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# Improving HonTour.com

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Designing Information  
Architecture for the Users

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## **Abstract**

With the problem statement “How can the Information Architecture on e-sports tournament websites be designed in such a way that it accommodates the users’ interaction needs with the content of the website, specifically in regards to navigation, organization and labeling?”, this focus of this thesis is on the users and how these users can be a part of the design process. The case that is examined in this thesis is an e-sport tournament website in the Multiplayer Online Battle Arena (MOBA) genre, more specifically the game Heroes of Newerth. The website is called HenTour.com.

In the thesis the Information Ecology is examined with special considerations to context, content and users. The methods applied are Heuristic evaluation, card sorting and a web survey. The analysis results in a list of recommendations for the case website and on a more general level it gives a means to easily evaluate and redesign a website with particular focus on the users.

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## 1.0 Introduction

*“We have enjoyed sharing our rich feast and the music of the lyre, its companion. Now let us go outside and try our skill in various sports, so this stranger when he is home can tell his friends how much better we are than other men in boxing, wrestling, running, and leaping”* (Homer, 8th century BC).

Homer worded that poem in ancient Greece, he put words to one of our basic urges, namely that of comparing yourself to others through the means of competition. Since the dawn of time, mankind has always been competing with one another in various ways. We have run, we have jumped, we have thrown and we have wrestled. We have played soccer, football, basket, golf, baseball and so on. We keep making up new ways to test our abilities against others. Through time a lot of sports have been invented, and the most popular of them have stayed and become something for people to gather around that has deep roots in the hearts of our culture. Weather this be as participants or as spectators. Now a new kind of sport is winning people all over the world: E-Sports.

The games played in E-sports are various and many, but they all have one thing in common: they are played on a computer. Like traditional sports, E-sports have many different disciplines ranging from single competition to team competition and from disciplines revolving on speed to disciplines where you need to be strategic. Therefor it is only natural that E-Sports have adopted the tournament structure and prizing of traditional sports. Most people know that a football player makes a lot of money, but fewer know that it is also possible to earn a living competing in computer games.

The tournament structure is another thing that E-Sports and sports have in common. Through a series of games the best team is found and is honored accordingly. However unlike ordinary sports, e-sports aren't necessarily practiced while the participants are in physical presence of each other. So a means of communicating with players and spectators that exceeds that of traditional sports is needed. This communication can be done through several media, such as the game interface, the game website or through the Media. Many tournaments though, have their own website.

The purpose of these kinds of websites is to communicate tournament information to participants and spectators, such as tournament rules, prizes, rankings, and match scheduling. In addition to that, news and articles may also be available on such a site. Now, when that information becomes accessible to the users of the site, the users will interact with the site and thereby an information interaction between the user and the site takes place. Toms (2002) tells us that “How people interact with information-rich digital environments is directly influenced by the environment's information architecture”. Information Architecture is defined by Morville and Rosenfeld (2007, p. 4) as being:

**in•for•ma•tionar•chi•tec•ture n.**

- 1. The structural design of shared information environments.**
- 2. The combination of organization, labeling, search, and navigation systems within web sites and intranets.**
- 3. The art and science of shaping information products and experiences to support usability and findability.**

## 4. An emerging discipline and community of practice focused on bringing principles of design and architecture to the digital landscape.

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Toms (2002) defines information architecture as providing “a structure or map of information which allows others to find their personal paths to knowledge”. So basically you need to design good information architecture to facilitate the users in finding the information they need. On the basis of these contributions to describing what Information Architecture is and on the basis of my own experience with Information Architecture I choose to look at information architecture as an exciting new way of looking at the way you can communicate information to the people that need it. Information Architects doesn't take on the perspective of a communication specialist or a graphic designer with catching peoples interest and making the information appealing for the user. Nor does the information architect take on the perspective of a programmer with the focus on writing code that makes the system run smoothly. What the information architect does is to make the information that is to be communicated through a website or an information system, as easy accessible to the user as possible. The focus of Information Architecture is to ease the users way to information and this is precisely what I intend to focus on in this thesis.

### 1.1 Problem area

This brings me to the problem area of this thesis. I have briefly participated in one such tournament and talked to a lot of other players that have longer participations in tournaments on their record. Among the players I sensed a general confusion and a lack of ability to find what they needed on the tournament website. This together with my general interest in information architecture led me to choose to focus my thesis on the users' interaction with e-sports tournament websites. I also hope that with this thesis I can contribute to the field of information architecture, by providing a means with which you can easily evaluate and develop a website further. It is my hope that others will be able to use the methods that I have gathered as an easy toolbox when considering the Information Architecture on other websites as well.

The game in which I have participated is the Multiplayer Online Battle Arena (MOBA) game; Heroes of Newerth (HoN). I have chosen to base this study on the tournament website of HoN and will treat this as a case-study. I will evaluate the site both according to the general theories of Information Architecture and through usability tests. I have chosen to omit search facilities in my study, since I feel that it would take too much focus from the rest of the material and could advantageously be the object of a thesis in its own right. The things that I do focus on in this study are navigation, organization and labeling.

### 1.2 Problem statement

How can the Information Architecture on e-sports tournament websites be designed in such a way that it accommodates the users' interaction needs with the content of the website, specifically in regards to navigation, organization and labeling?

## 2.0 Method

In this section I will describe how the research question has been examined. I will cover the scientific angle in the thesis, describe the methods I have used, why I have chosen them, and how I plan to carry them out.

### 2.0.1 Epistemological considerations

Following Bryman (2008), he says more or less that in any piece of scientific writing, you find a certain way of looking at the world and your surroundings. This “way of looking” will undeniably reflect what you are observing. Therefore it is important to acknowledge that you are in fact influencing your results to some degree, just by observing the world. This I will cover further in the following section. Another thing that is also worth giving some consideration is which kind of thesis (or project) you are writing, whether it is theoretical, empiric, case-oriented or product-oriented. Since this thesis revolves around a specific case I would call it case-oriented. This also means that I will include theory in this paper with the purpose of understanding and explaining the case and to help develop the design. You could argue that this thesis also is borderline product oriented, since the outcome of my surveys will be a suggestion to a number of changes that should be implemented on the site. This kind of thesis is also what the curriculum for Information Architecture strongly encourages in its current form: “The thesis consists of a theoretical, analytical and methodological reasoned elaboration of an example of information architecture, which the student himself has developed” (AAU, 2006).

Now back to the discussion of how your way of looking at the world can influence what you see. The idea that things can be different depending on how you perceive them is a subject that goes far back in time. In the sciences almost every study has a part dedicated to the understanding of this. It is called Science Theory or Philosophy of Science. In this study I take a positivistic attitude towards a number of things: Gustavsson (2003) describes positivism as deriving from reality, where you try to verify the observations you have made and move toward a general truth. In this thesis I apply theory to a case, and then I verify my choices with observations (Gustavsson, 2003). Therefore I would say that this thesis is largely along the lines of positivism. However I also see many good points in interpretivism as described by Bryman (2008, p 15), especially that the view of “the subject matter of social sciences – people and their institutions – is fundamentally different from that of the natural sciences.” I agree to some point in that. I think that people should be treated differently than the positivists do with their stone hard way of looking at the facts and I acknowledge that this view also in part influences my way of thinking. However, I still feel that you can get the stone hard facts about people that the positivists decree. Whereas I don’t believe that the data gathered can be totally objective, I think that you can talk of bordering objectivism. In my study I also apply qualitative research, which is much along the lines of constructionism, in that I include users in my study, not only as subjects but as partners (Bryman, 2008, p 19).

### 2.0.2 Methodological triangulation

According to Bryman (2008, p. 700) triangulation is “*The use of more than one method or source of data in the study of a social phenomenon so that findings may be cross-checked*”. Hammersley (1996) defines triangulation as referring to “*the use of quantitative research to corroborate qualitative research findings or vice versa*”. I choose to apply methodical triangulation in this thesis because in my opinion it is a good way of covering a subject thoroughly. Also the different methods applied helps validate each other, assuming that they point towards the same answers. I have chosen to apply a wide range of methods, both

qualitative and quantitative. Qualitative, because in my opinion it gives the most innovative ideas, by including the users thoughts and encourages them to speak freely. And quantitative because I want to make sure that I catch the general opinion of the users of the site, and not just that of a select few.

I have chosen to do a heuristic evaluation, a card sorting test and a web survey. I think that those three methods complement each other well and will give the most comprehensive results. The heuristic evaluation lets me get a thorough insight into the site and will give me a good foundation on what to include in the web survey. The card sorting test gives me the chance to work together with the user as a partner in the design process. And last but certainly not least, the web survey adds a way for me to verify my findings in the heuristic evaluation and give credence to the credibility of the comments from the participants in the card sorting test by providing statistical material that I can compare to my other results.

### 2.0.3 Participatory Design

Some of the methods applied in this paper are, to some degree, a part of the field called Participatory Design. Muller (2002) describes Participatory Design as being *"a set of theories, practices, and studies related to end-users as full participants in activities leading to software and hardware computer products and computer-based activities"*. The idea that the product will be better if the users themselves are involved in the design process is becoming widely accepted in the design communities around the world (Sanders et al., 2008). In HCI (Human Computer Interaction), the user has long been an object of interest, but more as a subject than as a partner. I feel that this "partnership-with-the-user"-idea is one of great importance to Information Architecture, since one of the cornerstones in designing good Information Architecture is the user (Morville and Rosenfeld, 2007). So instead of putting ourselves in the shoes of the user (as in user-centered design), we actually involve the user and let him/her in on the decisions as an *"expert of his/her experience"* (Sanders et al., 2008, p. 8). However there are some pitfalls in this theory that I wish to address. Since our users are a rather large group of people, there is a question about whether the users that are involved in the design process are representative for the average user. And there may be a communication gap between designers and users when talking of the project, due to different backgrounds.

In this project I have chosen to involve users in a controlled way, by having them participate in the design process in the Card Sorting Test, in which I choose the settings and the cards. I have consulted with users when trying to discover some of the things that need improvement on the site. I have deliberately chosen methods that involve users and I consider their opinions as highly as that of the academic literature. This is very much in line with the ideas in Participatory Design. Of the methods I have chosen, the one where Participatory Design comes most clearly in to view is the card sorting method. I have tried to remedy the "average user" pitfall by choosing to send out a questionnaire, made accessible to all who log in to the game (more on that later). The pitfall with the communication gap I hope to avoid all together, by my somewhat anthropological insight in the community around the game. I have chosen to incorporate the ideas of Participatory Design where I see fit and where I don't, I stick to those of user-centered design.

### 2.0.4 Mapping out the information Ecology

According to Morville and Rosenfeld (2007, p. 232), it is very important to have a thorough research phase in designing an Information Architecture. When addressing how to practice Information Architecture "in the Real World" they introduce the Venn diagram (figure A) (Morville and Rosenfeld, 2007, p. 25). With this diagram Morville and Rosenfeld tries to capture and visualize what they call the "Information Ecology".

Information Ecology is described by Davenport (1997, cpt.3). Davenport says that "*Besides thinking holistically about an*

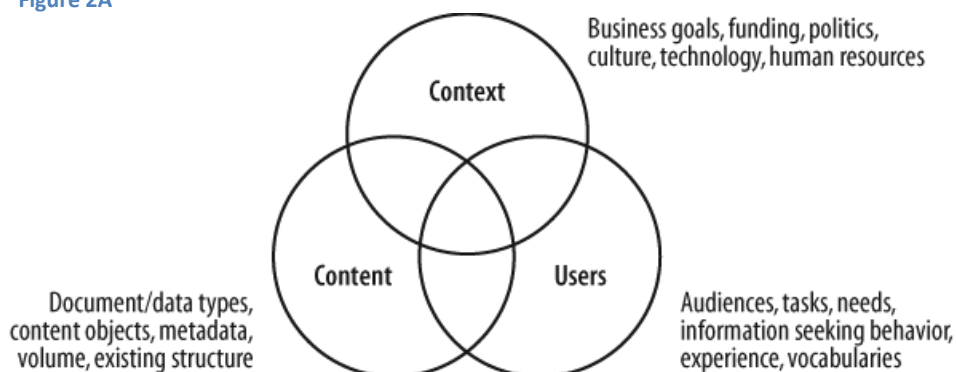
*organization, there are four key attributes of information ecology: (1) integration of diverse types of information; (2) recognition of evolutionary change; (3) emphasis on observation and description; and (4) focus on people and information behavior".* Nardi and O'Day (2000) define an

Information Ecology as "*a system of people, practices, values, and technologies in a particular local environment*". While I wholeheartedly support the gathering of information to map out the information ecology and think of this as a key point in designing sustainable information architecture, I think that the treatment of information ecology can sometimes take a philosophical turn that I don't care for much. I much prefer the more practical implications of the concept Information Ecology: That it is necessary to look into the surroundings and environment of the information you are trying to help communicate to the people who need it.

Morville and Rosenfeld's use of the term "Information Ecology" is somewhat more derived from a practical aspect than those of Davenport or Nardi and O'Day, in that they are mostly occupied with how this concept can be put to use in practicing good information architecture. However, this way of looking at Information Ecology is very useful and directly applicable in regards to actually understanding how an organization works and thereby designing a well-rounded and complete Information Architecture (Morville and Rosenfeld, 2007, p. 24).

Now, back to the Venn diagram in Figure A. Morville and Rosenfeld divides Information Ecology into three different, but overlapping categories: Content, context and users. The diagram is meant to help visualize the interconnections and overlapping areas between the three aspects. In my experience, this model offers a structured approach to researching when designing IA, especially when you also look at the subcategories that Morville and Rosenfeld (2007) mentions in each of the three aspects:

Figure 2A



#### **Content**

Document/data types  
Content objects  
Metadata  
Volume  
Existing structure

#### **Context**

Buisness goals  
Funding  
Politics  
Culture  
Technology  
Human resources

#### **Users**

Audiences  
Tasks  
Needs  
Information seeking behavior  
Experience  
Vocabularies

Therefore I will go through the gathered information in chapter 3 using this model as my approach to the research.



## 2.1 Heuristic Evaluation

To be able to evaluate a website, one of the most basic ways to do it is to do what Morville and Rosenfeld calls a heuristic evaluation. A heuristic evaluation is defined by Morville and Rosenfeld (2007, p. 240) as being “an expert critique that tests a web site against a formal or informal set of design guidelines”. These guidelines I will elaborate on in a later section. The foundation for the heuristic evaluation is that when you compare a site to a set of design guidelines, you will be able to anticipate errors and defects, which will create problems for the users when they are interacting with it. Morville and Rosenfeld (2007, p.240) compares the heuristic evaluation with “the physician's model of diagnosis and prescription”. Basically you look at the site, find out what is wrong with it and then you make a set of suggestions on how to make it better. In doing this, it is both important to have a holistic view and at the same time look to the details.

*“At its simplest, a heuristic evaluation involves one expert reviewing a web site and identifying major problems and opportunities for improvement”* (Morville & Rosenfeld, 2007, p. 240). The number of evaluators can vary from one study to another. However Morville and Rosenfeld suggest that it sometimes is fine with one person doing the evaluation: *“this single expert model of heuristic evaluation often provides a good balance between cost and quality”* (2007, p. 240). I have chosen to do the Heuristic evaluation myself. To make it more impartial I intend to back up the results with the results from the other methods also.

### 2.1.1 Design guidelines

The foundation of the guidelines is as Morville and Rosenfeld (2007, p. 240) suggests:

- *The site should provide multiple ways to access the same information.*
- *Indexes and sitemaps should be employed to supplement the taxonomy.*
- *The navigation system should provide users with a sense of context.*
- *The site should consistently use language appropriate for the audience.*

The last point that Morville and Rosenfeld includes, involves searching. This I will not cover in this project.

Morville and Rosenfeld takes a very general perspective on these guidelines, therefor I have looked elsewhere to find a more specific list of design guidelines. Morville and Rosenfeld themselves, refer to Nielsen (2005) and his to Usability Heuristics for User Interface Design. On the basis of this together with a line of specific questions or guidelines brought forward by Rosenfeld (2004) on his Blog “Bloug”, I have come up with a line of guidelines that I will compare HonTour.com with. Furthermore, the customer experience agency Webcredible (2013) also has a line of interesting articles on dos and don'ts regarding web usability and design, which I will also try to incorporate in my design guidelines. I have chosen to apply these more general design guidelines both in that the user group is quite large and the site has to be able to accommodate different types of users and also so that my methods can be used to study other types of websites than that of e-sport tournament websites.

### *Final design guidelines*

This section is the actual design guidelines that I have made on the basis of Rosenfeld (2004), Nielsen (2005) and three articles from Webcredible (2013); Webcredible (2013a), Moss (2013) and Teoh (2013).

Rosenfeld (2004) says that sites should have multiple ways of reaching content and that one's site should highlight the best way to reach content. Webcredible (2013a) also has some insights on how to orientate the users of a site about navigation. They stresses that correct employment of primary navigation is important, as well as following up with good secondary navigation. From this I have my first design guideline:

***1: There should be multiple ways to reach content and the primary/best way of reaching content should be clear to users.***

Nielsen (2005) says that the system should be able to “cater to both inexperienced and experienced users” and advocates that there should be accelerators, as he calls them, to speed up the interaction with the site for advanced users. Rosenfeld (2004) says that it is important to orient the “newbie” user about what the site is about and which content is available. Webcredible (2013a) also argues for the use of what they call a “tagline” next to e.g. your logo with a short phrase that tells users what the site is about. Rosenfeld (2004) also stresses the need for your site to serve recurring users.

***2: The site should be accessible for new users as well as experienced users in that 1: it helps new users by clearly stating what the site is about and 2: experienced users should be accommodated when revisiting the site.***

Rosenfeld (2004) argues that the user should be able to move through the site without experiencing what he calls “click-fatigue”. Moss (2013) tells us that the average user of the internet scans for information and notices headings, link text, bold text and bulleted text before anything else, including pictures. This last part is worth remembering since it is something that differs greatly to when people read printed text, where they typically notices pictures first. So as the saying goes: “A picture is worth more than a thousand words” does not cover the internet. Teoh (2013) also tells us that in a recent survey, confusing navigation was one of the seven top scores on the list of what annoys people on internet sites. Nielsen (2005) also argues for minimalistic design since “Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility”.

***3: Navigation should be easy and users of the site should not experience click fatigue. Headings, link text, bold text and bulleted text should be used when conveying important information, images and large textual pieces should not.***

Rosenfeld (2004), Webcredible (2013a), Moss (2013) and Nielsen (2004) all argue that one of the most important things in designing websites is consistency. Especially the two Webcredible articles have highly palpable advice to give on the subject. Webcredible (2013a) say that you should avoid cluttered page design e.g. by designing your site according to the standards users are familiar with: Three column layout; navigation, main area and right hand column. Moss (2013) lists some of the most important things regarding standardization: “Organization logo is in the top left corner”, “the term “about us” is used for organization information”, “navigation is in the same place on each page and adjacent to the content”.

***4: The site should be consistent all the way through to the innermost subpage and follow standard conventions in site construction: Three column layout: navigation, main area and right hand column, organization logo is in the top left corner, the term “about us” is used for organization information, navigation is in the same place on each page and adjacent to the content.***

Rosenfeld (2004) has a few things to say about labeling, 1: labels should be clear and meaningful and 2: navigation options should be clearly labeled. Nielsen (2005) is also on board with that line of thinking and values words, phrases and concepts familiar to the user, above system-oriented terms. He also says that you should make information appear in a natural and logical order.

***5: Labels on the site should be clear and meaningful and in the users terminology. Information should appear in a logical order.***

It is beneficial for the user to always be aware of where he is and what is going on and a few navigation options leading the user on is also a good thing (Rosenfeld, 2004). Webcredible (2013a) talks about several things that are beneficial for the user when he is getting his bearings on where he is on the site: 1: The page heading should always clearly state where you are on the site. The page title (the text in the browser bar) should be the same as the heading. 2: A breadcrumb trail is useful for the user seeing as they both serve to remind the user about where he is on the site and can also be a good secondary navigation system if links are imbedded. 3: Progress bars serve the users well in showing where he or she is in some form of transaction or filling out an admission form. 4: A sitemap can be valuable to the user for getting an overview of the site. Nielsen (2005) also mentions a couple of things that can heighten the users' awareness of where he is and help him orientate: The system status should be visible to the user and the site should "Minimize the user's memory load by making objects, actions, and options visible".

***6: The site should allow the user to get his bearings on where he is on that site and thereby improving his ability to navigate contextually. This can be done by applying informative page headings, imbedding a breadcrumb trail, showing progress bars and by making objects, actions, and options clearly visible to the user.***

Teoh (2013) lists required registration to access content as one of the seven deadly sins in web design. Therefore it is important that you make as much content accessible to all as possible. And Moss (2013) says that it is a bad idea to put restrictions on users. E.g. 60% of web users apply the back button as their primary means of navigation, so if you make a link open in a new window you have robbed them of that possibility. Nielsen (2005) also advocates the user's freedom by saying that your site should support undo and redo.

***7: A website should use restrictions and require registration as little as possible and should offer the chance to undo or redo. The back button should always be useable.***

Another thing on the list of seven deadly sins is slow-loading pages (Teoh, 2013). According to usability studies, web users will wait a maximum of 8.6 seconds for a page to download (Moss, 2013). Therefore you should make sure your site hasn't got pages with long load time.

***8: Pages on your site must download quickly.***

Two of the worst sins in web design is, according to Teoh (2013), pop up ads and being required to install extra software. Therefore it is important to rid your site of this all together.

***9: No pop up ads and no requirements of installing extra software to view content.***

Regarding links, it is important that the links are descriptive and informative so that they tell the user where they are taking him (Webcredible, 2013a). And you should avoid dead links all together (Teoh, 2013). Rosenfeld (2004) also says that related links (links that takes the user to related content, both internal and external) are incredibly useful.

**10: Links should be clear and meaningful and dead links must never appear. Related links is recommendable.**

Errors should be avoided as much as possible by careful design that prevents the problem from occurring in the first place. However when they do occur “Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution” (Nielsen, 2005).

**11: Prevent errors and help users recognize, diagnose, and recover from errors if they do occur.**

“Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large” Nielsen (2005).

**12: Help and documentation should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.**

## 2.2 Card sorting

Card sorting is an established method that has been used for years as a tool to designing and testing websites (Spenser & Warfel, 2004). This method is considered a standard tool in the toolbox of most usability experts and information architects (Tullis & Wood, 2004). The point of this method is to uncover the users' comprehension of content and the way they categorize: *“Card-sorting studies can provide insight into users' mental models, illuminating the ways they often tacitly group, sort, and label tasks and content in their own heads”* (Morville & Rosenfeld, 2007, p. 255). The method is employed to better include the users of a website in the construction and evaluation of the menu structure. This is important seeing as the way that the users experience and categorize the content of a website can differ significantly from that of the information architect. *“The naive, implicit taxonomy of the end users can be significantly different from the one of the experts. This is one of the reasons why the involvement of the experts, though necessary, could be insufficient to develop a taxonomy that fits the needs of the users. A participatory approach can overcome this problem; methods like card sorting are used by information architects [...] to elicit the implicit knowledge of the users”* (Bussolon, 2009, p. 6). Even though you might be a user of the site yourself, it isn't enough to try and view the structure of the site as a user would, because as an expert your view of things will always be influenced by your expert-knowledge (Molich, 2003, p. 15f.). A complete test therefor involves real users, who aren't experts in information architecture.

### 2.2.1 Card sorting – the basics

A card sorting basically entails that a participant is handed a set of cards with the names of e.g. menus and submenus from the site. The participant then sorts the cards and places them so that it makes sense to him/her. Thereby you investigate if the content of the site is organized in a way that is logical, seen from the perspective of the user and if the labeling makes sense. If the user doesn't understand the given terms or the way that the content is grouped together, it is difficult for him to navigate the site, to find the relevant content or to perform a given task. In other words, this makes the usability low. The method can

be used to gather both qualitative and quantitative data. Nielsen (2004) recommends that you don't focus solely on the quantitative data, but rather that you process them in relation to the qualitative data. That way you get a richer picture of the mindset of the participants. There are two different ways of performing a card sorting: open and closed. The closed one has already given parent categories and the participant must then place the cards between these. The open one makes the participant name the categories himself. The two different types have different advantages: *"The open card sort is useful for exploring possible organizations. The closed card sort is useful for validating an organization and learning where specific items should be placed."* (Miller et al., 2007, p. 1). Therefore the open is good for helping in the design process of creating a new site, whereas the closed one is good for evaluating an already existing structure. In that I am evaluating HonTour.com with the purpose of a redesign, I have chosen to do the closed card sorting. The main purpose of the exercise is to investigate whether the existing taxonomy is causing trouble for the users and how these problems arise.

### 2.2.2 Participants – How many and whom?

The opinion of how many participants a card sorting should have differs greatly. Spencer & Warfel (2004) suggests 7-10, Tullis & Wood (2004) argues that 20-30 participants is suitable and based on their data, Nielsen (2004) suggests a number of 15 participants. However Nielsen (2004) also argues that you can settle for less: *"If you have an existing website or intranet, testing a few users will tell you whether people have trouble with the information architecture. To generate a new structure from scratch, you must sample more people"*. Nielsen (2004) distinguishes between the number of users for a card sorting and the number needed for a usability study. However, since my scope in this is to use card sorting as a usability test I will settle for around the five users he mentions in connection to usability studies. Furthermore I will be able to back it up with the results of the web survey.

When choosing participants a rule of thumb is that they have to be among the potential users of the site. By choosing participants within the group of potential users, you can expect that they will be familiar with specific language and professional terminology, used on the site. In that way you also ensure that the content is relevant for the participant, which in some cases can enhance the motivation to complete the test comprehensively.

### 2.2.3 Cards

On the website there are six main menu categories (Home, News, Events, Standings, stats, and about). Furthermore there is a line under the main menu where you can access your personal control panel. I have treated the personal control panel as another main menu category. There are no direct submenus, but rather blocks of different elements on the individual pages with clear headings. I have used those as sub-categories to the main categories in the card sorting. I have chosen to include all of the elements in the card sorting. I chose to leave out "doppelgangers" (cards with the same names on) to avoid confusion among the participants and also to avoid that they started guessing on the placement of the elements on the actual site instead of placing them according to their own understanding of them. I also thought that it would be more interesting to see if the participant would duplicate the card himself and place it in more than one category. A list of the cards can be seen in the appendix.

### 2.2.4 Analysis

From the limited number of participants in the card sorting test, it is not possible nor the intention to do statistic calculations with the quantitative data and have a meaningful result. Instead I will interpret the

quantitative data on the basis of the qualitative and try to identify possible trends in the way that the cards were placed. I will also try to identify whether the qualitative data reveals anything that is not reflected in the quantitative data.

The main focus is as follows:

- Where is the accordancy between the participants placement of the cards and the real placement on the site and how can this be explained?
- Where is there a lack of accordancy and what is the cause?
- Which cards do not make sense to the participants, and why not?
- How does the participants respond to the main categories?

#### **2.2.4.1 The actual test**

The card sortings were performed at my place in the within two days. The participants were informed about the main features of the test in advance and knew what website the test was about. Each card sorting was performed after the same template: At the beginning of the test, the participants were informed what to do and the seven cards with main categories were placed on the table in the same order as they appear on the website. After this, the participant was given one card at a time in random order, which he then was to place under one of the main categories according to his understanding of the card. The participant was allowed to put a card in several categories if he saw fit to do so and he was also permitted to place a card outside the categories if he didn't feel that it would fit in any of the categories.

The participants were asked to explain their choices as they went along, especially then they weren't sure where to place a card or what that card meant. The participants were allowed to ask questions during the test and were informed about what content that was situated with the element on the card if they asked. During the test I noted how the participant placed and moved the cards and we noted the reasoning behind the placements and other comments that were relevant to the test (the notes are attached as an appendix). When the tests were done, the final result was noted in a scheme. These results, along with the notes taken during each test are the foundation of the following analysis.

## **2.3 Web Survey**

I have chosen to do an online survey to find out what the users think about HonTour.com and the sites ability to accommodate their information needs. My main motivation behind this is that I want to make sure I get the opinions of the average user. However there are some important pitfalls relating to this. One is that the way I have chosen to distribute the survey might influence who answers it, and another is where I have chosen to distribute it. The questions in the survey will be made on the basis of three things: the heuristic evaluation of HonTour.com, the three user scenarios from chapter 3 and Bryman's Rules for designing questions (2008, p. 239).

Bryman (2008, p. 652) also lists some of the advantages and disadvantages to online self-completion surveys. Some of the advantages/disadvantages I will now go through and elaborate on my considerations regarding these.

Advantages:

- Low cost and faster response: The fact that web surveys have low costs and faster response from participants is two very attractive qualities in any survey.
- Attractive formats: The ability to use what Bryman calls “*attractive formats*” is appealing; because that means that I can make the questionnaire resemble the layout on the website as much as possible.
- Unrestricted compass: as Bryman calls it, where there are no constraints in terms of geographical coverage. This is very important to this particular survey, since the users originate from all over the world.
- Fewer unanswered questions and better response to open questions: The fact that online questionnaires have fewer unanswered questions is an attractive quality along with the tendency that open questions is more likely to be answered and in more detail.

Disadvantages:

- Low response rate: I expect a sufficient amount of answers because of the way of distribution.
- Restricted to online populations: The people I wish to investigate are people who spend time.
- Confidentiality and anonymity issues: Since this is a web survey in opposition to an email-survey, the participants will have total anonymity.
- Multiple replies: This is of course a risk, but given the nature of the survey I don't think it will be a problem.

The survey will be distributed on the game forums and on the Facebook site of the game. This is sure to attract a great number of participants, and since the survey will be announced on Facebook, there is a good chance that the more infrequent gamers will also be participating.

With this kind of self-selection survey, you cannot be certain as to who answers and if they really are what they appear (Bryman, 2008, p. 219). However I assume that since the point of the survey is to help improve a site that the participants will use themselves, that they will be more compliant and truthful in filling out the survey.

### 2.3.1 The actual questionnaire

The questionnaire primarily contains personal factual questions and questions about attitudes (Bryman, 2008, p. 238). The questions about attitude are included to find out the opinion of the users regarding the site and the way it communicates information. The personal factual questions are included to try and explain the users' attitudes and to see if the users that filled out the questionnaire are consistent with the targeted audience of the site. The questions are for the most part closed, to make the data easier to process.

The questionnaire opens up with a welcoming message and an estimation of the time it will take to fill out the questionnaire. On page 2 the questions are all personal factual questions that are coded so that an answer must be supplied. They are all closed questions with multiple answer possibilities (of which only one can be chosen). The questions on page 3 are also closed and about personal gaming habits and here an answer must also be supplied. On page 4 are two yes or no questions about participation in HoN and similar games. Page 5 only appears to those who have answered yes to the question about participation in other tournaments on page 4 and is an elaborating question about which kind of tournament they have

participated in. The second answer on the site is regarding the name of the other tournament so benchmarking tests will be possible (although I will not cover this in the thesis). Page 6 has two questions. One is whether or not the participant has previously visited HonTour.com and the other is a comparison between the information-communication-process of HonTour and of similar tournaments. This question only appears to those who have answered yes to both questions on page 4, because it only makes sense to make the participant compare the information in HonTour to another tournament if he has participated in both instances. The question is a question about attitude (Bryman, 2008, p.238) and an answer is required. On page 7 is an answer battery, where the participant is to choose the option that best describes his ability to find different elements on the site. The last element is "information regarding the next opponent", which will only be shown if the participant answered that they have participated in HonTour on page 4. On page 8 the first question is where the participant states if he ever experienced that there was something he couldn't find on HonTour.com and gives him an opportunity to tell exactly what that was. I would call this a semi open question, since the participant has to answer yes or no, but is allowed to elaborate on the yes. There is also a yes or no question regarding load time, where the participant (if yes is answered) is prompted to choose whether it is an overall experience or if it is on a specific subpage. Page 9 focuses on the match schedule and if it is easy to understand, this page is only visible to people that didn't answer that they couldn't find the match schedule on page 7. Page 10 contains a question on the participants overall satisfaction with HonTour.com and a box where the participant can comment further. Page 11 is a note with thanks to the participant for participating in the survey.

### 2.3.2 Program used

There are a great variety of survey programs available online. Therefore it wasn't easy to decide on which program to choose. I first wanted to use the program Bagelhint because of some very useful features that supported advanced Information Architectural questions. However I soon learned several things that made me decide against using this program: The program was very unstable, and was often down for maintenance. There were essential features missing, like the possibility of adding simple questions with answer possibilities. And last but definitely not least, the tools for data analysis were sorely lacking. Therefore I took some time to investigate different survey-programs. In the end I chose SurveyXact. Both because it is licensed to Aalborg University, and thereby free for me to use, but also because SurveyXact is very stable, user friendly and professional.

## 3.0 HonTour.com – Information Ecology

In this chapter I will describe the Information Ecology of HonTour.com by dividing the gathered information into context, content and users as described in chapter 2.

### 3.1 The context of HonTour.com

HonTour.com is a website for a tournament in a videogame called Heroes of Newerth. Therefore the context of HonTour.com is quite extensive, seeing as it entails several levels of context: the videogame itself, the type of videogame and the more general term: e-sports. I will start off by explaining the broadest term (e-sports) and then the type of videogame (MOBA), and then a bit about the game Heroes of Newerth itself.



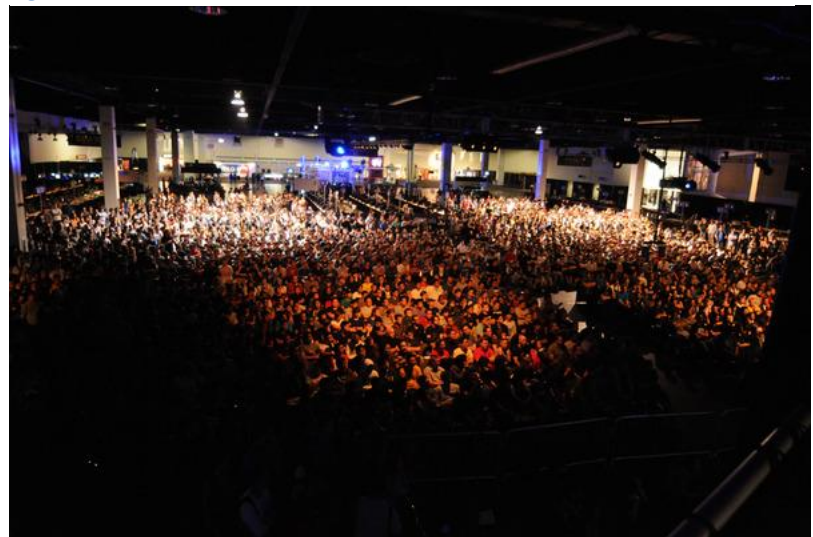
### 3.1.1 E-sports

E-sport is a phenomenon that is spreading as rapidly as any disease. It has long been present in some of the Asian countries, especially South Korea (Heaven, 2012), and is now starting to win a firm footing in the western culture as well. The name "e-sports" derives from "electronic sports" and in a way it is more than traditional sports and not quite the same. Witkowski (2012) defines e-sports as "an organized and competitive approach to playing computer games". She also covers some of the similarities and differences between traditional sports and e-sports.

E-sports are similar to traditional sports in that it has a well-defined set of rules and it involves competition. The most disputed point of similarity/dissimilarity however is the fact that sports are physical. Critics argue that playing computer games isn't physical at all and "gamer-moms" all over the world, tries to make sure that their kid participates in some kind of physical activity as opposed to sitting in front of a screen all day. Witkowski (2012) however, argues that gaming is physical, albeit on a more subtle level. She talks about e.g. the "*effective bodily control, such as controlled breathing*" that is a necessity in playing computer games as well as it is an "*integral part of sports for many players*". Whether e-sports are a new addition to the traditional sports or an entirely new category in its own rights, one thing is sure: e-sports are here to stay. That much is obvious when looking at the rising popularity of e-sports:

The popularity of e-sports has been a fact in Asian countries for a long time (Heaven, 2012). In fact it is so popular that it is normal for people who don't even play the games to participate as spectators. To the right is a picture of the audience to the StarCraft 2 finals in 2011 (figure B, source: ).

Figure B: Audience at Starcraft 2 finals of MLG Anaheim 2011



Even in 2009 New York Times had an article in which they discussed video games as a spectator sport (Cohen, 2009). In this article the author tells of Princeton's first international

exhibition match, which was held with the whole match streamed live on a big screen for spectators to watch. This is another important point to make, e-sports is very easy to distribute to a lot of spectators. In that the game is taking part on a computer, which is online, the players themselves can stream the game to an unlimited amount of onlookers. And by not criminalizing the streaming of events, as is happening in major sports like e.g. football (Taylor, 2012), people can watch for free, while the streamers themselves can make a living of streaming their matches, by advertisements in the stream (Heaven, 2012). Streaming is made even easier by sites like Twitch.tv, where you can follow an easy guide to broadcasting your own games.

Another aspect of e-sports that we have only lightly touched upon is the money involved. Prizes in e-sports are unfathomable for the outsider. In the League of Legends finals were a breathtaking five million dollars prize to the winner and in games like StarCraft we are speaking six-figure salaries to individual players (Heaven, 2012). Also the League of Legends finals had more than eight million spectators all over

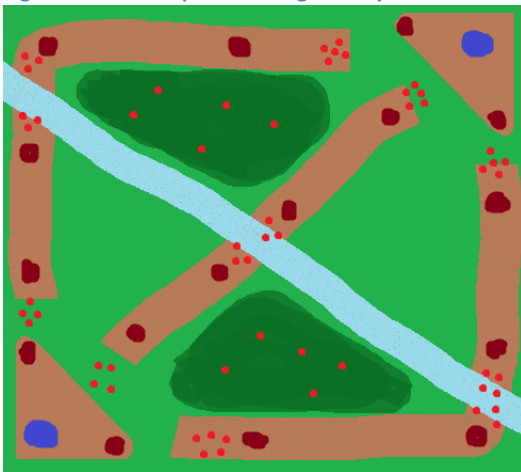
the world. With this much interest, some say that e-sports is well on the way to becoming mainstream (Gaudiosi, 2012).

### 3.1.2 MOBA

MOBA is an acronym for Multiplayer Online Battle Arena. This commonly refers to a type of computer game which I now will explain in further detail.

The objective of the game is to get to the base of the enemy and destroy it. The game itself is played in an arena, where the bases are placed one in each corner, in each base there are buildings that periodically lets

Figure C: A mockup of MOBA game layout



out computer controlled units called creeps, which then follows a given path called lanes toward the enemy base. Usually there are three lanes in which the creeps moves. In each lane there are three towers on both sides, one at the base one a bit away from the base and one close to the other team's tower. The towers attack enemy units with a powerful blast, whenever that unit moves in range of the tower. Your job as a player is then to help the creeps kill the enemy creeps, towers and at the end the base. Between the lanes there are a jungle with neutral computer controlled creeps, they will attack every unit they encounter, no matter what side that unit is on (Icronic, 2009)

The game is usually played in two teams of five. That means that you have to work together with your teammates in order to ensure the victory for your team. All players choose a unique hero to play in the beginning of each match. Here, good team play plays a role too, because you have to communicate with your teammates to pick heroes that go well together. When you have chosen your hero and the game starts, you have a certain amount of gold that you can use to acquire items with. These items boost your character in various ways and it is necessary to keep on acquiring items throughout the game to be able to best the heroes from the other team. To be able to buy more items you need gold. Gold is acquired in several ways; you have a steady though minimal income throughout the game, you get gold every time you kill a creep (enemy or neutral), you get gold for killing enemy heroes and for destroying enemy structures. Every hero has a set of unique skills that can boost your own team or hinder the enemy team, these skills gets better over time as heroes get experience points (from killing enemy units and destroying enemy buildings) and rises in level.

### 3.1.3 Heroes of Newerth

In addition to the description of a MOBA in general, Heroes of Newerth (or as it is commonly know: "HoN") has a few things worth mentioning. For one thing the user interface is considerably more user-friendly than those of some of the other MOBA's (Icronic, 2009). Second there are some features in HoN ingame interface that are really useful.

Heroes of Newerth has its origin in the game Dota. In fact, in the beginning it was a true copy of Dota with some long needed improvements to the graphics and the way in which it was programmed. As time went by, S2 (the company behind HoN) started making their own heroes and some other minor adjustments in the gameplay. For example, the servers' in HoN are controlled by the game, and not by individual players.

Dota was the original MOBA and the predecessor of HoN. It was only due to the vast popularity of this game that the genre emerged. Dota is sometimes described as a mixture of an RTS (Real Time Strategy) and RPG (Role Playing Game) in that you have a base and creep-spawning structures along with defensive structures (RTS), while at the same time you control a unique character (RPG) (Icronic, 2009). Originally Dota was a modification of WarCraft III, a game in which you could make your own custom maps (your own variations of the game).

Other games in the MOBA genre that is worth mentioning is League of Legends (LoL) and Dota 2. As opposed to HoN, LoL has designed an entirely new game. All heroes in LoL are made especially for LoL and a lot of new features have been added. Dota 2 has been long awaited by Dota fans through the time, and is currently being beta tested. Dota 2 is based closer to Dota than LoL but where HoN has made some improvements on the game over time, Dota 2 has chosen to start out with the gameplay closely resembling that of the original Dota. Currently LoL is very popular, even though some argue that HoN is a better game, in the way that it is more challenging and that the interface is more user-friendly (Icronic, 2009). Some say that the popularity of LoL is due to the fact that LoL went "free to play" much earlier than HoN. "Free to play" is where the basic game is free and the providers of the game make their income by advertisement or by selling game related content. E.g. as in the case of LoL and HoN you have the possibility of buying new heroes or alternative avatars for the heroes you already own. However HoN has regained a lot of popularity since it has also gone "free to play" (Gaudiosi, 2013).

### 3.1.4 HonTour and HonTour.com

The purpose of HonTour is to be the official tournament of HoN. It is a way of trying to get more players involved in the tournament and thus making it more exciting both to participate and to watch (HonTour, About). The tournament is a means with which the organization behind wishes to draw in more active players and to spread the popularity of the game. The website is the platform in which all this is planned, structured, and executed, thereby making the site the primary communication method between the people behind the tournament and the players. This means that it is exceedingly important that the site succeeds in communicating information out to the users of the site.

### 3.1.5 Stakeholders and goals

The organization behind Hontour.com is quite extensive. Hontour.com is the website of the official tournament of the game Heroes of Newerth (HoN) and HoN is a game, developed by the company S2. S2 is quite a large organization with several different departments: Upper management, Game Programming, Web Programming, Art, Community, Game Design, Marketing, HoN Cast, Web/UI Design and Operations (S2 Games, 2013, Team). HonTour is situated under the department Operations, with the Director of eSports Sam Braithwaite as leading manager. Braithwaite then has a team assembled to manage the daily workings and projects of HonTour and thereby also HonTour.com (HonTour, 2013, Staff).

The organization is quite extensive, with a lot of different stakeholders to take into consideration. E.g. the upper management has the final judgment in all projects and the Web/UI designers have a say in how the site should look. Also Web Programming will know if large changes are possible to undertake. The Director of eSports however is the immediate manager of HonTour and HonTour.com and all things worth knowing about HonTour and HonTour.com can be found out through him. Therefore I contacted him and asked if he had any interest in working together with me on this project. He was very interested and has been my contact and sparring partner throughout the process of this project. His interest in providing me assistance

is of course that I will be able to give to him a ready set of recommendations for improving the site together with statistical insight in the attitudes of the users towards the website. He and S2 are very interested in making the site as efficient and effective as possible, since a direct effect of this can be an enhanced satisfaction with the site from the users and thereby also the possibility of attracting more users to the site and thereby also to the game.

The official goal of HonTour is to offer a chance to compete for players of any level. And the chance to win cash prizes too. This is done by dividing players into brackets according to abilities. Therefore it is important that HonTour.com reflects this purpose, so that both new and experienced players are able to navigate the site and find answers to what they are looking for.

Another, more implicit, goal of HonTour is of course to heighten the interest for the game, so that more people will participate or spectate (Gaudiosi, 2013). Therefore it is also important that HonTour.com reflects this, by e.g. making it easy to navigate the site for spectators.

### 3.2 The content of HonTour.com

Morville and Rosenfeld (2007, p. 27) states very plainly that content is *“the stuff that makes up our site”*. The very diverse content of sites is one of the things that create the need for customized information architecture (Morville and Rosenfeld, 2007, p. 29). Morville and Rosenfeld names a set of factors you need to take into consideration when dealing with the content of a website: Ownership, Format, Structure, Metadata, Volume and Dynamism. I will hold some of these factors up against HonTour.com:

#### Ownership

HonTour is the *“officially sanctioned competitive tour for Heroes of Newerth”* (HonTour, 2013, About). And Heroes of Newerth is owned and managed by S2 (Hon, 2012). Therefore S2 is the owner of most of the content on HonTour.com. However they renounce all responsibility for player generated content e.g. forum posts and player profiles (HonTour, 2013, Terms).

#### Format

In HonTour.com there are several different document types:

- Videos
- Statistics: in the form of how an individual player has performed
- News articles: on which users are able to comment if they are logged in
- Calendar
- Standings: Here you can see where teams are placed in the tournament
- Information about the Tournament: textual
- Player profiles: which is created and maintained by players themselves, other players can leave comments
- Team profiles: which is maintained by the team leader, other players can leave comments
- Support: an application that connects the user directly to a staff member in a chat application

#### Volume

The website is quite extensive. However the content is manageable because it is limited to information and news regarding HonTour.

## Dynamism

The site is maintained on a daily basis, as you can see by a glance down the dates of the news material. The rules are always kept up to date. However in the offseason there is less traffic than when the tournament is running.

## 3.3 The users of HonTour.com

Morville and Rosenfeld (2007, p. 25) tells us that several things need to be taken into consideration when addressing the users of the site: The (intended) audience, the tasks they will perform on the site, the information needs of the users and their information behavior. Their experience and vocabularies also need to be taken into consideration. Based on the information gathered both from HonTour.com and my own experiences as a user of the site I have made three scenarios to help visualize the different user types. I have included a bit about information theory.

### 3.3.1 Information Needs and Information Seeking

The topic of information needs and information seeking is a vast and well documented topic. Many have speculated on what it entails and have come up with different answers to this. Case (2007) highlights four researchers work in that area: Taylor, Belkin, Kuhlthau and Dervin .

Taylor (1968) describes the information need as an inadequacy and/or incompleteness in the knowledge of the user. According to Taylor, the information need evolves over four stages: 1: the visceral need, 2: the conscious need, 3: the formalized need and 4: the compromised need. Where the first stage is an unconscious need for information and the last are what the user labels his information needs as.

Belkin (2005) describes the information need as an Anomalous State of Knowledge (ASK). He explains that *"An "anomalous state of knowledge" is a conceptual state which the user realizes is deficient and wishes to correct, for instance, the user's recognition of an insufficient knowledge model which results in a need for information in order to reduce uncertainty or solving a problem"*

Kuhlthau (1991) describes information searching as a way of reducing uncertainty. In her work she is very focused on the process of searching when looking for information.

Dervin (1992) describes information needs as an information gap for the user. *"The information need is recognized because a state transpire [...] within a person, suggesting some kind of gap that requires filling."* *"The gap is manifested in questions (internal and/or external) to find help, or information, to bridge the identified gap"*

What you can briefly summarize from this, is that the information need arises as an acknowledgement of the fact that you need some information to get on with a given task.

Also Ingwersen (1992, p. 116-117) puts forward three fundamental types of information needs:

- Verificative needs, where the user want to verify or locate information known to the user
- Conscious topical needs, where the user wants to clarify, review or pursue aspects of known subject matter
- Muddled topical needs, where the user wants to explore some new concepts or concept relations outside known subject matter.

### 3.3.2 Scenarios

The use of scenarios in designing is a very helpful tool in getting to know what the needs of the user of a website is. Morville and Rosenfeld (2007, p. 275) also covers the topic scenarios and portrait it as a good tool in communicating with other people. Morville and Rosenfeld also suggest that you make three or four scenarios depicting different major user types. Therefore I have chosen to make three different scenarios about: Nick: an experienced player with tournament experience, Kristy: a somewhat experienced player with no tournament experience and Chris: a spectator/fan. I have tried to exemplify the different types of information needs of the users and the different types of users with these scenarios.

#### *Nick*

Nick is a member of an established team participating in HonTour. He has visited hontour.com a few times, but relies largely on the information he gets from his team Captain. However, the captain goes on vacation and cannot be reached, so it falls to Nick to inform the rest of the team about the time of the next match and who they are playing against, both in the first match and the second.

Nick goes to HoNtour.com wanting to find the time of the game. First he types in his username and password. He speculates what the fastest way to find the time of the game is. Then he presses the button "team profile" and scrolls down to find the tab "Matches", he then proceeds to click on it. It now shows a scheduled game to be played the following weekend; however it is on a totally different time than the games usually are played. Nick finds this odd and checks again. He now sees that the time is US time and Nick is from Berlin, Germany, therefore he is in another time zone and he needs to look up what time the game is in Central European Time. He is a bit puzzled by this, but since the game is international he figures that the website probably just have recorded a standard time format for his account. He then proceeds to look for a way to change that in account settings.

To find the settings, he presses the button "player profile". He then scans the page for a link to the settings. He doesn't find this anywhere. He then proceeds to look for something that links to his account information and discovers it to be right next to the "matches" tab, only it is simply called "info". He presses the tab "info" and scrolls down. However there is no place in here to change the time zone. By then he is a bit impatient and decides to just look it up on Google. After a few minutes he finds a time zone converter. He then puts in the time of the match in US time, and gets his answer.

He finds the information of who his team is playing against in the first game easily enough, it says who on the match information under the team page. Information of who they are up against in the second match however is harder to find. He struggles for a while but eventually he finds a chart of some sorts that picture the schedule of the cycle they are in and who they will play against in the next matches. When it is done loading he looks through the list, but the list is so large that it takes him a while to locate his team.

#### *Kristy*

Kristy has been playing HoN with her friends for a couple of years. She has seen some commercials for HonTour ingame and likes the fact that HonTour is pitched as being for players of all skill levels and the slogan "Anyone Can Be A Hero". She has spoken to some of her friends about it and they have gathered a team. Kristy has been selected the team captain and she is visiting HonTour.com to find out more about HonTour rules and to register her team.

First, Kristy goes to the “About” page of HonTour.com. She is very excited and wants to learn all she can about the tournament; therefore she reads everything there is to see in the about section. However she would like to read some more about the game itself and something about tactics. She is forced to find this elsewhere.

Then she signs up and begins filling out the team registration page. When she has filled out the formula and pressed “submit” she gets an error report saying that her team tag is already existing. Therefore she chooses another name. What she fails to notice is that the “Region” field resets to “US East”, which is a problem since she and her team is from Australia. Furthermore she gets an error saying “Invalid Bio length; must be between 1-1000 characters”, even though that field isn’t marked as required.

When Kristy’s team is registered and ready for competing, Kristy leans back and eagerly awaits the beginning of the tournament. However, after a couple of weeks, she is puzzled that she still haven’t heard anything about the tournament, so she goes to the website and checks the game dates. Apparently her team was supposed to have a game the day before and one again the same evening. Kristy panics and wants to quickly get hold of the other members of her team. She searches for a way to send a notification to all of her teammates in hontour.com, but fails to locate where this is possible. She is then forced to contact people through different Medias to make sure she gets a hold on everyone. She uses a lot of time on this, but luckily she gets a hold of them before game start.

### *Chris*

Chris is an experienced gamer and have played in various high-level tournaments, but is now content with watching HoN. He is looking forward to watching his HoN-idols playing, but he also finds the possibility of watching matches containing new talents exciting. Therefore he checks Hontour.com out, to try and find information on the standings and to find out how to watch both feature games and games containing new players.

Chris enters the main page of HoNtour.com and scrolls down to see if anything of what he seeks is on the front page. It is: the standings are placed a bit down in the right side of the page. He also finds many interesting articles that he saves for later reading. However when he has inspected the top 11 standings, which he found on the front page, he wants to look at the full list. However he cannot click on the top 11 standings anywhere to get to the full list. This annoys him for a while until he discovers that an entire menu point is dedicated to Standings.

On the other hand his browsing for videos of matches doesn’t come up with much; he finds a feature video on the front page. He then tries to search for videos on the site, using the search function, but it only gives him a handful of games and only feature games.

### **2.3.3 Important highlights from the scenarios**

Here I will summarize/comment on some of the difficulties our three fictive users had in interacting with the site.

Nick is experiencing some troubles with the organization in that he has a hard time finding his matches. He also experiences long load-time and a lack of overview over his matches and opponents. Also he experiences troubles with the fact that the site isn’t adjusted to show match-times in his time zone. These

information needs I would characterize as being verificative needs, in that he knows that the information exists and is trying to locate it.

Kristy gets a lot of error reports when filling out the form for team registration. She also lacks some functionalities, e.g. to be able to send a message out to her team. She would like to have had the opportunity to be able to go through further information in regards to tactics and such. A solution to this could be to make links to HoN's own website or the HoN forums. This fictive user has conscious topical needs, in that she knows that there must be some kind of rules and guidelines and then wants to pursue them.

Chris would also benefit from more links to related topics. And it would be good for his information needs if there were several entrances to the information. This fictive user has both muddled topical needs and conscious topical needs in that he knows some of the subject matter he wants to pursue but he would also be interested in things about the tournament that he didn't previously knew about.

In general it can be said that the information needs of the users of the site is a wide pallet from very specific to blurred. There is not much exhaustive or exploratory seeking but more known-item seeking or re-finding (Morville and Rosenfeld, 2007, p. 35).

To get a more complete picture of the users and to validate my assumptions about the users, it is necessary to investigate further. As Morville and Rosenfeld says: "You need to get out there in the real world and study your [...] users" (2007, p. 28).



## 4.0 Analysis

### 4.1 Heuristic Evaluation

In this section I will go through the design guidelines that I outlined in chapter 2.

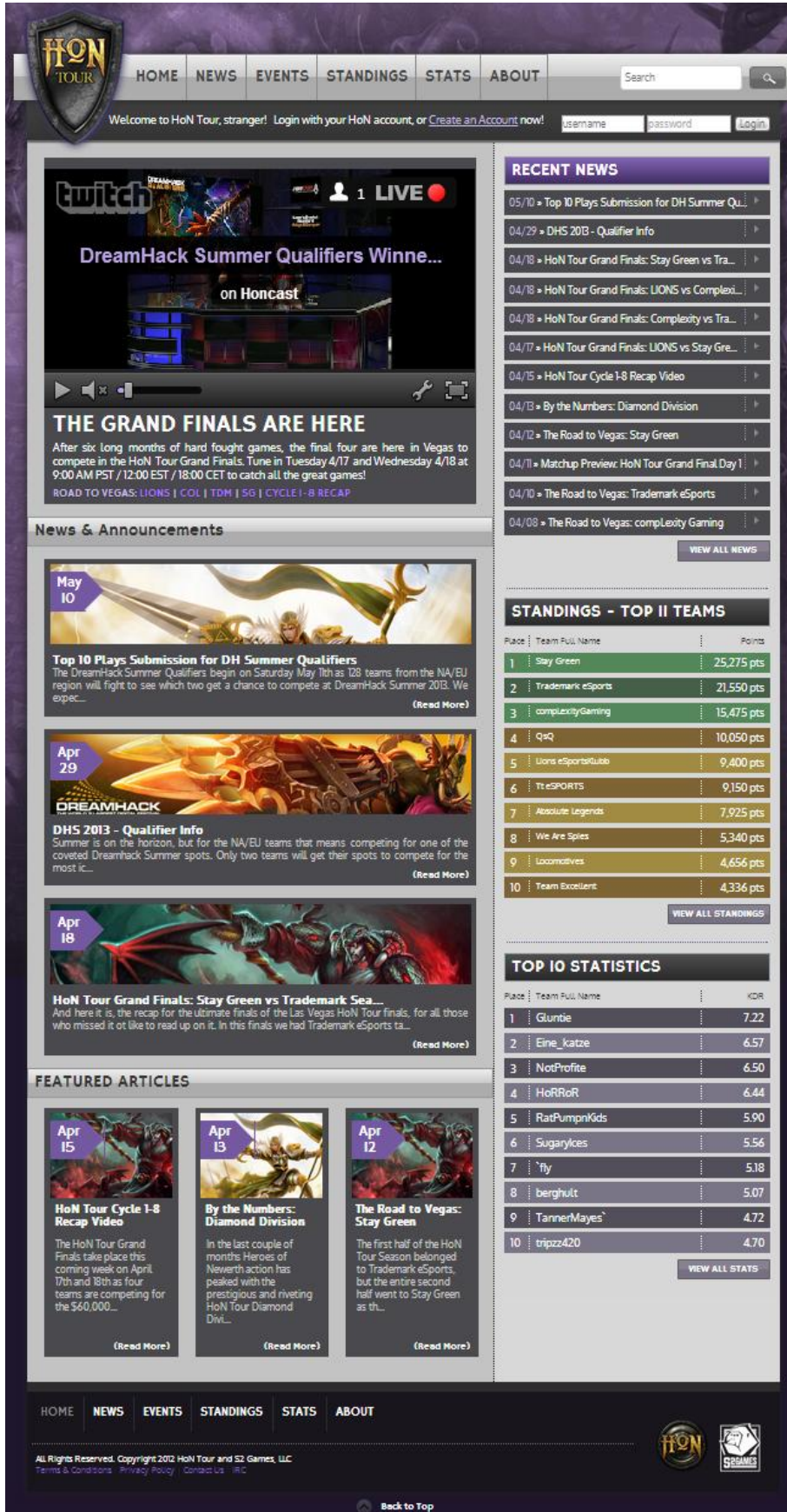


Figure 4D A screenshot of the front-page of HonTour.com

When I mention the terms on the **main navigation system** and the *subcategories and/or the headline of elements on the site* I will put emphasis on those as I have done in this sentence.

**1: There should be multiple ways to reach content and the primary/best way of reaching content should be clear to users**

If you look at the front-page you see what a user entering the site sees. There is the main navigation system (main menu) which is situated at the top of the screen clearly indicating that this is the primary way of reaching content. You have the menus **HOME, NEWS, EVENTS, STANDINGS, STATS** and **ABOUT** and when you are logged in you also have the menus **TEAM PROFILE, PLAYER PROFILE** and **SUPPORT**.

Figure 4E: The primary navigation

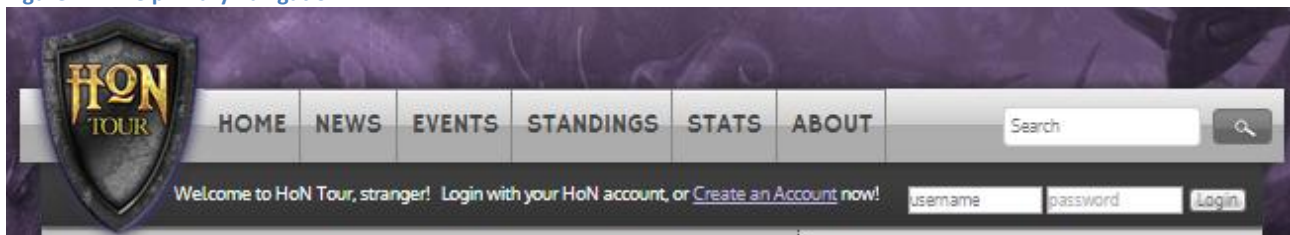
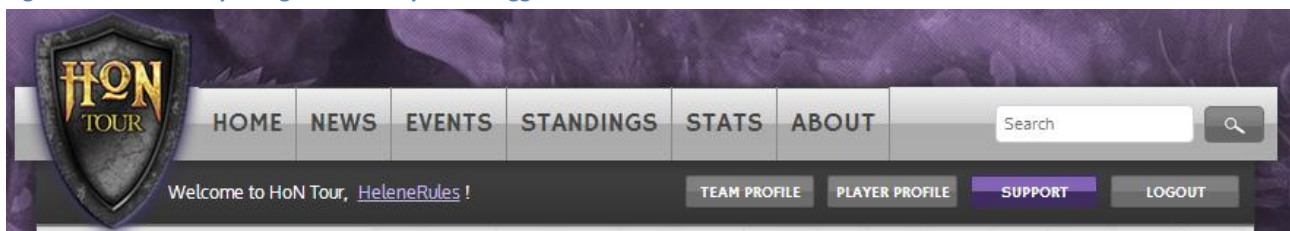


Figure 4F: The Primary Navigation when you are logged in



On the front-page there are a couple of additional ways to reach the content, but only some content, and sometimes a little bit too hidden. An example of this is the column on the right side, where you can use a supplementary navigation option to go to the **NEWS** section. This button is placed at the bottom of the *RECENT NEWS* box, which means that the user will have to look thoroughly to notice its existence. If that navigation option were moved to the top of the *RECENT NEWS* box, it would be more usable for the users. This is true for the *STANDINGS – TOP 11 TEAMS* and the *TOP 10 STATISTICS* as well.

Figure 4G: News: Secondary navigation option



Another thing worth noticing is that there is no obvious secondary navigation that takes you directly to the bracket for a given event, where you can see who plays who throughout the tournament. This is very valuable information, especially for a participant in the tournament. To reach a bracket you have to do one of two things: 1: Go through **EVENTS** and select an event, by pressing *VISIT EVENT PAGE*, then press *VIEW BRACKET*. 2: Go through a team profile (Either by logging into the system and choosing **TEAM PROFILE** on the black navigation line or through **STANDINGS** and choosing a team on the list), then choose the tab that says *Matches*, click on a match, from there you are sent to the event page from where you can press the *VIEW BRACKET* button. If you want to reach the scheduling of the matches you go a **TEAM PROFILE** (as described above) and look under *Matches*. General game times are posted on calendar which is accessible by clicking **EVENTS** and choosing *View the Full CALENDAR*.

Even though the content on the site is limited, it is still important to have additional ways of navigation and to make them visible for the user.

### Recommendations:

HonTour.com should make the second navigation options more visible to the user (in the case of the three boxes in the right hand column) by moving the *VIEW ALL NEWS*, *VIEW ALL STANDINGS*, and *VIEW ALL STATS* buttons to the top of the boxes instead of the bottom. Furthermore there should be an easier way of accessing the brackets and the scheduled matches. Both when logged in and when not. It is important to make this visible to the users also when they aren't logged in, so that e.g. spectator can keep an eye with which matches are coming up and who the winner of that game is fighting next time. Maybe that could be a box in the left site column instead of some of the content that is there at the present moment, e.g. instead of one of the two boxes that contains content from **NEWS**.

**2: The site should be accessible for new users as well as experienced users in that 1: it helps new users by clearly stating what the site is about and 2: experienced users should be accommodated when revisiting the site**

#### 1 New Users

When visiting the site it isn't immediately clear what the site is about. You see a video and a news section and at the right side column you can see a list of standings if you look a bit down the site. To find out what the site is about you have to visit the **ABOUT** section. You could argue that since the site is very specific regarding its content, most new users visiting the site would know the abbreviation HoN and a little about HonTour itself. However as HonTour states themselves "*HoN Tour is designed to impact the HoN community at every level; from the top levels of competition, to the core level of our player base*" (HonTour, 2013, About). This indicates that HonTour expects new and less experienced players to join. Therefore there should at least be something that explains how the tournament works. In addition to this, there are no help boxes or explanatory text where a new user can see what the different elements on the site is.

#### 2 Experienced users

When you go to the site as an experienced user, you will have more knowledge about Hon and HonTour, therefor an experienced user will also have more interest in reading the news and articles on the front

Figure 4H: This is how it looks when you are logged in and on your own Team Profile

The screenshot displays the HonTour website interface. At the top, there is a navigation menu with links for HOME, NEWS, EVENTS, STANDINGS, STATS, and ABOUT, along with a search bar. Below the navigation, a welcome message reads "Welcome to HoN Tour, HeleneRules!". The main content area features a team profile for "[Tawe]TeamAwesome" in the "Europe" region, showing a rank of #589 and 15 points. The team members listed are HeleneRules (Captain), MonkeyMad, StrudseTyven, Oolon, JaNikkaa, MegaBjarke, and I carry TP. A "Followers" section shows two users. A "Leave a Comment" section is visible, with a text input field and a "SUBMIT POST" button. A comment from user Nenmoth is displayed below, dated "Posted about 7 months ago".

page. Also the video stream on the front-page is more interesting for an experienced user. When you log in with your account name and password you get the aforementioned black line beneath the main navigation bar, with additional navigational options. However the front-page is still the same. You could let the experienced users gain a lot more when logging in, by e.g. showing boxes with their next game or a quick sum-up about the text team they are battling. You could even give the experienced users the opportunity to custom design their front-page. For experienced users it would also be great if you had more options in your **TEAM PROFILE**. E.g. a way of communicating with your team, either by sending out a message to all team members at once or to schedule practice sessions for your team.

The site is trying to accommodate new and experienced users at the same time, but isn't very successful in both aspects. There is not a lot of guidance for the new user, and the site hasn't got a lot of extra options for the experienced user either.

### ***Recommendations:***

Make the site friendlier to new users by putting in a box that explains what HonTour is about and what the site is for. You should also put in explanatory text that helps the user understand what the different elements on the site is about; e.g. a little text that appears whenever an you mouse over an element.

The site should also accommodate experienced and recurring users. This can be done by making more content about the individual player available on the front-page: when the next match is going to take place or information about your next opponents etc. etc. In the Team profile it would also be good for the experienced user if you had more tools available: e.g. the possibility to send messages to the entire team at once or advanced possibilities for scheduling practice matches.

***3: Navigation should be easy and users of the site should not experience click fatigue. Headings, link text, bold text and bulleted text should be used when conveying important information, images and large textual pieces should not.***

If you want to view elements on the site like the **STANDINGS** or **NEWS** articles, you have very easy access. But seeing as some of the intended users are players that are participating in the tournament, you would want them to be able to find tournament information such as who they are up against and when the games are scheduled. When you want to access the match scheduling for example to see when your own team has the next game, you have to go through a series of clicking before you get there: first you log in (3 clicks), then you press **TEAM PROFILE** and then the tab *Matches*. You then have the Eastern Time for your next match and the name of the team you are up against. Now if you want to find out what time your match starts in your own time zone (if you aren't situated in the US or Canada) you have to go to another website to look it up. And if you want to go to the profile of the team you are playing against you have to press the individual *Match*, which takes you to the event page of the event your match is scheduled to be played in. After that you press the view bracket and find your team on the plan, and then click the team opposite you. So if you want to find your next scheduled match you have to go through 5 clicks on the site itself and an additional number to find the time in your time zone. To view the team you are battling against you have to use 8 clicks. That is a lot when you consider that these two tasks may be the main reason that some players chooses to visit the site.

A lot of the information available on the site is some sort of statistics, which means that there is a lot of bulleted text, which is nice and uncluttered to look at.

Figure 4J: Big bold headings in each section

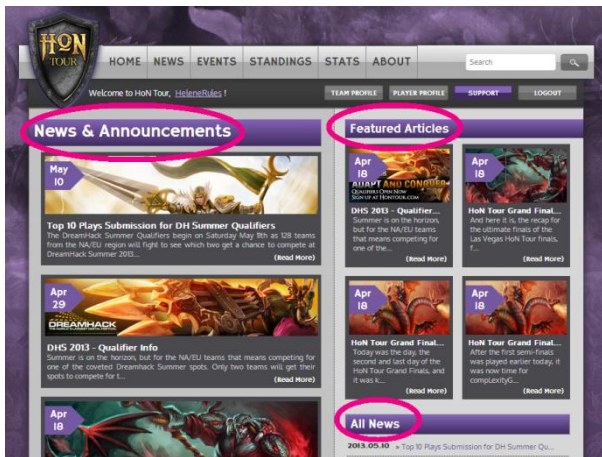


Figure 4I: Bulleted text on the front-page

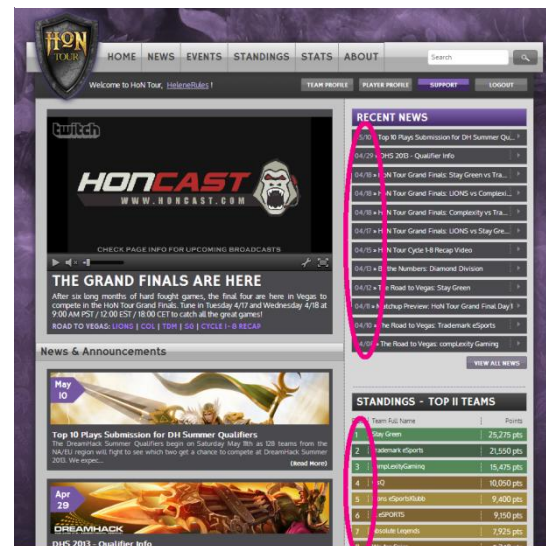
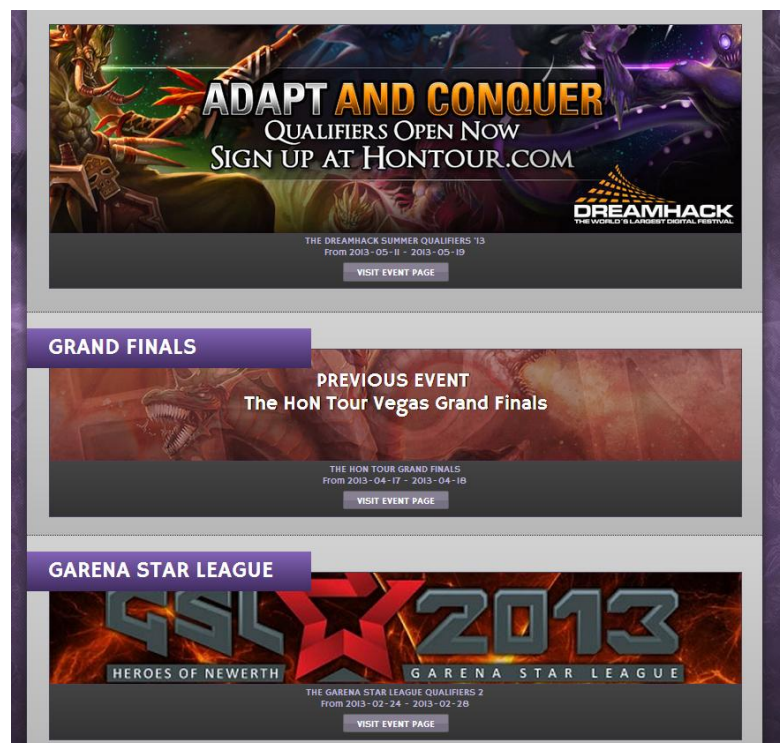


Figure 4K: Events on the Events page



The subpages on the site have nice big headings that tell the user what kind of information can be found in each section (Figure 4G).

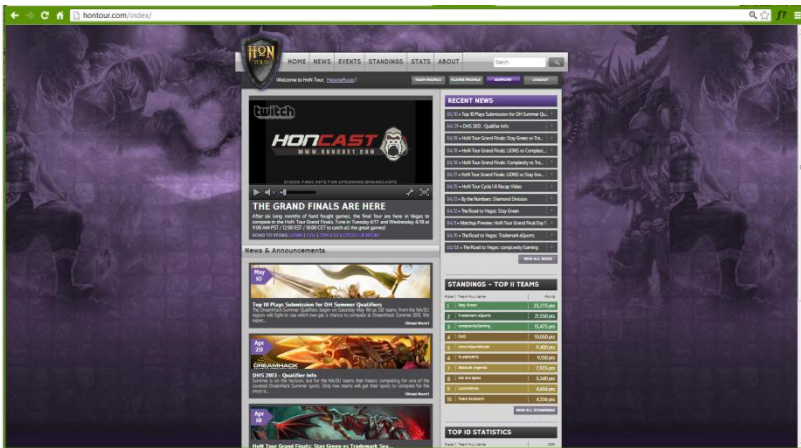
However, the use of images on the site is overwhelming. As you can also see in both figure 4F and 4G there are a lot of images on the different pages on the site. The worst example of this is on the **EVENT** page where you have a lot of text actually on the picture.

### Recommendations:

The number of clicks it takes to get to important information like the time and date for the next match and information regarding your opponent should be drastically cut down. This can be done by making the time zone shown depend on the IP address of the user or by the information that the user themselves provides when registering. To make it easier to look at your next opponents team profile you could make this an option when clicking on the name of that team in the *Matches* tab. You should also seriously consider the importance of the pictures that accompany the text everywhere on the site. Pictures isn't at all good at I mention in section 2.1. Especially the **EVENTS** page should be revised, with strong consideration about the importance of the art in the background of the text. One solution could be to repeat the text in the already present dark grey boxes underneath the pictures.

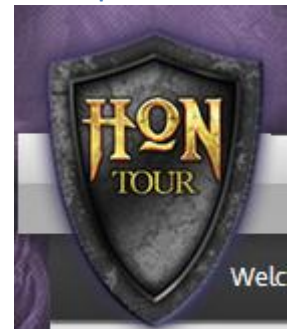
4: The site should be consistent all the way through to the innermost subpage and follow standard conventions in site construction: Three column layout: navigation, main area and right hand column, organization logo is in the top left corner, the term “about us” is used for organization information, navigation is in the same place on each page and adjacent to the content.

Figure 4M: the content on the site is centered in a narrow "box"



The layout of the site is mostly kept in a two column layout; however this is not the same all over the site. Also the content is placed in a narrow box which is centered on the site. The two column layout is present in HOME, NEWS, and STANDINGS. In EVENTS and ABOUT there is a single column and in STATS there are three columns. When you are visiting the PLAYER PROFILE or TEAM PROFILE the layout is

Figure L: The HonTour logo in the top left corner



wholly different, with many different elements and a system with tabs (See figure 4E).

The term ABOUT is used for the section with organizational information. However a lot of other information is also present, e.g. the rules of the tournament and the prizing. Also there is a lot of information under ABOUT, which makes the ABOUT page much larger than any other page on the site. Throughout the site the organization logo is placed at the top left corner and the main menu is present and accessible at all times except one:

Figure 4N: One instant of the brackets (zoomed out to get the full view)



That one time is when you are viewing the brackets. When you are viewing the brackets, nothing else than the brackets is visible on the screen. The brackets are also breaking the site conventions with having the content in a centered box. They are one big “map” where you have to scroll to see it all.

**Recommendations:**

Include the main navigational system when on a site with brackets. It is less confusing for the user and helps them go wherever they want next. Also you should consider dividing about into two main categories,

e.g. so that one is called **RULES AND PRIZES**, which would contain the rules and the prizes, and so that the other one is called **ABOUT** and would contain organizational and legal information only. Another option could be to move Rules and prizes to the **HOME** page as kind of a subcategory or a button to click.

**5: Labels on the site should be clear and meaningful and in the users terminology. Information should appear in a logical order.**

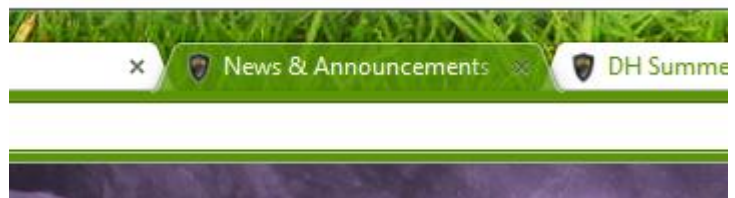
Generally the labels on the site is kept in as short phrases as possible: **HOME, NEWS, EVENTS, STANDINGS, STATS, ABOUT, BRONZE EVENTS, SILVER EVENTS, Best Kill/Death Ratio, Most Assists Per Game, Most Gold Per Game**. Just to name a few. Most labels are very familiar to experienced players, since the terms are often used in game. New players on the other hand may need a little explanation of what the different labels entails. That could be accomplished by a little explanatory box appearing when you mouse over something. Also it would be handy for the different events, since not everyone will get the meaning of bronze, silver, gold, or diamond events.

#### **Recommendations:**

To help the newcomers understand the labels in the world of e-sports tournaments, add a little help box when you mouse over objects.

**6: The site should allow the user to get his bearings on where he is on that site and thereby improving his ability to navigate contextually. This can be done by applying informative page headings, imbedding a breadcrumb trail, showing progress bars and by making objects, actions, and options clearly visible to the user.**

The page headings on the site are very descriptive of where you are at. However the description is very long. E.g. when you are on the **NEWS** page the heading is too long to fit into the tab in Google Chrome. The entire heading reads “News & Announcements – HoN Tour – The Official Competitive Circuit for Heroes of Newerth”. This is fine in most cases though, since the first couple of words are highly descriptive.



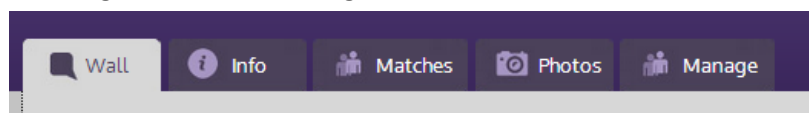
There is no breadcrumb trail, although the URL sometimes works that way. When you are on the page **EVENTS**, the URL reads: [hontour.com/events](http://hontour.com/events). This is very useful and actually very consistently done throughout the site. The only thing that isn't named after the content, are individual articles, events, and team and player profiles.

#### **Recommendations:**

Keep up the good work.

**7: A website should use restrictions and require registration as little as possible and should offer the chance to undo or redo. The back button should always be useable.**

Last tings first, the back button is not usable when entering one of the subcategories found on the tabs on the team or player profile. It is like the tabs are in a system adjacent to the rest of the site.



There are advantages and disadvantages in requiring registration. HonTour does not require registration; however you have to register if you want to participate in the tournament. This is a necessity, both to have information on each participant, but also to make sure to get the participants consent to the terms and conditions. There are a couple of things that could be improved regarding the content available when logged in. When you have people logging in, you could offer greater advantages than when not logged in, e.g. a customizable front-page that shows when your next match is and a box containing information on your next opponent.

One thing that isn't available but should be when you aren't logged in is the SUPPORT button. If you need help with logging in or have problems finding something on the site, the SUPPORT button should be available to you even if you are not logged in.

#### ***Recommendations:***

Make the back button usable in the player and team profiles.

Make the advantages of registering greater, e.g. by showing additional information on the HOME page when you are logged in.

Make the support button available when the user isn't logged in.

#### ***8: Pages on your site must download quickly.***

The pages on HonTour.com are very fast to download and no problem is to be found here, except in one instance: When you are visiting a bracket of a large event like e.g. the bronze event bracket. The Bronze event bracket is so large (entry limit at 512 participating teams) that it takes a while to load. In addition to that, it is so large that you lose orientation. However this only affects the people visiting the bronze brackets, since no bracket is quite as large.

#### ***Recommendations:***

Rethink the bracket structure or divide the bracket up into smaller bits. It is confusing enough as it is for new players to enter a tournament, the load time and lack of overview of the bracket should not contribute to that confusion.

#### ***9: No pop up ads and no requirements of installing extra software to view content.***

On the site there are no pop-up ads and no installing of software is necessary, except if you want to look more closely into the statistics of your opponents' team (e.g. who likes to play a certain type of heroes), for which you have to install the game and look them up in the system. To make this accessible through the website is a possibility, since the site already loads some things from the game database, especially in STATS.

#### ***Recommendations:***

Make all statistics available through the website e.g. most played heroes.

#### ***10: Links should be clear and meaningful and dead links must never appear. Related links is recommendable.***



The amount of links found on the site is precious little. Those that are to be found seems kept up to date and meaningful. Related links on the other hand is almost nowhere to be found. Advantageously they could be implemented in giving more possibilities for further information to the user. Maybe a link that takes the new user to the website of the game itself to read about the game and the different heroes. Or a link that takes the e-sport spectator to the website of the site that handles the streaming of important games (HonCast, 2013). And as mentioned before, it would also be useful, both for the experienced player and the new, to have related links to ingame statistics.

***Recommendations:***

Add more related links, e.g. to Hon.com and to HonCast.com

***11: Prevent errors and help users recognize, diagnose, and recover from errors if they occur.***

Generally there are not a lot of errors on the site. The errors I encountered was when I tried going through the registration process of a team. I filled out the formula and pressed submit, then I got an error report saying that the team tag already existed. What I didn't notice at first was that the Region field resets to US East which is the first on the list. The fields that is required to be filled in is marked with an \*. This is good enough, except when I pressed submit it reported the error message "Invalid Bio length; must be between 1-1000 characters", even though that field isn't marked as required.

***Recommendations:***

Go through your team registration formula and check the formatting of the fields.

***12: Help and documentation should be easy to find, focused on the user's task, list concrete steps to be carried out, and not be too large.***

As mentioned before the **SUPPORT** function is not easy to find, since it isn't available when you aren't logged in. Other help and documentation such as e.g. FAQ (Frequently Asked Questions) are placed under **ABOUT** and is fairly easy to come by and is well formulated and kept short.

***Recommendations:***

Make the **SUPPORT** function available even if the user is not logged in.

## 4.2 Card sorting

### 4.2.1 Outcome of the test

The following spreadsheet is a compiled overview of the outcomes of the card sorting test. The spreadsheet shows how many times the individual cards have been placed in the different categories, and how they were placed according to the actual placement on HonTour.com. The result of the individual card sortings is attached as an appendix.

	Home	News	Events	Standings	Stats	About	Personal control panel (available when logged in)
News and Announcements	1	5					
Featured Articles	2	4					
Recent News	2	3					
Standings – top 11 teams				5	1		
Top 10 statistics	1				4		
All news		4					
View the full Calendar		2	4				
Vegas playoffs	2	2	4				
Garena Star League	1	2	3	1			
Diamond Events			5				
Gold Events			5				
Silver Events			5				
Bronze Events			5				
Full Standings				5			
Featured Team	1	2		2			
Best Kill/Death Ratio				1	5		
Most Assists Per Game				1	5		
Most Gold Per Game				1	5		
Information		1	2			1	
About Hon Tour						4	
Introduction to Hon Tour	2					2	
Format	1		2			3	
Pricing Breakdown			4			3	
Goal	1					4	
The Staff						4	
FAQ	1					3	1
The Basics	3					2	

Points				4	2		1
Rules	1					4	
Prizes				4		2	
How to Play	2					2	
Scheduling	2	1	3				1
Teams/Players			1	3	3		
Streaming	1	2	2				1
Introductions	3		1			1	
Definitions	2					3	
Hon Tour Structure	1		1			2	
Hon Tour Rules	1					4	
Terms and Conditions						5	
S2 Games						5	
Account Terms of Service						4	1
Privacy policy						5	
Statement	1	3				1	
Create an Account	3						2
Team Profile				3	4		3
Player Profile					3		3
Support	1					3	1
Team Wall				2	4		3
Team Info				3	4		2
Matches	1		2	2	1		2
Team Photos				2	2		3
Manage Team							5
Player Wall					3		3
Player Photos				2	2		3
Player Info					4		2
Player feed	1	2			1		2

(The sum of the individual rows can be more than 5 because the participants were allowed to place a card more than one place.)

	= Where the element is placed on the site
--	---

### Home

On the actual website the home page has five elements: *News and Announcements*, *Featured Articles*, *Recent News*, *Standings – top 11 teams*, *Top 10 statistics*. Two of which (*news and announcements* and *featured articles*) it shares with **News**. One of the participants (C) suggests that News and Home could be merged.

Generally the participants were confused as to what should be placed there and had very different ideas about what could be good to put there. Generally speaking they thought that the things that were on the **home** page should be links, or “buttons” as participant A puts it, that sends the user on to other things on the site.

The element standings – top 11 got some remarks because the participants didn't understand why it was the best 11 teams and not e.g. an even ten.

### News

The elements on the actual **news** page are *News and Announcements*, *Featured articles* and *All News*.

Generally the participants associated all things containing the words news or articles with the category **news**. And their placement of the *News and Announcements*, *Featured articles* and *All News* cards is very close to unanimous and very like how the elements are placed on the actual site.

However the participants place a number of other cards in news in addition to those who are already there: e.g. featured teams, player feed and information about the different tournaments.

### Events

On the actual site Events contain: *View the full Calendar*, *Vegas playoffs*, *Garena Star League*, *Diamond Events*, *Gold Events*, *Silver Events*, and *Bronze Events*.

This is one of the categories that got the closest resemblance to the actual placement of elements on the site. However several participants expressed that they expected to find general tournament information here also.

Participant E suggests that *Diamond Events*, *Gold Events*, *Silver Events*, and *Bronze Events* be placed under a single subcategory, high up in the hierarchy under events.

### Standings

The actual **Standings** page contains the elements *Featured Team* and *Full Standings*.

The participants place the two elements on this site close to how it is on the actual site. They also place many things regarding information about teams under standings.

Most participants mention that **standings** and **stats** could share a category and that the label "standings" is a bit fussy and unclear.

### Stats

The category **Stats** contains the elements *Best Kill/Death Ratio*, *Most Assists Per Game*, and *Most Gold Per Game*.

The participants unanimously place all of these elements in stats. Like with **standings**, the participants also relate information regarding players and teams to this category and mentioned that **standings** and **stats** could be one category.

Again the participant mentions that the label is very nondescript. However I think that you can overlook that, due to the fact that they all seem to understand what it is anyway.

### About

The actual page **About** contains the elements: *Information*, *About Hon Tour*, *Introduction to Hon Tour*, *Format*, *Pricing Breakdown*, *Goal*, *The Staff*, *FAQ*, *The Basics*, *Points*, *Rules*, *Prizes*, *How to Play*, *Scheduling*, *Teams/Players*, *Streaming*, *Introductions*, *Definitions*, *Hon Tour Structure*, *Hon Tour Rules*, *Terms and*

*Conditions, S2 Games, Account Terms of Service, Privacy policy, and Statement* and thereby has the largest collection of elements in any one category on the site.

In the participants' placement of the cards that originally belong in about, there are some trends to be seen. Generally organizational information, rules and legal information are placed in About.

Introductions, goal, the basics etc. etc. - mainly information for new tournament participants - is placed in the home page by the test participants. Participant E suggests that you gather all introduction information in a video and put it on the **home** page. He also suggests that you make the **home** page appear different for new users and for recurring users.

Three of the participants indicate that they want **support** placed here, so it can be accessible to all always.

Most participants also find the label "information" too broad and therefor redundant.

One of the participants (D) mentions that he thinks of the **about** page in all websites as a kind of "garbage can" for "all the boring stuff". The other participants also express that elements found in about are boring. Another thing that most of the participants express is a feeling that the further down in the hierarchy you get in **about**, the more boring the elements there will be.

#### ***Personal control panel (available when logged in)***

The **Personal control panel** on the site contains the elements (and sub elements): *Create an Account, Team Profile, Player Profile, Support, Team Wall, Team Info, Matches, Team Photos, Manage Team, Player Wall, Player Photos, Player Info, and Player feed.*

In this category there is at least one participant that places the elements like they are on the site. The participants place most elements several places, one in the **Personal control panel** and the other in **stats or standings** (or both).

The participants all agree that *Create an account* is very important. Some suggests that is should be placed instead of the **personal control panel** when you have yet to log in (as is true on the actual site) and one suggests that it should be a gigantic button on the **home** page. What they all have in common though, is the opinion that you have to make sure that the users of the site notices this.

All the participants agree that you should be able to find all of your personal information through the **personal control panel**.

When confronted by elements like *player wall, team wall, player photos* and *team photos*, the participants express confusion. Some feel that it is a shift in focus so that focus is taken away from tournament information and given to efforts of being a social media, which is not in the interest of the site. Others just feel that it is redundant information on no specific grounds.

Most participants agree that more focus should be put on the **Support** option and that it should be available always.

All participants express that *Matches* is very important and some suggests that you make personal match info available on the **home** page.

The participants all have trouble deciphering the meaning of *player feed*, and thus places it a number of different places.

### *The main menu categories*

At the end of the test I asked the participants what they thought of the main categories. They had some considerations in common.

All participants agreed that the categories **standings** and **stats** should be reconsidered. They wanted them merged so that they were one category. They also expressed that the label could be clearer formulated.

Also the participants answers suggest that **home** and news could be rethought, maybe also merged.

Most participants indicate that the **home** page should be divided into two, one that is shown to the new user and one for the recurring.

### 4.2.3 Recommendations

Consider merging **home** and **news**.

Merge **stats** and **statistics**. The new category **stats/standings** should push more team and player information. A lot of the information from the personal control panel regarding teams and players in general, should be made easier accessible through **stats/standings**.

Change the *Standings – top 11* to *standings – top 10*, the label will be less confusing if it is an even number.

The tournament information should be moved from **about** to **events**. And the *Diamond Events*, *Gold Events*, *Silver Events*, and *Bronze Events* should be gathered into a subcategory and placed higher up on the **event** page.

The **about** page should be limited to organizational information, rules and legal information. And you should place the most important information at the top of the about page since the card sorting test indicates that it is less likely for the users to see what is far down on the about page.

Remove the label “information” in **about**.

New user/player information should be gathered into one new category, maybe even by making a separate **home** page for new users. This information is too important to be put in the “boring garbage can” that the participants named the **about** category.

*Support* should always be accessible to users on the site and should be placed in about or made accessible on the **personal control panel** at all times, even when you are not logged in.

Avoid losing focus by the site acting like a form of social network. That is not the reason that the users visit the site, and takes too much time and effort to maintain.

Leave out the “*player feed*” element on the site or rename it at least, to better show what it entails.

Make the “*create an account*” element more visible when you are not logged in; Maybe a large button on the **personal control panel** (previously to logging in) or on the **home** page.

### 4.3 Web survey

The web survey got 1656 respondents in the week that it was up and running, the 1280 within the first three days. Of those 1187 was completed. I have chosen to omit the not complete responses, since that would influence the outcome. In the survey the difference in answers between the sexes was nonexistent (see appendix), therefore I have chosen not to look at sex as a factor in the survey. In general though, the number of women that filled out the questionnaire lives up to my assumption that not a lot of women is participating in e-sports in general, since under three percent of the respondents were female. Or at least that is true if you assume that the average participant in the survey reflect the average e-sport participant.

I have chosen to divide this chapter into different sections, each containing a subject breached in the questionnaire.

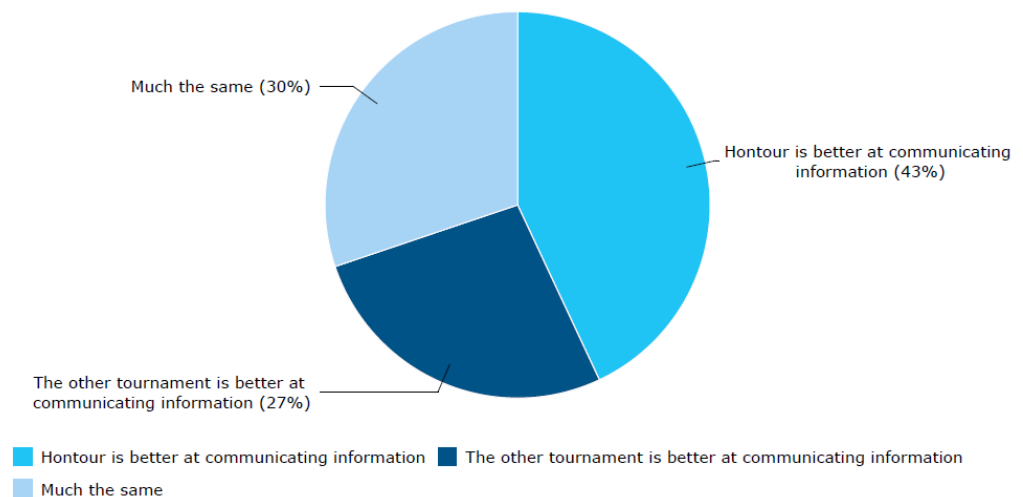
#### How well do the users think that the information about the tournament is communicated on HonTour.com?

Of the 1187 that had completed their surveys, 179 answered that they had participated both in HonTour and in other tournaments. On the question "You previously answered that you have participated in HonTour and that you have also participated in other tournaments than HonTour. How well were the information communicated in comparison?" there were three answer possibilities:

"HonTour is better at communicating information", "much the same", and "The other tournament is better at communicating information". Of the 179 respondents who were given this question, 77(43%) participants answered that HonTour is better at communicating information, 54(30,2%) participants answered that it was much the same, and 48(26,8%) participants answered that the other tournament was better at communicating information.

You previously answered that you have participated in HonTour and that you have also participated in other tournaments than HonTour

How well were the information communicated in comparison?

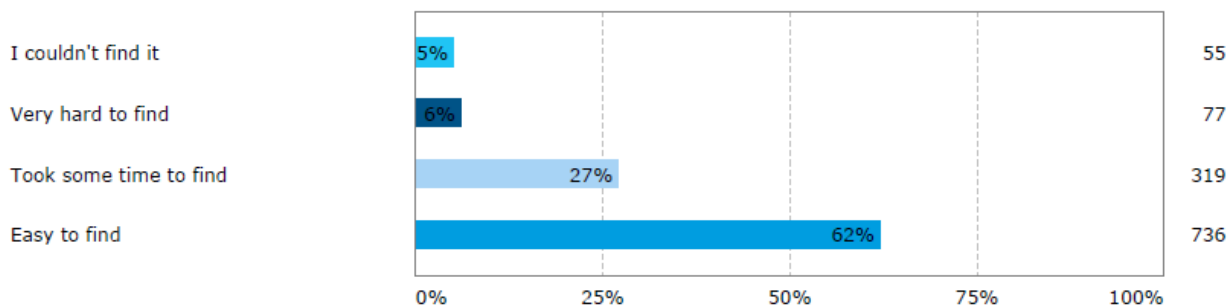


Since the 179 players have participated in both HonTour as well as other tournaments, I would call them experienced players. So, in this mini benchmarking examination, we see that experienced players generally think well of HonTour.com's way of communication information.

### How easy is it for users to find information on HonTour.com about standings, match schedule, tournament structure, tournament rules, and information regarding the next opponent?

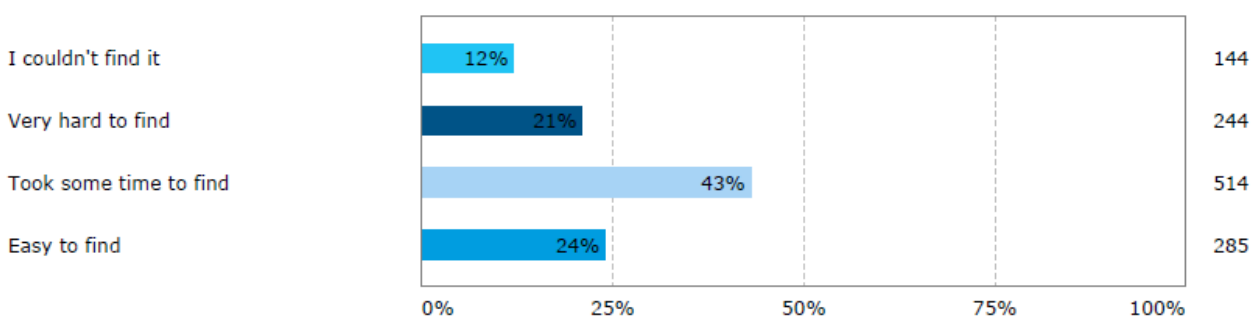
According to the numbers neither sex nor age nor how experienced a player you are affects these answers. The difference in answers for these parameters is below 2 % for all.

#### How do you think the information regarding the tournament is communicated on HonTour.com? - Standings



736 (62%) of the participants answer that standings are easy to find. Only 11 % answers that it were very hard or that they couldn't find the standings. This probably is due to the fact that Standings is a category in itself.

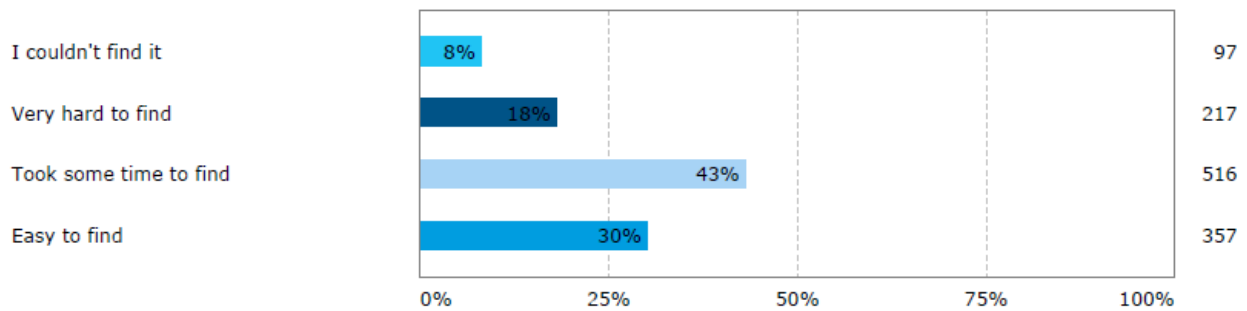
#### How do you think the information regarding the tournament is communicated on HonTour.com? - Match schedule



The participants' answer to whether the match schedule is well communicated on HonTour.com is more divided. 33% of the participants answer that the Match schedule were very hard to find or that they couldn't find it at all. That is close to being one third of the users have great troubles finding or ends up empty-handed when looking for the match schedule. Only 24% of the participants answered that it was easy to find. Seeing as this is one of the most important things for the site to communicate information about, the "easy to find" percentage of the answers could advantageously be higher.

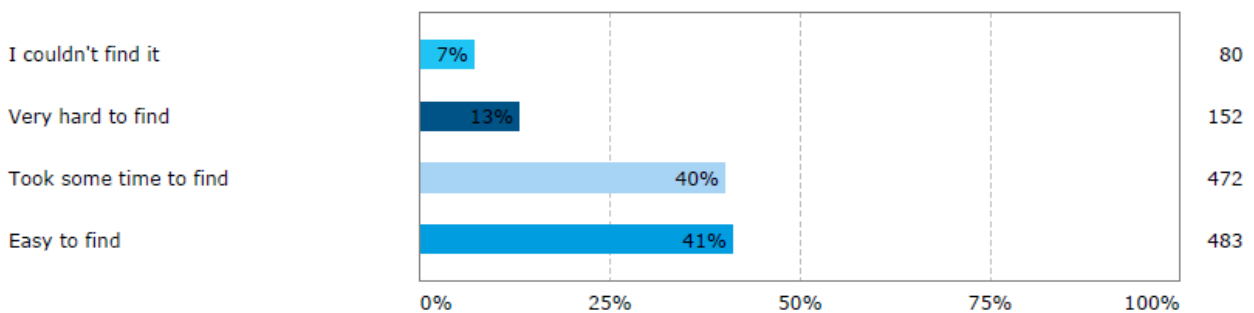


### How do you think the information regarding the tournament is communicated on HonTour.com? - Tournament structure



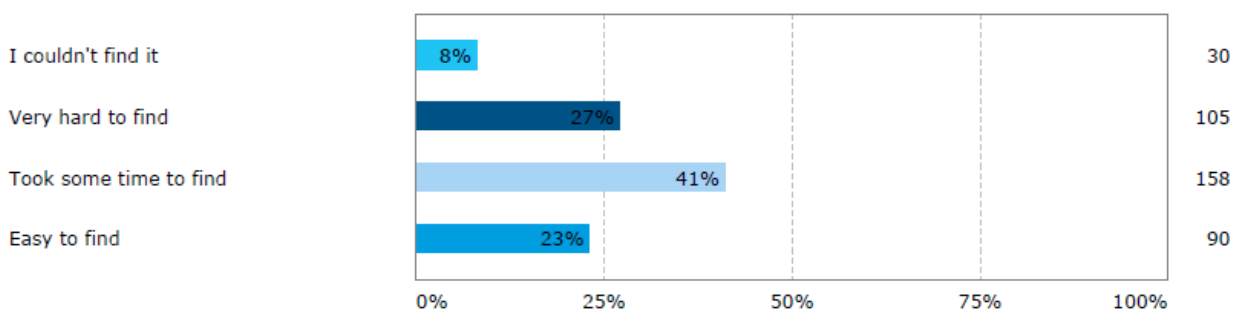
Again the tournament structure is very like match schedule in the answers it received. However this information isn't quite as important as match schedule, so I am willing to overlook that. Seen in that light, the numbers regarding Tournament structure is alright.

### How do you think the information regarding the tournament is communicated on HonTour.com? - Tournament rules



The tournament rules are apparently quite easy for the participants to find. 81 % answered that it were easy to find or that it took some time.

### How do you think the information regarding the tournament is communicated on HonTour.com? - Information regarding the next opponent

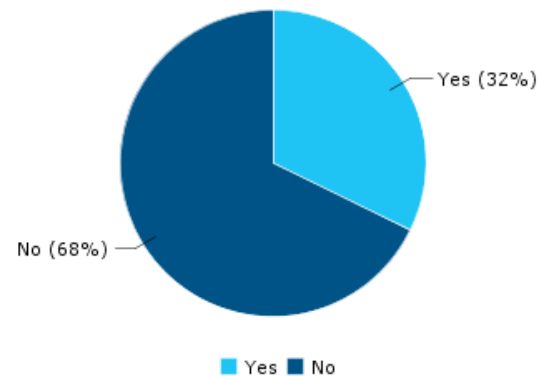


The last "findability" question focused on information regarding the next opponent; therefore it was only relevant to look at the answers for the people that have actually participated in the tournament. The questionnaire is coded so that only people who have answered yes to the question of whether they have

participated in HonTour, is able to see the question about the communication of information regarding the next opponent. Of the 1187 people who completed the survey, 383 people (32%) have participated in HonTour and 804 people (68%) have not.

That means that 35% of the people participating in HonTour felt that the information regarding the next opponent was hard to find or couldn't find it at all.

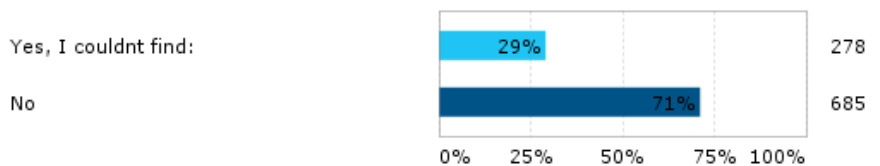
Have you participated in HonTour?



**How many have experienced that there was something that they couldn't find?**

On the question whether the participants had experienced that there were something that they couldn't find on HonTour.com, 71% answered no. The 29% that answered yes mainly indicated that they had troubles finding the brackets or match schedules.

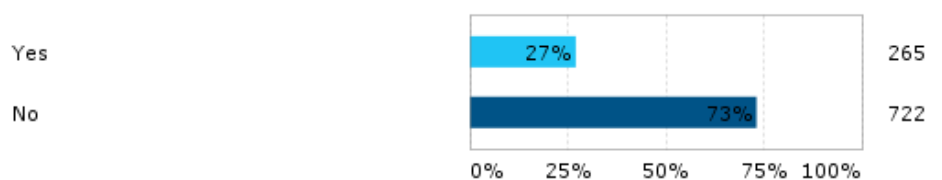
Have you ever experienced that there was something you couldn't find on HonTour.com(that you expected to find there)?



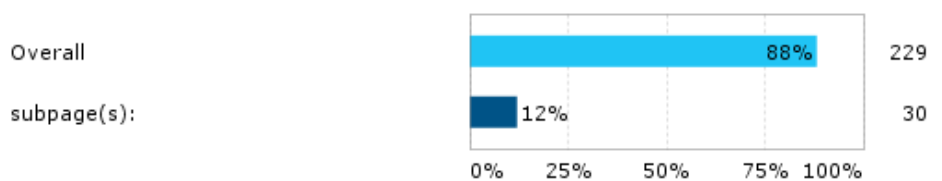
**Does people experience longer load times on HonTour than on other websites?**

Not many people have problems with loading time (only 27%) and of those people most (88%) say that it is overall. However it is interesting to notice that of the 30 people that says that it is on a specific subpage, most of them indicate that it is the brackets that they have a problem loading.

Have you ever experienced longer load time on HonTour.com than on other websites?



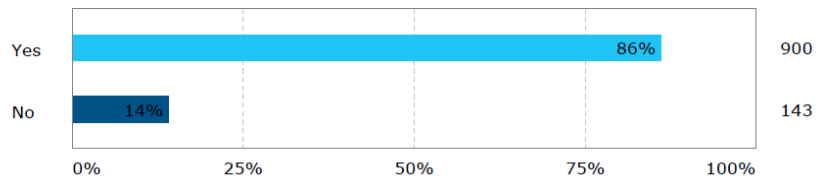
Overall or on a specific subpage?



### Do the participants find the match schedule easy to understand?

86% of the participants answered that the match schedule was easy to understand. Those who answered that it wasn't easy to understand, almost all stated issues with match time, time zones or other time related subjects to be the reason for their issues with match schedules.

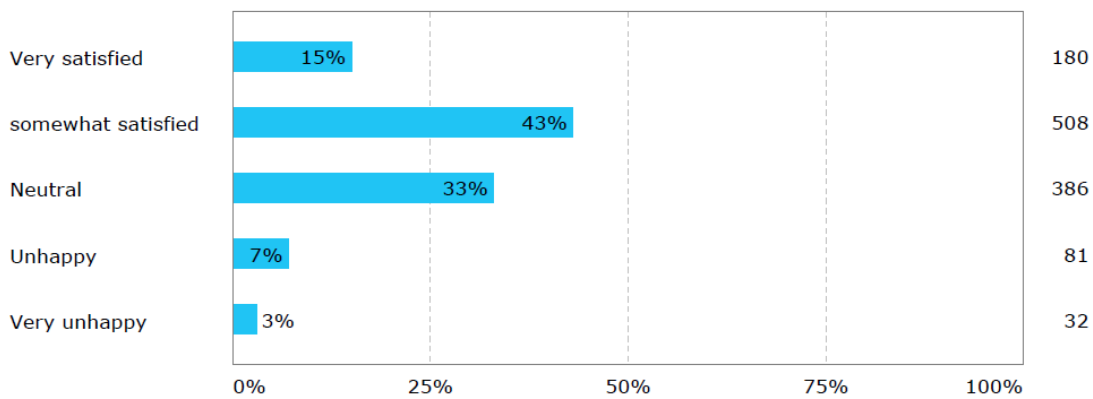
Is the schedule for the matches easy to understand?



### The overall satisfaction with HonTour.com

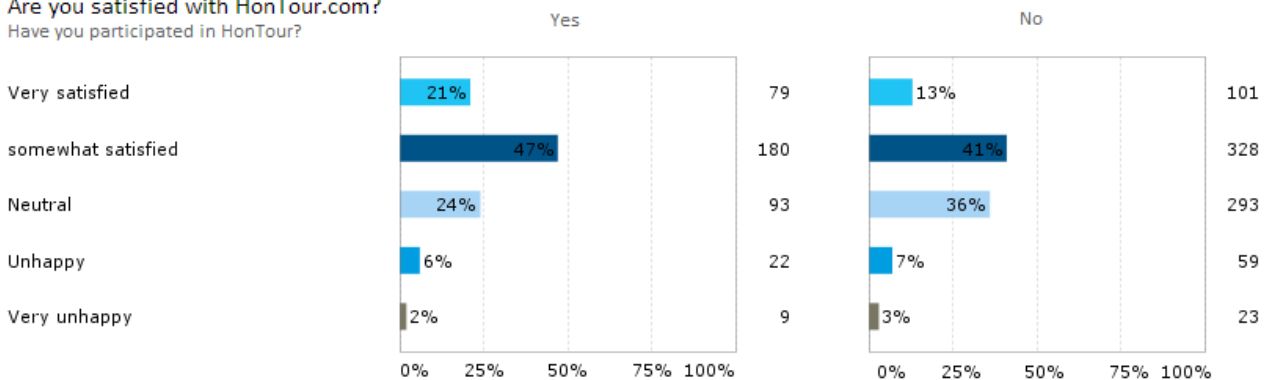
When asked whether the participants were satisfied with hontour.com the answers point towards positive and neutral feelings. Only 10% of the participants indicated that they had negative feelings about HonTour.com

Are you satisfied with HonTour.com?



And surprisingly the numbers are almost the same for people who have participated in HonTour and those who have not.

Are you satisfied with HonTour.com?  
Have you participated in HonTour?



## 5.0 Results

In this chapter I will summarize the outcome of the application of the three different methods on the site and the users. After that I will compare and discuss the outcome, gathering it into a final list of recommendations for improvements for HonTour.com.

### 5.1 The outcome of the tests

#### 5.1.1 Heuristic evaluation

- HonTour.com should make the second navigation options more visible to the user (in the case of the three boxes in the right hand column) by moving the *VIEW ALL NEWS*, *VIEW ALL STANDINGS*, and *VIEW ALL STATS* buttons to the top of the boxes instead of the bottom. Furthermore there should be an easier way of accessing the brackets and the scheduled matches. Both when logged in and when not. It is important to make this visible to the users also when they aren't logged in, so that e.g. spectator can keep an eye with which matches are coming up and who the winner of that game is fighting next time. Maybe that could be a box in the left site column instead of some of the content that is there at the present moment, e.g. instead of one of the two boxes that contains content from **NEWS**.
- Make the site friendlier to new users by putting in a box that explains what HonTour is about and what the site is for. You should also put in explanatory text that helps the user understand what the different elements on the site is about; e.g. a little text that appears whenever an you mouse over an element.  
The site should also accommodate experienced and recurring users. This can be done by making more content about the individual player available on the front-page: when the next match is going to take place or information about your next opponents etc. etc. In the Team profile it would also be good for the experienced user if you had more tools available: e.g. the possibility to send messages to the entire team at once or advanced possibilities for scheduling practice matches.
- The number of clicks it takes to get to important information like the time and date for the next match and information regarding your opponent should be drastically cut down. This can be done by making the time zone shown depend on the IP address of the user or by the information that the user themselves provides when registering. To make it easier to look at your next opponents team profile you could make this an option when clicking on the name of that team in the *Matches* tab. You should also seriously consider the importance of the pictures that accompany the text everywhere on the site. Pictures isn't at all good at I mention in section 2.1. Especially the **EVENTS** page should be revised, with strong consideration about the importance of the art in the background of the text. One solution could be to repeat the text in the already present dark grey boxes underneath the pictures.
- Include the main navigational system when on a site with brackets. It is less confusing for the user and helps them go wherever they want next. Also you should consider dividing about into two main categories, e.g. so that one is called **RULES AND PRIZES**, which would contain the rules and the prizes, and so that the other one is called **ABOUT** and would contain organizational and legal information only. Another option could be to move Rules and prizes to the **HOME** page as kind of a subcategory or a button to click.

- To help the newcomers understand the labels in the world of e-sports tournaments, add a little help box when you mouse over objects.
- Make the back button usable in the player and team profiles.  
Make the advantages of registering greater, e.g. by showing additional information on the HOME page when you are logged in.  
Make the support button available when the user isn't logged in.
- Rethink the bracket structure or divide the bracket up into smaller bits. It is confusing enough as it is for new players to enter a tournament, the load time and lack of overview of the bracket should not contribute to that confusion.
- Make all statistics available through the website e.g. most played heroes.
- Add more related links, e.g. to Hon.com and to HonCast.com
- Go through your team registration formula and check the formatting of the fields.
- Make the SUPPORT function available even if the user is not logged in.

### 5.1.2 Card Sorting

- Consider merging **home** and **news**.
- Merge **stats** and **statistics**. The new category **stats/standings** should push more team and player information. A lot of the information from the personal control panel regarding teams and players in general, should be made easier accessible through **stats/standings**.
- Change the *Standings – top 11* to *standings – top 10*, the label will be less confusing if it is an even number.
- The tournament information should be moved from **about** to **events**. And the *Diamond Events*, *Gold Events*, *Silver Events*, and *Bronze Events* should be gathered into a subcategory and placed higher up on the **event** page.
- The **about** page should be limited to organizational information, rules and legal information. And you should place the most important information at the top of the about page since the card sorting test indicates that it is less likely for the users to see what is far down on the about page.
- Remove the label “information” in **about**.
- New user/player information should be gathered into one new category, maybe even by making a separate **home** page for new users. This information is too important to be put in the “boring garbage can” that the participants named the **about** category.
- *Support* should always be accessible to users on the site and should be placed in about or made accessible on the **personal control panel** at all times, even when you are not logged in.
- Avoid losing focus by the site acting like a form of social network. That is not the reason that the users visit the site, and takes too much time and effort to maintain.
- Leave out the “*player feed*” element on the site or rename it at least, to better show what it entails.
- Make the “*create an account*” element more visible when you are not logged in; Maybe a large button on the **personal control panel** (previously to logging in) or on the **home** page.

### 5.1.3 Web survey

See chapter 4.3

## 5.2 Discussion and comparison

Generally the participants in the web survey are quite satisfied with HonTour.com, whether they have used it as participants in the tournament or have visited the site for other reasons. When the participants of the web survey were asked if HonTour was better than other tournaments at communicating information almost half answered positively and only under a third answered negatively. So this suggests that HonTour is quite functional as it is. However there is always room for improvement, and it would be nice to have the users feel that HonTour excels at communicating information. This would also generate more interest about the tournament and thereby the game itself, which is one of the goals with HonTour.com.

### 5.2.1 Accommodating both new and experienced users

Some of the results from both the heuristic evaluation and the card sorting suggest that there should be a greater focus on accommodating both new and experienced users. One of the most prominent solutions to this, have something to do with the content on the front-page/home page of the site. I have gathered this under the title "Accommodating both new and experienced users".

#### *Rethinking the home page*

To accommodate first time visitors in the site and recurring users, participant E in the card sorting suggests that the home page could be divided into two different pages: One to be shown when a user visits the site for the first time, and one that the recurring user has more benefits from. One of the recommendations from the card sorting is that "New user/player information should be gathered into one new category", which will be accomplished by having a separate home page for new users. One of the recommendations from the heuristic evaluation is also to "Make the advantages of registering greater, e.g. by showing additional information on the HOME page when you are logged in".

Furthermore some of the participants in the card sorting also mentioned that news and home seemed very alike. This could be rectified by removing all news content from the home page and instead shift focus for the home page as mentioned above. Then there would be room for a specific set of information for the new users and one for the experienced ones.

On the "First Visit" home page you could include a description of HonTour, a description of the site in general, a giant "create an account" button (as suggested in the card sorting), and the goal of the tournament as recommended in the Heuristic Evaluation; whereas you should leave those things out of the home page for the experienced user. The experienced user could for example gain access to his or her "experienced user" home page by logging in. Then that user could have a home page that follows the recommendations in the Heuristic evaluation by "making more content about the individual player available on the front-page: when the next match is going to take place or information about your next opponents etc. etc."

The Heuristic Evaluation also mentions that there are some errors in the team registration formula; this means that it would be a good idea to go through the registration formula and check the formatting of the fields. Regarding the experienced users, the heuristic evaluation tells us that it would be good if there were more tools available: e.g. the possibility to send messages to the entire team at once or advanced possibilities for scheduling practice matches. This is also mentioned by participants in the card sorting test.

### 5.2.2 Labels

When you are entering into a community of gamers or more specifically the world of Heroes of Newerth, there is bound to be some terms and linguistic expressions that are foreign to the newcomer. If you at the same time want to draw new users in and catch their interest it is important to help them into the new environment. Sometimes the most descriptive label can be incomprehensible to the new user, so therefore it is clever to try and make compensation for that. One recommendation from the heuristic evaluation is that you could add a little help box with explanatory text that appears whenever the user mouses over/hovers over an element on the site.

From the card sorting test came some more direct and specific recommendations. The “player feed” element on the individual player profile is misunderstood or not understood at all. Therefore it would be better to rename it or simply leave it out (see also the section about focus). The label information (under about) is considered to broad a term to use, and also if you look at its placement on the site, it would not be missed terribly. The label Standings – top 11 is also found to be too confusing by the participants of the card sorting test, and should be changed to Standings – top 10 instead, also to match that of Top 10 statistics.

### 5.2.3 Brackets

As shown in the heuristic evaluation, the brackets are really hard to access. It takes a lot of clicks to come to the bracket and old brackets are nowhere to be found. This is also backed up by the participants of the web survey, where a big part of the 29% that answers that they have experienced that there was something they couldn't find on the site, indicates that they have trouble finding the brackets and that the old brackets are nonexistent. A participant in the card sorting (A) also mentions this in passing.

Furthermore; when you are on a bracket page, you can't really navigate away from it. Even though the bracket opens in a new tab, it would still be nice if you could access the main navigational system from there (as recommended in the heuristic evaluation).

### *Load-time*

According to the web survey the load time on the site doesn't seem to be a general problem. However, almost all the people that gave a specific answer on the question which subpage was a problem answered “brackets”. This is potentially a problem (mostly with the larger brackets), and is also covered in the Heuristic Evaluation with the recommendation to rethink the structure of the bracket or to divide it up into smaller bits.

### 5.2.4 Match information

The web survey shows that information regarding the match schedule and understanding it is also found among the users of the site. From the Heuristic Evaluation comes also a recommendation that the clicks it takes to get there is reduce somewhat. The web survey tells us that problems with finding the match schedule is also one of the main elements that the 29% from before lists as an example of something that they couldn't find on the site.

### *Time and opponents*

One of the recommendations from the heuristic evaluation is also that the number of clicks it takes to get to the time and date for the next match and to information regarding your opponent should be drastically cut down. This is also mentioned by participant B in the card sorting as being important.

Another issue with the match time is time zones. This is pointed out in the heuristic evaluation and also by the participants in the web survey: in the question about understanding the match schedule almost all the negative answers state match time, time zones or other time related subjects as the reason that the match schedule is hard to understand.

### **5.2.5 The About page**

On the site, the largest page by far is the about page, at least if you compare the number of elements present on the site. The about site is considered as being a “garbage can” for all the boring stuff according to the participants of the card sorting. There for you need to have the about page trimmed a bit. One recommendation from the heuristic evaluation tells us that you could split about in two where about only contains legal and organizational information (as is confirmed in the card sorting test recommendations). That is easily done if you implement the recommendations already mentioned; with two versions of the home page. The card sorting test also highly recommends this.

According to the card sorting test you should also move the tournament information from **about** to **events**. And the Diamond Events, Gold Events, Silver Events, and Bronze Events should be gathered into a subcategory and placed higher up on the **event** page.

### **5.2.6. Stats/standings**

Other pages that needs trimming according to the card sorting test, is the stats and statistic page. The card sorting test gives us a recommendation to merge stats and statistics. The new category **stats/standings** should push more team and player information. A lot of the information from the personal control panel regarding teams and players in general, should be made easier accessible through **stats/standings**.

### **5.2.7 Secondary navigation**

Through the Heuristic evaluation we get the recommendation to make the second navigation options more visible to the user (in the case of the three boxes in the right hand column) by moving the VIEW ALL NEWS, VIEW ALL STANDINGS, and VIEW ALL STATS buttons to the top of the boxes instead of the bottom. Participant D also mentions that multiple navigation options are useful during the card sorting test.

Another thing you should also do according to the heuristic evaluation is to make the back button usable as a navigational option always, also in the player and team profiles (which it is not).

### **5.2.8 The use of pictures**

One of the recommendations from the heuristic evaluation is also that you should also seriously consider the importance of the pictures that accompany the text everywhere on the site. Pictures isn't at all good as I mention in section 2.1. Especially the EVENTS page should be revised, with strong consideration about the importance of the art in the background of the text. One solution could be to repeat the text in the already present dark grey boxes underneath the pictures. Some of the participants in the card sorting test also comment on the use of pictures in the event page.



### 5.2.9 Related links

Another recommendation from the heuristic evaluation is to add more related links; such as a link to hon.com or honcas.com. You could also simply make more statistics available via hontour.com itself.

### 5.2.10 Support

Both the recommendations from the heuristic evaluation and from the card sorting test suggests that you should make the support function available at all times, both when you are logged in and when you are not.

### 5.2.11 The Goal of the site

The goal of the site needs to be in consideration when designing content for HonTour.com. Which is why the recommendation from the card sorting about not losing focus is very important to keep in mind: Avoid losing focus by the site acting like a form of social network. That is not the reason that the users visit the site, and takes too much time and effort to maintain.

## 5.3 Final recommendations

In this section I will summarize the recommendations made from the comparison between the results of the three different methods.

### Accommodating both new and experienced users

- Make the home page of the site into two different pages, depending on whether you are logged in or not.
  - The home page for when you are not logged in should be a “First Visit” site for new users that includes a description of HonTour, a description of the site in general, a giant “create an account” button, and the goal of the tournament.
  - The home page for when you are logged in should be with features for experienced users, such as making more content about the individual player available: when the next match is going to take place or information about your next opponents etc.
- Go through your team registration formula and check the formatting of the fields
- Make more tools available when logged in: e.g. the possibility to send messages to the entire team at once or advanced possibilities for scheduling practice matches.

### Labels

- Add a little help box with explanatory text that appears whenever the user mouses over/hovers over an element on the site.
- Leave out the “player feed” element on the site or rename it at least, to better show what it entails.
- Remove the label “information” in about.
- Change the Standings – top 11 to standings – top 10

### Brackets

- Make the brackets easier to find and access (less clicks)
- Make the main navigation available when you are on a bracket page
- Diminish load time on brackets, especially the larger ones e.g. by rethinking the structure of the bracket or by dividing it up into smaller bits

### Match information

- The number of clicks it takes to get to the time and date for the next match and information regarding your opponent should be drastically cut down.
- The time zone problem should be dealt with so that the match schedule shows the match times in the user's local time. This can be done by making the time zone shown depend on the IP address of the user or by the information that the user themselves provides when registering.
- To make it easier to look at your next opponents team profile you could make this an option when clicking on the name of that team in the Matches tab

### The About page

- The About page should be limited to organizational information, rules and legal information. And you should place the most important information at the top of the about page since the card sorting test indicates that it is less likely for the users to see what is far down on the about page.
- The tournament information should be moved from about to events. And the Diamond Events, Gold Events, Silver Events, and Bronze Events should be gathered into a subcategory and placed higher up on the event page.

### Stats/standings

- Merge stats and statistics. The new category stats/standings should push more team and player information. A lot of the information from the personal control panel regarding teams and players in general, should be made easier accessible through stats/standings.

### Secondary navigation

- Make the second navigation options more visible to the user (in the case of the three boxes in the right hand column) by moving the VIEW ALL NEWS, VIEW ALL STANDINGS, and VIEW ALL STATS buttons to the top of the boxes instead of the bottom.
- Make the back button usable in the player and team profiles.

### The use of pictures

- You should also seriously consider the importance of the pictures that accompany the text everywhere on the site. Pictures aren't at all good as I mention in section 2.1. Especially the Events page should be revised, with strong consideration about the importance of the art in the background of the text. One solution could be to repeat the text in the already present dark grey boxes underneath the pictures.

### Related links

- Make all statistics available through the website e.g. most played heroes.
- Add more related links, e.g. to Hon.com and to HonCast.com

### Support

- Support should always be accessible to users on the site and should be placed in about or made accessible on the personal control panel at all times, even when you are not logged in.

### The Goal of the site

- Avoid losing focus of the site by acting like a form of social network. That is not the reason that the users visit the site, and takes too much time and effort to maintain.

## 6.0 Conclusion and Reflections

My problem statement is: How can the Information Architecture on e-sports tournament websites be designed in such a way that it accommodates the users' interaction needs with the content of the website, specifically in regards to navigation, organization and labeling?

This I have tried to answer through the thesis and my work with the case site HonTour.com:

First I chose which methods to use, and then I examined the Information Ecology of the site, applied the chosen methods to the site and came up with a set of recommendations, ready for application on the site.

I chose the methods based on a desire to be holistic in my approach and give the most well rounded assessment of the site. I chose methods which supplement and validate each other as to get the best result.

The Information Ecology was very important to get a thorough understanding of the site. In that I investigated the context of the site, the content and the users.

The heuristic evaluation gave a set of guidelines to compare the site with and showed a number of places that could use improvement. I have only used one expert in the heuristic evaluation and that being myself. It opens the possibility of my opinion coloring the outcome. However I have tried to make amends for this by validating it with a comparison to the other methods.

The card sorting showed even more places that needed improvement and it was a great bonus for the design process to have users act as partners.

The web survey gave an excellent opportunity to verify and give enhanced credibility to the other methods. It was also exciting to see the statistical material for the users of the site.

I compared the test results and recommendations from the different methods and found much that supplemented each other but also much that I wouldn't have found out if I had chosen to omit one of the methods. This makes the result of the whole process that more thoroughly founded and credible.

The final recommendation that was the culmination of my studies, are in many places directly applicable HonTour.com and will help further the communication of information to better suit the needs of the users. And also the choice of methods and the way that they are applied can contribute to the practice of information architecture as a form of tool or template on which to base the evaluation and redesign of other websites.

In the thesis I learned that even though you have a lot of experience with Information Architecture in general, you can still get unexpected results as to what the needs of the users are and how they view the site. It was especially beneficial to work together with the users in the design process, like I did in the card sorting. I will even consider involving the users even more in the process next time I evaluate en redesign a site.

On a site note I also learned that it isn't always good to include qualitative answers in a web survey, since the number of respondents can vary greatly and you end up with much more responses than you initially imagined. You could use the behavior of the users in this instance to make an educated guess as to how the users of e-sports tournament websites' attitudes towards helping with the redesign is in general: The users are very interested in helping to make it as good a site as possible, in that they have to use the site to get information about the tournament. Also the users' general competence in navigating the internet is quite high, seeing as they spend a lot of time on their computer.

In retrospect there are some considerations I have made during the work of this thesis. One is that I should have made the web survey after the other tests so that I could fully verify the results of the other tests.

Another is that the focus probably is a little to the general side, in that I examine the whole spectrum of information architecture (except searching) whereas it would also have been interesting to make a more in-depth study of one aspect of information architecture.

The most important part of the question from the problem statement - and the solution to it - is the users. It has been important to me to involve the users as much as possible, which is why two of the three methods used are methods that involve the users: 1 - the card sorting, which directly involves the users as participants in the process and 2 - the web survey, with which I try to capture the general attitude of the users towards the site and thereby make clear where the problem areas lie, and what can be done about them.

The message I want to convey is that when you design a site you should do everything in your power to focus on the needs of the user and to make sure that what is in the front seat always is the users' best interest and nothing else.

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## Appendixes

See the attached files on the USB key