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University Web Portals
Quality Assurance: User Perspective

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Abstract

Looking at IS services is quite vast. Anything that has to do with technology is basically an IS service. Web portals are one of the largest, considering that anyone who uses the internet pretty much uses web portals. Since the explosion of the internet, web portals and their uses have become more advanced and complex. Web portals are a major source of obtaining information over the internet. It is easier and faster than looking up information in a "real" library. One of the issues with this highly accessible information source is that the content isn't always correct and not always all that easy to use. "Fitness for use" is a highly referred to term explaining the quality of web portals. Our analysis and conclusion of obtaining and assuring quality in university web portals will show that the most important aspect in developing web portals is dependant on the intended users. Further, this research will provide a simple model and method to aid in future university portal development.

Keywords

Contents

Introduction

This study has been performed to analyze the importance of university web portals and how they are used by students, staff and outside visitors. Almost every university has a web portal, but how efficient they are or if they are used as they should be will be determined in this study. A portal by definition is a gateway, a front door to other portals or sites. A university portal should provide certain services for individuals depending on the needs of that user. Moreover the content and the overall impression of the web portal can influence a potential student when choosing which university they will apply to.

Every year millions of people visit university web portals looking for information. This could be, for example, students looking for course information, change in lecture times, account access or teacher contact information. It is very important that the what ever it is the user is searching for is easy to find and the content is easily understood.

In this study the main requirements for a high quality university portal will be defined by three factors; content, functionality and usability. Similar studies have been performed in a broader perspective, though not specific to universities (Caro, Calero, et al, 2008). Other goals in this study will be to create of a set of tools to assist developers and administrators assess and maintain the quality on university web portals. Assuring quality can be easily attained by simple usability tests and questionnaires. (Nielsen, 2006) Since it is difficult to create a "one size fits all" set of metrics (Pipino, Lee et al., 2002), other aspects according to the model this project bases its findings on, will be described in general terms as guidelines for developers and administrators of university web portals.

Literature Study

Quality

There are many different definitions of what quality is and what it represents, depending what services it pertains to. There is usually more than one definition, even when narrowed down to a specific field or branch.

Reeves and Bednar (1994) suggest that quality has four different root definitions:

- Quality is Excellence: According to Plato is excellence "the good, the highest form, the highest ideal of all"
- Quality is Value: Feigenbaum meant that value is "best for customer conditions."
- Quality is Conformance to Specifications: "The standards specify how management operations shall be conducted" (Buttle, 1997).
- Quality is Meeting and /or Exceeding Customers' Expectations: Quality is when the customers' expectations are met or exceeded. (Reeves and Bednar, 1994)

There are those however that contest and argue that quality means that there is no compromising with anything second rate. (Tuchman, 1980)

Though there are strengths and weaknesses in all above mentioned, for this project we will use the definition according to Juran and Gryna (1988), "Fitness for use". He also stated that establishing standards to meet customer needs was the most fundamental definition for industry.

Data Quality

The interest and need of data quality (DQ) or information quality (IQ)[1] has grown as the demands of internet and its services have increased (Caro, Calero et al, 2005). The definition of DQ that is often used is "…fit for use…[2]". According to this definition the QA aspects focus on the usability and the usefulness of the data (Strong, Lee et al., 1997).

In order to assure DQ, measurement models in different dimensions of quality, have been created. Through different investigation approaches, said dimensions and attributes can be extracted. According to Wang and Strong (1996), when performing literature reviews, there are generally three ways to investigate DQ:

- **Intuitive**: In this method researchers use their experiences and intuition to interpenetrate the data and to determine what attribute has most significance. This is the most common way of research throughout the literature. This approach usually ends up with a small number of common key dimensions with focus on accuracy or reliability.

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[1] As in many papers about data quality, this paper will consider information and data quality as the same.
[2] In some papers also referred to as" fitness for use".

- **Theoretical**: This method is focused on how data starting to lack an essential quality during the manufacturing process. There are not many studies that have been using this method even though this approach often has been recommended. One such study used an ontological approach where the different attributes were driven from the data deficiencies according to the real-world system view.
- **Empirical**: When using this approach the different aspects of data quality are driven from the consumer's assessment of determine if the data are fit for use in their task.

The *intuitive* approach benefits the possibility to select the appropriate attributes that align towards the goals of a study. Using the *theoretical* approach extensive collection of data that meet the requirements of attributes that are essential to the data product can be provided. Both fail to catch the users view since their focuses are in the aspects of the development rather than the users. (Wang and Strong, 1996)

In a study of DQ, Strong, Lee et al (1997) emphasized the importance of the consumer perspective and proposed a model for this purpose. This was different compared with the former, traditional perspective which was more focused on the producer and almost neglected the purpose and use of data.

Content

Terms like "data quality" and "fitness for use" (Strong, Lee et al., 1997; Kahn, Strong et al., 2002) are used to measure the attributes of the portal to assure the quality of the data in it. The information published on the portals can be measured to determine whether or not it is informative or valid. (Caro, Calero, et al, 2008)

Functionality

As stated in a government web portal study by Gant and Gant (2002) web portal functionality is described as, "...usability, customization, openness, and transparency."
Being able to navigate through a web portal is a basic concept, not to simplify its importance however, and according to Gant and Gant (2002), organizations or companies can develop their portals to meet the needs of a specific target audience. University web portals fall into this category and by performing case studies in the form of student interviews and questionnaires based on the above mentioned studies. By analyzing the data from the case studies, a set of tools will be created

Usability

The final aspect of this research is whether or not the web portals are usable or not. Well designed and highly usable portals provide certain services and should be easily navigated. The users should be able to assess different levels of information depending on what kind of account they have. Other attributes can entail language choices and whether or not persons with disabilities have been taken into consideration. (Gant and Gant, 2002)

Data Quality Model

Research done by Kahn, Strong et al. (2002) on a product and service performance model for DQ (PSP/DQ) was tested in a case study of three different healthcare organizations. The PSP/DQ model is a matrix that combined four aspects of DQ (see Table 1). It combines two of the suggested four root definitions of quality by Reeves and Bednar (1994); *Quality is Conformance to Specifications* and *Quality is Meeting and /or Exceeding Customers' Expectations*. The first definition is used since specifications are recognized to guarantee that products and services are free from defects. The fitness for use can be defined as meeting a specification. The second might be difficult to measure since it is very subjective but it is still very important. They also use product quality and service quality that was suggested by Zeithaml, Berry et al. (Kahn, Strong et al. 2002). These were taken from the discipline of marketing where they distinguish between these qualities.

Table 1: Aspects of the PSP/DQ model

	Conforms to Specifications	**Meets or Exceeds Consumer Expectations**
Product Quality	Sound Information: • Free-of-Error • Concise Representation • Completeness • Consistent Representation	Useful Information: • Appropriate Amount • Relevancy • Understandability • Interpretable • Objectivity
Service Quality	Dependable Information: • Timeliness • Security	Usable Information: • Believability • Accessibility • Ease of Manipulation • Reputation • Value-Added

The PSP/DQ model captures the aspects of DQ in general but still would not fit to be used for WP as Caro, Calero et al. (2005) realized. To create their model they went through many different quality models from literature. By sum up the different models aspects and based on what a WP's characteristics they filtered out attributes for their WP quality model.

Framework for Analysis

This paper suggests the need for and attainment of high quality in university web portals from a user (student or staff) perspective. The model that will be used in this paper is a result of Caro, Calero et al. (2005) research where a quality data model specifically for web portals was developed. This model focuses on the consumer expectations of data quality displayed on web portals. This research describes how several other frameworks were evaluated and that the framework structures could distinguish some common factors that would define different aspects of a web portal. In the model there are two basic perspectives: the consumer expectation and basic web portal functionalities. Based on the perspectives relation a matrix was formed (see Table 2).

Table 2: Matrix that shows the relationship between web portal functionalities and consumers expectations.(Caro, Calero et al., 2005)

Category of Data Consumer Expectations	Administration	Collaboration and Communication	Content management	Data Points and Integration	Help Features	Personalization	Presentation	Process and Action	Search Capabilities	Security	Taxonomy
Commitment		X	X		X			X			
Content			X	X			X	X			X
Improvement			X	X			X	X	X		X
Presentation			X	X	X		X	X	X	X	X
Privacy	X	X	X			X		X		X	
Quality of Values	X		X			X	X	X	X	X	

Consumer Expectations

The model uses the quality expectation of the consumer perspective, which was suggested by Redman (Caro, Calero at al. 2005). He suggests six different aspects of the consumer's expectation of the data quality.

- **Commitment**: The consumer should be able to get answers about different aspects about the content of the web portal with little effort or problems.

- **Content**: On a web portal should there be a description about the areas that the web portal's content covers, its authors, sources etc. It is also important that there is a description of what a customer can and cannot do with the contents of the web portal.
- **Improvement**: Suggestions and opinions of different matter of the web portal should be received and any improving result should be reported.
- **Presentation**: It is important the content of the web portal has an easy understanding format and that the contents semantic are clear and easy to understand.
- **Privacy**: Privacy policies for different aspects in concern both of the contents and the web portal users.
- **Quality of Values**: All contents should be correct unless otherwise stated. Functions, user profiles, search results etc. should be correct and current.

Web Portal Functionalities

The roll of a web portal is to provide the user with information through different software functionalities. The functionality models for web portal are based on work done by Collins (Caro, Calero at al. 2005) where eleven functionalities were identified.[3] Here are short descriptions of the different web functionalities.

- **Administration**: This is the service taking care of maintenance and other functions of the web portal.
- **Collaboration and Communication**: The function of using ideas from customers and others to solve and improve the web portal.
- **Content Management**: Regulate the contents, authorization, determine if to include or exclude content of the web portal.
- **Data Points and Integration**: The function of give access to other external information sources through the web portal.
- **Help Features**: Give help and support to customers if needed.
- **Personalization**: The functionality that gives the customer the possibility to personally adapt their environment at the web portal.
- **Presentation**: This is the function that encapsulates both the visual and functionality of the web portal.
- **Process and Action**: This functionality describes the customers' ability to participate in the web portals owners' business process.
- **Search Capabilities**: This feature take care of the search engine services on the web portal, both internal and external.
- **Security**: This is the description of customers different access levels of the application services provided by through the web portal.
- **Taxonomy**: The information about the context, the organization's business.

This portal data quality model's functionalities are somewhat general descriptions of functionalities. To be able to measure the quality, more specific functionalities need to be determined. These more specific functionalities can most likely be sorted under one or more

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[3] For the focus of this project, it is the usability functionalities that will be used from the consumer's perspective.

above mentioned general model functionalities and heritage their consumer dependencies. The important aspect of specify a functionality is because it is possible to put more precise performance goals that can be measured and checked.

Research Method

An interpretive approach to define a standard framework and set of QA assessment tools in university web portal development and maintenance has been used in this project. Walsham (1993) states that interpretive perspectives are, "...aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context." (Discovery, 2008) Further, this project will, through an empirical case study on how to assure quality in university web portals best practice, provide suggestions in the connection between three areas of research; functionality, usability, and content and why the integration of all three is necessary.

Literature Study

Literature studies based on similar research [4] in web portal data quality (Cappiello, Francalanci et al., 2004), functionality, requirements (Wiegers, 1999) and usability (Gant and Gant, 2002) will be used to create the set of tools and model for assessing and assuring quality.

Case Study

The case study for this project is based on usability tests and questionnaires given to students at the IT University of Gothenburg on how they perceive the university web portal. Students will be asked to perform certain tasks and the results will be noted and analyzed. Some of the tasks will be timed and others counted. After each test, the student will be asked about their overall opinion of their portal "experience". The tests will take approximately 15- 20 minutes per student. The purpose of the usability is to validate and verify the functionality and usability of the IT University web portal are as well as suggest how to improve it.

Usability Testing

According to Nielsen (2000) is it not necessary to include more than 15 peoples in order to find problems in the design by means of a usability test. In a study done by Tom Landauer (Nielsen , 2000) the formula, $N(1-(1-L)^n)$, was presented. N represents the number of usability problems found, L is the proportion of usability problems discovered while testing a single user (normally 31%) and n is the number people tested. The graph below show how quickly the usability problems found closes to 100% with quite few number of test users (see Graph 1).

Graph 1: This graph is draw based on L = 31% (Nielsen 2006)
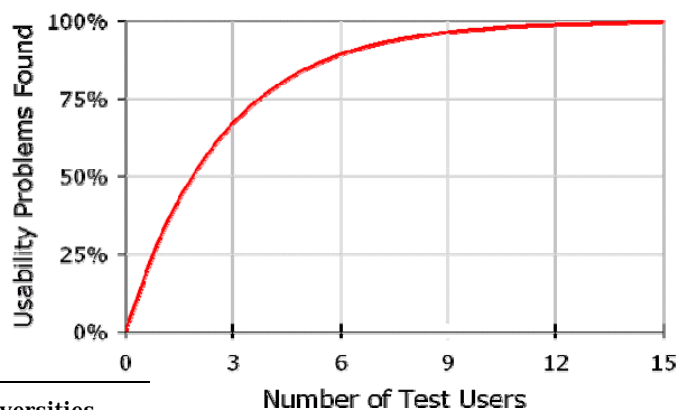
4 Not specific to universities.

Nielsen states that when tests are performed on similar users, most of the results give overlapping information, so not that much is learned from each test. Therefore it is necessary to ensure that those participating in the test represent different types of users (Nielsen, 2000).

Since this paper focuses on a university web portal and to investigate methods on how to measure the quality; a test group of students in the Software engineering and management program at the IT University of Gothenburg have been chosen to participate in the case study. Hence to cover the whole quality perspective more different types of users should have been included in the case study.

A very important part of designing a web portal is the architecture of the information. A common mistake is to arrange the information according to the developers own view. It is important that the users of a web portal are the focus when developing a web portal in order to meet the user's expectation of where to find different types of information. (Nielsen, 2004)

Another aspect of usability tests is to measure the different metrics of a task such as clicks and time to complete the task. When collecting quantitative usability metrics the number of users to be tested should be around 20 persons. The wide range of how fast or number of clicks is needed to complete a task can statistically be assured then. (Nielsen, 2006)

The statistical margin of errors is estimated to ±19%. To lower this margin to ±10%, the number of users to be tested has to increase to at least 76 participants. The error margin ±19% is acceptable since most of the time (90%) the results will be better. When the margin is set to 50% there is still an acceptable margin of errors (see Graph 2). (Nielsen, 2006)

Graph 2: The red curve shows what happen when requirements to being right half of the time. (Nielsen 2006)
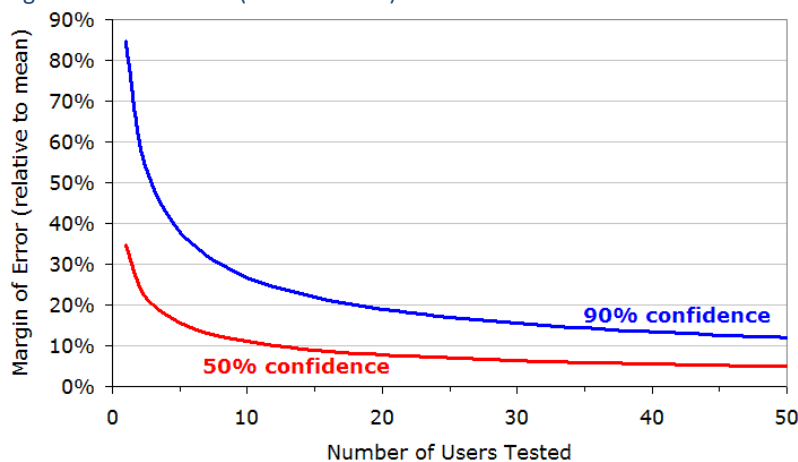
Student Interviews – Performed User Tests

The user tests were performed on 20 Software Engineering and Management students. Half of the students were international and half were Swedish. Half were second year and half were third year students as well.

For reasons of measuring information based on the logic of the web portal design, and whether or not it was easy to use and navigate, the web portal search window was not allowed during the usability test. This was to be able to measure if the information, based on the logic of the web portal design, was easy to use.

The questionnaire statements were selected to reflect to view of the user. General opinions of the IT University portal as well as more specific functionality were portrayed to determine how the questionnaire could be used. After the agree/disagree statements were answered, the users gave their comments of the statements and other aspects of the IT university web portal. The last question was created to gather information about functions/attributes of a university web portal that users considered important. Many of the functionalities are requested user requirements and should be included into the requirement list of the university web portal.

There is no previous data to determine an exact timeframe for a specific task. So in order to be considered "reasonable" (Nielsen, 2006), all four tasks are limited to three minutes each to be completed. After each usability test the user will be asked open-ended questions about the task.

Results/Discussion

Defining Quality

Assuring quality in university web portals was the basis of this thesis paper. Defining quality was the first task to be performed. Knowing which definition was correct and most pertinent to the scope of this paper was defined by many literature reviews written on data quality and usability as well as usability test performed on the SE&M students at ITU.

"Fitness for use" (Juran and Gryna, 1988) was the most referred to term found in the literature when discussing data quality. Juran's and Gryna's statement has different meanings however depending on how it is presented. Strong, Lee et al. (1997) aruge that quality assurance aspects focus on the usability and the usefulness of the data. Caro, Calero, et al. (2005) claim that it is the information or data displayed on the web portal that determined whether it has quality or not. Reeves and Bednar (1994) define quality according to four root terms; excellence, value, conformance to specifications, and meeting and /or exceeding customers' expectations. What then is excellence or value? By who's definition? Does the customer always know what they want or need? And if not, how can conforming to specifications help?

Obtaining Quality

There are models and methods and standards for assuring quality. One is the ISO 9241-11 version from Tajakka (2004), standard for usability. According to Wiegers (1999) quality requirements possess six characteristics. The description of a requirement must be correct. The origin as well as the reference of the requirement such as higher level system or user can determine the correctness of a requirement. The requirement must be implementable. It is important to be aware of a systems limitation to prevent unrealistic requirements. The requirements should be necessary; a need of the customer. In order to identify the level of importance and relevance a requirement's priority should be noted. Wiegers recommends having three levels of priority: high, medium and Low. To avoid confusion, requirement descriptions should be unambiguous. Requirement performance quality task metrics can be determined by measuring the time and clicks it take to complete a task. Defining a requirement is close to impossible with yes or no questions. It is therefore necessary to set performance requirements for a more obtainable functionality. Though it can be a difficult task to set high performance quality requirements without previous data there still should be some set that later can be change in order to adjust the numbers according to the functionality performance.

According to Nielsen (2000), results given by excessively slow users (outliers) are recommended to be removed because they can cause flawed results. However, for this study, it is just those results that are vital to show that the international version of the IT University web portal standard is so low. In this study, they do not occur randomly.

Throughout the interviews and usability tests, there were many comments on what was missing on the web portal, how different features were placed and navigation. Poor information structure leads to poor usability, functionality, and quality. A typical mistake in any kind of application development is when the programmer designs after his/her own ideas. Involving

users in the requirements specifications is one of the easiest methods of enhancing the usability to the structure of the application. (Nielsen, 2004)

Usability testing on its own will only measure the performance of selected functions. Different stages of web portal development are dependant on different data. In the process of developing a web portal more qualitative data (open-ended questions) is needed to establish user requirements. Further in development more quantitative data is more valuable. Questionnaires and surveys are productive solutions to getting vital feedback on the web portal. Usability tests are a highly affective way of measuring functionality. (Nielsen, 2006)

In this study 20 student users where interviewed. Each student answered a questionnaire, some open-ended questions and participated in four usability tests. It took approximately 24 hours totally to carry out the interviews and to analyze the result.

Other aspects to consider are statistics comparisons; however since we could not find any other specific studies on university web portals, this was not an option.

The findings from this study shown that the quality of the ITU web portal is low and that the portal itself is rarely used by the students.

Conclusion

The findings of this study have been quite conclusive. Assuring the quality of university web portals can be easily obtained by a combination of many factors. Juran's and Gryna's (1988) "Fitness for use" is a general term that is associated with management and leadership. Nielsen (2000, 2004, 2006) tells us that user testing is an inexpensive and vital part of development. Caro, Calero et al. (2005), claim that data quality is the most important aspect of portal design. This study shows that all factors are important to find a middle ground on how to develop a web portal that fits the needs of the user that is functional, and valid. One factor that we find rather important but rarely mentioned in any of the other studies was the ease of use. Web portals can be relevant, fully functional, and useable (by means of having a use) without being easy to use. Navigation is an important function of a web portal. The international and Swedish sites need to have the same information. One finding during the usability test was that when an international student was in the international site looking for information, they were navigated to a Swedish site. For non-Swedish speaking students, it is a hassle to have to translate something that should be accessible on the international site. (Appendix A)

Important findings:

- Quality does not have to be expensive.
- Reliable information can be gathered in smaller test groups.
- The fewer amount of those being tested saves time and money.
- It is important to include user's opinions as early as possible in the development of a web portal in order to assure high usability quality.

Further studies in this area would be a broader rage of user testing. The students tested for this study were all from the SE&M program, second and third year only. Other students with various experience and knowledge levels, from several different programs would have given feedback more specific to their personal, educational and social needs by means of a university web portal. Professors, teachers and other administrators did not participate in this study, which would again give a broader perspective on the needs of those other than students.

As mentioned in the research section of this paper, comparisons of different user requirements and tests could also be a useful tool in assuring quality in a web portal, and not only for universities. This study was based on university web portals; however the methods of obtaining quality pertain to all web portals.

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Appendix A: Result From The Interviews

There were 20 interviews where 10 of the users were of Swedish heritage and 10 where of international heritage. The interview composed by the parts:

- Questionnaire
- Open-ended questions
- Usability test

The Result From The Questionnaire

Question 1:
"I find that the graphical appearance of the ITU's web portal pleasant."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	0%	50%	10%	40%
Swedish	0%	10%	40%	50%
All	0%	30%	25%	45%

Question 2:
"I find that navigating thru the ITU's web portal easy."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	0%	20%	70%	10%
Swedish	0%	10%	70%	20%
All	0%	15%	70%	15%

Question 3:
"I can easily find all of the information I needed on the ITU's web portal."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	0%	10%	40%	50%
Swedish	0%	20%	40%	40%
All	0%	15%	40%	45%

Question 4:
"I use the ITU's web portal on a daily basis to perform specific tasks in my studies."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	20%	10%	40%	30%
Swedish	0%	0%	0%	100%
All	10%	5%	20%	65%

Question 5:

"I feel that the ITU's web portal is a useful tool for performing daily tasks."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	0%	0%	40%	60%
Swedish	0%	0%	30%	70%
All	0%	0%	35%	65%

Question 7:

"I use Fronter on a daily basis."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	20%	0%	10%	70%
Swedish	0%	0%	0%	100%
All	10%	0%	5%	85%

Question 8:

"In my opinion I find the information presented on the ITU's web portal valid and useful."

User	Strongly Agree	Agree	Somewhat Disagree	Disagree
International	0%	30%	70%	0%
Swedish	0%	30%	50%	20%
All	0%	30%	60%	10%

The Result From The Open-ended Questions

Question 9:

"Do you feel these questions relevant to a functional university web portal?"

Most of the users answered yes on this question.

Question 10:

"Are there any other issues or functions that you would feel useful to a university web portal?"

In the old version of IT-university web portal there was a search function for finding persons which was not implemented in the new version. Many of the users wanted to have this function. The contact information should also be more detailed, as it was in the old version of the IT-university web portal. Some users requested for more detailed information about the different programs and courses but also more information about other student related organizations and activities, such as student-union and events. Services as Ladok, registry of courses, print quota etc. should be accessible direct from IT-university web portal instead through external web portals.

"Other comments?"

There were opinions of that the IT-university web portal did not reflect the right picture of an IT related university. It was suggested that more pictures of the IT-university inside should be shown. Other comments were "The overall impression of the ituniv.se is not of a higher education institution web site". A general opinion was that the previous version was much better.

Question 12:
"List 5 attributes or functions you feel that a university web portal should have."

Functions that was listed:

- Complete Course list with PM's and detailed information.
- Forum
- Contact Lists
- News (Relevant news should be marked), Internal news, research.
- Wiki
- Search in general and people
- Schedule (Calendar)
- A common (students/teacher) Schedule (Calendar)
- Sign up for Exams
- FAQ
- Event Calendar
- A section for every program
- A presentation for each program including the work that has been done by student's e.g.
- Important Links
- Webmail
- Everyday booking (Rooms) info (as in the entrance)
- Fronter
- Access to Ladok without needing to go through GU
- Link to "my file"/web root
- Job information
- Staff list for the institution
- University -> industry connections
- Mailing list
- Communication channels for students (i.e. forum)
- Possibility to view mailing lists in order to see which persons are included
- Introduction about staff
- Information about organizations inside school such as SKIP, ITS, Systemsex and so on...
- Login

- Auto Login
- Corresponding content of the site in both Swedish and English
- Video materials showing the environment and way of working in ITU
- Message board
- Pages dedicated to local restaurants and venues etc.
- RSS-feeds

Attributes that were listed:

- Easy to navigate
- Attractive user interface.
- Better structure
- Functioning on all browsers
- Faster
- Easy to find info about school and educations
- Technically-advanced (to show off mainly)
- Secure
- Quick-accessibility
- Informative (easy to overview and interpret)

Metric Data from Usability Test

The users had 3 minutes to complete the task. They were not allowed to use the search engine. If the task was not completed it was considered as failure and no clicks were noted.

Task 1:
"Can you tell me where to find the helpdesk phone number?"

	All users	International Users	Swedish Users
Fail Rate	30%	40%	20%
Time to complete the task			
Average	70,8 sec	67,7 sec	73,1 sec
Median	62,5 sec	57 sec	79,5 sec
Longest	172 sec	172 sec	135 sec
Shortest	15 sec	15 sec	22 sec
Number of clicks (minimum 3)			
Average	6,7	7,5	6,1
Median	7	7,5	6
Max	11	11	10
Min	3	3	3

Comments
All users were first looking for the information under 'Kontakt'/'Contacts'. A majority suggested that the information should be placed under 'Kontakt'/'Contacts'. Some also suggested a link to this information on other places like 'Computer & Networks'. They though this information to be important.

"Can you tell me where to find Bill Sullivan's phone
number?"

	All users	Internatio nal Users	Swedish Users
Fail Rate	50%	70%	30%
Time to complete the task			
Average	68,6 sec	101,3 sec	54,6 sec
Median	67,5 sec	145 sec	61 sec
Longest	155 sec	155 sec	84 sec
Shortest	4 sec	4 sec	20 sec
Number of clicks (minimum 3)			
Average	8,4	11	7,3
Median	6,5	13	6
Max	19	17	19
Min	3	3	3

Comments

A majority of the users though this type of information to be important. If the information
would have been the same on the International side of the web portal would the location of the
information be logical. Some suggested that the head line 'Om Oss'/'About Us' sounded like
there was more general information about IT-university not a list of the staff. A link from
'Kontakt'/'Contacts' to this information was also suggested. Also some users would like to have a
search engine for persons, like the one that was on the former version of the web portal.

Task 3:

"Can you tell me where to find how many credits the course
Managing product, projects and people has?"

	All users	Internatio nal Users	Swedish Users
Fail Rate	55%	60%	50%
Time to complete the task			
Average	102,3 sec	104 sec	101 sec
Median	120 sec	104 sec	120 sec
Longest	162 sec	162 sec	150 sec
Shortest	32 sec	45 sec	32 sec
Number of clicks (minimum 4)			
Average	15	12,8	16,8
Median	14	11	21
Max	26	24	26
Min	4	5	4

Comments

Some though that the place to find this information was logical as long as the same information could be found on the international side. The task of finding this information was considered of most users as important.

"Can you tell me where to find the person responsible for the SE&M program?"

	All users	International Users	Swedish Users
Fail Rate	0%	0%	0%
Time to complete the task			
Average	35,7 sec	38,7 sec	32,7 sec
Median	14,5 sec	15,5 sec	14,5 sec
Longest	177 sec	77 sec	117 sec
Shortest	3 sec	3 sec	5 sec
Number of clicks (minimum 4)			
Average	4,8	5	4,5
Median	3,5	3,5	3,5
Max	6	16	9
Min	2	2	2

Comments

Almost all users thought the place to find this information was logical.