA. Walmart, Best Buy, and other companies threatened Fatwallet.com with cease and desist letters because someone posted the companies' Black Friday prices on the site. Now, legally where do they have the right? The DMCA regards copyprotection and circumvention. Unfortunately, it also does away with due process. Fatwallet.com had to comply even though there was no legal standing. It also did so originally because fatwallet couldn't afford to defend itself in court.

So there we have it. Big companies with big money that can abuse the system by simply having more money than the little guy.

I have since refused to shop at Best Buy (especially since they did this same thing again this year) and Walmart. The DMCA allows such abuse to happen, but to actually take advantage of it means that they don't deserve my money.

serotonin, I know what you are getting at, but it is still a problem. Legally yes I could try to argue a case, but I won't always have the funding to do so. No small company can hope to on its own. And that is what decides things. You can't simply answer

whether something is right or wrong anymore, since it seems to depend on who has the more expensive lawyers.

What is the industry going to look like in the future? Developers might have to rely on having lawyers constantly available in all stages of the development process. "Hey what if we make feature X and Y?" "Hey that sounds great! Let me first consult our lawyer to make sure that those ideas aren't already patented....Oh ok. It turns out that X was in Game 1 and is patented. Y could possibly fall under Game 2's patent for..."

Publishers might have to actually provide lawyers for all of their developers to make sure that they're safe. Of course, this eats into profits, but who will get bitten?

I am starting to get worked up about it, and I fear I may become irrational at some points. Again, I would love for someone to point out how beneficial software patents can possibly be, because I find it quite disheartening to think that they exist and only the patent holders are getting a benefit. Aren't patents, trademarks, and copyright especially supposed to be for the good of society?

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

I found these:

<http://lpf.ai.mit.edu/Patents/again...re-patents.html>
<http://petition.eurolinux.org/>
<http://www.freepatents.org/>

A history of software patents:
<http://www.bitlaw.com/software-patent/history.html>

A list of some software patents:
<http://www.base.com/software-patents/examples.html>

Bruce Perens take on software patents:
<http://perens.com/Articles/Patents.html>

And the FSF's:
<http://www.gnu.org/philosophy/savingeurope.html>

This is one thing that explains patents as a good thing:
<http://www.computer.org/software/ho...02/03COTS/1.htm>

Of course, the author of that report makes some assumptions, such as the assumption that open source means you can only make money off of the maintenance of software.

I would like to hear some discussion about that article, as it didn't seem very good to me.

Then there is this article:

<http://csdl.computer.org/dl/mags/so/2000/04/s4122.htm>

And this one:

<http://www.law.duke.edu/journals/dl...02dltr0013.html>

The last one I found kind of funny. It comes to the same conclusion that earlier articles came to, but this time it says it is software patents are NEEDED to enforce quality.

Clearly a study is in order to verify such a conclusion.

understandingeds
free user account

Registered: Nov 2003
Location: Taylors, United States
Posts: 34

I don't have to argue much on this one... the Laviathan state pretty much makes the best case against itself here.

Martaver
Chatty Member

Registered: Dec 2003
Location: Pyrmont, Australia
Posts: 39

dreaming

It would be good if an organization such as the IGDA were to begin acquiring these all these patents, then would license them to whomever wanted to use them. In the least it'd secure the games industry from greedy corporate fat-cat-ization. Maybe.

understandingeds
free user account

Registered: Nov 2003
Location: Taylors, United States
Posts: 34

I think the Lord of the Rings taught a lesson that opposes what Martaver suggests. It taught that the power of the ring is too great for anyone to bear - even squeaky clean organizations like IGDA. Noone should have the power to patent game mechanics, IGDA included. Putting monopoly power in anyone's hands is counter-productive, and is fallacy to assume that this unjustifiable power is any less evil in a certain person/ organization's hands. Owning a game mechanic is a power noone should

have. I would hope that this is something that would be intuitively understand... But leave it to men to hold on to the belief that unchecked, monopoly power is a good thing so long as it is given to the right person...

Martaver
Chatty Member

Registered: Dec 2003
Location: Pymont, Australia
Posts: 39

But the one ring is already forged... I don't feel like taking it to Mordor any time soon, so we can at least keep it safe

You're right of course - but in a worst case scenario, it'd still be better than having to get 30 licenses from different corporations to build a simple shooter.

ambro25
free user account

Registered: Jan 2003
Location: Sheffield, United Kingdom
Posts: 3

You have to understand that:

1) obtaining software patents (or business methods, as I prefer to call them in the context of protecting 'people jumping out-of-the-way')
_is a more-or-less universal right (easier in US, not so easy in Europe)
_is moderately expensive (depending on the specification + whether your attorney is US-based or Europe-based + how hard the USPTO makes it to prosecute to grant)
_is a business tool, much like having cash in the bank for rainy days (defensive IP portfolio, as suggested earlier) or acquisitions/investments (offensive IP portfolio, *ibid.*)

2) VERY big ICT players like IBM, SGI, Motorola, GE and hundreds of others have been at it for decades (and I do mean software patents, here!), so there is no point
_wishing for them to go away
_wishing for the IGDA (or any other such organisation) to buy those for free licensing thereafter - there ain't enough dollars in the entire industry to do this

Moreover, when I refer to software patents being difficult to obtain in Europe, the stance of the EC legislating body just leant that tad bit more in favour of it last week, whereby Eurolinux have had a bit of a setback...

Now, I'm UK-based and I've been patenting software (very cheaply, may I add) for a variety of US, CA and UK based middleware and content-creation package developers, because that's the way this industry is heading, business-wise.

Which is incidentally why I took an interest in the IGDA in the process, and started advocating more IPR awareness amongst ALL players in the industry, involving myself with the White Paper and an essay therein - it's been said before in this thread, but it's worth re-iterating, games are 100% made of IP and if developers, be they big or small, put the head in the sand in respect of developing and owning SOME form of IP, then consolidation in the industry will just steamroll them, as sad as it is to say.

You're in business, do your homework: IPRs are the only assets of value in your balance sheet, and the only assets that APPRECIATE in time if you run your business right.

Videogames are the most fun you can have with anything that isn't breathing.

Martaver
Chatty Member

Registered: Dec 2003
Location: Pyrmont, Australia
Posts: 39

And, like all assets, they require funds to acquire. *sigh*

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

quote:

Originally posted by ambro25
You have to understand that:

1) obtaining software patents (or business methods, as I prefer to call them in the context of protecting 'people jumping out-of-the-way')
_is a more-or-less universal right (easier in US, not so easy in Europe)
_is moderately expensive (depending on the specification + whether your attorney is US-based or Europe-based + how hard the USPTO makes it to prosecute to grant)
_is a business tool, much like having cash in the bank for rainy days (defensive IP portfolio, as suggested earlier) or acquisitions/investments (offensive IP portfolio, ibid.)

So it is a universal right to a business tool that is moderately expensive? How does this promote innovation in the industry? How does this promote industry at all? How does this promote invention? Only the rich can afford to create a portfolio, and only the rich can afford to produce a product that they can almost guarantee is not infringing on someone else's patents. New businesses and developers who are developing for fun, education, or charity (basically not making revenues that can justify paying for the legal expense of the number of patent searches needed to make any single project) are out of luck then?

quote:

2) VERY big ICT players like IBM, SGI, Motorola, GE and hundreds of others have been at it for decades (and I do mean software patents, here!), so there is no point _wishing for them to go away
_wishing for the IGDA (or any other such organisation) to buy those for free licensing thereafter - there ain't enough dollars in the entire industry to do this

No, and we shouldn't expect any one organization to just hold these patents, or to simply license them for free.

Still, some of these patents shouldn't exist. Just because some businesses have already spent the money to patent them, it doesn't mean they then have the right to monopolize obvious ideas.

In my one day of research with Google, I found examples of software patents that I had inadvertently infringed on when I was first starting to program. For example, I used XOR to make an image appear and reappear without disturbing the rest of the screen. Turns out, my "invention" was really patented. Now, I know when I came up with that independently, I didn't have access to the information I have now. I found out about it by experimenting. If someone without much technical knowledge can figure that out, it doesn't sound non-obvious to me. And it turned out that when I got access to the Internet, lots of tutorials existed on the subject. All of those people had infringed on a patent. I find it hard to believe that such a patent can still be in the books, but then again, what does it cost to get them out? Who can afford that?

quote:

Now, I'm UK-based and I've been patenting software (very cheaply, may I add) for a variety of US, CA and UK based middleware and content-creation package developers, because that's the way this industry is heading, business-wise.

Which is incidentally why I took an interest in the IGDA in the process, and started advocating more IPR awareness amongst ALL players in the industry, involving myself with the White Paper and an essay therein - it's been said before in this thread, but it's worth re-iterating, games are 100% made of IP and if developers, be they big or small, put the head in the sand in respect of developing and owning SOME form of IP, then consolidation in the industry will just steamroll them, as sad as it is to say.

You're in business, do your homework: IPRs are the only assets of value in your balance sheet, and the only assets that APPRECIATE in time if you run your business right.

Are all trends good? I think that copyright and trademark go a long way to providing "SOME form of IP" and that patents have been applied incorrectly. Yes, patents may always have been applied like this, but software is different, and someone needs to explain why it isn't.

One-click shopping from Amazon is claimed to be unobvious. Well, how did B&N also come up with it? And other companies I'm sure?

Sega's algorithms? I have seen plenty of cartoons and comedies and such where someone is jumping out of the way of an oncoming vehicle. It doesn't sound unobvious to try to make an algorithm to make a computer generated model do the same.

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Also software patents go against what patents are for anyway. Innovation and invention happen all the time in software development. And given my experience in learning to program as well as the countless stories I have heard in that time, people are always coming up with those same patented methods to do their own work. Not everyone can afford to pay for a patent lawyer for every program they write.

If it is argued that the industry is going in a direction where only a few can compete, who can possibly think that is good for either developers, publishers, or customers? What is sad is that being steamrolled by consolidation is considered ok. Who wants to work in an industry where you can get sued for producing something independently and finding that someone patented a "method" that seemed so obvious to you countless times?

The solution seems to be to play the game and get your own IP. As stated, it takes funding. So you must merge or partner with one of the bigger guns, or perish in the market due to legal strangleholds. Is that the industry we want? Is that the industry

that the customers want? The only ones who benefit from this are the existing businesses who want less competitors and patent lawyers.

Again, I am frustrated because I KNOW there are those out there who believe that patents are necessary to protect copyright. I just want to know what reasons they believe this to be so.

"If people had understood how patents would be granted when most of today's ideas were invented and had taken out patents, the industry would be at a complete standstill today."

"The solution is patenting as much as we can. A future startup with no patents of its own will be forced to pay whatever price the giants choose to impose. That price might be high. Established companies have an interest in excluding future competitors"

Supposedly said by Bill Gates. Regardless of who said it, I think this is an the idea that makes software patents wrong. Stifling competition is not supposed to be a business practice, and I don't think I like the software industry and the video game industry in particular leaning towards it.

GBGames
Chatty Member

Registered: Dec 2001
Location: Melrose Park, United States
Posts: 90

Off topic:

I have been reading the white paper, and I have to say that Chris Burke is wrong about the GPL and copyleft.

He claims that "If you use GPL code or Copyleft content (all of it, or samples and excerpts) in a commercial project, you violate the terms of the license and are breaking the law."

Here is information from the source that says the opposite.
<http://www.gnu.org/philosophy/selling.html>

Basically, if you use GPL code or copyleft content in a commercial project, the only thing you have to worry about is whether or not it affects the licensing of your own code. Binaries made from GPLed code must be distributed with either the source code or some written agreement to provide the source on request.

From the page, on the ability to charge as much as you want for free software:
"The one exception is in the case where binaries are distributed without the corresponding complete source code. Those who do this are required by the GNU GPL to provide source code on subsequent request. Without a limit on the fee for the source code, they would be able set a fee too large for anyone to pay--such as a billion

dollars--and thus pretend to release source code while in truth concealing it. So in this case we have to limit the fee for source, to ensure the user's freedom. In ordinary situations, however, there is no such justification for limiting distribution fees, so we do not limit them. "

So yes, you can use GPLed software in a commercial product and still be following the license.

bgp
Tranquil Member

Registered: May 2003
Location: Salt Lake City, United States
Posts: 3

Let's just all get along and be nice to each other!
Innovation and invention happen all of the time in other industries too--even in industries in which a lot of technologies have been patented. Because of that, it is not all that uncommon in any industry for a few people to come up with the same or similar ideas at about the same time. There are mechanisms (which, again, typically require hiring attorneys) for sorting out who came up with the idea first without abandoning it.

Despite the presence of relevant patents in other industries, the players, including big and small companies and individuals, have managed to deal with patented technologies without going broke and without decreasing their ability to compete. In fact, in many cases the presence of protected technologies, as well as the potential for making money from them, causes people to focus on more innovative ideas and on finding better solutions to the problems with existing technologies.

People try to obtain software patents because they provide broader protection than copyrights, as patent claims are typically drawn to ideas more than to the actual code for implementing the ideas. Whether the original intent is to make some money or to develop a good defensive position, the relatively small investment required at the outset may help protect their potentially huge profits down the road.

Of course, if your intent is to better the industry by making everything available to everyone, disclose everything publicly as soon as possible to prevent others from protecting it and give it away for free so no one has any incentive to try to get money from you.

AGAIN, A LEGAL DISCLAIMER: even if you give something that is patented away for free, you could get sued and possibly be required to quit making, using, or giving away the free technology.

On the other hand, even if you have limited resources, if you patent an idea, then (after coming up with the idea) a big company starts using your protected idea and makes a ton of money off of it and you have a great case against them, you should be able to find a good lawyer who will take your case on contingency (no win, no pay). Of course, if he wins, you might make enough money to identify and invalidate all the

really problematic patents. I WOULDN'T RECOMMEND IT THOUGH; I've never ever met anyone who's had a pleasant experience being involved in a law suit (other than the attorneys, and usually not even them until everything's over).

By the way, a pretty good case could be made that one of the reasons that Mr. Gates's company has done so well is because of the lack of patents in the software industry at the time he was getting into it (DOS wasn't patented, Apple couldn't patent use of the mouse because someone at Xerox came up with it first, etc.). In addition, he needed lawyers to put solid agreements in place (e.g., with IBM) so that his company would have a guaranteed revenue stream (because he didn't hold a patent for DOS). Writing and negotiating and rewriting the contract probably cost him several times what a patent application would have cost. He also needed attorneys to make sure that he would be able to sell his Windows products without having to give all of his profits to someone else.

All times are GMT. The time now is 09:49 PM.

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IGDA Forums > Take Action > Business & Legal Issues > Contract Walkthrough - **patent infringement**

Last Thread Next Thread
Author Thread

ParkTom
Tranquil Member

Registered: Jan 1994
Location: San Francisco, United States
Posts: 2

Contract Walkthrough - patent infringement
I just looked at the IGDA Contract Walk-Through - 2nd Release, and was surprised to see that there was no objection to the developer assuming complete risk of patent infringement. ("Developer Representations and Warranties with Respect to Intellectual Property," page 38.)

Even if a developer's software and content are "wholly owned original works of authorship," the developer can not warrant that they "do not infringe upon the [...] technology or other rights of any person, firm or corporation" without doing a thorough patent search.

Are you guys telling me that developers truly are supposed to assume full exposure for patent infringement? As the Contract Walk-Through says, if this contract is a "work for hire" agreement, shouldn't this be the publisher's liability?

No one commented on this issue in the walk-through.
Thanks in advance for any comments here,
--t

gregboyd
Tranquil Member

Registered: Jul 2003
Location: Carrboro, United States
Posts: 3

Think of it as a contest between the developer and the publisher. Each wants the same thing: rights for my party, responsibilities for the opposing party. On balance publishers usually win this contest for the reasons discussed below.

The result of that "winning" is clauses like the one you listed. Both sides want the other side to be responsible, but the result comes out of several inquiries. These inquiries include:

1. What is the industry standard? Who usually accepts this responsibility?
2. Who understands the inner workings of the game most completely? Both sides can look up patents or "know" what is patented by someone else, but only the developer really knows exactly what they used to make the game.
3. Who has the negotiating power? Who can walk away from the table most easily and lose the least?

Clearly, like any contract question this is only part of the analysis. However, the answers to these three questions push heavily toward the developer accepting responsibility for infringement.

I did not work with the business committee on that document, but I am working with the IP rights folks on the IP whitepaper. I am sure the business committee folks or other experienced people can give a more thoughtful and complete answer to your question.

Greg

ParkTom
Tranquil Member

Registered: Jan 1994
Location: San Francisco, United States
Posts: 2

Thanks Greg. Your response makes sense to me. I was basically asking what is the industry standard.

My attorney had advised me never to accept liability for patent infringement unless the delivery schedule and payment includes a patent search, or at least significant upside or compensation for that exposure. However, her experience is in general technology agreements, not the game industry.

Stories of publishers having considerable advantage over developers are legion in the game industry, so i shouldn't have been surprised.

gregboyd
Tranquil Member

Registered: Jul 2003
Location: Carrboro, United States
Posts: 3

I am glad I could help a little. I do feel inclined to say a couple of other things.

1. No one is better than your own attorney to analyze your situation. Trust her because she knows so much more than some guy thousands of miles away.

2. Every contract is different. Clauses can be very subtle. You are going to get very different publishing deals if you are Bioware than you will if you are starting out. You get better deals if your company or attorney has a good relationship with the other party. There are so many factors to consider. Please see number 1 above.

I'll also ask anyone else to jump in to offer a more complete answer or criticize mine if they like.

Greg

charne
Tranquil Member

Registered: Feb 2001
Location: Santa Monica, United States
Posts: 3

When I am negotiating on behalf of a developer client, I ask that patent reps be made "the best of its knowledge and belief" and be separated from the other I.P. reps which generally are absolute.

Some publishers accept this; some do not.

I believe it is unrealistic to expect a publisher to make a deal with anyone other than the very highest eschelon of developer in which the developer fully disclaims patent reps and warranties.

Patent infringement can be inadvertent. All developers should try and keep current on patents in the games field (this would be a good subject for a monthly column in "Game Developer" magazine.)

Since many publishers will not accept anything less than a full representagion on patent infringement, each developer must weigh the extent it regards this as a risk.

Jim Charne
www.charnelaw.com

Jim Charne
www.charnelaw.com

odie76
free user account

Registered: Jun 2003
Location: Gothenburg, Sweden
Posts: 2

I am a student from Sweden currently concluding my work on a master thesis dedicated to exploring the status of patents in the video game industry. The number of patent applications to the USPTO reached a peak during the years 97-99, but has since then been steadily declining and I am trying to figure out why. A simple explanation to this would be the general recession, but it is my belief that this cause has interacted with the death of the coin-op industry. One of my working theories is that VG patents to some extent can be called relics of the coin-op era, which included technology that was more easily patented (Hardware configuration including lavish console design + method of playing a game). It also made more sense seeking patents because of the "locality" of the competition (the arcades, malls and gallerias). Many of the companies involved in this business (Midway, Sega) have surrendered their old territory and are now acting mainly as publishers and developers, and I am keen on knowing if they have included patent licensing as a part of their business idea given their large patent portfolios. What are your thoughts on this? Has anyone here dealt with these companies regarding patent issues?

Sorry for changing the topic of discussion. There seemed to be some really profound people here and I wanted to be sure I caught their attention.

[Report this post to a moderator](#) |

11-18-2003 01:01 PM

serotonin
Half-Raph Member

Registered: Mar 2002
Location: Duvall, United States
Posts: 589

I think middleware providers are the up-and-coming segment to watch for game-related patents.

Part of some middleware providers' value proposition is a "guarantee" of sorts that they have rights for all of the technology they are using.

Once you make that part of your value proposition, it's a very small step to include your own IP in the middleware, and to actively seek more IP to (a) differentiate your middleware and (b) raise the barriers to competition.

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GameDev.Net Forums The Business of Game Development **Am I Screwed?**
(Patent Question)

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bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 2:53:13 AM

I got an idea to write a type of CAD application from having used a commercial app which produced good end results, but the user interface (among other things) sucked and made it very tedious and difficult to do the work. (When I refer to the user interface, I mean the methods needed to do the work, not the physical look.)

So I started working on my app which will blow the other one out of the water, and I'm all fat and happy.

Then I discovered that the app that my idea came from (the one that sucks) has 2 patents. I looked up the patents and they describe the software in detail. My app is the same in almost every respect with the exception of the user interface (and a few other miscellaneous additions). So am I screwed? It seems I shouldn't be since there are always many software packages that do basically the same thing (like different compilers, or different image editing software, etc). But the detail in which the patent described the product

got me concerned since it is so similar to what I'm trying to do.

Also, I don't know if it matters, but this app is for a very niche market. The app I was using is basically the only commercially available one that I know of.

Thanks in advance for any advice,
Bart

Obscure Member since: 2/10/2000 From: United Kingdom
Posted - 25 June 2003 8:52:27 AM

This is so far from being a question that can be answered here that it is currently orbiting a small moon in a galaxy far far away.

Without detailed information on your product and a detailed review of the patent even a good lawyer wont be able to give you an answer. The only thing approaching an answer I can give is that if they have gone to the expense of registering a patent they will likely go to the expense of defending it, if they believe you are in breach.

One final point. I assume they registered it in the US so that is the biggest market screwed. However if you can find a country where they have not registered it you can sell your product there. Also under UK law it is not possible to patent software so that (somewhat smaller) market is open to you.

You really need to talk to a patent lawyer. That will cost money. Failing to talk to a patent lawyer will likely cost even more money if these people come after you.

Dan Marchant
Obscure Productions
Game Development & Design consultant

bartount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 12:18:29 PM
quote:

Original post by Obscure

Without detailed information on your product and a detailed review of the patent even a good lawyer wont be able to give you an answer.

Detailed information on my app probably wouldn't help because I doubt anyone here would understand it even if I tried to explain it.

What I'm getting at though is that the difference between my app and the competitor's app is sort of like the difference between Microsoft Word and Corel WordPerfect. They do pretty much do the same thing and have the same look and feel. So what keeps one from suing the other over

infringement in this case (I'm assuming one or both have patents)?
In general, how does one develop an app that has the same function
as another app without encountering these types of problems? It's
obviously done all the time.

I'm just trying to get a general idea of what the situation is from people
who may have had some experience with this. If it seems to be a critical
issue, then I may consider consulting a patent attorney.

CheeseGrater Member since: 6/21/2001 From: MA,
Posted - 25 June 2003 12:47:52 PM
'Similar' products are sometimes forced to be quite different under the hood
specifically to avoid treading on their competitor's patents. Just because Word and
Word Perfect both have spellcheck doesn't mean that they use the same algorithm to
check spellings, for example.

Make no mistake, this is a critical issue, and you definately need to consult an
attorney.

Ouranos Member since: 2/11/2002 From: USA
Posted - 25 June 2003 12:58:00 PM
Under modern copyright laws, you won't be in violation due to "look and feel". As
long as your code is different youre fine. But like everyone has said already, check
with a lawyer.

haro Member since: 3/30/2002 From:
Posted - 25 June 2003 5:03:55 PM
quote:

Original post by Ouranos
Under modern copyright laws, you won't be in violation due to "look and feel".

I actually spoke to a lawyer about copyright issues no more than three months ago and
he stated the exact opposite. Software copyright infringement is based on replicating
the "look and feel" (his words exactly) of another individuals software. This leads to
extremely subjective cases where generally the person who has more money to spend
on legal aid wins, so his advice was to avoid developing software that could even
reasonably be interpreted as impersonating the "look and feel" of another program.
All people might say that FPS's look the same, but you could even begin to say that
Quake 3 has a very similiar look and feel to Half Life? Not really. Compare Netscape
to Internet Explorer though and you're getting close to the grey area.

Sneftel Member since: 7/7/2001 From:
Posted - 25 June 2003 5:07:21 PM
check out <http://www.chillingeffects.org> for some good info which was actually written by lawyers. One important point is that your app must fit ALL aspects of the patent in order to be in violation.

How appropriate. You fight like a cow.

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 5:20:09 PM
quote:

Original post by Ouranos
Under modern copyright laws, you won't be in violation due to "look and feel". As long as your code is different youre fine. But like everyone has said already, check with a lawyer.

I'm not concerned about copyright infringement. I think I understand how to avoid copyright infringement (don't copy code or "look and feel"). What I DON'T understand is the how to avoid *patent* infringement. I don't know what the ramifications and possible problems are due to the competitor's software having *patents*. Does the fact that the software is patented mean that no one can develop an app that does the same thing?

HenryApe Member since: 12/31/2001 From:
Posted - 25 June 2003 6:14:00 PM
These three FAQ entries answer your questions.

[edited by - HenryAPe on June 25, 2003 6:14:59 PM]

CheeseGrater Member since: 6/21/2001 From: MA,
Posted - 25 June 2003 6:18:01 PM
quote:

Original post by Sneftel
One important point is that your app must fit ALL aspects of the patent in order to be in violation.

IANAL, but I'm pretty sure that you only have to violate all aspects of one of the patent's claims - not the entire patent.

brain21 Member since: 11/19/2001 From: Canada
Posted - 25 June 2003 6:46:53 PM

bartyount: What kind of CAD program are you building. I'm also planning to build a sort-of CAD program. I've also seen one (and theres only one) other sort of this cad program around. So what is it exactly?

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 6:53:09 PM
quote:

Original post by brain21

bartyount: What kind of CAD program are you building. I'm also planning to build a sort-of CAD program. I've also seen one (and theres only one) other sort of this cad program around. So what is it exactly?

Hmmm... I'm not sure I want to give away my prize secret!
I tell you what - you tell me what *you* are working on and
I'll let you know if it's the same thing.

Kaezin Member since: 8/18/2001 From: Lost in a sock puppet
Posted - 25 June 2003 6:54:02 PM

I'm afraid I can't help with the question at all, but you don't have to press enter after every line of text you write in a message It automatically wraps your text.

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 6:58:14 PM
quote:

Original post by Kaezin

I'm afraid I can't help with the question at all, but you don't have to press enter after every line of text you write in a message It automatically wraps your text.

That's ok - I prefer to wrap my text manually!

brain21 Member since: 11/19/2001 From: Canada
Posted - 25 June 2003 7:01:48 PM

Ok....I'm building an indistrial simulator. This will simulate different industrial machines and conveyors and stuff like that. Sort of like a SimCity Level Editor. There only one other one like that out there. and it comes with a gnu compiler and is

basically a folder full of libs and dll and source that compiles with your settings and data the runs. Cool stuff though.

Ok...is it the same. and would you tell me if it was??

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 7:19:03 PM

quote:

Original post by brain21

Ok...I'm building an industrial simulator. This will simulate different industrial machines and conveyors and stuff like that. Sort of like a SimCity Level Editor. There only one other one like that out there. and it comes with a gnu compiler and is basically a folder full of libs and dll and source that compiles with your settings and data the runs. Cool stuff though.

Ok...is it the same. and would you tell me if it was??

That **IS** cool! But not the same. Mine is for designing marching band shows. But don't tell anyone. Mine sounds pretty lame next to yours, but it's actually pretty cool.

cbenoi1 Member since: 2/7/2003 From: QC, Canada
Posted - 25 June 2003 7:29:54 PM

> Then I discovered that the app that my
> idea came from (the one that sucks) has 2 patents.

A patent is a 'right to sue'; it doesn't mean that the patentee will **automatically** sue you. Perhaps the UI came from another field altogether and that company has absolutely no interest in yours and thus won't even bother to sue. Maybe the company is on the verge of bankruptcy and has no resources to devote to a long and expensive court battle. Maybe the product line is going out of the market because of poor sales. Who knows... If it's a direct competitor and this one is financially healthy, then you're in deep sh%t unless you can invalidate the patent.

Try to find articles from the authors, even in obscure journals. A citation index is of great help there; ask a university librarian. If you can find an article that describes the patent in enough detail and it **pre-dates** the patent's first filing date, then you're golden. Those articles are often the result of well-meaning, but biz-depleted scientists wanting grant money. That's called "prior art" and can be used to invalidate the patent, but it's usually kept as a defensive legal weapon (i.e. "if you sue me I'll invalidate your patent and kill off your royalty cash flow"). Also, you might have patented something that may interest them and use that as a barter token; call it "cooperative competition" or coopetition {grin}.

The worst thing you can do about your patent issue is tell everyone about it and continue to use it; you then can pay up to *triple* (yes, 3X) damage payments if you get caught red-handed because you KNEW about the patent. It's better to get caught with no traces of the infringing patent (including papers, files on disk, emails and forum messages) and try to negotiate a specific market and/or \$\$ value for your application's use of the patent.

-cb

Obscure Member since: 2/10/2000 From: United Kingdom
Posted - 25 June 2003 8:40:20 PM

quote:

Does the fact that the software is patented mean that no one can develop an app that does the same thing?

No. A patent only protects the method or process they use to do it. You can create a system to compress music. You can't copy the algorithm/code (the process) used to compress MP3 files.

Dan Marchant
Obscure Productions
Game Development & Design consultant

Anonymous Poster
Posted - 25 June 2003 10:03:17 PM

quote:

Original post by cbeno1

The worst thing you can do about your patent issue is tell everyone about it and continue to use it; you then can pay up to *triple* (yes, 3X) damage payments if you get caught red-handed because you KNEW about the patent.

I'm trying to do the right thing - I wouldn't deny that I know about the patent. I'm trying to figure out if I would actually be violating the patent or not. If not - great! If so, I'll have to accept that fact and move on to bigger and better things.

quote:

It's better to get caught with no traces of the infringing patent (including papers, files on disk, emails and forum messages) and try to negotiate a specific market and/or \$\$ value for your application's use of the patent.

Well obviously it's too late to avoid that!

JohnBolton Member since: 4/3/2002 From:
Posted - 25 June 2003 10:13:21 PM
quote:

Original post by bartyount
Hm... I'm not sure I want to give away my prize secret!

Wait a minute. What secret? I thought the whole point of this topic was that your "secret" is patented by somebody else! If you don't want to give away your "secret", just tell us the patent numbers so we can look them up!

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 25 June 2003 11:00:14 PM
quote:

Original post by Jambolo
Wait a minute. What secret? I thought the whole point of this topic was that your "secret" is patented by somebody else! If you don't want to give away your "secret", just tell us the patent numbers so we can look them up!

I was halfway joking. If I reveal the "secret" (which I did in a previous post), I have potentially created more competitors since there might be someone else who might be interested in getting into the mix. Of course all this is moot if there's a patent, but I don't know that yet.

GameDev.Net Forums The Business of Game Development Am I Screwed? (Patent Question)

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cbenoi1 Member since: 2/7/2003 From: QC, Canada
Posted - 26 June 2003 8:34:58 AM

> I'm trying to figure out if I would actually be violating the patent or not.

Get a patent attorney, as was suggested above. Mark all your correspondence with the text "Confidential -- Client-Attorney Privileged Communication". That can't be seized under the 16th amendment (or 5th, or 10th, I can't tell I'm Canadian...).

If push comes to shove and you decide to go forward and implement the patent anyway (your attorney may have counseled that detecting patent infringement will be next to impossible and thus very difficult to prove), burn the source code on a CD and keep it in a safe nearby. That way, if you ever get a visit from your unfriendly DA office rep, just give away the disc; that prevents your entire set of computers and file servers to be seized and put away for years (thus killing your business off as a side-effect).

-cb

bartyount Member since: 1/3/2001 From: MS, USA
Posted - 27 June 2003 7:24:51 PM
Thanks for the comments and advice everyone.

I've studied the patents in more detail on my own and I believe that the claims are not valid due to "obviousness". I will consult a patent attorney on this at some point.

The problem remains though, that even if I'm within legal rights, there's nothing stopping them from suing me anyway. And even if I had a sure win, I wouldn't have the money to finance a defense.

Anonymous Poster
Posted - 28 June 2003 1:16:50 PM
You might also check the Official Gazette (at uspto.gov) and see if the patents have expired. Some patents expire each month because their owners don't pay the maintenance fees, particularly if the company that owns them fails and isn't bought out. Just keep in mind that an expired patent can often be revived for a certain period of time.

And you are correct, it can be very, very expensive to fight a patent battle and invalidate a patent, even if you are obviously right.

Anonymous Poster
Posted - 7 October 2003 6:07:09 AM
I have almost the same problem.

A company has a name similar to my company, but their's are spelled differently?

I asked them for their trademark information about their name, but they never replied!?

I guess they haven't registered or trademarked their name at all. Why wouldn't they respond???

!!HeLp!!

Sander Moderator Member since: 4/19/2002 From: Netherlands
Posted - 7 October 2003 6:19:00 AM
Trademark search. Click on the left under 'Trademark'->'search'. And next time, please so not necro an old topic. Register a username and start a new topic. Less heavy on the server and you'll get far better answers.

Closed

Sander Maréchal
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GameDev.Net Forums The Business of Game Development **Game Design, Patents & IP**

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Odie76 Member since: 6/23/2003 From: Sweden
Posted - 3 July 2003 7:55:49 AM
I am a student of electrical engineering and information technology from Gothenburg, Sweden working on a thesis on the subject of Game Design, patents and IP.

The team that I am currently working with has, through previous research (<http://civ.idc.cs.chalmers.se/projects/gamepatterns>), concluded that IP-issues is something that can severely inhibit creativity when working on a project. A slightly political view perhaps, but even though the problems can usually be worked around, it would make matters easier if these issues could be dealt with (anticipated and categorized) at an early stage.

At this point I would like to reach out to all of you who have hands-on experience of game development (but of course, anyone with an opinion is welcome to share it). How have these “problems” been handled in the projects you have been involved in? What are the main legal concerns of game developers today and have they changed with time? Some people say the game industry has become stagnant and developers are running out of (good) ideas. Could this instigate a more fierce behaviour in the industry when it comes to protecting ideas and designs? Is there a point at all in protecting a product with (in most cases anyway) such an “extreme” relationship between production costs, production time and product life cycle? Do you know of any current cases where patent law has been enforced?

If you for some reason do not feel like making any statements in public, please contact me at it1daol@ituniv.se

Oluseyi Moderator Member since: 5/14/2001 From: New York, USA
Posted - 3 July 2003 5:20:10 PM
I think you'll get much more knowledgeable answers - and just plain more answers -
in The Business of Game Development forum.

Thread moved.

cbenoi1 Member since: 2/7/2003 From: QC, Canada
Posted - 3 July 2003 8:49:56 PM
There are significant costs in filing a patent, let alone the costs of enforcing it in court. Around US \$20,000 is not excessive for a single filing. Given the state of the gaming industry (more than 90% of games don't make it to break-even point), each \$ invested must end up in making the game and not on protecting the technology. IP of the game contents (characters, storyline, graphics & sounds) is another story. Most studios license outside IP and that is part of the contract with the publisher. A few have developed IP on their own, but again, this is 'protected' explicitly by contract or copyright. Most game companies have a young staff uneducated about IP issues; it's not unusual to find cut&paste'd code from an article. Although the probability to find patented code in games is pretty high, I've yet to find a case where a game company got sued over a patent issue. There are a few cases on stolen IP, though. The fact the Mickey Mouse is off the 'forever' copyright clause (according to recent modifications to the US copyright act) is indeed an issue for Disney; but I've yet to find a patent on 'The Little Mermaid'...

I've been working for a few CG tools companies that sell software to game makers. Those products have a longer development cycle and companies are more keen to filing patents as a normal business process. This industry is based on an overabundance of cheap tools and limited markets, thus the fierce competition; patents are a tool of choice in protecting a leading technology and are more used for barter. I've been involved in many patent evaluations and a few actual court cases, and the battles are pretty ugly. Developers in those companies have a better idea of what's patented and what's not, and what ideas are patentable. Where I worked there were a few developers who had direct contact with the corporate lawyers and information was flowing between them about new filings.

Hope this helps.

-cb

EDIT: Mighty Mouse clause

[edited by - cbenoi1 on July 4, 2003 9:34:34 AM]

Anonymous Poster
Posted - 3 July 2003 10:08:42 PM
There are some other patent issues to consider, at least in the US. For example, it is rare for the patent office to respond to a filed application in less than 14 months (at which time they are supposed to respond), but I have seen applications in which the

patent office took between two and three years to respond. Software applications are especially backed up, and so long response times are common. This brings up the first issue - will your game be in the bargain bin before you even have any protection from a patent (assuming that you get one)?

In addition, you have to consider whether it is really possible to detect infringement. In other words, if you have the latest and greatest method for doing whatever it is you are doing, will you actually be able to tell that someone else is using your method (without getting involved in litigation)? If not, patent protection is probably just a very expensive waste of time.

cbenoi1 - By saying "Mickey Mouse is off copyright", do you mean that it is no longer protected? If this is what you mean, the Copyright Term Extension Act of 1998 gave Mickey some additional life. If that's not what you mean, sorry, I misunderstood you.

cbenoi1 Member since: 2/7/2003 From: QC, Canada
Posted - 4 July 2003 9:30:49 AM
> "Mickey Mouse is off copyright", do you mean that
> it is no longer protected?

From my understanding, the US 1790 copyright act had an 'unlimited life' clause for graphic art, cartoon characters included (someone told me the clause was originally devised for portraits). The newer modifications of 1998 extends the life of all art by 20 or so years, but the 'unlimited life' clause was abolished. The Mighty Mouse will be up for grabs around 2023 in the US; so it's not protected 'forever' anymore.

Maybe I should have expanded on my earlier sentence. Thanks for pointing that out.

-cb

Obscure Member since: 2/10/2000 From: United Kingdom
Posted - 4 July 2003 11:26:51 AM
I can't see how IP rights can inhibit creativity at all. IP rights protect creative works that already exist. If you are using someone else's IP you are simply copying or adapting - not creating.

Dan Marchant
Obscure Productions
Game Development & Design consultant

HenryApe Member since: 12/31/2001 From:
Posted - 4 July 2003 1:09:21 PM
quote:

From my understanding, the US 1790 copyright act had an 'unlimited life' clause for graphic art, cartoon characters included (someone told me the clause was originally devised for portraits).

The copyright act from 1790 granted authors a 14 year copyright monopoly. The copyright term today is in practice indefinite since the media companies' "campaign contributions" (or whatever they call the bribes these days) to US politicians extend the copyright term faster than it expires.

quote:

If you are using someone elses IP you are simply copying or adapting - not creating.

All works copy something from what has come before them. I don't think IP-laws constitute a very good measurement of originality.

[edited by - HenryAPe on July 4, 2003 1:10:18 PM]

Anonymous Poster

Posted - 4 July 2003 1:25:26 PM

"If you are using someone elses IP you are simply copying or adapting - not creating."
"

This is not entirely true. People don't know when to draw the line. They think anything similar is infringement, when in some cases it can be straight up, fair competition. "IP" is still a cloudy term. People are getting into grey-areas. Especially when you look at names, it won't be long before our movies and games are forced to use long sentences, numbers, or made-up words just to dodge lawsuits.

I say we should be thankful the entire industry wasn't patented by the people who made PONG, like Hasbro did with trading card games. Or else many of us would be jobless and still playing PONG..

Obscure Member since: 2/10/2000 From: United Kingdom

Posted - 4 July 2003 8:30:20 PM

quote:

Original post by Anonymous Poster

"If you are using someone elses IP you are simply copying or adapting - not creating."
"

This is not entirely true. People don't know when to draw the line. They think anything similar is infringement,

Yes it is true. I was talking specifically about using someone else's IP. Not about creating something similar.

Dan Marchant
Obscure Productions
Game Development & Design consultant

[edited by - obscure on July 4, 2003 8:30:46 PM]

Odie76 Member since: 6/23/2003 From: Sweden

Posted - 7 July 2003 9:33:19 AM

Most of the patents I have found so far are owned by companies that are involved in hardware manufacturing. The coin-op industry, however, blends hardware and "Gameplay" technology which has resulted in a number of interesting patents. Sega, who have always excelled in lavish console design, owns patents to their ski simulator and fishing game and Midway actually owns the rights to the "Ghost-car" feature which is implemented in damn near every racing game today. Why has this not been enforced? (Or has it?)

I am interested in the kind of patents that are not directly connected to console design and interaction devices. Example: Max Payne, the number one PC-shooter of 2001(?), incorporated a gameplay function called "bullet-time" which received a lot of attention. Clearly inspired by the Matrix and Hong Kong action movies, this function allowed the player to momentarily slow down the action around him while still being able to aim his guns in real time. A striking and beautifully implemented feature that gave the player an advantage during the game's intense action sequences. This became no doubt one of the game's main selling points, but with a production time of over three years, there was an inherent risk that another game would be released that featured its own version of bullet-time. With the almost understated importance of originality (at least in non-franchise, non-licensed products), the game would probably not have been such a huge success if this feature was not considered a novelty. Would it have been possible for the creators of Max Payne to take actual legal precaution instead of just "keeping it a secret"?

There are other IP-issues that concern game developers, that are perhaps more difficult to foresee and deal with. Swedish developers Digital Illusions described in an interview some unexpected setbacks that occurred while working on Midtown Madness 3, a racing game set in photo-realistic environments in Paris and Washington. Apparently, some grumpy old frog (pardon my French...) owned the intellectual rights to the "illumination" of the Eiffel tower. I am not sure how they worked it out, but excluding the tower from a game that claims to offer a near-real-life experience of cruising 'round the streets of Paris is simply not an option.

Do you think that it is possible to develop some kind of methodology that can be used by game designers that allows them to deal with IP-issues at an early stage, or is this impossible given the quasi-chaotic process of game design? Could they be closely tied to game genres or would this be futile considering the evolution of the gaming industry and genre-blending?

Readers of French heritage: Please do not be offended by the 'frogs' - remark:-)

Obscure Member since: 2/10/2000 From: United Kingdom
Posted - 7 July 2003 11:22:58 AM

quote:

Original post by Odie76

Would it have been possible for the creators of Max Payne to take actual legal precaution instead of just "keeping it a secret"?

No. There is no protection for ideas. Anyone could come up with their own version of this feature. The actual code used in the game is protected by copyright but creating your own code to do the same job would get around this.

quote:

Do you think that it is possible to develop some kind of methodology that can be used by game designers that allows them to deal with IP-issues at an early stage, or is this impossible given the quasi-chaotic process of game design?

This isn't a design issue but a production issue. Before a title is designed and again before the design goes into production there should be a legal review. Does it contain ANYTHING that isn't created wholly by the development team. If yes the lawyers need to have a look at it.

Dan Marchant
Obscure Productions
Game Development & Design consultant

HenryApe Member since: 12/31/2001 From:
Posted - 7 July 2003 1:31:53 PM

The bullet-time feature could possibly have been guarded with a patent. If the patent was written broadly enough ("a method that uses a computer to simulate slow motion blah blah"), then it would not matter if others used slightly different code.

[edited by - HenryAPe on July 7, 2003 1:37:18 PM]

Anonymous Poster
Posted - 7 July 2003 5:08:09 PM

I hate people who think like this. Why should they get a patent on that? How many games do you think that company wants to make that need to have "bullet time"? The only reason they would have done it is to create problems for other developers

wanting similar effects (I believe it's called "stifling innovation" and generally frowned upon by the free world)

Also, it would have to be more focused because it could be hard to prove that you "invented" blurring or slow motion effects when there is obviously proof of previous existances of these or very similar effects, and not to mention the obvious rip off of "The Matrix" which BTW they didn't create.

HenryApe Member since: 12/31/2001 From:
Posted - 8 July 2003 6:34:24 PM

I am not saying that they "should" get a patent on it, just that it is possible. There are problems with suing other companies for patent infringement, especially if they are big companies that also own a bunch of frivolous patents that they have managed to sneak by the clueless patent examiners and can use in a countersuit.

Anyway, if you want an example of a game-industry patent, take a look at Chris Crawford's interactive storytelling patent. He himself thinks that he has patented a set of ideas that permit interactive storytelling, but from reading the actual patent text it might even cover some turn-based games where the computer gets input from the user and generates a list of actions for all characters in a scene and then executes all those actions before getting more input from the user.

[edited by - HenryAPe on July 8, 2003 6:35:14 PM]

Anonymous Poster
Posted - 9 July 2003 11:12:01 AM

Well let me say he most definatly did not come up with the concept of an "interactive story". Maybe the process he describes. But I'm pretty sure that to infringe on this one you would have to do it exactly as the patent says otherwise it's not covered. Someone should just go crazy and buy a lot of patents like this and then declare them as "free ideas" so we wouldn't have to worry about stupid patents like this one.

I would donate to such a cause if I knew it would work. FreeTheIP.org sounds good to me.. Of course there would probably be some kind of problems with it.. But I think it would be a good idea for developers to retain their creative freedoms.
Oh well, now you know what I would do if I ever won the lottery..

Fett Member since: 8/18/2002 From: USA
Posted - 20 July 2003 10:46:24 PM
Reminds me of marriage. 'Forever' or until someone changes their mind.

Anyways, I do believe copyrighting is going a little too far these days. I mean look at some of the names of some of the popular music bands(i.e. Blink182, Sevendust). I know in the case of Sevendust at least they had to change from their original name of 'Crawlspace' because it was taken.

It's sad. We're probably are going to get to the point where we do have to use numbers and random letters to avoid copyright issues progressively more and more every year.

Without a doubt, it does hurt creativity. I understand you have to protect ideas and titles. It's going too far though.

Anonymous Poster

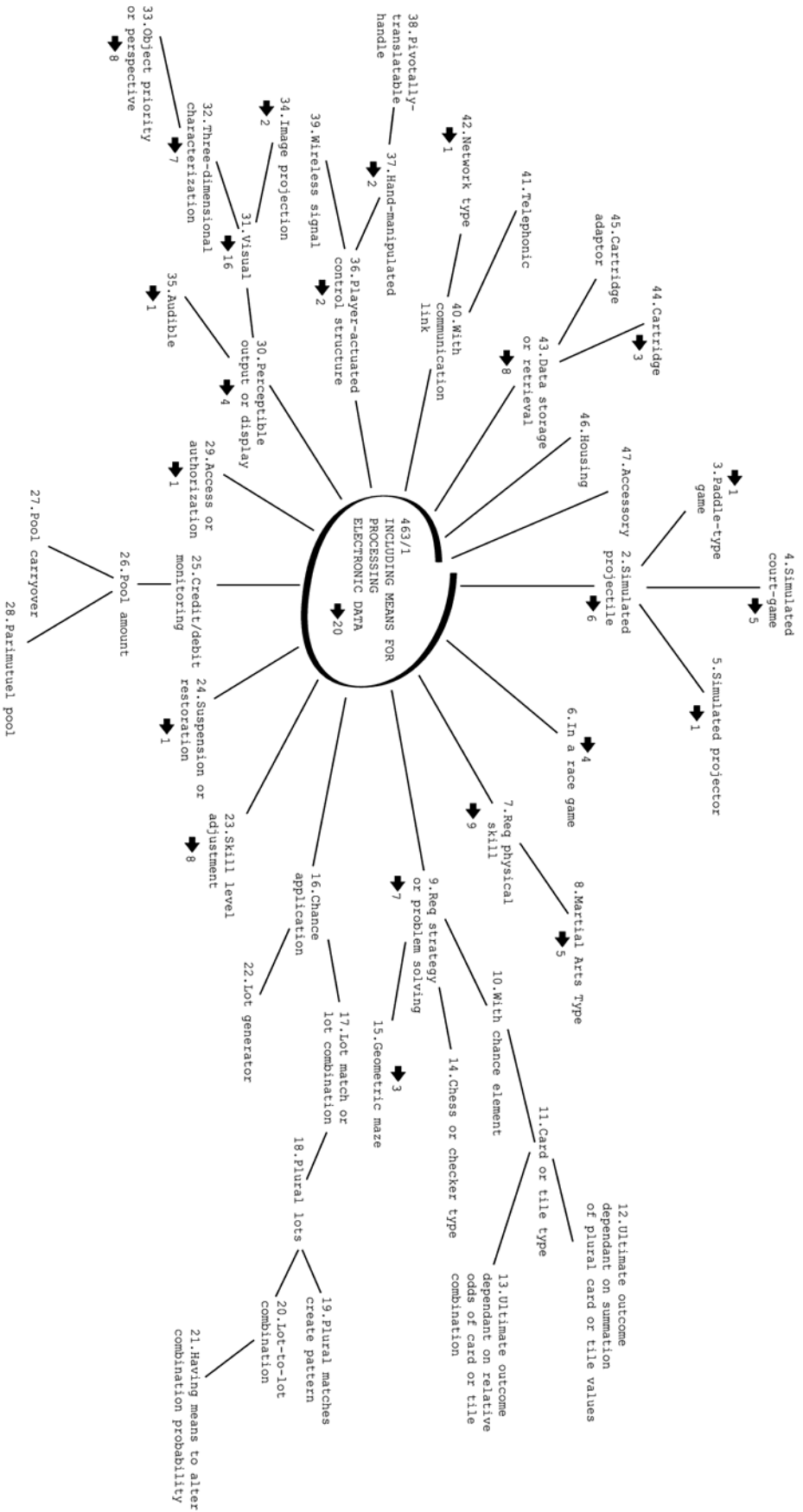
Posted - 21 July 2003 6:44:37 PM

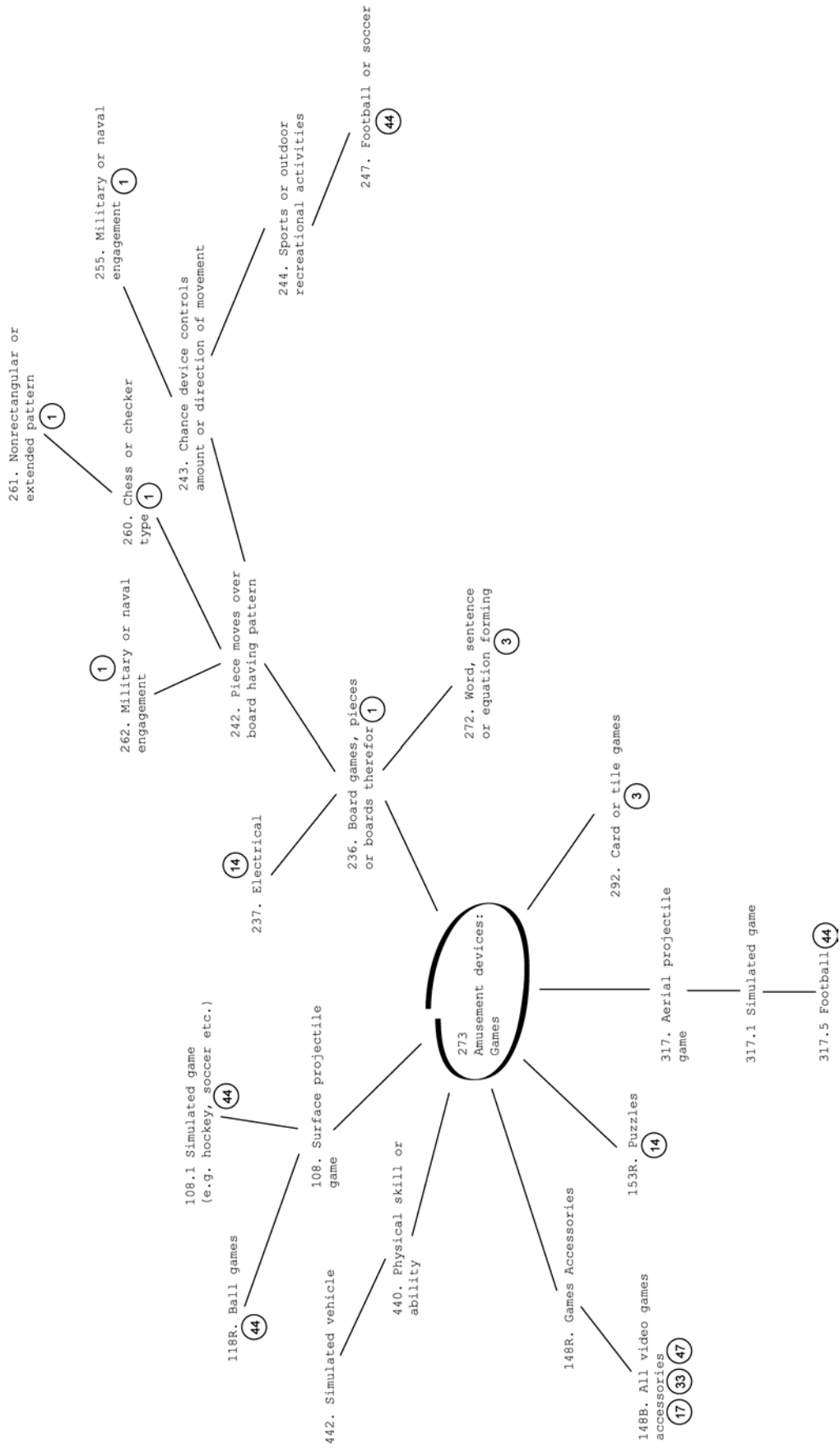
I agree. I think a good way to prevent this problem would be, after about 10-20 years of a name being taken by one company, the name and names similar to it should be free to use. After such a long period of time consumers should know the company enough to not be "confused" about a new company with a similar title. Also, if you are in business for such a long time and nobody knows of you, why should you be allowed to hog up the name so that other, more productive people have to struggle to find a "free" name?

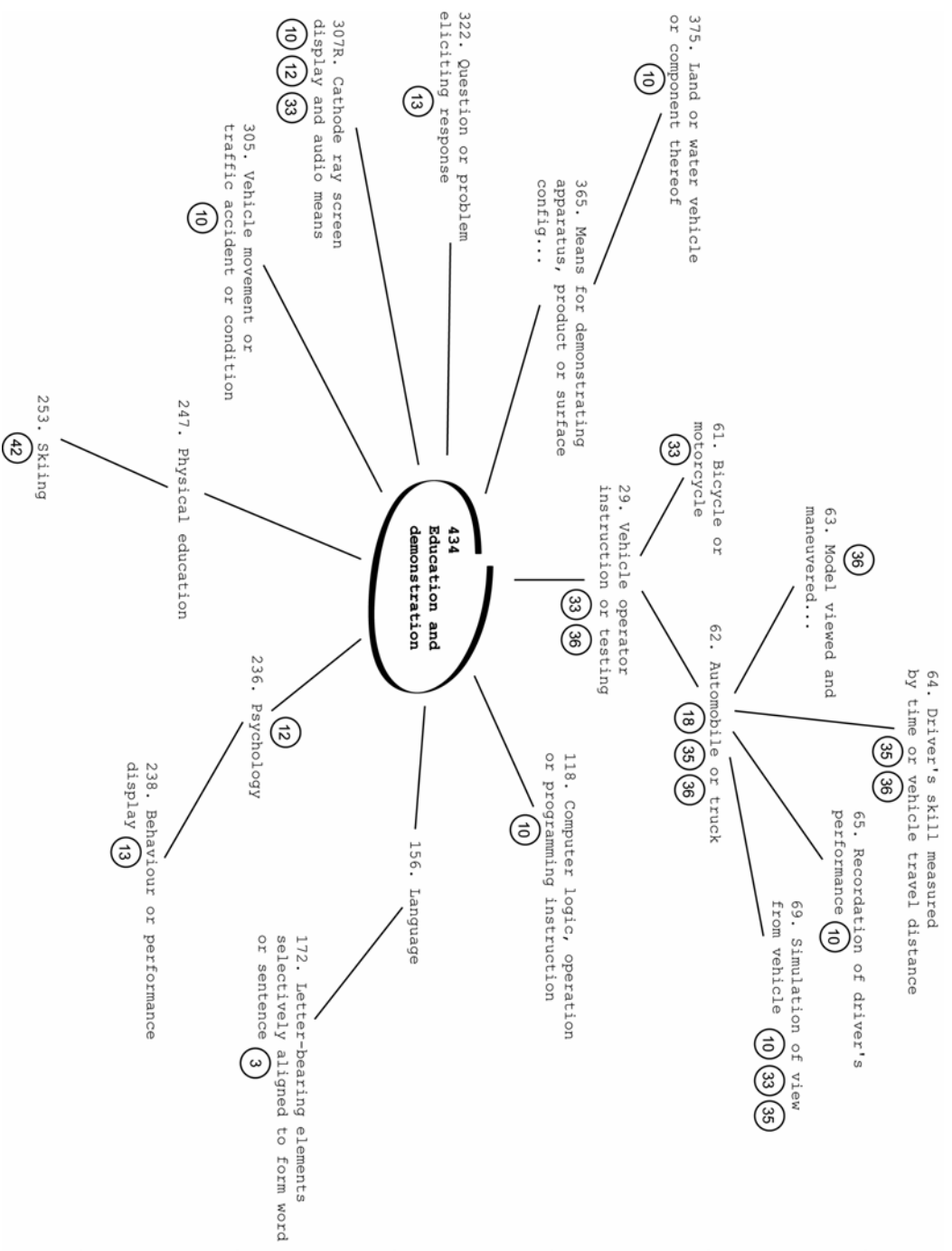
Who today would be dumb enough to confuse "coca cola" with "CocaSoft" or "Reebok" with "ReebaSoft" ? as it is the law would stop you from using names like that (or their lawyers can) even though the products are totally different. This is not good. Soon the government may need to start a "code system" and we will be issues numbers and have to refer to each other's companies by those numbers.. Sorta like social security numbers, but it may be "DBA codes" Who knows where this is all going.. Just imagine when we start fighting over the number combinations!

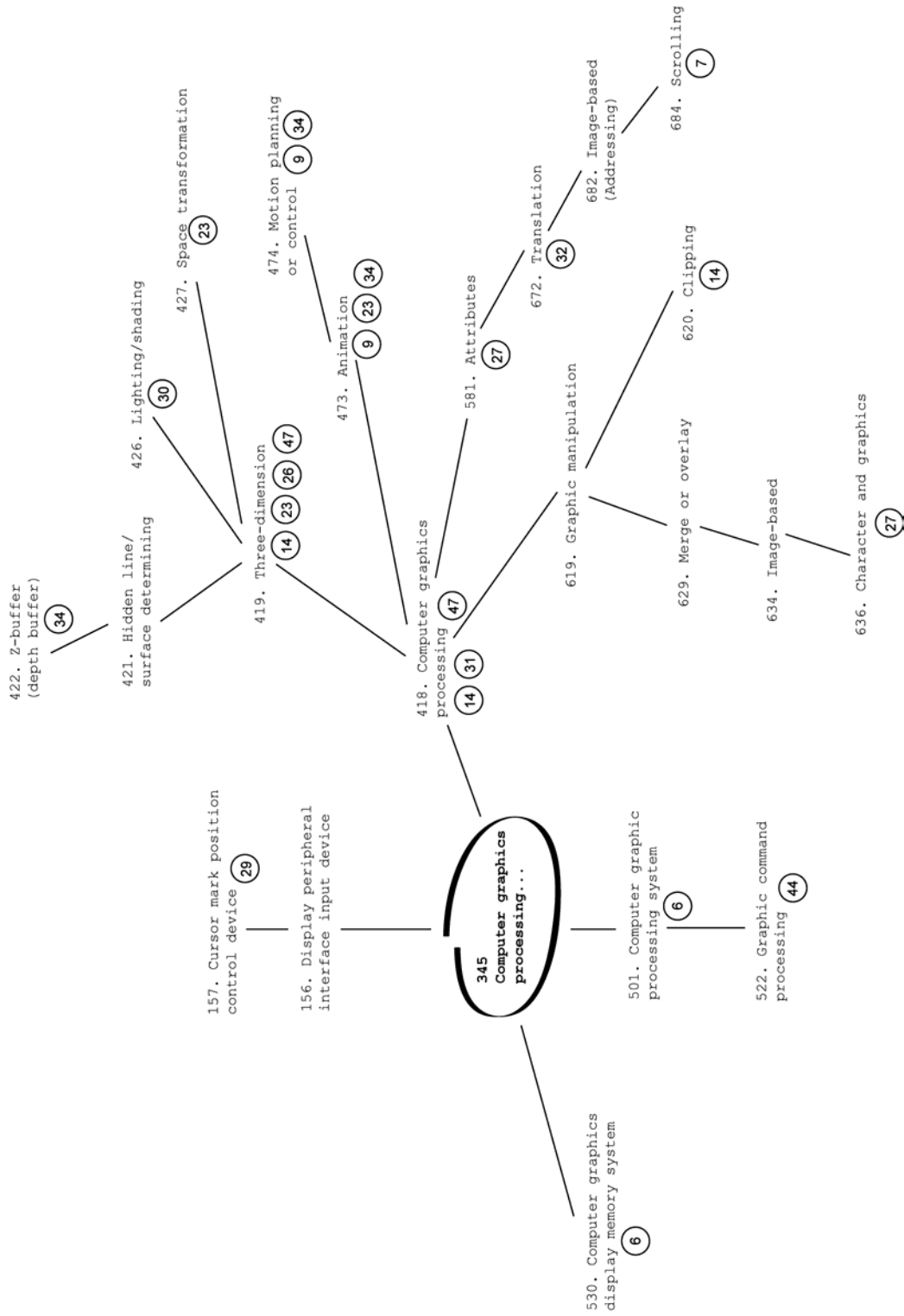
Appendix B: Class references

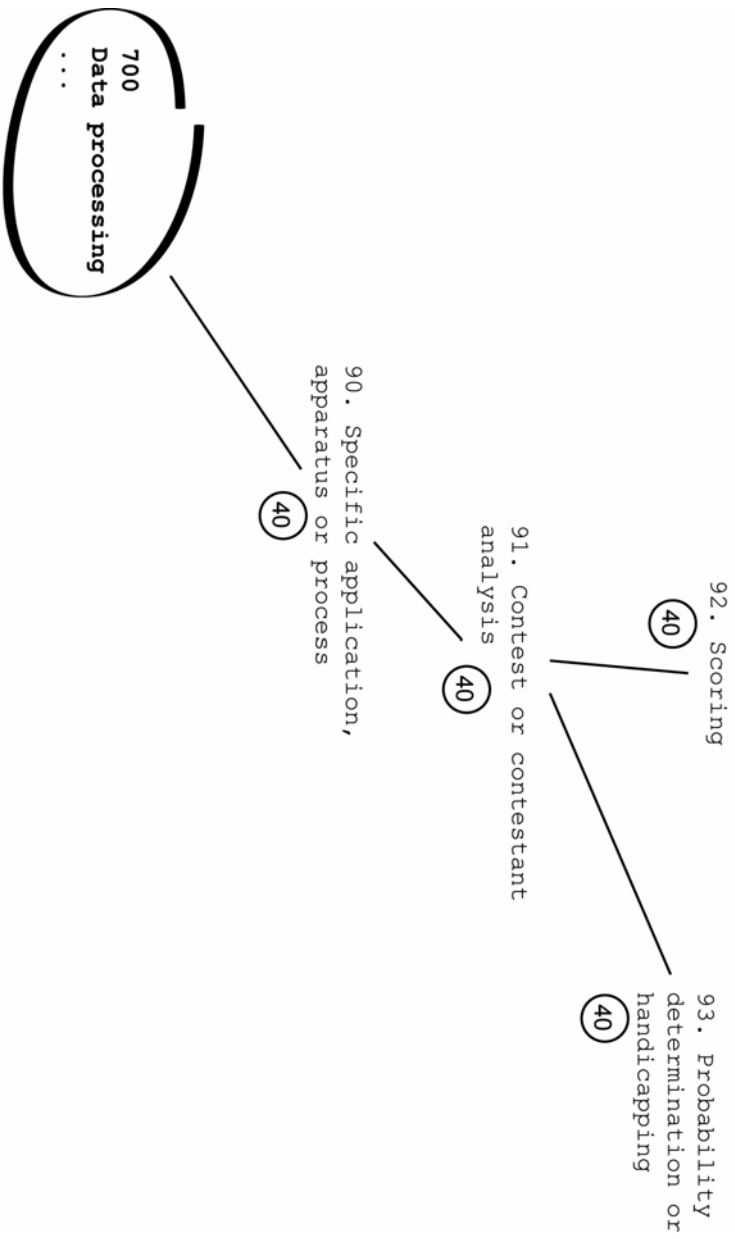
Note: Due to lack of space, the scheme of class 463/1 depicted below does not include separate patent references, but merely states the *number* of references to each subclass.











Appendix C: Game Design Patents & Patterns

1. Gladiator game and method of play

Patent number: 6,575,463

Current U.S. Class: **273/261**; 273/236; 273/255; 273/260; 273/262

Inventor and Issue date: Lance Wintersteen, June 10, 2003

Summary: A gladiator game and method of play. The gladiator game comprises a game environment, player tokens, gladiator tokens, trainer tokens, a stack of monster cards, a stack of treasure cards, play money, and a chance device. The chance device determines player token moves over spaces disposed in a perimeter path around an arena. Under certain conditions, gladiator tokens may be purchased (representing the retention of a Gladiator), and may enter the arena. In the arena different gladiators may engage in combat, the outcome being determined by a number of factors including their gladiator attack points, gladiator defense points, and the chance device. A gladiator token occupying a center spot in the arena earns play money for its owner every turn, and additional play money is earned each circuit of the perimeter path. Video game, computer game, and internet versions of the instant game are considered to be within the scope of the instant invention. The internet version permits large number of players to participate simultaneously, and new players may join the game at any time.

Game design patterns:

1, 2, 3, **6(Avatar)**, 10, **12(Competition)**, **20(Randomness)**, 23, **24(Privileged move)**, 27, 1000, 1003, **1007(Round robin sequences)**, 2002, 2010, 2013, **2017(Overcoming adversary closure)**, **2022(Strategic locations)**, 2023, **2027(Investments)**, **2029(Limited resources)**, **2032(Resource management)**, **2033(Limited foresight)**, 2034, 2035, 2059, 2067, 2070, 2080, 2089, **2100(Turn taking)**, **2106(Cards)**, 2139, **2147(Theme)**, 2161, 2166

2. Multi-player, multi-character cooperative play video game with independent player entry and departure

Patent number: RE35,314

Current U.S. Class: **463/2**; 463/15

Assignee and Issue date: Atari Games Corporation, August 20, 1996

Summary: A **multi-player, multi-character** video game where the game's rules force the players to **cooperate** in negotiating the **maze** at least **until the characters reach a portion of the maze where a specific objective is located**. Certain **limited resources** to change the attributes of the characters or to increase their longevity are displayed in a maze. The **players may compete to obtain possession of these limited resources** when the characters have cooperated in their movements sufficiently to move to the location of the limited resources. Cooperation among the characters is forced by forcing all characters active in the game to remain visible in the displayed window. **Players may**

enter the game at any time, and they may leave the game at any time without affecting the status of the game or the status of the other characters in the game. All active players may simultaneously, independently control their characters so long as they do not attempt to move their characters outside the currently displayed window.

Game Design Patterns

1,2,3,6,**10(Asymmetrical abilities)**,21,24,26, 27, **510(Small avatar, large world)**, 1000, 1002, **1004(Player elimination)**, 1010, **2012(Respawning)**, 2013, 2014, 2017, **2018(Cooperative play)**, **2020(Mutual goal)**, 2023, 2024, **2029(Limited resources)**, **2032(Resource management)**, 2042, 2052, 2063, 2067, **2072(Stimulated social interaction)**, **2073(Temporary alliances)**, 2082, 2086, 2089, **2124(Late arriving players)**, 2126, **2149(Token appearance)**,

3. Method and apparatus for playing a word game

Patent number: 5,860,653

Current U.S. Class: 273/272; 273/292; 434/172

Inventor and Issue date: Jacobs; Robert, January 19, 1999

Summary: A prior art TV game show named CAESAR'S CHALLENGE.RTM. provides an excellent example of the failure to **appreciate the need for onlookers to study and concentrate on the puzzle and follow the progress of its solution**/.../It was frustrating, particularly for members of the viewing audience who had not yet solved the anagram, to **readjust one's concentration every time the location of the letters shifted**; and it was further especially frustrating to see the solution to the anagram presented without being able to follow the movement of the letters and **allowing the viewer to see clearly and easily how the anagram was solved**. The active participation of the average viewer is lost when the viewer is not given an opportunity to solve the puzzle, or at least be provided with an easy way of seeing how the puzzle is solved. And when active participation is lost, so is the enjoyment

...

The viewer should be presented with **more than one anagram at a time**.

...

There is a need for an anagram-type game show and/or computer game **which includes other puzzle-solving skills in addition to solving anagrams**, and preferably the other puzzle-solving skills will be part of the puzzle displayed.

Game Design Patterns

1, 25, 507, **511(Problem solving)**, **1002(Constant player activity)**, **1005(Spectator)**, 2029, 2035, 2045, 2046, **2048(Reasonable waiting times)**, 2054,2055, 2080, 2090, 2098, 2100, 2104, 2139, 2147, 2167,

4. Video game with playback of live events

Patent number: 4,662,635

Current U.S. Class: **463/31**; 463/1; 463/4; 463/44

Inventor and Issue date: Enokian; Craig, May 5, 1987

Summary: A video game in which a television screen or cathode ray tube is used to display a **variety of plays previously preformed by living beings and recorded at the time on a video recording medium**, such as video tape or video disks, the particular previously performed play which is displayed during each turn, or each play of the video game in accordance with this invention depending on the number, or combination or numbers, selected by one or more players, such number corresponding to one of the previously performed and recorded plays. The number selected is fed into an electronic control console, which includes circuitry to signal an electronic playback unit in which the previously performed and recorded plays have been stored to re-run the particular play corresponding to the number selected through a pick-up circuit connected to the cathode ray tube or television screen. **Plays of a variety of games, including football, baseball, soccer, hockey, basketball, tennis and the like may be recorded to play any of such games in accordance with this invention.** The invention includes a record keeping system to record the progress, if any, of each player towards a score or goal indicated by the particular play selected and displayed during each player's turn

Game Design Patterns

2006(Narrative Structure), 2096(Cut scenes)

5. Unlocking secrets of videogames

Patent number: 6,475,083

Current U.S. Class: **463/1**; 463/29

Assignee and Issue date: Midway Amusement Games, LLC, November 5, 2002

Summary: A video game system and method is provided in which the **enabled content of a video game depends upon the type of video game controller coupled to the video game console**. Specifically, in response to recognizing the video game controller as being of a matching type, the video game enables or "unlocks" extra features or "secrets" of the video game which are not otherwise available. By creating such a strong synergy between the video game and the matching video game controller, consumers are most likely to be attracted to the matching video game controller instead of other game controllers available in the marketplace.

Game Design Patterns

2067, **2068(Resource Generator), 2138**

6. Videogame system for creating simulated comic book game

Patent number: 6,010,405

Current U.S. Class: **463/33**; 345/501; 345/530; 463/9; 463/15

Assignee and Issue date: Sega Enterprises, Ltd. (Tokyo, JP), January 4, 2000

Summary: A videogame system is provided in which the audiovisual presentation is designed to simulate the episodic nature of a comic book page. The presentation is defined by distinct panels sequentially arranged to form a page layout, the panel limits player-controlled character play to an active panel in which the character must achieve predetermined tasks before he is allowed to move forward in the sequential arrangement of panels to create the story. A dialogue system is also provided for simulating speech balloons to convey emotion, effects and assist in the story-telling nature of the game. Graphical effects are provided to enhance the comic book medium simulation such as torn paper and a cartoonist's hand. In order to provide variety, there may be alternate routes through the panel sequences.

...

The audiovisual presentation further comprises **simulated speech balloons which convey emotion, story information or text effects**

...

The system controller only permits the player-controlled character to move forward in the panel sequence and **does not permit the player-controlled character to revisit panels previously visited**

...

The dimensions of the panels of the simulated comic book page are selected to simulate an actual printed comic book page/.../permits the player to **select among multiple routes for the player-controlled character to allow for advancement of the panel sequence. /.../wherein at least one of the plurality of panels contains graphical character items which the player-controlled character can collect in one frame and use in subsequent frames.**

...

The system controller awards, tracks and causes an **audiovisual presentation of the player-earned points based upon a player's performance of predetermined player tasks.**

...

Game Design Patterns

1(Replayability),5, 517, 2006(Narrative structure)

2032, 2050, **2061(Movement limitation)**, 2065, 2067, 2079, 2090, 2145, 2146, 2166

7. Multi-player video game with cooperative mode and competition mode

Patent number: 5,405,151

Current U.S. Class: **463/31**; 345/684

Assignee and Issue date: Sega of America, Inc., April 11, 1995

Summary: A method is provided for controlling the motion of **two game characters in a video game** for use in a system which includes a video display screen, a user-controlled graphics controller, digital memory, a first user input device and a second user input device; wherein movement of the first game character is responsive to the first user input device and movement of the second game character is responsive to the second user input device; wherein the video game involves the game characters traversing a playfield which is displayed as a series of video screen images, the method comprising the steps of: **providing a succession of game character movement commands to the first user input device in order to control the movement of the first game character through the playfield; displaying a succession of movements of the first character within the playfield in response to the succession of commands provided to the first user input device; storing the succession of commands provided to the first user input device in the digital memory; and displaying a succession of movements of the second character through the playfield in response to the succession of stored commands.**

Game Design Patterns

6, 2018, 2020, **2025(Team play)**, 2053, **2060(Right level of complexity)**, **2084(Mentorship)**

8. Computer game and procedure of aligning objects in a field and applications of the procedure

Patent number: 6,579,177

Current U.S. Class: **463/9**

Inventor and Issue date: Mraovic; Dusan, June 17, 2003

Summary: The computer game is applicable for storing objects in a storage-device, as an adult-check, identity-check or as an intelligence trainer/.../The invention relates to positioning and storing or removing objects in a computer game as efficiently as possible. The moving of the object occurs without directional constraint regardless of whether the object is overlapping with one of the other objects.

Game Design Patterns

511(Problem solving), 2002, 2022, **2054(God view)**, 2061, 2070, 2080, 2090, 2094, **2116(Tile-laying)**, **2141(Promote constructive play)**, 2145, 2146

9. Computer story generation system and method using network of re-usable substories

Patent number: 5,604,855

Current U.S. Class: **345/473**; 345/474; 463/9; 463/23; 715/500

Inventor and Issue date: Crawford; Christopher C, February 18, 1997

Summary: **The storyline of a dynamically generated entertainment program, such as a video game, is generated using a matrix of reusable storyline fragments called substories.** A set of characters that participate in the storyline is established and a set of reusable substories is defined. **Each substory represents a "fragment of a story", usually involving an action by a subject, where the subject is one of the characters.** Most substories can be reused multiple times with different ones of the characters being the subject and different ones of the characters being the direct object of the substory. Each substory has a set of possible reaction substories, which are a subset of the defined substories. A plan list stores plan data indicating ones of the substories to be performed at specified times. An initial "seed story" in the form of an initial set of substories is stored in the plan list. The substories stored in the plan list are executed at times corresponding to their respective specified times. **For at least a subset of the executed substories, the end user of the system is either shown a video image representing the executed substory or is otherwise informed of the executed substory.** In reaction to each executed substory, plans to perform additional ones of the substories are generated. The additional substories are ones of the set of possible reaction substories for each executed substory. Each plan to perform an additional substory is assigned a specified time and plan data representing the plan is stored in the plan list.

Game Design Patterns

2145, **3(Variied game play)**, 6, 1000, **2006(Narrative structure)**, **2031(Character development)**, 2147, 1

10. System and method of vehicle competition with enhanced ghosting features

Patent number: 6,488,505

Current U.S. Class: **434/69**; 434/65; 434/118; 434/305; 434/307R; 434/373; 463/6; 463/59

Assignee and Issue date: Midway Games West Inc., December 3, 2002

Summary: A system and method for computerized competition useful for rewarding a player. The system and method may be utilized in arcade games, personal computer games, dedicated video games, networked games, and simulators. **The method may include selecting a target reward level or threshold such as by selecting a score from a list of past scores, and dynamically adjusting the reward level according to the ability of the players of the system.** The method may further include adjusting the playback of a previous competition sequence according to the adjusted reward level. **In one embodiment, a previous vehicle race sequence is stored and played back as a ghost or phantom vehicle simultaneously with a present vehicle of a player**

Game Design Patterns

1, 12, 2046, **2053(Movement)**, 2062, 2084, 2098, 2126, **2129(Risk/reward)**, 2147, 2167

11. Displaying area for a weapon's attack range and areas for causing different damage amounts on an enemy

Patent number: 6,210,273

Current U.S. Class: **463/8**; 463/31

Assignee and Issue date: Square Co., Ltd., April 3, 2001

Summary: A game provides a character or target object with **multiple attack points** or defense points and controls damage inflicted on or damage received by an attack for each attack point or defense point. An enemy character is provided with multiple attack points in advance. Attack area data is provided for each weapon or magic in advance. **An attack area of a weapon or magic is displayed on a display screen in accordance with the weapon or magic selected by the player at the time of a fight.** Attack points positioned in the attack area are detected. An attack on the detected attack points is authorized. A player selects and attacks, as an object of attack, any point from among the attack points for which an attack is authorized. The damage caused by the attack is controlled for each attack point (defense point). **Thus, the modes of the fight scene are diversified and the tactical nature or interest of the game are improved.**

Game Design Patterns

3, 6, **10(Asymmetrical abilities)**, 12, 21, 2051, 2053, 2098, **2101(Timing)**, 2126, **2128(Combat)**, 2129, 2141, 2143

12. Drug abuse prevention computer game

Patent number: 6,561,811

Current U.S. Class: **434/236**; 434/307R; 463/1; 463/9

Assignee and Issue date: Entertainment Science, Inc., May 13, 2003

Summary: An intervention method in which computer-based role-playing games are utilized to allow players to experience simulated effects of substance abuse on the individual, family, friends, and community, and thus learn by experience to avoid the adverse consequences of drug abuse through abstinence, promotion of abstinence by others, and treatment and correction of substance abusers. Role-playing games allow players to pretend to be a character in a story, much like being in a play. Each player takes the role of a character in the story, making the decisions and saying the things that character would say in the situations that happen along the way. Game objectives are set which the player or players attempt to complete through game-play. The intervention method involves realistically portraying the consequences of substance abuse and its interference with the individual's or group's chances of meeting the game objectives. To better meet the game objectives, players must practice social resistance skills, and are rewarded for avoiding drugs as well as for helping other characters avoid drug use. Thus, within the safety of the role-playing game environment, conditioned learning is used to teach players to avoid substance abuse as they learn by experience about the effects of drugs, their adverse consequences, how to resist pressures to use drugs and how to help others to do so as well.

Game Design Patterns

6, **508(Role-playing)**, **2006(Narrative structure)**, **2018(Cooperative play)**, 2031, 2062, **2072(Stimulated social interaction)**, 2073, **2077(Shared rewards)**, 2080, 2084, **2099(Social lubricant)**, 2147, 2167, **2161(Personal development closure)**

13. Virtual electronic pet and method for use therewith

Patent number: 6,273,815

Current U.S. Class: **463/9**; 434/238; 434/322

Inventor and Issue date: Stuckman; Katherine C., August 14, 2001

Summary: A virtual electronic pet is capable of performing a plurality of activities and capable of displaying a plurality of behaviors, at least one of the plurality of behaviors dependent upon performance of at least one of the plurality of activities. An actual name is retrieved from a name database. A name signal, indicating a guessed name, is generated in response to the actions of a user. The actual name guessed name are compared to determine if the guessed name matches the actual name. At least one of the plurality of behaviors is displayed if the guessed name matches the actual name. Further guessing of the name is prohibited until a time period expires.

Game Design Patterns

2031, **2098(Attention grabbing)**, 2101, **2146(Single-player game)**, **2119(Pervasive games)**, 1002

14. Method, computer-readable storage medium and video game device for automatically generating a maze map with at least one correct path

Patent number: 6,347,995

Current U.S. Class: **463/15**; 273/153R; 273/237; 345/418; 345/419; 345/620; 463/1; 463/7; 463/9

Assignee and Issue date: Konami Computer Entertainment Tokyo Inc., February 19, 2002

Summary: Method, computer-readable storage medium and video game device are provided for generating a maze map. First, a floor composed of plural rectangular blocks is generated. Next, one of the blocks is designated from the floor as the start block. Then, a sequence of blocks is designated from the floor as a trunk path starting from the start block. After that, at least one block is designated as an intersection block from the trunk path. Finally, at least one sequence of blocks is designated from the floor as a branch path starting from the intersection block.

Game Design Patterns

511, 2061, 2070, 2115

15. Game apparatus, game controlling method and recording medium for use with battle video games

Patent number: 6,439,998

Current U.S. Class: **463/43**; 463/23

Assignee and Issue date: Square Co., Ltd., August 27, 2002

Summary: **The present invention has an object to permit change the progressing rate of time during a battle period in response to the skill and experience of the player in a game apparatus.** The controller unit, upon detection of start of a battle between characters, changes the progressing rate of time during the battle period, from the progressing rate of time during a non-battle period in response to any of a plurality of pieces of rate information previously prepared for regulating the progressing rate of time during the battle period. The controller unit, the audio process unit and the graphics process unit adjust the executing timing of the character in response to the changed progressing rate of time during the battle period. As a result, when the progressing rate of time during the battle period is changed, it is possible to cause the character to execute an action in response to such a change.

Game Design Patterns

3, 6, 21, 2011, 2013 , **2039(Balancing effects)**, 2041, 2053, **2060(Right level of complexity)**, 2101, 2128

16. Method for displaying a shoot of a character in a video game, storage medium for storing a video game program, and video game device

Patent number: 6,402,619

Current U.S. Class: **463/43**; 463/4; 463/23

Assignee and Issue date: Konami Co., Ltd., June 11, 2002

Summary: When judging the results of the action of a game character in accordance with the skill of the input technique of a player, operations that are to be input by the player are specified as a task operation, which is displayed on a screen for a prescribed period of time and then erased, whereupon an input operation from the player is received and the results of the action of the game character are judged on the basis of the task operation and the input operation.

Game Design Patterns

1, 6, 21, 1008, 2011, **2058(Advantage of memorization)**, **2101(Timing)**, 2146, 2147

17. Method of setting level parameters of enemy characters of a computer game and device therefor

Patent number: 6,302,792

Current U.S. Class: **463/23**; 273/148B; 463/8; 463/43

Assignee and Issue date: Hudson Soft Co., Ltd., October 16, 2001

Summary: In a computer role-playing game, the level of an enemy character is set to a proper value in various story developments. When a player character first encounters an enemy character, the level of the enemy character is calculated on the basis of the current level of the player character, and the thus-set level of the enemy character is maintained during the game.

Game Design Patterns

6, 10, **508(Role-playing)**, 510, 2006, **2039(Balancing effects)**, 2041, **2060(Right level of complexity)**, 2146

18. Driving game machine and a storage medium for storing a driving game program

Patent number: 6,494,784

Current U.S. Class: **463/6**; 434/62; 463/32; 463/33

Assignee and Issue date: Konami Corporation, December 17, 2002

Summary: A driving game machine provided with a road data memory for storing coordinate data of a road set in a game space, a player's car controller for controlling the running of a player's car on the road according to a player's operation, and a display processor for displaying an image within a field of view set in advance. **The road has a start point and a goal point, a running course from the start point to the goal point has a plurality of branched roads in its intermediate positions. The player's car controller causes the player's car to run in a direction selected at each branching point in accordance with a player's operation. This makes it possible for a player to freely choose the course while competing with his rivals.**

Game Design Patterns

1, **3(Varied game play)**, 6, **12(Competition)**, 21,22, 506, **1000(Freedom of choice)**, 1001, 1008, 2002, **2003(Multiple solution closure)**, 2011, **2017(Overcoming adversary closure)**, 2046, 2053

19. Computer game with replaceable character heads

Patent number: 6,306,036

Current U.S. Class: **463/31**; 463/32

Assignee and Issue date: VIS Interactive, October 23, 2001

Summary: A computer program displays a virtual environment and a character in the virtual environment. The character includes a body and a replaceable head. Player control signals from an input device control replacement of the character's replaceable head and other character actions in the virtual environment. The computer program may attribute play characteristics to the character based on the head in place on the character at a given time. These characteristics may be thematically consistent with the displayed appearance of the head in place. The program may allow a player to select a set of character heads for use with the character. The program may allow the player to collect heads from the virtual environment and store the collected heads for use. The program may offer communication with other connected computer systems facilitating a multi-player or on-line interact hosted game.

Game Design Patterns

3, 6, 508, 1000, 2006, 2031, **2141(Promote constructive play)**, 2145

20. Video game system and method with enhanced three-dimensional character and background control

Patent number: 6,331,146

Current U.S. Class: **463/32**; 463/44

Inventor and Issue date: Nintendo Co., December 18, 2001

Summary: The present invention features video game methodology, marking a new era in video game play. The video game methodology in accordance with the present invention involves **game level organization features, camera perspective or point of view control features, and a wide array of animation and character control features.**

In accordance with one illustrative video game embodiment of the present invention, which is presently being sold by the inventors' assignee as "Super Mario 64" for play on the Nintendo 64 video game system, a castle serves as an entry point to many different courses or levels. Once in a given course or level, a player attempts to accomplish a set of independent goals, such as recovering a set of stars hidden throughout the course. Typically, in prior art video games, once a player completes the requirements for a particular level, the player is automatically advanced to the next level. **In accordance with one illustrative embodiment, once a player accumulates enough stars to advance to the next level, the player is not automatically thrust into the next level. Rather, the player may continue play in the current level or may exit and return to a common castle area.** The player may then choose a path within the castle to reenter a previously completed course associated with an already achieved level or elect to explore the castle area. In effect, the video game methodology of the present invention incorporates an **open level environment** for all courses which have previously been

completed.

...

In accordance with an exemplary embodiment, it is not necessary for a player to accomplish all the goals, e.g., accumulate all possible stars, which are present in a course, before access to a further course is permitted. It is thus possible to exit a first course, move to a different course and then return to the first course to search for further hidden stars. There is no set order in a particular stage or course for a player to accomplish predetermined goals, such as collection of stars. Moreover, **advancement to a further stage by two different players may be enabled by accomplishing completely different or substantially different goals.**

...

In the illustrative embodiment described herein, the user enters a three-dimensional castle in which doors provide access to rooms having paintings on the castle walls. A player enters a course by jumping through the painting and into the three-dimensional world depicted by the painting. In accordance with one embodiment of the present invention, the zone of the painting (e.g., defined by height) into which a player-controlled character (e.g., Mario) is controlled to leap, affects the course environment, e.g., **the displayed course water level depends upon the picture zone into which Mario leaps.**

...

The present video game methodology **allows the user to manipulate the "camera" angle** (i.e., the displayed point of view in the three-dimensional world) in response to actuation of a plurality of distinct controller keys/buttons/switches, e.g., four "C" buttons in the exemplary embodiment. The control keys allow the user at any time to move in for a close up or pull back for a wide view or pan the camera to the right and left to change the apparent camera angle. **Such user initiated camera manipulation permits a player to better judge jumps or determine more precisely where an object is located in relation to the player controlled character.**

...

A wide range of animation effects and character control techniques are contemplated by the video methodology in accordance with the exemplary embodiments of the present invention. In accordance with another embodiment of the present invention, the **number of polygons utilized to display a player-controlled character is modified depending upon the speed of movement of the character**, whereby the number of polygons is reduced at higher speed.

Game design patterns

3(Varied game play), 6(Avatar), 21(Third-person view), 506(Deliberate hovering closure), 510(Small avatar, large world), 517, 1000(Freedom of choice), 2003(Multiple solution closure), 2053, 2080, 2096, 2098, 2138, 2141, 2162, 2146, 2168

21. Hand held video game with simulated battle against aliens

Patent number: 5,120,057

Current U.S. Class: **463/2**

Assignee and Issue date: Konami Co., Ltd., June 9, 1992

Summary: A novel hand held electronic LCD video game with four individually displayable player controlled figures controlled by the player to defend against alien attackers and to attack a fortress.

...

The player must manipulate the player controlled image to one of the four positions to avoid destruction from pseudo-random attack by alien missiles while firing a weapon to destroy alien soldiers attacking in a pseudo-random pattern among four routes.

Game design patterns

20(Randomness), 1002(Constant player activity), 2011, 2022(Strategic locations), 2054(God view), 2128(Combat), 2146

22. Hand held video game with simulated air battle

Patent number: 5,137,277

Current U.S. Class: **463/2**

Assignee and Issue date: Konami Co., Ltd., August 11, 1992

Summary: A novel hand held electronic LCD video game simulating an air battle at sea. Approach of enemy aircraft and aircraft carriers is simulated by sequential display of multiple images. **The player manipulates missile sights between nine positions to aim and then fire missiles to destroy the approaching enemy aircraft and carriers.** In addition, enemy missile attack is simulated by sequential display of missile images and **the player must aim his sights and destroy the missiles before they destroy his aircraft.** Five stages of play are provided with **increasing speed of play for each subsequent stage.** **An energy gauge which decreases for each missed enemy aircraft or aircraft carrier limits the number of misses permitted to the player.**

Game design patterns

1002(Constant player activity), 2011(Tension), 2128(Combat), 2146

23. Game Device

Patent number: 6,468,157

Current U.S. Class: **463/32; 345/419; 345/427; 345/473; 463/31; 463/33**

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, October 22, 2002

Summary: It is an object of this invention to provide a method of expressing, in an easily visible manner, **a game proceeded in a plurality of game fields formed hierarchically.** At least first and second game fields are hierarchically formed in a three-dimensional virtual space. It is possible to enjoy games proceeded simultaneously and in parallel in upper and lower spaces by displaying the proceeds of the games in the respective fields as seen from a viewpoint in the space.

Game design patterns

4, 21, 517(Coupled games), 2010, 2054(God view), 2066, 2070, 2126

24. Game device, collision determination method and information storing medium

Patent number: 6,394,894

Current U.S. Class: **463/3**; 463/7; 463/31; 463/43

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, May 28, 2002

Summary: A baseball game is provided which **imitates reality more closely** by reflecting player data in game characters. Data relating to good hitting courses and bad hitting courses for each batter are incorporated as **batter parameters**, and the selection of a good or bad course by the batter can be reflected in the result of a hit, by varying the size of a collision object, or the like, in accordance with the batter parameters/.../However, in actual baseball, in addition to the abilities and characteristics of each individual user, the game also develops according to the combined competitive ability of the teams involved, which makes the game more interesting. Therefore, attempts have been made to develop a baseball game wherein data for a baseball player is assigned to each player character in a baseball game, and the user controls the game by taking into account the individual characteristics of each player character.

Game design patterns

3, **10(Asymmetrical abilities)**, 12, 26, **1001(Agents)**, 2109, **2147(Theme)**, **2062(Reality logic)**

25. Method for executing game and game device for implementing same

Patent number: 6,354,942

Current U.S. Class: **463/24**; 463/8; 463/31

Assignee and Issue date: Sega Enterprises, Ltd. (Tokyo, JP), March 12, 2002

Summary: A game device is provided, whereby, when a character operated by a player is displayed making an intrusion or entry in a fighting or participatory type of game, the character making the intrusion or entry can be displayed in a manner which avoids creating an unnatural effect.

Game design patterns

6, 21,22, **2053(Movement)**, 2062, **2128(Combat)**

26. Optimum viewpoint automatically provided video game system

Patent number: 6,354,944

Current U.S. Class: 463/32; 345/419

Assignee and Issue date: Sega Corporation, March 12, 2002

Summary: This invention was devised in order to create a favourable playing environment in a video game by automatically providing an optimum viewpoint without

placing a burden on the player. In an image processing method whereby images, wherein the figure of a character and the figure of a peripheral landscape set in a virtual spatial coordinates system are viewed from a prescribed viewpoint, are generated, and image display signals corresponding to these images are output, there are provided: a viewpoint calculating step S1 for determining a second point on said peripheral landscape which is at a prescribed horizontal distance from a first point previously set inside the character; a line of sight calculating step S2 for determining the line of sight by linking the first point and the second point by means of a straight line; a viewpoint calculating step S3, for setting as the viewpoint a point on the line of sight which is at a prescribed distance from the first point; and a drawing step S4 for obtaining an image viewed from this viewpoint.

Game design patterns

21(Third person view), 2053(Movement), 2066

27. Game processing apparatus, game processing methods and recording media

Patent number: 6,354,939

Current U.S. Class: **463/1**; 345/581; 345/636; 463/2; 463/7; 463/23; 463/43; 463/44

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, March 12, 2002

Summary: A first aspect of the present invention is to provide a game capable of increasing the excitement of the players by adding operational restrictions when one of the players makes a victory declaration. /.../ A second aspect of the present invention is to provide games capable of increasing the excitement of the players by making it possible for them to compete against the short overall operation time when a game stage is repeated.

Game design patterns

506, 2011(Tension), 2018(Cooperative play), 2046(Time limit), 2081(Winning conditions), 2114

28. Fictitious virtual centripetal calculation and simulation system

Patent number: 6,322,448

Current U.S. Class: **463/32**; 463/1; 463/7; 463/30

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, November 27, 2001

Summary: This image processing device for games is a device whereby a prescribed number of models (characters) are set up in virtual space, these models are controlled such that they move in prescribed directions in the virtual space/.../In order to display the movement of the models that are arranged in virtual space more realistically, in one construction thereof, this device is provided with means for image processing that apply virtual centripetal force to the models/.../Furthermore, in order to display the **movement** of the models more **realistically** and to **heighten the dramatic effect**, in one

construction thereof, this device is equipped with means for processing residual image presentation in order to represent the track of movement of a model as residual images.

Game design patterns

2053(Movement), 2062(Reality logic), 2011(Tension)

29. Image processor, game machine, image display method, and recording medium

Patent number: 6,259,431

Current U.S. Class: **345/157**; 463/31

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, July 10, 2001

Summary: The present invention relates to image display technology for generating images of models positioned in so-called virtual three-dimensional coordinate space, and more particularly to technology with which it is possible to easily specify capture objects in interactive games that effect conversations, etc., between a plurality of models within virtual space.

Game design patterns: 23, 510, **2022(strategic locations)**, 2051, **2065(resource locations)**

30. Game device, picture data and flare forming method

Patent number: 6,234,901

Current U.S. Class: 463/33; 345/426; 463/1; 463/30

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, May 22, 2001

Summary: It is an object of the present invention to provide special effects which will make a video game more realistic. When a virtual light source exists in a three-dimensional virtual space, if a light from the light source extends toward a camera, a flare is generated on a screen because of incidence of the ray of light into a camera lens, thereby forming a dazzling picture in accordance with the state of backlight/.../ Therefore, it is a first object of this invention to provide a video game device capable of expressing a picture with which a game player can perceive dazzling light from a light source. It is a second object of this invention to provide a game device capable of expressing, on a screen, traces of a moving object in a video game. It is a third object of this invention to provide a method of decreasing the amount of operation in a drawing routine when developments of a game in the three-dimensional virtual space are displayed on a two-dimensional screen so that pictures on the screen may seem to be three-dimensional.

Game design patterns:

2011, 2062

31. Image processing device, image processing method, game device, and craft simulator

Patent number: 6,222,546

Current U.S. Class: **345/418**

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, April 24, 2001

Summary: To achieve a more realistic and richer shifting field, such as water surface over which a jet-ski or other object travels, thereby heightening the interest and ambiance of the game/.../In games which simulate watercraft, such as boats and jet-skis, a water surface (or ocean surface) constitutes the field through which the object moves. There are some crucial differences between a water surface and a land surface in terms of the characteristics of the field. As may be readily seen from the differences between the two in real space, the spatial position of the course traveled by the vehicle does not change over time, while a water surface ordinarily shifts due to wind and waves.

Game design patterns

2011, **2062(Reality logic)**, 2147, 2115

32. Image processor, image processing method and game machine and recording medium

Patent number: 6,213,878

Current U.S. Class: **463/31**; 345/672; 463/1

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, April 10, 2001

Summary: Although difficult game stages may not be cleared by unskilled players, by making the stages easy to be cleared, the degree of difficulty of the game would be lowered and the amusement of the game would be reduced. The present invention comprises: a storing device 102 capable of storing the number of certain marks displayed in an virtual space and which are in the player's hand, as well as displaying the position of such marks; a processing circuit 10 for advancing the respective steps of game control in sequence by referring to the operation signals supplied from an input device 2b, the number of marks in hand and positions thereof stored in the storing device, and for outputting displaying image data related thereto; a displaying circuit 11 for displaying a displaying image including the segment and marks on the basis of displaying image data supplied from the processing circuit. The processing circuit 10 generates displaying image data displaying said marks in the displaying image according to the operation signals, and stores the displaying positions of the marks in the storing device 102, and generates-displaying image data for displaying the segment at the displaying positions stored in the storing device 102 when the segment is unable to continue moving/.../ **In other words, the first purpose of the present invention is to set a returning position along the progress of the game for uncompleted games and display such position so that players insufficiently skilled in the operation may concentrate on the operation of the game without being bored.**

...

The second purpose of the present invention is to avoid lowering the degree of

difficulty of the game in excess by providing limitation to the settable returning positions, and thereby adjusting the degree of difficulty of the game according to each player.

Game design patterns

27(Perceived chance to succeed), 2039(Balancing effects), 2060(Right level of complexity), 2153, 2022

33. Game display method, moving direction indicating method, game apparatus and drive simulating apparatus

Patent number: 6,200,138

Current U.S. Class: **434/61**; 273/148B; 273/442; 434/29; 434/69; 434/307R; 463/23; 463/31

Assignee and Issue date: Sega Enterprises, Ltd., March 13, 2001

Summary: A game display method displays a driving game which permits characters to be present in a city and can prevent cruel images of collisions with characters.

Characters in a dangerous area are intentionally moved away from a motorbike B. Those H1, H2 of the characters behind the motorbike B as viewed in a moving direction of the motorbike B are intentionally moved away from a current position 01 of the motorbike B, a position of the center of the motorbike B. Those H3, H4, H5 of the characters in front of the motorbike B as viewed in the moving direction of the motorbike B are intentionally moved toward the back of the motorbike B, i.e., directions normal to a straight line interconnecting the position 01 of the center of the motorbike B and the characters H3, H4, H5. The characters H3, H4, who are forward left of the motorbike B, are moved left, and the character Hr, who is forward right, is moved right.

Game design patterns

1001(Agents), 1008, 2053(Movement), 2062, 2131(Ultra powerful events)

34. Method for displaying and controlling plural characters operated by a player on a video game apparatus

Patent number: 6,175,366

Current U.S. Class: **345/422**; 345/473; 345/474; 463/6; 463/7; 463/33; 463/34

Assignee and Issue date: Sega Enterprises Ltd., January 16, 2001

Summary: In a video game on which plural players operate different characters, a method for displaying and controlling a character makes players not lose their interest to continue a video game even when a difference according to the player's technique is generated/.../According to the invention, the above-described objects are achieved in a video game apparatus for executing a game by operating each of plural characters to be displayed, including by a method for displaying and controlling first and second characters on a game apparatus includes the steps of judging a condition operated by a player for one of the first and second characters to be displayed executed by a player

according to a game program, controlling a displayed position for the first and second characters according to the judging result, and losing the condition of the judgement for a first and second characters when a virtual distance between the first and second characters is more than a predetermined value according to the game program.

Game design patterns

12(Competition), 2014(Perceived chance to win), 2039(Balancing effects), 2053(Movement), 2081, 2143

35. Game processing method, game device, image processing device, image processing method, and recording medium

Patent number: 6,171,186

Current U.S. Class: **463/31**; 434/62; 434/64; 434/69; 463/6; 463/23

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, January 9, 2001

Summary: In a race game comprising a **preliminary round and a main race**, a player can start the game without waiting for other players, the **boredom of waiting time is eliminated**, and skillful players can be satisfied with the game. When any of the players inserts a coin, the corresponding communications control device immediately starts a preliminary round, and when this preliminary round is completed, it displays a demonstration screen during the waiting period before the start of the main race. In the main race, it determines the start position of the player according to the results from the preliminary round, suspends the game for any player who runs out of time, and when a main race is finished, it displays a demonstration screen until the start of the next main race.

Game design patterns

2048(Reasonable waiting times), 2146, 2124(Late arriving players)

36. Scenario development system for vehicle simulators

Patent number: 5,660,547

Current U.S. Class: **434/29**; 434/62; 434/63; 434/64

Assignee and Issue date: Atari Games Corporation, August 26, 1997

Summary: A vehicle simulator including a system for development of vehicle simulation scenarios. The vehicle simulation system includes simulated vehicle controls providing input signals to a computer, and feedback devices, including a video display, **providing a user with feedback on the operation and location of the simulated vehicle as it is driven through a simulated universe. One aspect of the invention is a scenario development system which uses the vehicle controls, the computer and the output devices to enable a scenario developer to develop a simulation scenario which includes other programmed vehicles.** The scenario developer can determine when and where the other programmed vehicles become active in a simulated universe in which the scenario takes place, as well as determine when and where the programmed vehicles

leave the simulated universe. **The scenario developer can also program the path of the programmed vehicles through the simulated universe by simply driving the programmed vehicles through the simulated universe using the vehicle controls and the feedback devices to define the path that the scenario developer wishes the programmed vehicle to travel.**

Game design patterns

5(Creative control), 1001(Agents), 2053(Movement), 2055(Omnipresence)

37. Image processing method and image processing device

Patent number: 5,863,248

Current U.S. Class: **463/4**; 463/31

Assignee and Issue date: Sega Enterprises, Ltd., January 26, 1999

Summary: Respective ball directions from respective players to the ball B are computed, based on display coordinates of the respective players P and coordinates of the ball B. An input direction is computed based on input information from a cross key 18. The respective ball directions and the input direction are compared with each other to select a player P whose ball direction is in a prescribed range based on an opposite direction to the input direction. A game player can arbitrarily select a player, and the selected player is never moved in unintended direction. Player directions from the ball B to players P are computed based on display coordinates of the players P and coordinates of the ball B. An input direction is computed based on input information from a cross key 18. When an offset angle between the player direction and the input direction is in a prescribed range, the player P is moved in the input direction by the cross key 18. The players can be moved as intended by simple operation.

...

The method, in which an operational player is not changed during a game match, takes much time to arrive at a new position, when a specific position such as a key factor in a game is greatly changed. **That is, in a soccer game, for example, when a long pass is made, even a skilled game player needs time to move to the pass position. As a result, a time when the game player secures a key position to play the game is extremely decreased, which also spoils the amusement of the game.**

...

Thus, it is preferable that operation of selecting specific players in a game match during advance of the game is made without complicating the operation.

Game design patterns:

12, 21(Third person view), 1001(Agents), 2022(Strategic locations), 2025(team play), 2053(Movement), 2055(Omnipresence), 2117(transfer of control)

38. Image processing device, image processing method, and game device and storage medium using the same

Patent number: 5,830,066

Current U.S. Class: **463/33**

Assignee and Issue date: Kabushiki Kaisha Sega Enterprises, November 3, 1998

Summary: An object of this invention is to provide an image processing device which does not interrupt the flow of a game/.../The processing board in the main game device attaches information required by the player at the completion of each stage to a map and provides it to the player by displaying it on the display.

...

A first object of this invention is to provide an image processing device which **does not interrupt the flow of a game.**

A second object of this invention is to provide an image processing device **capable of moving a viewpoint in a natural state.**

A third object of this invention is to provide an image processing device **capable of displaying natural movement.**

A fourth object of this invention is to provide an image processing device comprised such that, even if the viewpoint moves, a screen in the far distance will appear in a similar state to a natural state.

A fifth object of this invention is to provide an image processing device capable of preventing loss of background images.

Game design patterns

21,22,2062, 2096, 2131, 2126

39. Game apparatus and method of replaying game

Patent number: 5,779,548

Current U.S. Class: **463/31**; 463/1

Assignee and Issue date: Sega Enterprises, Ltd., July 14, 1998

Summary: The game apparatus has a memory for storing, for a predetermined period of time, absolute coordinates in the predetermined area of a moving entity which moves in the predetermined area in response to a control signal entered by an operator while a game is in progress, and a display data generating unit or reading the absolute coordinates from the memory in response to a replay request from the operator.

...

According to the replay function of the conventional game apparatus, however, replayed images of a game are displayed only from the same viewpoint at the same size in the same sequence as the images that were displayed while the game was in progress, and it is impossible to reproduce the excellent or rare situation as viewed from a viewpoint different from that of the actual game under way, for the operator to see. Another problem is that the operator cannot view scenes in an enlarged or reduced

scale. The conventional game apparatus are designed such that they do not permit the operator to change freely the position itself of a viewpoint for game display, but they display images only at a given fixed angle, while a game is going on

...

Another object of the present invention is to provide a game apparatus which can freely replay a game according to a command signal for reverse play, fast-forward, slow-motion, etc.

Game design patterns

2053(Movement), 2126, **2096(Cut scenes)**

40. Scoring based upon goals achieved and subjective elements

Patent number: 6,604,008

Current U.S. Class: **700/92**; 700/90; 700/91; 700/93; 463/1

Assignee and Issue date: Microsoft Corporation, August 5, 2003

Summary: A scoring method and system for **determining points in a game**. Goal-based points are determined as a function of a **player achieving a goal set by the player that is not predefined by the game and are used to determine the player's status in the game**, such as whether the player advances to a next level. Subjective style points are awarded if the player performs **feats of style** that are not necessary tasks of the game, depend upon the type of game, and may include sliding, spinning, jumping, blocking an opponent, passing an opponent, and avoiding obstacles.

Game design patterns

1, 3, 12, **512(Extra game reward)**, 1000, **2081(Winning conditions)**, 2080(Predefined goals), **2141(Promote constructive play)**

41. Game system, program and image generating method

Patent number: 6,537,153

Current U.S. Class: **463/36**; 463/1

Assignee and Issue date: Namco Ltd., March 25, 2003

Summary: A game system, program and image generating method can realistically represent glow or halo occurring around a light source with reduced processing load. A glow object G is displayed nearer to a view point than an object OB when the glow object G overlaps the object OB located nearer to a view point than a light source LS as viewed from a viewpoint. The glow object G is drawn at a position on a perspective transformation plane corresponding to the position of the light source LS. If the object OB is on a line between the light source LS and the viewpoint, the glow object G is made non-display or reduced in its effect intensity.

Game design patterns

2011(tension), **2062(Reality logic)**

42. Video game apparatus, character-behavior-instructing method in video game, and machine-readable-recording medium recording character-behavior-instructing program

Patent number: 6,520,858

Current U.S. Class: 463/43; 434/253; 463/1

Assignee and Issue date: Konami Co., Ltd., February 18, 2003

Summary: A video game apparatus, method and medium increases simulation realism of a jump action by using an operation stick bendable from its upright position. A controller-operation detection unit detects values of the x-coordinate and the y-coordinate which correspond to a bend direction and a bend angle of an operation stick; jump control unit starts a run-up action when an A-button is turned on, in which if the operation stick is not bent towards the back end, processing immediately shifts to a jump action process; and jump conditions are determined on the basis of a changed information regarding the values of the x-coordinate and the y-coordinate at the time when the stick is bent from the back end to the upright position and the position of a ski-jumping competitor corresponding to a takeoff of a ski-jumping hill at the time of the operation of the operation stick.

Game design patterns

2062(Reality logic), 21,22, **2101(timing)**,

43. Video game device, play control method for video game, and readable recording medium recording the method

Patent number: 6,491,582

Current U.S. Class: **463/1**; 463/4

Assignee and Issue date: Kabushiki Kaisha Konami Computer Entertainment, December 10, 2002

Summary: A video game device comprises a storing unit for storing one or a plurality of **character information (special capabilities, etc.)** in the game, an **injury event control unit for controlling injury events occurring during the game**, a **game interrupting control unit for interrupting the game in the event that an injury event occurs**, and a game resuming control unit for resuming the game at the point that the injury event ends, so the game player can cause the play character on the screen to perform a simulation experience **closer to actual playing**. Thus, a video game device wherein the game player can cause a play character on the screen to perform a simulation experience in a manner **closer to actually playing the sport can be provided**.

Game design patterns

3, 6, **10(Asymmetrical abilities)**, **20(Randomness)**, **2012(Respawning)**, **2062(Reality logic)**, **2126**, **2131(Ultra powerful events)**

44. Video game system using radar picture

Patent number: 6,431,982

Current U.S. Class: **463/4**; 273/108.1; 273/118R; 273/247; 273/317.5; 345/522; 463/1; 463/2; 463/7; 463/30; 463/31; 463/32; 463/33

Assignee and Issue date: Konami Co., Ltd., August 13, 2002

Summary: There has been known a game system which can perform a virtual soccer or other ball game based on images displayed on a video screen. In order to give the displayed image powerfulness and the feeling of being at a live performance, a three-dimensional image is used to represent situations of the play within a limited area centering on the soccer ball, not the entire field where the soccer game is performed. It is impossible, however, to grasp the locations of all player characters within the whole field by viewing images displaying only the limited area. In addition, deciding strategies, such as passing the ball, is difficult. In order to overcome such difficulties, recent game systems performing the soccer game is designed such that a radar picture (image) is superimposed on a part of the game play picture (image). The radar picture displays a reduced-size image of the entire field, wherein dots corresponding to all players are shown with different colors assigned to two teams confronting each other.

Game design patterns

2, **21(Third-person view)**, 516, 2022, **2054(God view)**, **2066(Zone of control)**

45. Game machine and information storage medium

Patent number: 6,425,827

Current U.S. Class: 463/35; 463/1; 463/8; 463/23

Assignee and Issue date: Namco Ltd., July 30, 2002

Summary: The objective of the present invention is to provide a game machine and an information storage medium that make it possible to **intensify the dramatic effect** of a game by the voices sounded by a character. The pitch, volume, or tone of each voice sounded by characters (20) and (22) is varied in accordance with a **physical strength parameter**, the remaining play time, the progressing degree through game stages, or a number of wins. **The pitch and volume of a voice sounded by a character increase as an opponent's physical strength parameter becomes larger, the remaining play time decreases, the final game stage approaches, or the opponent's number of wins becomes larger.** The pitch, volume, or tone of voices is varied after the remaining play time has reached a given value or a given game stage has been passed. The increase in pitch of a voice sounded by a character is a whole tone or less.

Game design patterns

10, 2011(Tension), 2031(Character development), 2046(Time limit), 2098

46. Method for controlling character behavior in video games, video game machine, and computer-readable recording medium on which video game program is recorded

Patent number: 6,406,370

Current U.S. Class: **463/31**; 463/1

Assignee and Issue date: Konami Co., June 18, 2002

Summary: Highly entertaining video game machine that allows a character to appear in a game space is provided. The video game machine includes a storage medium for storing a plurality of preset **behavior patterns**. A behavior-pattern selection unit selects one of the behavior patterns according to various situations, such as the temperament and emotion of the character. A character-behavior control unit causes the character to behave according to the selected behavior pattern. The temperament setting of the character is changed by a temperament setting unit. The emotion setting of the character is changed by an emotion setting unit.

Game design patterns:

10, 6, 2011, 2031

47. Image generation device and information storage medium

Patent number: 6,379,249

Current U.S. Class: **463/31**; 273/148B; 345/418; 345/419; 463/1; 463/2; 463/5; 463/7; 463/8; 463/30; 463/32; 463/34; 463/36; 463/37

Assignee and Issue date: Namco Ltd., April 30, 2002

Summary: With this aspect of this invention, the first player can enjoy shooting at target objects while watching an image as seen from a first viewpoint in the object space and the second player can also enjoy shooting at target objects while watching an image as seen from a second viewpoint in the object space. This enables a huge increase in the players' feeling of **virtual realism and the dramatic effect of the game**, unlike in the prior-art example in which the viewpoints of the first and second players are the same

Game design patterns

22(first person view), **2053(Movement)**, **2128(Combat)**, **2145(Alternative reality)**, 2062

48. Entertainment system, entertainment apparatus, recording medium, and program

Patent number: 6,375,571

Current U.S. Class: **463/37**; 463/1; 463/7; 463/43

Assignee and Issue date: Sony Computer Entertainment, Inc., April 23, 2002

Summary: A button icon is displayed on a display monitor for a predetermined period of time. When the button icon is displayed on a display monitor, a user successively presses a decision button. The number of times the decision button is pressed when the button icon is displayed on the display monitor is counted and inputted to an entertainment apparatus as manipulation data. Damage of a virtual enemy (e.g., monster) displayed on the display monitor changes based on the manipulation data.

Game design patterns

2101(Timing), 2128(combat), 2140(dexterity-based actions)

49. Video game apparatus, video game method and storage medium

Patent number: 6,371,856

Current U.S. Class: 463/43; 463/1; 463/7; 463/33

Assignee and Issue date: Square Co., Ltd., April 16, 2002

Summary: A player operates an input device causing a player character to move on a map including a plurality of encountering areas where the player character encounters an enemy character. An encounter setting value set for each one of the encountering areas where the player character encounters the enemy character is stored in a memory. **The player character encounters the enemy character in a probability corresponding to the encounter setting value when it steps into an encountering area, and then processing for a battle held between the player character and the enemy character is performed. When the player character wins the battle against the enemy character, the encounter setting value for the area is updated, so that the probability that the player character encounters the enemy character sequentially decreases.**

Game design patterns: **3(Varied game play), 20**

50. Fantasy internet sports game

Patent number: 6,371,855

Current U.S. Class: **463/42**; 463/1; 463/9

Assignee and Issue date: Winamax.com Limited, April 16, 2002

Summary: A system for providing an interactive sports game to a plurality of participants wherein each participant wishes to form a fantasy sports team made up of actual players.

The system is operable: (a) to solicit and accept from each participant an initial selection and purchase of players to form the participant's fantasy sports team, each participant purchasing the players using no more than a predetermined number of game value units initially allocated by a host controller; and (b) responsive to a request of a participant, to access the data storage and report a status of the participant's fantasy team, the status including information as to the performance and market value of the players on the participant's team. **The number of game value units associated with each player varies in correlation with the demand of the participants for that player and a participant receives periodically a value-based reward correlated to the value and/or performance of the players on a participant's team.**

Game design patterns: 3, 5, **2119(pervasive games)**, 2149, 2134, **2147(theme)**, **2159(Public game statistics)**

Appendix D: 20 Computer & Video Game Patents

1. 3D transformation matrix compression and decompression

Patent number: 6,591,019

Current U.S. Class: **382/248**; 345/419; 345/473

Assignee and Issue date: Nintendo Co., Ltd., July 8, 2003

Abstract: Compressing and decompressing techniques for transformation matrices 3D computer graphics systems use to animate objects achieve high compression ratios by taking advantage of common characteristics of homogenous 3D transformation matrices. The techniques use a bitmap to encode information on locations of ones and zeros of the matrix--bypassing the penchant of compilers to represent such information as high-precision numbers. Since most video game processors and display hardware are constrained by their resolutions and since an original transformation matrix often stores data that is more accurate than necessary, the techniques convert some real numbers in the matrix (e.g., those within the range of -1 and 1) into integers by scaling them by a constant. The resulting compressed matrices occupy much less storage space than their non-compressed counterparts, and can be efficiently decompressed in real time for use in interactive real time 3D animations.

2. Gladiator game and method of play

Patent number: 6,575,463

Current U.S. Class: **273/261**; 273/236; 273/255; 273/260; 273/262

Inventor and Issue date: Lance Wintersteen, June 10, 2003

Abstract: A gladiator game and method of play. The gladiator game comprises a game environment, player tokens, gladiator tokens, trainer tokens, a stack of monster cards, a stack of treasure cards, play money, and a chance device. The chance device determines player token moves over spaces disposed in a perimeter path around an arena. Under certain conditions, gladiator tokens may be purchased (representing the retention of a Gladiator), and may enter the arena. In the arena different gladiators may engage in combat, the outcome being determined by a number of factors including their gladiator attack points, gladiator defense points, and the chance device. A gladiator token occupying a center spot in the arena earns play money for its owner every turn, and additional play money is earned each circuit of the perimeter path. Video game, computer game, and internet versions of the instant game are considered to be within the scope of the instant invention. The internet version permits large number of players to participate simultaneously, and new players may join the game at any time.

3. Dedicated wireless digital video disc (DVD) controller for video game consoles

Patent number: 6,565,441

Current U.S. Class: **463/39**; 463/37

Assignee and Issue date: Arista Enterprises inc., May 20, 2003

Abstract: A wireless interface and dedicated digital video disc (DVD) controller for video game consoles capable of playing DVDs. An adapter is inserted into one of the communication ports of the game console and provides a wireless communication receiver for receiving and inputting control commands into the game console. A dedicated DVD remote control device includes a wireless transmitter for wirelessly transmitting DVD player control functions to the game console via the adapter and thereby enables wireless control of the DVD functions of the game console. The control buttons on the dedicated DVD remote control correspond in function to the wired game controller buttons that would otherwise control the DVD functions of the game console, but have an appearance to the user that corresponds to a standard DVD player remote control. Thus, the user need not navigate through menus or otherwise determine the DVD player functions of the wired game controller buttons with symbol designations used for various functions of game play.

4. Motion simulator for a video game

Patent number: 6,315,673

Current U.S. Class: **472/60**; 434/55; 472/130

Assignee and Issue date: Midway Amusement Games LLC, November 13, 2001

Abstract: In one aspect of the present invention, there is provided a motion simulator for a video game. The motion simulator includes a base and a platform supported on the base. The platform has first and second sides. First and second motors drive respective first and second shafts. First and second cams are mounted to the respective first and second shafts. First and second cam followers are connected to the platform proximate the respective first and second sides. The first and second cam followers rest on the respective first and second cams such that rotation of either the first or second shaft causes vertical movement of the platform.

5. Apparatus and method for drawing

Patent number: 6,157,384

Current U.S. Class : **345/848**

Assignee and Issue date: WINX Corporation, December 5, 2000

Abstract: The picture drawing method is in a graphics computer, a special effect device or a video game machine. Data required for picture drawing is generated by pre-processing by a pre-processor 32 based on a drawing command for drawing a picture model defined by the combination of unit figures, and pixel data is generated on the unit figure basis by texture mapping based on the generated data for drawing a picture on a frame buffer 18. The texture data required by a drawing engine 33 is transferred in the pre-processing stage from a texture area on the frame buffer 18 to a texture cache 33F, and the pre-processor 32 and the drawing engine 33 are operated in pipelining. This enables texture mapping or MIP mapping without halting picture drawing means, while reducing the number of time texture memory is accessing and the accessing time for raising the overall picture drawing speed.

6. System and method for displaying an interactive event

Patent number: 6,010,403

Current U.S. Class : **463/6**; 434/66; 434/99

Assignee and Issue date: LBE Technologies, Inc., January 4, 2000

Abstract: This disclosure is directed to novel systems and methods for displaying an interactive event, such as a race car video game. Numerous display devices are disclosed for displaying video and audio elements of the video game to both current players and to individuals not currently playing the video game. The race car video game further has seating for two occupants, a driver and a crew member and has a separate video monitor for the crew member, through which the crew member can selectively view the race from different viewpoints and can obtain race information. The display of the race car game to individuals not currently playing the game varies according to several factors to enhance the attraction and interest in the race car video game.

7. Method and apparatus for synchronizing the execution of multiple video game systems in a networked environment

Patent number: 5,775,996

Current U.S. Class : **463/40**

Assignee and Issue date: MPath Interactive, Inc, July 7, 1998

Abstract: The present invention is a means and method for synchronizing the execution of multiple video game systems in a networked environment with no external synchronization signals required. Video games and most computer display controllers are closed free-running systems. Because most such systems have the means to switch between an interlaced and non-interlaced operation, and because interlaced and non-interlaced modes have a relative timing variation, the timing between two or more such closed free-running systems can be synchronized. This method allows synchronization with an imprecise timing reference. The vertical display timing is the free-running oscillator and the interlaced/non-interlaced mode transition is used as the timing adjustment means. The actual arrival time of data in a communication medium connecting two systems being synchronized is used in relation to an expected arrival time to provide the clock reference.

8. System and method for playing games and rewarding successful players

Patent number: 5,697,844

Current U.S. Class : **463/40**

Assignee and Issue date: Response Reward Systems, L.C, December 16, 1997

Abstract: A system and method for evaluating responses to broadcast programs, such as television programs, includes an instructional signal modulated onto a signal transmitted concurrently with the television program, or time-multiplexed with television signals. At each of a plurality of remote receiving stations, one or more members of a remote audience has the opportunity to respond to a task or situation presented in the television program by entering a response vocally or on a keyboard.

The system may include a video game machine suitable for playing commercially available games such as an NINTENDO game or a SEGA game, and wherein such game may be played back from a recording. The system includes response evaluation circuitry, a memory responsive to the instructional signal for storing acceptable responses, a comparison circuit for comparing responses entered at the keyboard with those stored in the memory, circuitry for scoring responses in accordance with commands from the instructional signal, and a recording device for providing a permanent record of the audience score at the remote station. Electronic circuitry for evaluation and scoring purposes may be located at a remote station and/or a central location. Multiple players at a common game may be ranked in their performance, and games may be interrupted for a sponsor's message, and wherein a response to the message may serve as a basis for an enhanced score.

9. Multi-player, multi-character cooperative play video game with independent player entry and departure

Patent number: RE35,314

Current U.S. Class : **463/2**; 463/15

Assignee and Issue date: Atari Games Corporation, August 20, 1996

Abstract: A multi-player, multi-character video game where the games rules force the players to cooperate in negotiating the maze at least until the characters reach a portion of the maze where a specific objective is located. Certain limited resources to change the attributes of the characters or to increase their longevity are displayed in a maze. The players may compete to obtain possession of these limited resources when the characters have cooperated in their movements sufficiently to move to the location of the limited resources. Cooperation among the characters is forced by forcing all characters active in the game to remain visible in the displayed window. Players may enter the game at any time, and they may leave the game at any time without affecting the status of the game or the status of the other characters in the game. All active players may simultaneously, independently control their characters so long as they do not attempt to move their characters outside the currently displayed window.

10. Random dot generator for raster scan video displays

Patent number: 4,195,293

Current U.S. Class : **345/600**; 327/100; 345/589; 348/584; 348/586; 463/31

Inventor and Issue date: Margolin; Jed, March 25, 1980

Abstract: A Linear-Feedback-Shift-Register produces a pseudorandom sequence of bits that are used to produce a stationary random pattern of dots on a standard raster scan video display. The density of dots is adjustable as is their intensity. This dot pattern may be combined with other video sources and thus may serve as a background for the playing of TV video games, especially those of the "space war" variety. The dot pattern may also be moved as a whole under player control and thus form the basis for a novel type of video game to be described.

11. Method and apparatus for generating a musical score

Patent number: 6,096,962

Current U.S. Class : **84/611**; 84/DIG12

Inventor and Issue date: Crowley; Ronald P., August 1, 2000

Abstract: A method practiced in connection with a computer game, video game or the like constantly evolves the game's music by permitting several basic themes and rhythms used. A harmonic pointer and rhythm pointer start the music so as to conform to a musical style desired in connection with a displayed scene or other event. Once the pointers have been set to a current musical style, the permutation process evolves the basic themes and rhythms and regenerates new music whose form is a stream of variations of the original themes throughout the history of an individual game play experience, thus providing a large amount of musical content without having to store a large, complex, pre-recorded musical score defined for each scene of the game. The amount of memory needed for musical passages is limited because a complex musical output is created from only a limited set of basic themes and rhythms. Initial musical themes are set during the game installation and musical themes evolve during the game. Playing the exact same sequence of musical notes is avoided, but the basic musical style is maintained, from one game play experience to another or even from product to another.

12. Computer game and procedure of aligning objects in a field and applications of the procedure

Patent number: 6,579,177

Current U.S. Class : **463/9**

Inventor and Issue date: Mraovic; Dusan, June 17, 2003

Abstract: A computer game includes a procedure of aligning objects in a field. The procedure includes a series of sub-procedures each including creating and positioning a new object within the field and moving the new object within the field. Moving the objects occurs regardless if the object is moved above one or more other objects. It is detected if the object is situated above one or more other objects and if a complete column and/or row within the field is filled with one or more parts of the objects. If no object is positioned above any other object and a complete row and/or column is filled with the objects or parts of the objects, the objects or the parts of the objects which are positioned within that column and/or within that row are removed from the field. The computer game is applicable for storing objects in a storage-device, as an adult-check, identity-check or as an intelligence trainer.

13. Thumb protector

Patent number: 6,402,211

Current U.S. Class : **294/25**; 2/21

Inventor and Issue date: Chapman; Michael, June 11, 2002

Abstract: A thumb protector for protecting the thumb of a user from calluses and inflamed skin from repetitive use of computer game controllers. The thumb protector includes a sleeve that is adapted to cover a distal end of the digit of the user. The

sleeve has an upper portion and a lower portion; the upper portion is adapted to cover a top of the distal end of the digit and the lower portion is adapted to cover a digital pulp of the digit of the user. A plurality of ridges outwardly extend from the lower portion of the sleeve such that the plurality of ridges are adapted for increasing traction between the sleeve and the game controller when the sleeve is covering the distal end of the digit.

14. Optical gun for use with computer games

Patent number: 6,287,198

Current U.S. Class : **463/37**; 463/36; 463/38; 710/3; 710/15

Inventor and Issue date: McCauley; Jack J., September 11, 2001

Abstract: An optical gun for use in combination with computer game and computer simulation systems is provided. The optical gun includes a pistol shaped chassis, a USB computer control circuit, an optical sensor, a set of manual buttons, a trigger, a thumbpad, an optical wheel and a hardware accelerator. A game player grasps the pistol shaped chassis with one hand around a hand grip, while supporting a barrel section with a second hand. The optical wheel is located on the barrel and is manipulated by the player's second hand. The player points the barrel at a video screen of a game system. A pull of the trigger indicates that the player has fired a simulated round within a simulation context. Turns of the optical wheel indicate movement of the game player's virtual location within a simulated game space or volume. The player may press against the thumbpad or actuate one of the buttons to communicate movement within the game scenario, or to transmit other instructions to the computer simulation system. The controller receives information from the game system that specifies the pixel illumination data sequence of the video screen. Alternatively, the optical gun may generate a pixel illumination sequence and thereby impose a screen flash on the video screen via the hardware accelerator. The controller calculates the position of the video screen at which the optical gun was pointed by comparing the time of illumination detection reported by the optical sensor within the period of time that the trigger was pulled against the pixel illumination sequence pattern information provided by the game system. The controller then transmits the calculated position on the screen at which the simulated round firing was intended, and any manipulation or activation of the buttons, the optical wheel or the thumbpad, to the host computer. The game system thereupon integrates the game player's inputs regarding virtual movement within the simulated game space or volume and the simulated firing of rounds within the context of the game simulation. The game player may thus ergonomically explore and interact within a simulated two or three dimensional game space. The optical gun and the game system may incorporate USB Bus and Human Interface Device, or HID, standards into their design, use and architecture.

15. Interactive simulation including force feedback

Patent number: 6,036,495

Current U.S. Class : **434/45**; 345/161; 463/38

Assignee and Issue date: Microsoft Corporation, March 14, 2000

Abstract: Interactive simulation including force feedback. The system includes a computer game display unit programmed with simulation rules. A control unit is connected to the computer and provides information and control signals to the computer to interact with the stored simulation rules and to receive information and control signals from the computer. A movable structure for movement in at least two degrees-of-freedom by an operator is interconnected to the control unit by means of actuators. A programmable unit processes signals and information from the computer to generate signals to drive the actuators so as to apply forces in the at least two degrees-of-freedom to the movable structure and thereby to the operator. The applied forces are based on internal programming within the programmable unit, events occurring in the simulation and movements of and forces applied to the movable structure by the operator. The system of the invention thereby provides continuous interaction among motion of and forces applied by the movable structure, the events in the simulation and forces applied to and applied by the movable structure.

16. Method and apparatus for playing a word game

Patent number: 5,860,653

Current U.S. Class : **273/272**; 273/292; 434/172

Inventor and Issue date: Jacobs; Robert, January 19, 1999

Abstract: Apparatus and method for playing an anagram-type game in a game show or computer game format. One or more anagrams, each comprised of scrambled letters, are displayed on a gameboard. At least one object of the game is to guess the unscrambled solution to each anagram. When correctly guessed, the letters are moved from their scrambled configuration to their unscrambled configuration. An ultimate solution to the puzzle is preferably revealed by some of the letters of the collective unscrambled anagrams which are moved into a predetermined alignment. Several means are included for making it easier to view, study and follow the progress of the game such as moving each letter along a path, leaving outlines of the letters in their initial positions, and indicating which anagram is to be guessed by a player.

17. Computerized system for teaching geometry proofs

Patent number: 5,584,699

Current U.S. Class : **434/201**; 434/188; 434/191; 434/211; 434/212; 434/322; 434/323

Inventor and Issue date: Silver; Judith A., December 17, 1996

Abstract: A system for teaching proofs, including a set of playing cards and a playing field electronically displayed on a computer game screen. The playing field includes two boxes labelled "GIVEN" and "CONCLUSION" for entry of a premise and a conclusion from a theorem (or other problem). By selecting from a certain menu or submenu contained in a window, a card may be reviewed. To set up the playing field, a mathematical statement, displayed on a set-up card of a group of set-up cards containing each statement from the universe of statements known, is entered into the boxes. The statements may be custom labelled. Geometric figures associated with the theorem may also be electronically drawn on the screen by a user to complete the set-up. After set-up is complete, a user then chooses from a set of playing cards, each card displaying a specific mathematical concept from the universe of mathematical

concepts such as definitions, postulates, constructions, properties and theorems, and places it on the playing field. The system allows a chosen playing card to be dragged by means of a mouse to the playing field and, if properly placed, to "stick" in place on the playing field. Improperly placed cards "snap" back to their original file position. After each card has been correctly placed, a line between properly placed cards is generated connecting proper premises and conclusions to each other and the GIVEN or CONCLUSION to display a completed proof.

18. Dice displaying apparatus for a computer game machine

Patent number: 5,263,715

Current U.S. Class : **463/22**; 273/145R; 273/146; 273/148B; 463/33; 463/37

Assignee and Issue date: Irem Corporation (Osaka, JP), November 23, 1993

Abstract: A dice displaying apparatus for a computer game machine includes a trackball operable by each player. Rolling speeds of two dice are derived from an amount and direction of operation of the trackball. Rolling angles of the dice are also derived from the amount and direction of operation of the trackball, with slight angles derived from random numbers added thereto. Display positions for the respective dice are determined every predetermined intervals of time from the rolling speeds and rolling angles. Image patterns of varied phases of rolling dice corresponding to the rolling angles are presented in the respective display positions on CRT displays.

19. Full-time turn based network multiplayer game

Patent number: 6,179,713

Current U.S. Class : **463/42**; 463/1

Assignee and Issue date : Circadence Corporation (Boulder, CO), January 30, 2001

Abstract: One embodiment of the present invention relates to a computer game that is played over a computer network and is capable of accommodating a large number of players. When the game is play on the Internet, players are able to input moves and be apprised of the state of the game using the basic input/output functions of their Web browser. Consequently, the game can be played with substantially no other game related software, plug-ins or add-ons. Another embodiment of the invention relates to the management of a game data base so as to compensate for the lack of game resources that a newer player has relative to older players that are likely to possess significantly greater game resources. Further, the virtual space of the game is highly expandable and updatable. In another embodiment of the invention a game is provided that couples game playing and advertising via a game currency that an advertiser can provide to a player and which can be used by the player in playing the game. The invention allows players to change moves during a turn of a turn-based game and allows for substantially continuous game play even during processing of turns.

20. Game scene reproducing machine and game scene reproducing system

Patent number: 6,336,865

Current U.S. Class : **463/34**; 273/148B; 273/148R; 358/1.15; 358/1.6; 358/1.8; 463/30; 463/31; 463/32

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Abstract: The game scene reproducing machine includes a reproducing unit for reproducing a game scene of a game machine having an instruction unit for instructing output of the game scene while a game is being executed, and outputting game scene reproducing information is outputted, which includes game history information having timing information of output instruction, and control information and manipulation information of the game and a receiving unit for receiving the game scene reproducing information, wherein image data of the game scene that has been reproduced in accordance with the game history information, is outputted. The game scene reproducing system includes the game scene reproducing machine, the game machine or machines and a communication network in which the reproducing machine and the game machine or machines are connected. The reproducing machine and system are provided, which are capable of print-outputting, medium-outputting, or of on-line delivering an image or an image of high definition obtained by reproducing a game scene in a computer game machine while the game is being executed, and which also increases a property as an entertainment.

Appendix E: Game Design Patterns

Below, the patterns that were used to classify the 50 design patents in Appendix C are listed in alphabetical order. Unfortunately, pattern definitions cannot be provided in any greater detail than this due to lack of space.

2058	Advantage of Memorization	5	Creative Control
1001	Agents	2096	Cut Scenes
2145	Alternative Reality	2142	Deadly Traps
2133	Analysis Paralysis	2135	Delayed Effect
2070	Area Control	506	Deliberate Hovering Closure
2071	Area Enclosure	528	Descension
2037	Arithmetic Rewards for Investments	2140	Dexterity-Based Actions
5004	Artifact-Artifact Proximity	2102	Dice
527	Ascension	503	Distributed Reward
10	Asymmetrical Abilities	2105	Drafting
14	Asymmetrical Goals	2107	Drawing Stack
2024	Asymmetrical Player Relations	2121	Dummy Characters
2085	Asynchronous Games	2000	Early Elimination
2098	Attention Grabbing	2049	Easter Eggs
507	Audience	512	Extra Game Reward
6	Avatar	22	First-Person View
2039	Balancing Effects	2125	Flip Flop Events
2021	Bidding	2052	Fog of War
5010	Blind Spot	1000	Freedom of Choice
2086	Blockades	2	Game Mastery
524	Bluffing	516	Game Within Game
2137	Budgeted Action Points	301	Game World Navigation
2154	Camera	2036	Geometric Rewards for Investments
2130	Camping	2054	God View
2063	Capture Points	2153	Handicap
2110	Card Hand	1008	Handle
2106	Cards	2138	Hidden or Unknown Closures
2171	Cat-Rat-Reversal	2038	Hidden Resources
2031	Character Development	2004	Higher-Level Closures as Game Play Progresses
2155	Chat Forum	2134	Highscore List
2034	Closed Economy	2026	Hit Left, Dodge Right
2083	Collaborative Action	2028	Hovering Closures
522	Collecting	2001	Illusionary Reward
2165	Collection of Closures	2016	Incompatible Goals
2128	Combat	2144	Individual Rewards
25	Common Experience	2132	Interruptable Actions
12	Competition	2027	Investments
2168	Completed Collection Closure	2059	Invisible Walls
2023	Conflict	2082	Judge
1002	Constant Player Activity	2007	Kingmaker
2018	Cooperative Play	2143	Last Man Standing
517	Coupled Games		

2124	Late-Arriving Players	23	Privileged Action
2033	Limited Foresight	24	Privileged Move
2045	Limited Planning Ability	511	Problem solving
2029	Limited Resources	2141	Promote Constructive Play
2051	Limited Set of Actions	2156	Proxies
526	Luck	2159	Public Game Statistics
2113	Matching Games	2057	Public Information
2084	Mentorship	2136	Punctuated Equilibrium
4	Meta Game	8	Quick Games
2043	Metagaming	2127	Random Sequences
2114	Movable Tiles	20	Randomness
2053	Movement	2126	Real-Time Games
2061	Movement Limitation	2062	Reality Logic
2122	Mule	2048	Reasonable Waiting Times
520	Multiplayer Game	1006	Red Queen Dilemma
2163	Multiple Closures	1	Replayability
2003	Multiple Solution Closure	2030	Research
2020	Mutual Goal	2166	Resource Control
2006	Narrative Structure	2123	Resource Dump Characters
2091	Negotiation	2068	Resource Generator
513	Never Ending Story	2065	Resource Locations
2120	No-Op	2032	Resource Management
2035	Non-Renewable Resources	2148	Resource Transfer
2055	Omnipresence	2067	Resources
2164	Optional Closures	2012	Respawning
2017	Overcoming Adversary Closure	2158	Reversability
2109	Paper Rock Scissors	2167	Rewards
2040	Partial Reinforcement	2060	Right Level of Complexity
27	Perceived Chance to Succeed	2129	Risk/Reward
2014	Perceived Chance to Win	508	Role-Playing
518	Persistent Game	1007	Round Robin Sequences
2161	Personal Development Closure	2064	Safe Havens
2119	Pervasive Games	2075	Secret Alliances
5003	Physical Navigation	2111	Secret Resources
8000	Physrep (LRP)	2056	Secret Tactics
2172	Planned Character Development	2169	Selectable Set of Closures
26	Player Balance	2118	Sequential Turn-Taking
2115	Player Constructed Board	505	Shared Resources
2074	Player Constructed Closures	2077	Shared Rewards
2087	Player Decided Results	2112	Showdown
1004	Player Elimination	2146	Single-Player Game
2013	Player Killing	510	Small Avatar Large World
5002	Player-Artifact Proximity	2041	Smooth Learning Curve
5001	Player-Location Proximity	2099	Social Lubricant
5000	Player-Player Proximity	525	Social organizations
2093	Possibility of Betrayal	502	Social Reward
1010	Power-Ups	2090	Solitaire Games
2080	Predefined Goals	1005	Spectator
2047	Predictability	2152	Stealing
2002	Predictable Consequences	2094	Stimulated Planning

2072 Stimulated Social Interaction
509 Story-telling
2103 Strategic Knowledge
2022 Strategic Locations
2162 Subclosure
2050 Surprises
2010 Symmetry
2015 Team Balance
2042 Team Elimination
2092 Team Killing
2025 Team Play
2073 Temporary Alliances
2011 Tension
2160 The Carrot Reward
2097 The Show Must Go On
2147 Theme
21 Third-Person View
523 Tick-based games
2019 Tiebreaker
2078 Tied Results
2116 Tile-Laying
2104 Tiles
2046 Time Limit
2101 Timing
2149 Token Appearance
2044 Tournament
2139 Tradeoffs
504 Trading
2117 Transfer of Control
2069 Travelling Salesman
2108 Trump
2100 Turn Taking
519 Two Player Game
2131 Ultra Powerful Events
2089 Uncommitted Alliances
2150 Uniformity
2079 Unknown Goals
3 Varied Game Play
2088 Voting
2005 Weenie
2170 Weenie Chain
2081 Winning Conditions
2066 Zone of Control