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Where should we go today?

WHERE SHOULD WE GO TODAY?

Social-driven Event Calendar for Finnish consumers

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Bachelor's thesis

Fall 2013

Business Information Technology

Oulu University of Applied sciences

## ABSTRACT

Oulu University of Applied Sciences  
Degree Programme in Business Information Technology

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Where should we go today?: Social-driven Event Calendar for Finnish consumers

Teppo Räisänen

Fall 2013

Number of pages: 28

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## ABSTRACT

The purpose of this thesis was to introduce a new form of designing principles to web designing. There are new and more fluid designing methods, which are replacing old, cumbersome methods.

Objective was not to dismiss proven practices in the web designing field, but to complement the existing ones with theories of persuasive design and responsive web design. Those two new theories were added to guidelines of user interface to create a new social media application. Using the persuasive design as the stepping stone to create new web applications will prove useful in reducing marketing costs and bring more dedicated users. Responsive web design provides means to create cross platform applications, and using these two theories while creating a new application should prove fruitful.

Socially driven event calendar is build using guidelines for user interface, theories about persuasive designs and made available with cross platform devices with responsive web designing. That resulted into some interesting yet predicted outcomes.

Main goal of this thesis was to introduce new forms of designing principles and try to give out practical examples how it could be done. The problem with persuasive design is that it is still in theory mostly and with responsive web designing has the opposite problem of being foremost practical.

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Keywords: social media, responsive web design, persuasive design, user interface planning

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# 1 INTRODUCTION

Challenge today when creating a web application is how to get people to using it. Marketing might do the trick, but how to proceed, when there are limitations to the budget and labor force. The answer might lie in influencing the users through persuasive design.

The aim of this Bachelor's thesis was to examine theories about web-design and persuasive technology and then utilize these findings to create a visual template of country wide event calendar, which aims to persuade users to check all the public events which are near to them from this web-based event calendar.

Using theories from Persuasive Technology and Responsive Web Design, as well as few theses from the psychology field the final result of the actual visual template should be something of a textbook example how design can persuade you to use new technologies and applications.

First theory to be examined will be the theory behind Persuasive Technology. From this perspective the seven types of persuasive Technology Tools by B.J. Fogg will be explained in detail. Then through elimination process some of these tools are used as the carrying force in the design.

Second part of the theory will explain the connection between responsive web design and persuasive design, and show that even though they have similarities, they are totally different fields of study.

Thirdly the theories are combined to produce a unique way of looking web site designs and to lay out some guidelines what needs to be taken into consideration when designing new services.

## **2 WEB 2.0 IN GENERAL**

### **2.1 What is Web?**

Usually word “Web” is used as a synonym to Internet. In essence Web is the end-user part of Internet. Comprising of servers linked together, Internet provides the means for publishing web-sites, which are regarded with the term “Web”. Intranets and extranets are also thought to be part of the web. (Korpela, J, Linjamo, T, 2005 5)

Current trend of the Web is Social media, which is in essence was spawned by Web 2.0; users making content to websites offered by companies or individuals. Social media has resulted into some design patterns that offer a different view in contrary the “normal” patterns of doing business:

1. Responsiveness beats planning
2. Communities beat audiences
3. Reputation beats branding
4. Sociality beats media-mentality

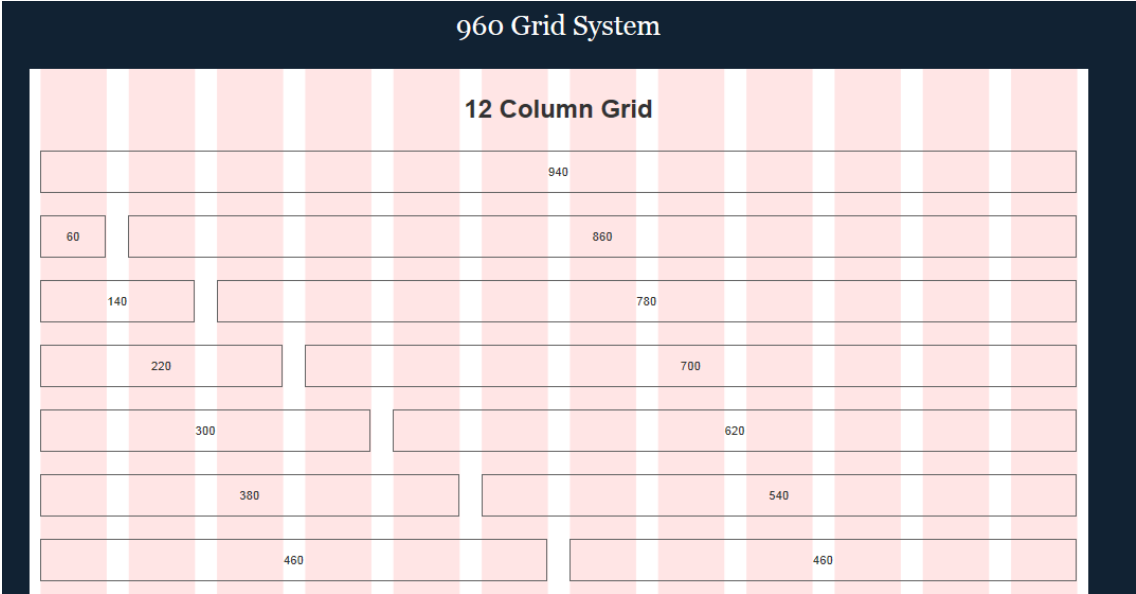
Responsiveness in this context means that companies that try to harness social media, should be readied for faster communication inside and outside of the company. One failure will result in the loss of reputation, which in essence “warns” new users to stay away. (Ross, J-M, 2013)

### **2.2 960 Grid System & Blueprint (CSS framework)**

Blueprint and 960 grid system were created to cut down development time on web projects. Both of these frameworks have their advantages, but one thing

remains in both: you need to decide the pixel width of your page. (Smith, N, 2008)

960 grid system uses 960 pixels width with different column layouts. Web developer can now choose their, which suits to them the best. It is not supposed to be a perfect solution nor complete. (Smith, N, 2008)



Picture 1 Example of 12 Column Grid

Blueprint CSS framework offers more tools for every step of the workflow. Aiming for eliminating discrepancies between browsers via CSS, this framework offers more flexibility in deciding the width of the page. ( [www.blueprintcss.org](http://www.blueprintcss.org), 2013).

## **3 THEORIES ABOUT DESIGN**

### **3.1 The importance of user interface**

Having a user friendly, easy to use user interfaces in application, whether the application being an website or custom-made account software, gives an important edge in business and enhances competitiveness (Jokela, T. 2010, 11).

It is application and case related, how much usability will bring advantages over competitors and what benefits are deemed to be the most important. When designing new application or software, resources should be balanced to bring out the needed usability level in reasonable ratio to the actual resources at hand (Jokela, T. 2010, 11)

According to Jokela, there are two main levels in user interface. These are called visual and interaction levels. Visual level consists of the visual image, color scheme etc. The interactive level is the logic behind the user interface and it is split in two levels, which are called the interactive elements and architecture levels. (Jokela, T. 2010, 17)

This thesis will focus on both of the main levels as well as in the two sublevels in order, which are then enhanced by the theories presented below.

### **3.2 Guidelines for user interface**

There are six aspects of systems designing which can be adapted to user interface design as well. These are scenarios, requirements, envisionment, prototyping, evaluation and conceptual and physical design. Using these six aspects can a more human-centred user interface to be designed. (Benyon, D. & Co. 2005, 190-192)



### **3.2.1 Scenarios**

Scenario-based design has emerged as an important approach to design of interactive systems. According to Carrol scenarios are used to deal with the inherent difficulty of doing design. There are five points which he addresses. (Benyon, D. & Co. 2005, 192)

There are often external factors that constrain the design, such as time constraints, having to fit in with existing designs and lack of resources to name few. (Benyon, D. & Co. 2005, 192)

Design moves have many effects and create many possibilities. A single design decision can have a huge impact in many areas of usability and these need to be explored and evaluated. (Benyon, D. & Co. 2005, 192)

Scientific knowledge and generic solutions lag behind specific situations. There are some generalities, but because of the pace of the technology moving forward, these become obsolete even before they have been discovered. (Benyon, D. & Co. 2005, 193)

While viewing the design by the eyes of end user, it often evokes, and should evoke reflection about design issues. (Benyon, D. & Co. 2005, 193)

Last point is that by nature design problems are slippery. Designers may find solutions which bring out more problems and a problem in designers' point of view might be a solution to the end user (Carrol, 2000, 69).

### **3.2.2 Requirements**

According to Robertson and Robertson, a requirement is something the product must do or a quality that the product must have. Creating a systems requirement calls for understanding of PACT.

PACT stands for people, activities, context and technologies. Designer must have an extensive understanding about people using the system to be designed as well as the activities that are the focus of the design. Activities in the system must be made in context and finally the designer must know the limitations or possibilities that technologies bring to the system. (Benyon, D. & Co. 2005, 194)

### **3.2.3 Envisionment**

Envisionment is all about bringing ideas visible. Bill Verplank gives three main things for easing the designing process for user interfaces. These are "How do you do?" , "How do you feel?" and "How do you know". (Benyon, D. & Co. 2005, 236)

"How do you do?" in terms of usability is how do you interact with the user interface. Are you using a keyboard, mouse or your finger as an input device. (Benyon, D. & Co. 2005, 237)

"How do you feel?" is about users making sense of the world and how are they affected emotionally by designing and can they be influenced. It is also about how the design affects the sensory input of the end user. (Benyon, D. & Co. 2005, 238)

"How do you know?" is about designers wanting users to think in certain way. Verplank gives an example of paths and maps. For beginners, a path through an application provides step-by-step instructions while maps give a bigger overview and are better for expert end users. (Benyon, D. & Co. 2005, 239)

### **3.2.4 Prototyping**

Prototype is a partial representation of the application or user interface. They are mainly used to demonstrate a concept, to test details of an concept or in later stages of development act as an specification for the actual product. There are two main kinds of prototyping; low fidelity (lo-fi) and high fidelity (hi-fi). (Benyon, D. & Co. 2005, 254)

Hi-fi prototypes are closer to the actual final product. They are intended to look and feel like the finished product, yet lack they usually lack the functionality or have partial functionality. (Benyon, D. & Co. 2005, 254-255)

Lo-fi prototypes are often called paper prototypes and they usually are made out of paper. They are used to clarify the broad design ideas that are not always even visible in the final product. Lo-fi prototypes can be produced quickly and can be discarded as fast as well. (Benyon, D. & Co. 2005, 255-256)

Hi-fi prototypes are usually used in later stages of project, while lo-fi prototypes are used in the earlier stages. Usually if there are underlying design problems noticed during the project, they are returned to the lo-fi prototypes, because in those they can be more easily solved. (Benyon, D. & Co. 2005, 259)

### **3.2.5 Evaluation**

Evaluation is all about getting input from the potential end users. Basic evaluation can be handled in seven main steps starting from the recognizing potential users to getting results back to the designers. In this thesis evaluation will not be conducted. (Benyon, D. & Co. 2005, 268)

### **3.2.6 Conceptual and Physical Design**

Abstract description of the user interface can be done with conceptual design. It explains the logic, functions, structure and content, but does not explain the how those can be physically realized.

Physical design on the other hand tackles the facts of who does what, how do people and design elements communicate and how do they look and behave.

### **3.3 Persuasive technology**

Interactive computing systems that are designed to change attitudes or behaviors of the users through persuasion and social influence but not through coercion are regarded as persuasive technology. Primary function of computers and their systems is to store and process data but how this data is being presented to the end user has changed significantly (Fogg, B.J. 2003, 1).

While the Internet is the most visual and recognizable form of persuasive technology on itself, others are quite hard to recognize in the everyday usage. The range of these influencing products is from “smart” toothbrushes to mobile phones in the common household (Fogg, 2003, 2).

Persuasion with computer applications or devices has one significant advantage over traditional media: It can be interactive. It is a general rule; persuasion techniques are most effective when they are interactive. A brochure about telling the ill effects of smoking is less effective than a application, which can be tailored to the specific needs of the individual smoker, in order to help (s)he to quit. (Fogg, 2003, 6)

According to Fogg, computers have six distinct advantages over human persuaders. Computers can be more persistent than human beings, because they don't get tired. Secondly they can offer greater anonymity, which is needed when dealing with sensitive issues, such as substance abuse or sexual

behavior. Another advantage is the ability to store, access and manipulate data much greater speeds than human beings, which gives them an edge over human persuaders. Presenting data in different modalities is the fourth advantage. This includes presenting data in graphs, graphics itself, and video, audio or even hyperlinked content. Fifth advantage is the scalability of computers. You cannot clone a good human persuader, but with a good persuasive computer software or web application you can devote more resources for it when the need arises. The final advantage of computers as persuaders is that they can be ubiquitous. Computer based persuasion systems can follow you to places where human persuaders are not welcome, like bathroom (Fogg, 2003, 7-11)

### 3.3.1 Tools of Persuasive Technology

The basis of PSD-Model comes from the persuasive technology tools that B.J. Fogg introduced in his book “Persuasive Technology, Using Computers to change what we think and do”. According to B.J. Fogg, there are seven types of persuasive tools (Table 1). (Fogg, 2003, 32-54)

*Table 1 Seven types of Persuasive Technology tools*

Principle	Explanation
Reduction	Using computing technology to reduce complex behavior to simple tasks
Tunneling	Using computing technology to guide users through a process provides opportunities to persuade along the way
Tailoring	Information provided is tailored to the individual needs of the user
Suggestion	Offering suggestions at opportune moments

Self-monitoring	Using computing technology to keep track of individuals performance or status
Surveillance	Applying computing technology to increase desired behavior via observing
Conditioning	Using positive reinforcing to shape complex behavior into habit

Seven persuasive technology tools offer designers a set of principles which to use to design new web sites. These principles can be used as such and for that the PSD-Model was created for.

### 3.3.2 Persuasive Design Model

PSD-model stands for Persuasive Design model, and it is presented by authors Harri Oinas-Kukkonen and Marja Harjumaa in the article “Persuasive Systems Design: Key Issues, Process Model and System Features. Communications of the Association for the Information Systems”. ( Oinas-Kukkonen and Harjumaa 2008,1.)

In order to provide greater detail using persuasion while designing a new computer system or web application, they introduce 28 different design principles, which can be used as guidelines. These guidelines are divided into four different categories of seven.

The first category, primary task support is almost the same, as introduced by B.J. Fogg (Table 1). According to Oinas-Kukkonen and Harjumaa, the first category offers design principles, which primarily aim to help and support the user to perform the primary task at hand (Table 2). Dialogue support is the second category, and the principles of this category aim to implement the

computer-human dialogue support (Table 3). Third category, system credibility support, aims to help to design a system with high credibility and high level of persuasion (Table 4). The final category is called social support (Table 5). Increasing the social influence of the system is used to motivate users. (Oinas-Kukkonen, Harjumaa, 2008, 8-11)

*Table 2 Primary task support*

Principle	Explanation
Reduction	System should reduce effort that is needed for user to perform their target behavior
Tunneling	System should guide users in the attitude change process providing means which brings them closer to target behavior
Tailoring	System should provide tailored information for its user groups
Personalization	System should offer personalized content services for its users
Self-monitoring	System should provide means for users to track their performance or status
Simulation	System should provide means for observing the link between cause and effect while regarding users behavior
Rehearsal	System should provide means to rehearse the target behavior

*Table 3 Dialogue support*

Principle	Explanation
Praise	When reaching goals, that steer user

	to the desired behavior, the system should praise the user with words, images symbols etc.
Rewards	System should provide virtual rewards when user reaches target behavior
Reminders	Systems should remind users of their target behavior during the system use
Suggestion	System should suggest that users carry out behaviors during the system use process
Similarity	System should imitate its users in some way
Liking	System should have a look and feel that appeals to its users
Social role	System should adopt a social role

*Table 4 System credibility support*

Principle	Explanation
Trustworthiness	System should provide non-corrupt information
Expertise	System should provide information which reflects knowledge, experience and competence
Surface credibility	System should have a competent look and feel
Real-world feel	System should provide information of the organization and/or actual people behind its content and services
Authority	System should refer to people in the role of authority
Third-party endorsements	System should provide endorsements



	from respected sources
Verifiability	Systems should provide means to verify the accuracy of the site contents via outside sources

*Table 5 Social support*

Principle	Explanation
Social learning	System should provide means to observe other users who are performing their target behaviors and to see the outcomes of their behavior
Social comparison	System should provide means for comparing performance with the performance of the users
Normative influence	System should provide means for gathering together people who have the same goal and make them feel norms
Social facilitation	System should provide means for discerning other users who are performing the behavior
Cooperation	System should provide the means for co-operation
Competition	System should provide mean for competing with other users
Recognition	System should provide public recognition for users who perform their target behavior

### **3.4 Responsive Web Design**

Web designers have had a problem of doing work, which is never tangible like normal art is. Even most of the words in the early stages of web design were directly inherited from print design. Though recycling is part of web designing; you are not supposed to re-invent the wheel with every new design. (Marcotte, 2011, 2-3)

The idea of canvas was also inherited to web design. This was in essence inevitable, but it poses some problems. The final product won't be on a fixed canvas, rather it will be in a browser window, which can mean today anything from computer screen to the screen in a smart phone. This creates the need for responsive web design. (Marcotte, 2011, 3-5)

Biggest problem is the nature of Internet. It is naturally flexible, yet most of the web sites are done with pixel constraints in mind. Mobile devices have received these constraints as well, even though manufactures have tried to introduce standards, in which these devices can view the full site within its viewport with "zoom-out" feature. This presents the problem that user needs to zoom in and out again, not able to see all the relevant information at once. (Marcotte, 2011, 4, 87)

Responsive web design, while used with the philosophy "mobile first" can serve users with broader range. Question is that do the users with smaller screen need the same information as the users with bigger screens? Do they want the same information? Does the device dictate context?

### **3.5 Responsive Web Design with PSD-Model**

Creating a user interface that uses persuasive design as basis for designing the visual level and responsive aspects for the interactive level does not actually

differ from normal process of creating user interfaces. Now they are just named and scrutinized more closely.

Question remains, is there a golden set of rules for designing a good web site or application. While persuasive design tries to influence people to use the application in the way it is designed to be used, responsive design on the other hand relies on usability studies of users how they want to use it and then adapts to the needs of the users.

Persuasive design however is not purely for influencing people to use the application as it was designed and planned to be used, but also it tries to affect behavior, and in the case of web sites and applications to create a habit even a sort of an addiction to the users, so that they would return to use it.

Both approaches require extensive knowledge of the group that they are targeted for. In responsive web design questionnaires are used to get input from beta-testers to know which elements in the site work and which do not.

Research on the persuasive design point of view needs to be done on the psyche of the target group. What influences them, how could the application create the feeling of social pressure for example and how could the application do it in the most subtle way.

## 4 SOCIAL EVENT CALENDAR

### 4.1 Vision

When end user creates an event this bulletin board type site, he or she can follow how many people are interested about the upcoming event and how many are participating to it. People joining the event can share it in popular social media sites, such as Google+, Twitter and Facebook, and these shares will show up on the event. They can also add the event to their own calendar software on local computer or online calendars such as found on Gmail and Facebook.

Mobile version of the site could offer Finnish domestic tourists to find and to plan their summer vacation in order to reach small events which are usually marketed only by grapevine.

Social event calendar (referred as SEC from now on) offers an opportunity to give out discount to people who show up with required amount of friends. For example you bring 4 friends and you would get a free ticket yourself to the event. Even strangers could pair to get discounts from events.



Picture 2 Customers vision to marketing material

## **4.2 Business idea behind Social Event Calendar**

Social event calendar is aimed for every domestic tourist in Finland. There are three kinds of end users for service. First there are the event planners and organizers, who want to promote their event with less effort. Second group of users consists of people looking for events to participate. Third group of users are event or campaign promoters, who want to get the most advertisement income from the event with less effort.

Submitting single events would be easy and free, but submitting more than 3 events a month would categorize the user as being an event organizer rather than participant.

The profit from the social event calendar would be raised from the advertisements on the site and offering paid services for event planners who want a better visibility for their events.

## **4.3 Functional requirements**

In this part different functional requirements are listed. These are dictated by the client ordering the thesis and they are supposed to be found in the finished product. Prototype, which is in scope of this thesis, is not supposed to have the full functionality.

### **4.3.1 Users**

Social event calendar is supposed to have three different types of users. These are administrators, event organizers and event seekers. The difference between these three user groups is that administrators are the people working behind the SEC and event organizers and event seekers are the end users.

Administrators have a possibility to make new users for the SEC and to delete them. They have privilege of editing all event notifications and delete them. Administrators have also the privileges to change other users from event organizers to event planners and vice versa.

Event organizer is a user type that has the privilege of doing multiple events on its account. They can also buy advertisement space from SEC and get their event notification lifted in the search results.

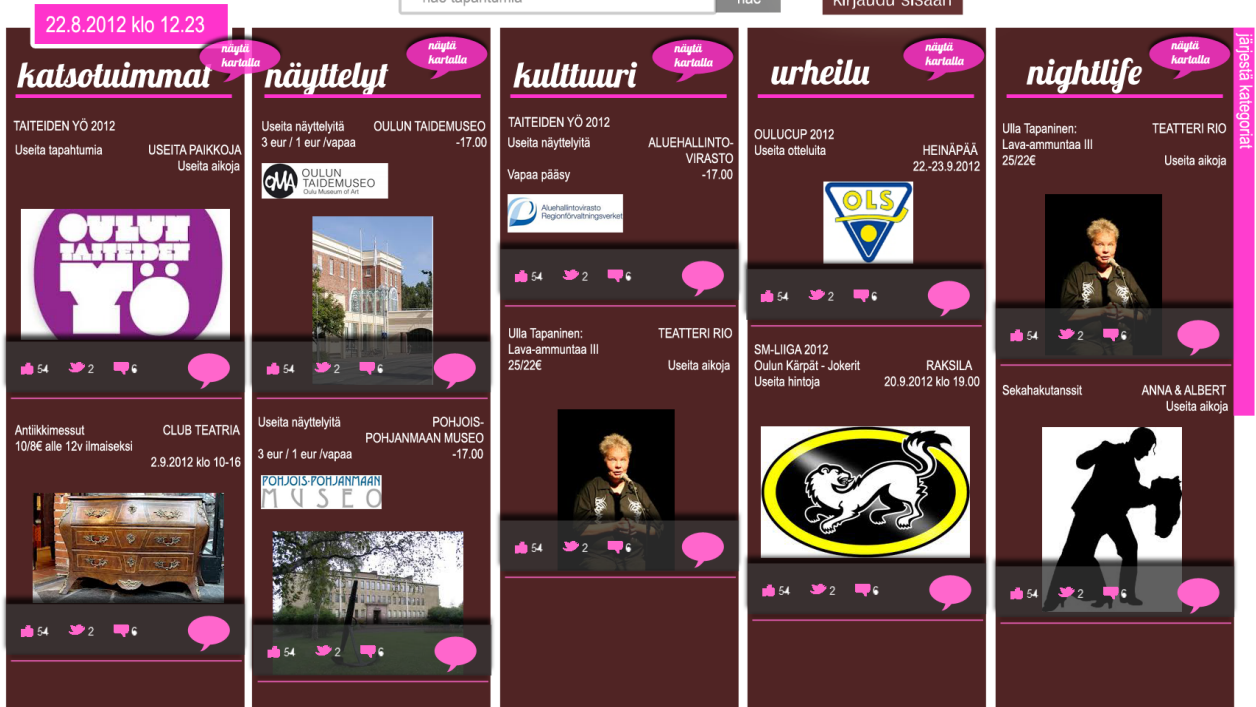
Event seeker is a user type that can post maximum of three event notifications simultaneously. Event seeker can save their search preferences and modify their landing page while using SEC.

**4.3.2 Categories**

When user is submitting an event for the SEC, he or she must choose a category in which the event fits. User must choose at least one and maximum of three categories. This helps event seekers to find events that fit their interest.

*Table 6 Categories for SEC*

culture / music	kids and family	nightlife	fashion
sports	food	health	charity
shopping centers	pets / animals	sales /marketing	education
students	politics	outdoors	science/ technology
motorsports	neighborhood	religious	handicraft
culture / art	auction	flashmob	exhibit



Picture 3 Customers vision about categories

### 4.3.3 Submitting an event

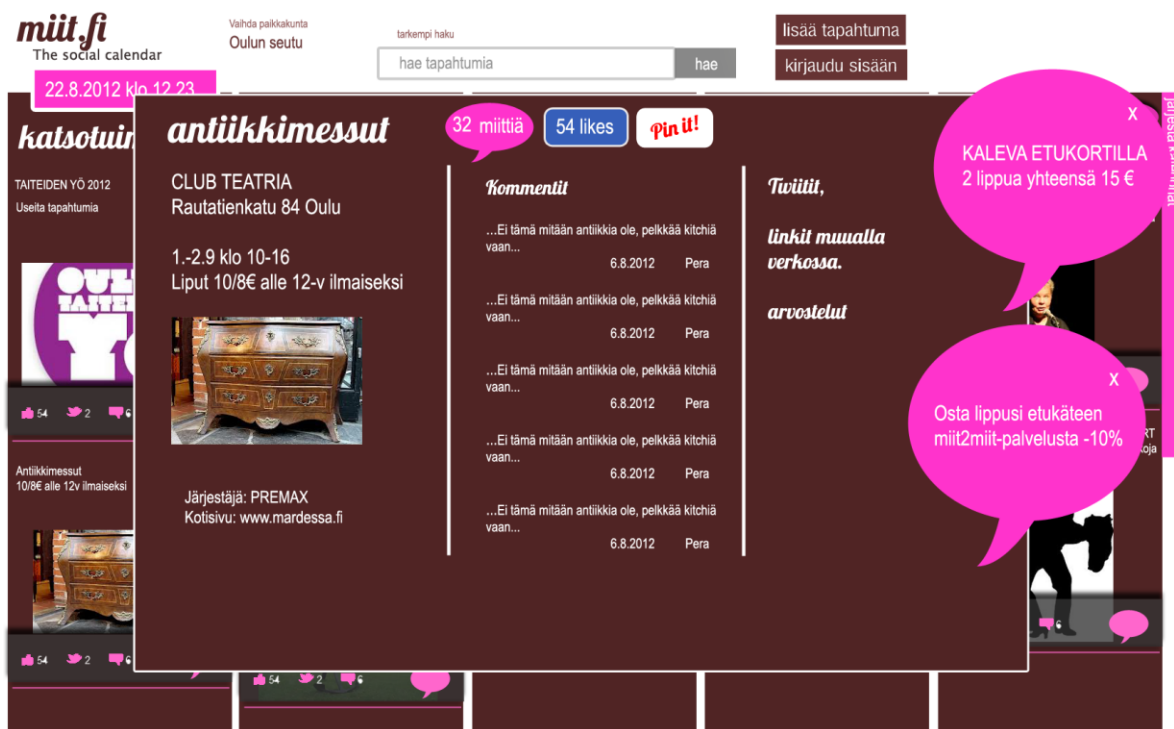
In addition choosing a category the user submitting the event must announce the time and place of the event. There is a possibility to create a “mother an event”, in which smaller events occurring in the same mother event can be nested. For example, a rock festival would be a mother event, in which concerts from different artist would be listed.

If an event organizer notices that an event is submitted already by some other organizer or normal user, he or she can challenge this event, and gain control of it. Event organizer could use the information from the previous user, who submitted the event to get more information, thus more content for the event seekers.

Different locations are saved in the SEC database. When submitting a new event there is the possibility to browse the locations in which previous events were organized and in time all the popular places will be found straight away.

Users can give out possible open hours to an event, which lasts several days. There is possibility to give out special opening hours for holidays which might affect them.

An event organizer might be a representative of a sports team, which have fairly regular timetables set before their season starts. If this is the case, user who is submitting for a sports team, can submit their entire timetable about match dates.



Picture 4 Customers view of exhibition event





Picture 5 Customers view of mother event

#### 4.3.4 Searching for events

Events can be searched with following filters; location, time, category, opening hours and entrance costs. If user permits the use of his or hers location, the service uses it as is point of origin to search events by default in the radius of 10 kilometers. User can change this default radius and restrict the shown events by category.

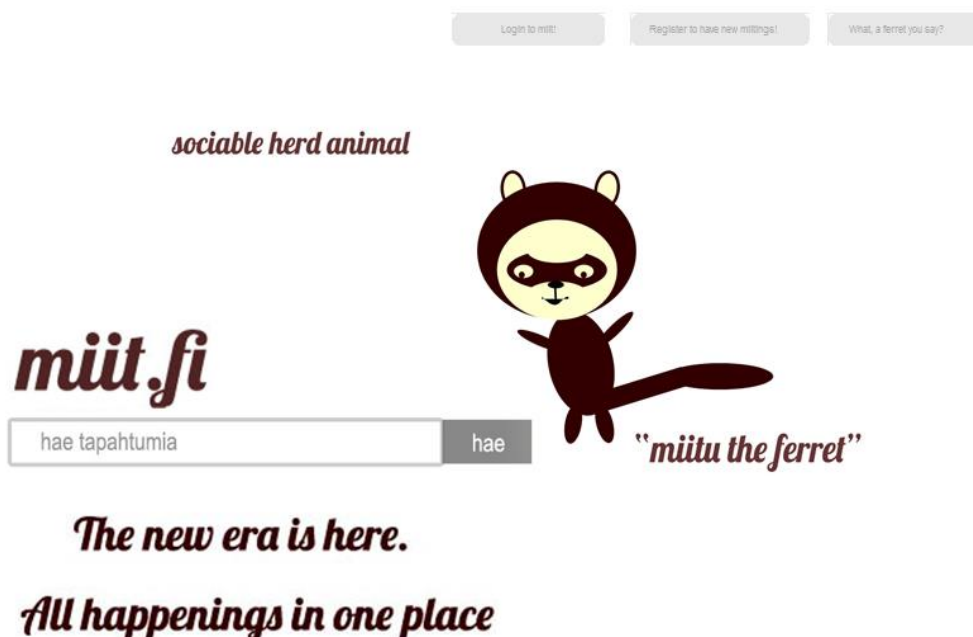
The search can be evolved to a route planning in mobile devices. Scenario, in which you are driving through Finland during three week period, and you want to listen to live music every night could be achieved easily by using SEC.

## 5 CONCLUSION AND DISCUSSION

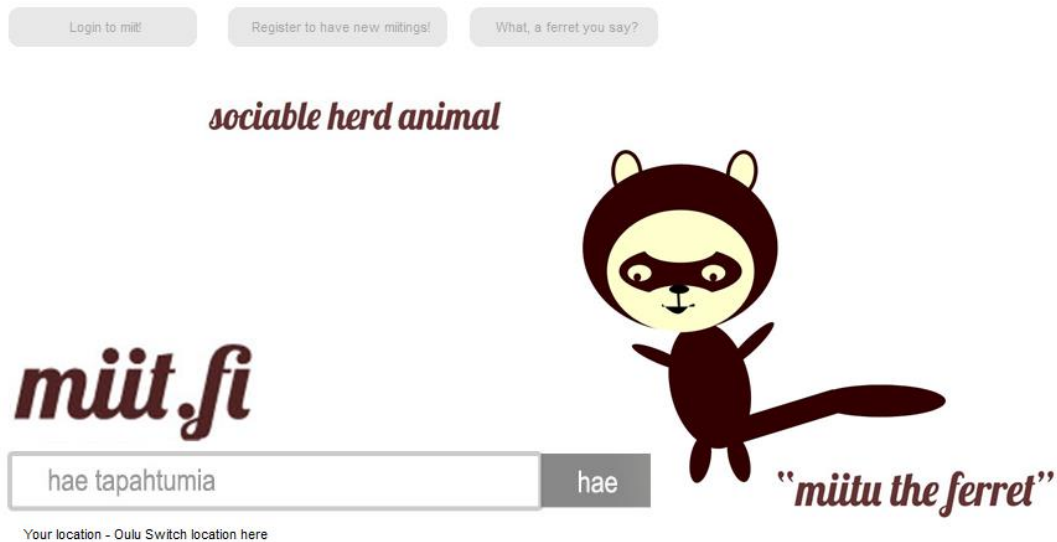
In retrospect the actual defining of the scope of this thesis was painful. On the other hand there was the use logic of the service to be clarified and on the other hand there was the actual design. Using the theories about user interfaces, persuasive design and responsive web design I ended up in the conclusion of doing a bit of everything.

After extensively immersing myself in theories about persuasive design and responsive web design the restraints of time and lack of test users was apparent. Not to be able to run everything through a punch of test users, I had to rely on more basic things to get the job done.

I started doing the practical part of the thesis with actual paper models. After serious trial and error, I got the usage logic in the point that could be produced into an actual user interface, but there were still information missing. Getting all the necessary information to fit, while trying to heed to the idea of “less is more persuasive” was not working as planned.



Picture 6 the first draft



*The new era is here.*

*All happenings in one place*

*Picture 7 the first draft revised after customer input*

Final products of this thesis ended up being prototypes. These design prototypes are meant to offer some roots, in which the final SEC could be produced. The actual working prototype was made with basic HTML, JQuery and PHP. No SQL was used, because even though that could have helped in describing some function logic, the decision was made, that more feeling and emotion based prototype would be presented.



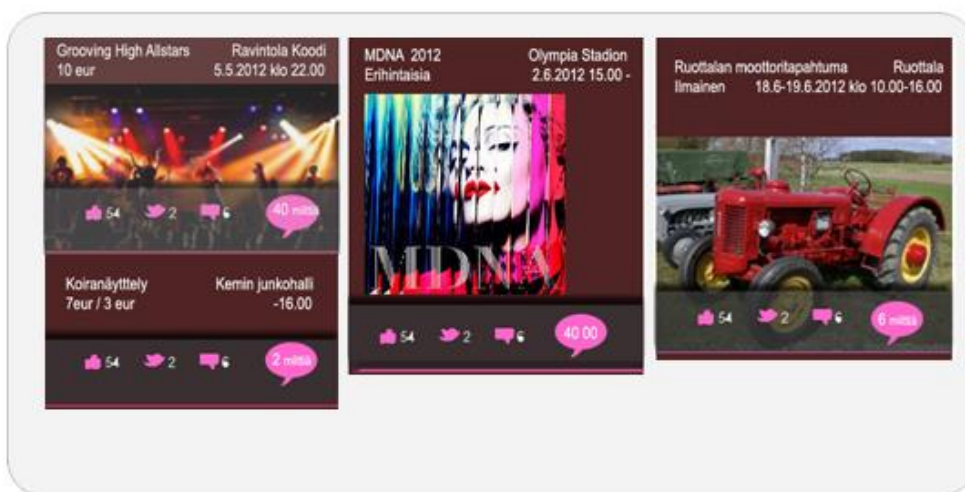
*Picture 8 the simple mobile app prototype*

There were some problems making the prototype to work as wanted, but those problems have been hopefully solved. The prototype will show the usage of search features, as well as the making of a basic event.



Tapahtuu nyt    Katsotuimmat    Sponsoroidut

Hakusi tulokset



Picture 9 First draft how the search should look like

To sum it up, it was hard to get the ball rolling, but when it did, and I realized the possible downfalls and possible gains, it was a bit smoother sailing. My sincere hope is that, this will help the customer to get more ideas and insight, and possibly help her to port the SEC to markets abroad.

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