LAUREA AMMATTIKORKEAKOULU Uuden edellä

Innovative services for internationals – the EXPAT Project

Majuri, Lauri

Metsalu, Keijo

Mustakari, Mika

2014 Leppävaara

Laurea-ammattikorkeakoulu
Leppävaara

Innovative services for internationals - the EXPAT Project

Majuri, Metsalu, Mustakari
Tietojenkäsittely
Opinnäytetyö
Toukokuu, 2014

Laurea-ammattikorkeakoulu **Tiivistelmä**
Laurea Leppävaara
Tietojenkäsittely

Majuri, Lauri; Metsalu, Keijo & Mustakari, Mika

EXPAT Projekti: Innovatiivisia palveluita ulkomaalaisille

Vuosi 2014 Sivumäärä 108

Opinnäytetyön aiheena on tuottaa laadullisen tutkimuksen menetelmillä taustatietoa ja tämän tutkimustiedon pohjalta rakentaa uusi verkkosivusto Suomessa asuville ja Suomeen muuttaville expatriaateille. Opinnäytetyön tavoitteena on kuvata mahdollisimman tarkasti kehitystä varten tehty tutkimustyö sekä itse verkkosivuston kehitys. Tavoitteena on lisäksi arvioida vastaako kehitetty verkkosivu tutkimusvaiheessa laaditun vaatimusmäärittelyn ehtoja.

Opinnäytetyön taustatutkimusta varten käytettiin laadullisen tutkimuksen tutkimusmenetelmiä. Tutkimus aloitettiin tutustumalla olemassa oleviin suomalaisiin expatriaateille suunnattuihin verkkosivustoihin. Sivustojen tutkimisen jälkeen muodostettiin kysymysrungot teemahaastatteluille, jotka jaettiin kolmeen kategoriaan. Ensimmäisen kategorian kysymyksillä haastateltiin Suomessa olevien yritysten ulkomaisista työntekijöistä vastaavien työntekijöitä, toinen kategoria oli suunnattu expatriaateille ja kolmas kategoria expatriaattien puolisoille. Haastatteluja tehtiin kolmen yrityksen (VTT, KPMG ja Aalto International), kolmen expatriaatin ja yhden puolison kanssa. Lisätietoa taustatutkimusta varten, saatiin Laurea Leppävaaran BIT-opiskelijoiden kanssa järjestetystä Workshopista.

Näiden haastattelujen ja workshopin lisäksi toteutettiin käytettävyystutkimus kolmelle olemassa olevalle verkkosivustolle, jotka ovat suunnattu expatriaateille. Eri menetelmien avulla kerätyn taustatiedon pohjalta muodostettiin vaatimusmäärittely verkkosivustoa varten.

Verkkosivustoa lähdettiin toteuttamaan vaatimusmäärittelyn pohjalta. Käyttöön valittiin sopiva sisällönhallintajärjestelmä (Drupal), mallinnusmenetelmä (Wireframing), käyttäjäläheinen suunnittelumenetelmä (User Experience - UX), sekä Scrum-projektinhallinnan viitekehys.

Viimeisessä vaiheessa, toteutettua sivustoa verrataan vaatimusmäärittelyssä suunniteltuihin ominaisuuksiin, jolloin nähdään vastaako toteutettu tuote suunniteltua tuotetta.

Asiasanat: Expatriaatit, Haastatteleminen, Käytettävyyden arviointi, Focus Group, Käyttäjäkokemus, Ketterä Ohjelmistokehitys

Laurea University of Applied Sciences **Abstract**
Laurea Leppävaara
Bachelor's Degree Programme in Business Information Technology

Majuri, Lauri; Metsalu, Keijo & Mustakari, Mika

Innovative services for internationals - the EXPAT Project

Year 2014 Pages 108

The topic of this thesis is to build a new website for expatriates who live in or are moving to Finland. The background research for this website was conducted by using qualitative research methods. The objective of this thesis is to describe the research and research methods as well as the development and the development tools as accurately as possible. Another objective is to evaluate how closely the website corresponds to the requirements analysis created during the research phase.

Qualitative research methods were used for the background research. The research was started by exploring existing Finnish websites aimed at expatriates. The research continued by creating a framework of questions for guided interviews. The interview questions were divided into three categories. The first category of questions was used to interview personnel who were responsible for foreign employees in their companies, the second category was aimed at the actual expatriates and the third category was aimed at the spouses of expatriates.

The interviews were conducted with three companies (VTT, Aalto International and KPMG), three expatriates and one spouse.

The research phase continued by performing a usability review of three existing international websites intended for expatriates and by having a workshop with BIT students at Laurea Leppävaara.

A design specification document was formed based on the information gathered in the research phase.

The actual website was implemented based on the design specification file. The tools used in the design phase were wireframing and user experience (UX). In the actual implementation phase of the website the tools were Drupal for content management and Scrum as an agile software development method.

In the last section of the thesis the website will be compared to the design specification document to check that the end product matches the required attributes.

Keywords: Expatriates, Interviewing, Usability Evaluation, Focus Group, User Experience, Agile Software Development

Table of Contents

1 Introduction to the Expat Project

The Central Baltic Sea Region (CBSR) is located in Northern Europe. Despite not possessing many natural resources, it has performed well in the global competitiveness index. With Sweden and Finland among the top 5 and Estonia and Latvia placed in the top 60, the region has succeeded by building strong, knowledge-based societies.

Globalisation is reshaping the ways in which business is done and the success of an economy now relies on how well the area can attract international professionals. This has been slowly recognised at the national, regional and municipal levels in the CBSR.

Although the CBSR is a small area, it competes for the same resources as big countries. In order to efficiently optimise the human capital of the CBSR, a satisfying life is needed in order to attract and retain the talent.

The Expat-project aimed to improve access to the local social and professional networks and thus aimed to improve the standard of living for expats living in the CBSR. Both efficiency and effectiveness in service delivery can be improved through focused and operational cross-border cooperation among universities, municipalities and other service providers in the CBSR and by involving the expats themselves directly. (Policy recommendation 2013.)

According to an article on Stat.fi (Työvoima ikääntyy 2007.) the labour force in Finland is aging and it is estimated that from the year 2010 on approximately 17000 employees will be retiring every year. It is estimated that 265000 employees will retire between the years 2010 and 2025. Younger people between ages 25 and 54 represent the biggest part of the labour force but in the year 2006 their employment rate did not practically improve at all. From this it is easy to draw a conclusion that older people are retiring and younger people are not filling the vacancies. The article does not give a reason for this, but it seems clear that there is a growing need for employees coming from other countries. These expatriates have different competences and can help fulfill the empty slots left behind by retirees.

One of the primary objectives with this project was to combine both social and professional services. Not only to help Expats in their daily life, but also to create easier access to the finnish labour market. Another big objective was to increase the social cohesion of the Expats in the CBSR. This was done by involving innovative solutions together with social media as a way to motivate Expats, locals and all other providers. This service acts as a two-way information channel through the social media included to the website. In reality this means that for example the Expats and locals can add events to a mutual website via social media and also receive information about different services available in the Helsinki area.

The project was led by Uusimaa Regional Council and the thematic work was carried out by Turku Science Park Ltd, Riga Planning Region and the City of Uppsala. Alongside the University of Latvia, e-Governance Academy, the Institute of Baltic Studies, Culminatum Innovation Oy Ltd, Laurea University of Applied Sciences and the Regional Council of Southwest Finland, all of the actors have contributed to the implementation of this project and are enthusiastically driving towards a welcoming CBSR. (Policy recommendation 2013.)

2 Description of the thesis

The Expat Project was built around four work packages. The first work package focused on project management and communication. The second package aims at developing and piloting a service platform that improves interaction between expats and locals from both public and private sector. This work package was handed to Laurea University of Applied Science. The results of this package are described in this thesis.

The third work package will research and recommend services needed to assist potential expats to prepare for moving to the CBSR before actually leaving their home country. ("soft-departure services). The fourth work package will survey current services provided to expats in the CBSR ("soft-landing services") and create ways to better coordinate and integrate these services.

The objective of the work package assigned to Laurea UAS was to make an informative website for Expats and finding new, innovative ways to show information through a website. The website is also intended to act as a social service where expatriates can find each other in their country of residence. The first objective was to create a website for the Helsinki metropolitan area and then share that website with other project partners. This way the expats could easily find local information, helping them locate services and events close by.The primary goal was to provide a service that would help integrate expats into the society and thus improve their quality of life.

2.1 Target Group of the Thesis

Target group of the thesis are expatriates who have moved or are planning to move to Finland and the Helsinki Metropolitan area either alone or with their families. defines Expatriates are defined as people who have left their own country and are living in another country. The term expatriate (expat) often refers to people who aren't planning on staying in their new country permanently. This is also the difference between immigrants and expatriates. In 2005 more than 170 million people were living, working and studying abroad. It was estimated that in 2010 this number would be over 200 million. (Justlanded.com)

The term expat is also often used to describe skilled workers who don't necessarily migrate for socioeconomic reasons. In the past this used to mean people from developed countries. Nowadays this distinction has become blurred, increasing amounts of skilled people are coming out developing countries (Just Landed 2010).

The amount of employees working temporarily in Finland has increased steadily over the years. According to Statistics Finland the amount of temporary employees has increased noticeably more during the past few years than the amount of permanent immigrants. There was over 20,000 temporary employees in Finland in 2008. That number does not include the citizens of other Nordic Countries who can work here without residence permits or work permits. Also not included in that 20,000 are the employees who stay here for less than two weeks. That said, they aren't a part of the target group. It is estimated that in 2008 the real number of temporary workers was about 35-40,000. (Tilastokeskus 2009).

2.2 The Thesis Framework

The thesis framework includes three phases. The first two phases are research and implementation. The third phase will be comparing the actual implementation with the research data, evaluating whether the end-result complies with the research data.

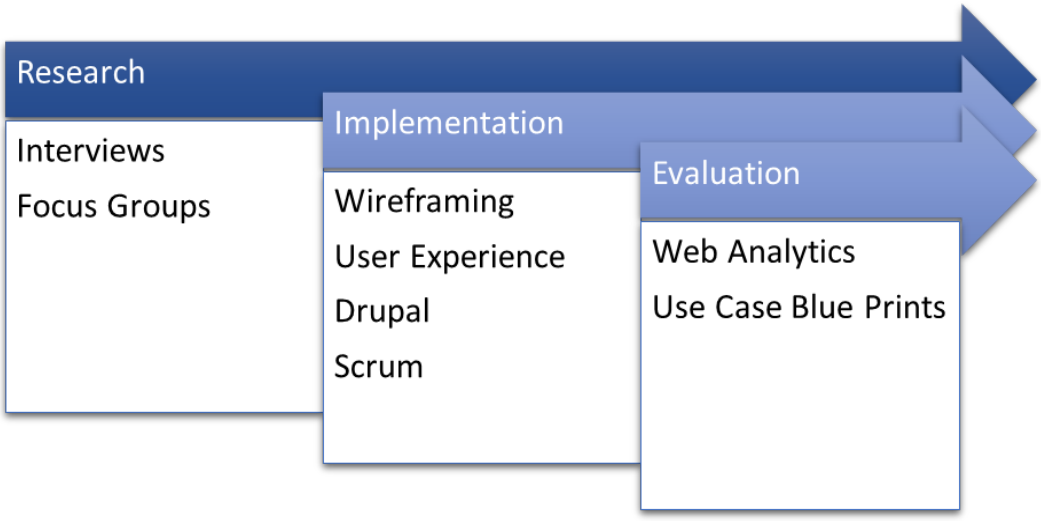


Figure 1: The Theoretical Framework

Several different qualitative research methods were chosen for the research phase of the project. Originally the chosen methods were guided interviewing and website benchmarking. The benchmarking was not conducted by any guidelines or best-practices and the gathered information was used solely as "good-to-know". This method was not used in the thesis, but the gathered information was used in building of the website.

At best the project plan evolves throughout the qualitative research phase and it's not always easy to link different research methods together into successive phases. The research plan and even the research problem might change as the research goes on. (Eskola, Suoranta. 2005. 15-16.)

This is precisely what happened with this project. The research phase and the ideas for the website evolved constantly. The same thing happened with the research plan and research hypotheses which were evolved almost weekly.

The project continued and the project managers had several meetings with the project stakeholders. New ideas were born during these meetings and the direction of the website changed multiple times. Also students participating in a summer study unit "Research-oriented project management" at Laurea Leppävaara were also given a task to innovate new ideas for the website. All these new ideas created a need for further research during the fall of 2012.

In addition to guided interviewing the research was expanded by arranging focus groups for international exchange students and expatriates staying in Finland.

After the research phase the project continued with the implementation phase that focused on the design and development methods such as Wireframing, User Experience (UX) and Content Management System (CMS). During the implementation phase SCRUM was used as the agile software development method.

In the final phase, the project results were evaluated. This evaluation process uses the personas that were created in the implementation phase. The personas represent the needs and ideas that were discovered during the research phase. The research revealed that the users wanted to locate two things, social activities and general information. Two service blueprints were created based on these two needs. These two blueprints were then compared with the data gathered through Google Analytics. This revealed whether the users were able to successfully accomplish their goals or not.

2.3 The Thesis Foundation

As noted in paragraph 2.1 (Thesis Target Group), as a result of globalisation the competition for international job-seekers and especially professionals and students is increasing rapidly. It is therefore vital to facilitate and increase the interaction among these individuals. New platforms and innovative services must be developed for the CBSR to achieve and maintain international competitiveness.

The foundation for this project is the assumption that the current platforms and services for expatriates aren't enough. The assumption is that expats require new and innovative ways to better integrate into the Finnish society. This would increase the interaction among the expats, locals and the private and public service providers.

The assumption proved correct in the research phase of the project when expats were interviewed and they expressed the need for a social platform where they could find social activities and other expatriates rather than bureaucratic information. This was the foundation for the project and everything was developed around it.

3 Research Phase

The thesis was conducted using constructive research and qualitative research methods. The methods used in this phase were guided interviewing and focus groups. The objective was to gather information and ideas directly from the expatriates and implement these ideas to the website.

3.1 Constructive research

If the project's development goal is to create something concrete or for example plan a good way to approach something, it is best to conduct it with constructive research. Constructive research is about creating a non-traditional solution, focusing especially on the knowledge. Existing theoretical knowledge and new empirical data is needed when constructing a new structure. In constructive research it is important to bind practical problem and solution to theoretical knowledge. (Ojasalo, Moilanen & Ritalahti 2009, 65.)

Research's main goal is to reach a new solution to a practical problem. The research solution is based on theoretical rationales and it is developing and creating new knowledge to the target audience. Constructive research is based on new ideas and innovations, so it is important to test the idea with pre-tests before the actual testing period. (Ojasalo ym. 2009, 65.)

Constructive research can be divided into different phases. First you need to find out reasonable problem. There is two different ways of developing work methods, development based on problem and development based on new ideas. Secondly gather deep theoretical and practical knowledge about the research and development target. After this you start to create solutions to research problem and test these solutions with proven validity. After these steps you need to justify your solution with showing theoretical couplings and present the novelty of this solution. Last step is to inspect scope of the application area. (Ojasalo ym. 2009, 67.)

Documentation of these different steps is important in constructive research and in addition all the methods used in research should always be able to justify. At the end different solution are evaluated and the best solution options must be justified understandably. Therefore constructive research is often time-consuming, and lots of commitment and sustainability is needed by the target organisation and developers. (Ojasalo ym. 2009, 67.)

3.1.1 Qualitative research Methods for Constructive Research

Research phase of the the project was carried out with qualitative research methods. These methods are based on researching social sciences. In the center of it are meanings, which can appear in many different forms. (Varto 1992, 24). Diversity of qualitative research can cause problems in understanding the meaning of qualitative research. During the making of qualitative research it is important to approach the study method in skeptic way and remember that the guidebooks should always support the forming of ideal scientific thought. (Tuomi, Sarajärvi 2013, 17)

As noted in chapter 2.2 “The Thesis Framework” the chosen research methods for this project were guided interviewing and focus groups.

Interviewing is one the most used data gathering methods in research and development. This method suits developing so well because it gives in-depth and clear information quicker than other research methods. It highlights individuals and brings out their own thoughts. Through that gathered information it is possible to open new insights and ideas which would not have been visible without interviewing. (Ojasalo ym. 2009, 95).

During research it is important to find in-depth information about the subject. Guided interviewing was chosen because the subject was unfamiliar. (Metsämuuronen 2006, 226) Usually it is characteristic for guided interviewing that the interviewees have experienced in certain situations and that experience is being researched. A guided interview can be either qualitative or quantitative. (Hirsjärvi – Hurme 2000: 47–48; Routio 2007.) In a qualitative interview the experiences and the willingness to talk about them are important. (Kylmä – Juvakka 2007, 79–80.)

In Focus Groups the interviewees answer with their own words and reactions. This offers very rich and deep-analyzed data. The most supreme pros of Focus Group are the speed, flexibility and the cheapness. Because of the informal and flexible style of conversation it can sometimes be complicated to classify and summarize the gathered data (Räsänen 2009). According to Nielsen, focus groups bring out the spontaneous actions and ideas but he also notes that focus groups should not be used as the sole research method of a project (Nielsen, 1997).

3.1.2 Guided Interviewing

A guided interview proceeds through chosen themes and subjects. The interview can be guided with the help of specific theme-related questions. Guided interviewing highlights the interpretations and significance of the experience to the interviewee. It is also good to consider whether all interviewees are asked the same questions or can the structure of the questions change to help gather information.

The aim of the questions is to reveal relevant answers for the purpose of the research. The relation to the researches frame of reference depends on how open the interviews are. This defines whether the questions go strictly as planned or are the interviewees allowed to express their own observations. (Tuomi ym. 2013, 75.)

3.1.2.1 Methods

Three different themes were created for the interview questions. The first theme was for the expatriates who already live in Finland. The second theme was for the spouses of these expats and the third theme was for Finnish companies who hire foreign employees. This way it is possible to gather a wide range of information from different aspects. The interviewees will be provided by the project managers.

Three of the interviews were conducted with finnish company representatives who were in charge of expatriates. Companies were Aalto university, VTT and KPMG. Three expats and one spouse were also interviewed. The interviewees had variable backgrounds, but all of them had experience with expatriatism.

The interviewees were located by the project manager. They were his former acquaintances or colleagues.

The interviews were recorded with the permission of the interviewees. The recordings were analyzed and a mind map was composed of each one. The recordings were destroyed.

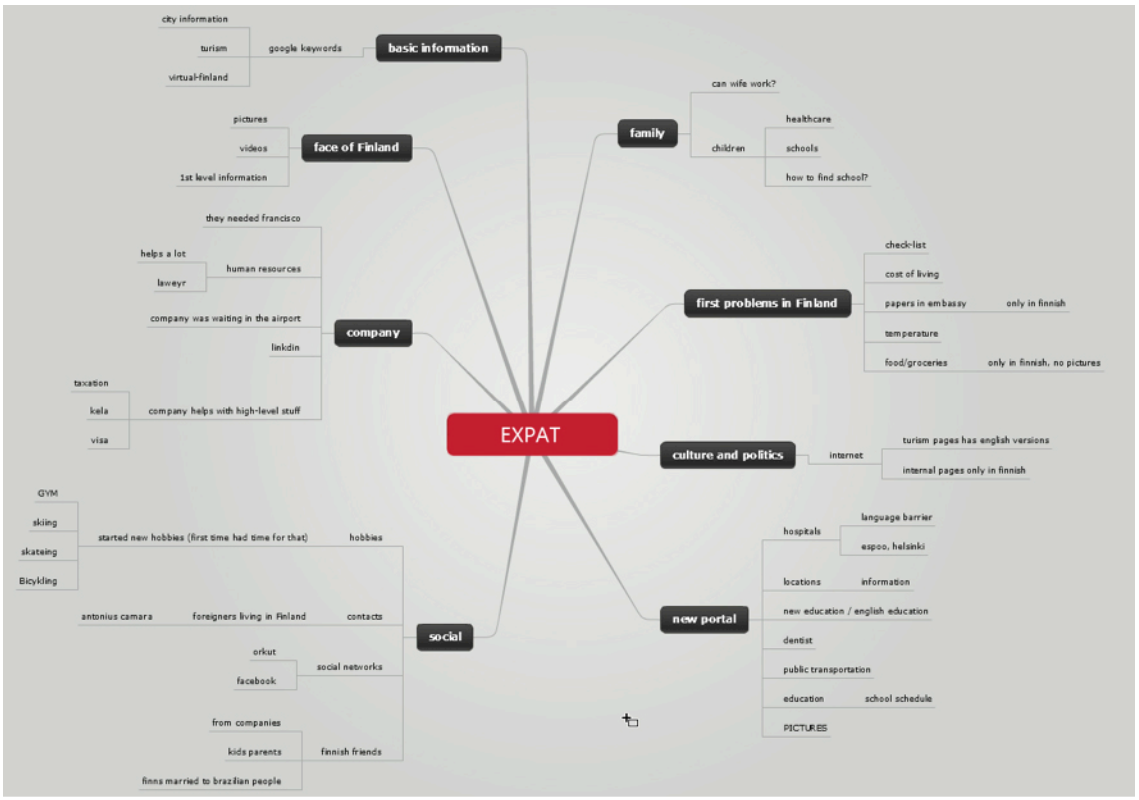


Figure 2: Mindmap example

3.1.2.2 Objectives

The objective of the questions was to identify the gaps in virtual information provided to expats. Full list of questions can be found in the attachment: Appendix 1: Interview Questions, but the primary questions to expats and their spouses were:

- How did they search for information before coming to Finland?
- Has the information been useful to them?
- How has the information in existing virtual platforms supported expats and their families to settle in Finland?
- What information would they like in the future?

The intention of interviewing company representatives was to identify how companies supported the integration of their foreign employees into the finnish culture and society, what kind of help they provided and what kind of problems they had faced. On the other hand interviewing the actual expats was supposed to reveal what they and their families had actually faced and what features a new virtual platform could include.
The questions for companies were aimed at identifying their tools and methods for supporting expats and their families. Primary questions were

- Does the company have an informative platform for expats?
- How do companies support expats upon their arrival to Finland?
- What challenges has the company faced with expats?

These question sections gave valuable information and ideas for the implementation phase of the project.

3.1.3 Focus Groups

A Focus Group discussion is a unique method of qualitative research. It involves discussing pre-determined issues with a pre-determined group of people. The purpose of focus group research is to gather a wide range of views of the topic. Discussions are done in groups and this group context is intended to provide wider information than would result from one-to-one interviews. (Hennink 2014, 6.)

In Focus Group people discuss about the chosen topic with a moderator who keeps the conversation on the right track. The moderator has an important role in the Focus Group. He ensures that the conversation is effortless for every participant. The moderator can also lead the discussion with questions. This guidance has a major role in the quality and depth of the

gathered information. In the worst case group discussions are not concentrated on the topic at all and won't provide any valuable information. (Räsänen 2009.)

In Focus Groups the interviewees answer with their own words and reactions. This offers very rich and deep-analyzed data. The most supreme pros of Focus Group are the speed, flexibility and the cheapness. Because of the informal and flexible style of conversation it can sometimes be complicated to classify and summarize the gathered data. (Räsänen 2009.)

According to Nielsen, focus groups bring out the spontaneous actions and ideas but he also notes that focus groups should not be used as the sole research method of a project (Nielsen, 1997).

3.1.3.1 Methods

Focus Groups should be executed in small groups of people, usually with about 10 people. If the group is too small or too big, individual roles can be too big or too small and the group is less efficient. It is also important to keep in mind that the answers of the participants are not independent and answers of other people might affect to the opinions of the participants. (Helpful Hints for Conducting a Focus Group 2008.)

The thesis group arranged a workshop with BIT-students at Laurea Leppävaara on the 17th of October, 2012. The students were a part of the Designing ICT Systems (A0132) study unit. A second workgroup was held on the 3rd of December 2012 in Helsinki at Korjaamo. Where the first workshop was arranged by the thesis group, this second workshop was handled completely by the project managers and the thesis group was only be there to gather notes.

1st session

This workshop was conducted with the Business Information Technology (BIT) students in the Leppävaara branch of Laurea University of Applied Sciences on the 17th of October 2012.

The objective of this workshop was to gather information and ideas from the 27 BIT-students who were present in the workshop. One of the students was Finnish, others came from different countries ranging from Albania to the United States of America.

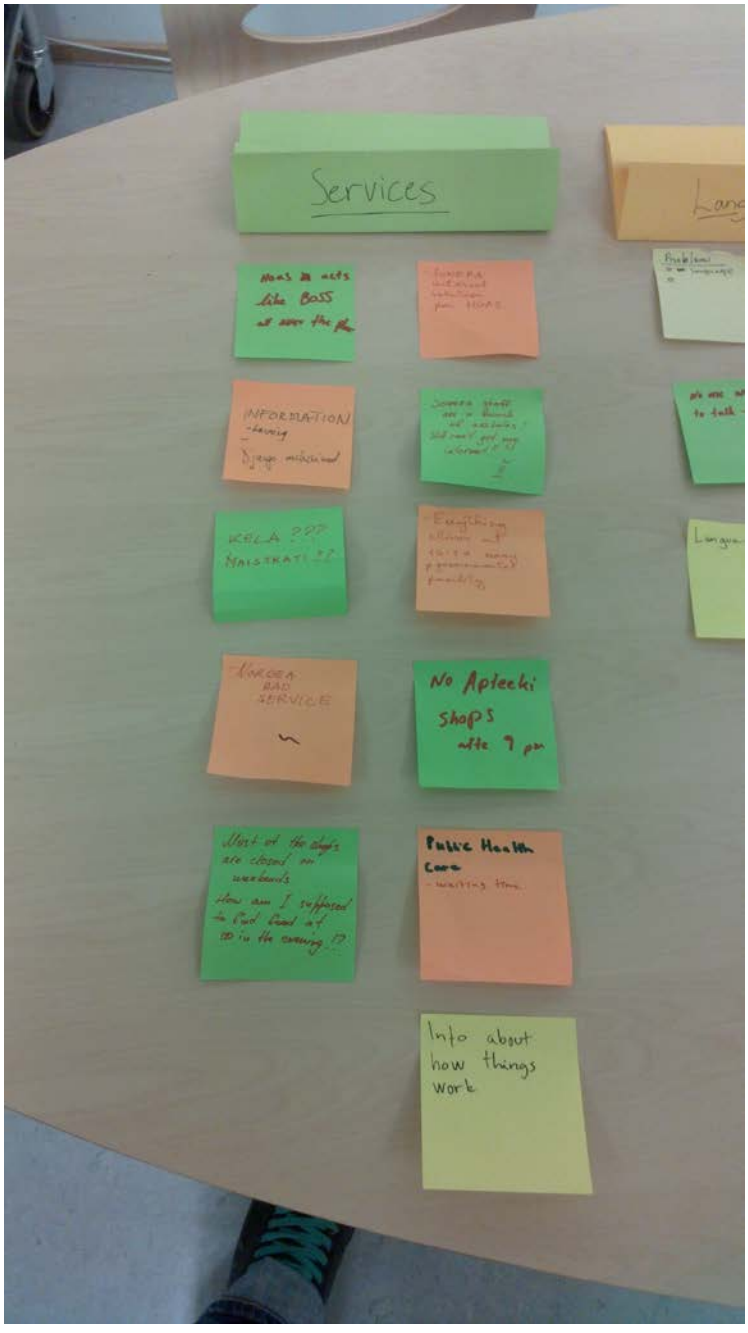
The methods used for information gathering were

- Students list problems and ideas on post-it notes
- Discussion based on listed problems
- Biggest problems listed into one document
- Group discussion about the biggest problems

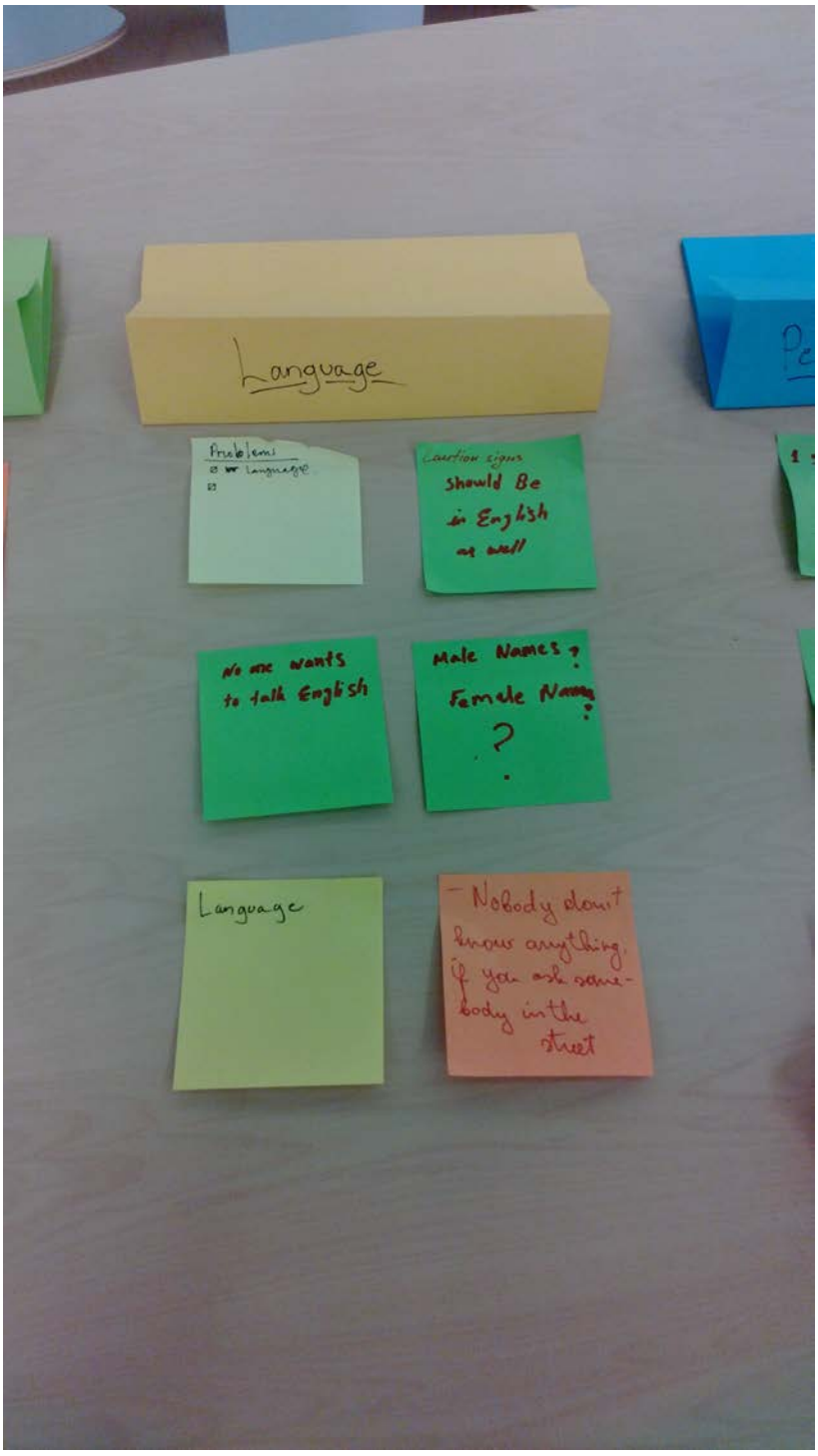
- Ideas and discussion gathered into notes by discussion moderators

Affinity diagram was used as the analysis method. Full analysis of the workshop can be found in the attachment: Appendix 2: Workshop analysis.

Next pages will feature the replies/results that were gathered from this workgroup.



Picture 1: Workshop ideas - Services



Picture 2: Workshop ideas - Language

Picture 3: Workshop ideas - People & Finland

Picture 4: Workshop ideas - Other

2nd session

The second workshop was held on the 3rd of December 2012 at Korjaamo, Helsinki. It was organized entirely by the project management team in cooperation with the stakeholders. The Project team was present to observe and gather ideas from the discussion. About 25 expatriates who reside in the greater Helsinki region participated in the workshop.

The workshop started with a welcome from Ms. Inka Kanerva, Development Manager of Uusimaa Regional Council and Ms. Fatbardhe Hetemaj, new member of Helsinki City Council from 2013. Then the participants were given an opportunity to share and discuss their experiences through designated matrixes which projected various phases, from a pre departure to their life experiences after a year of residing in the region.

In addition, in order to measure how known are the expat services in the region, expats were given a number of the services suitable to them, and were asked to evaluate the services which they have ever used. In this regard it was vivid that many services for expats are in the region but their visibility is minimal. Expats were also asked to present any missing services and services that could be useful if available in the region. Ideas and suggestions were valuable for the project.

The use of the matrixes was due to the need of EXPAT project to understand key service demands more from the user community. This way the project will be able to strengthen the development of its informative virtual platform as well as communicating further requirements to the decision makers.

Generally, most of expats have found life in the greater Helsinki region satisfactory. Despite the cold weather and a homogenous society in comparison to many cities in the world, Helsinki region still wins hearts of the expats who moved here. It was however clear that, finding information about social and professional connections as well as networking need to be improved.

Expats' enthusiasm and appreciation for this event proved that the EXPAT project is on the right path. There is a need to promote information of service better in the region as it is a strong self-evidence that there are many of these services but, due to lack of publicity, used by few people. (Successful Helsinki region workshop – service demands rising for developers and connection improving amongst users 2012.)

Next pages feature pictures that were taken during the second session.

Picture 5: Timeline

Picture 6: Catering for the event

Picture 7: Tools

Picture 8: Entertainment

Picture 9: Hosts for the event

Picture 10: Ideas

Picture 11: Ideas

Picture 12: Group warm-up

Picture 13: Fuel for the fire

Picture 14: Groupwork among expats

Picture 15: More groupwork among expats

Picture 16: Even more groupwork

Picture 17: We really got them going!

3.1.3.2 Objectives

The key element for the Focus Group method is to create and encourage a range of responses in discussion between participants to get deeper understanding of the attitudes, behaviours, opinions on the research issues. These discussions provide the opportunity for issues to emerge that are unexpected by the researchers. (Hennink 2014, 6.)

The aim of the Focus Group method supports the objectives of the Guided interviewing. These focus groups helped expand the research data and verify the thesis foundation assumptions correct.

3.2 Research Phase Results

Interviews and focus groups were successful and provided valuable knowledge for the project team. This knowledge base and ideas were migrated to the implementation phase.

The interviews with expats revealed that before arrival they all searched information about Finland through different channels. Some had friends, some had tutors through schools or colleagues who could help with settling. Using the internet to search for info was common among the interviewees. They noted however that it was easy to find info about bureaucratic matters but hard to figure out what the everyday life would be like in Finland.

Two of the interviewed expatriates arrived to Finland almost ten years ago and told they had almost no information beforehand. They noted that both the quality and quantity of the information available has improved immensely over the years. They had used varying search engines to find information but got most of it after their immigration through friends and colleagues.

Three of the interviewees had also arrived to Finland to study and stayed here when they got a job. Most of their info came through tutors and friends at school.

This next table represents the demands from expats and possible implementation solutions:

Demand	Implementation objective
How to find hobbies, sports teams and other activities aside from possible company provided gym memberships	Create a map that features automatically updated events and activities. Integrate with social media for easier maintenance.
A social network approach • Help finding finnish people outside work • Find a tutor/coach to help you with unclear matters • Find other expats, possibly from your own country Company interviews Activities for the family	Create Facebook and Twitter accounts to connect users. Create a Socialize-section for the site.
A guidebook/wiki for information • What to do in Finland? • Where to find info and support? • Activities for children • How to find housing? • Info about real cost of living • Info about groceries and where to find familiar food • Info about public transport and cycling	Create a guide for users. Use more pictures and less words. There are plenty of websites already available to find solution for each of these demands.

paths • Info about healthcare/hospitals/dentists and especially emergencies • Info about schools and Kindergartens for children Company interview presented the following ideas for a guidebook Info about opening a phone/internet connection How to get a drivers license • Getting a credit card • Info about finnish people and culture • Translations • Solutions for different situations • How to live in a finnish apartment	
How to continue your studies (ie. Masters degree)	Add information about studying into the guide for expats
How to find employment your spouse	Add information about employment to the guide.
Links to all the important systems and portals for expats	Create a list of essential information and a to-do list for arriving expats
Info about associations for expats (for example Aurora)	List important and helpful associations
More pictures and less words	User friendly approach is essential in the implementation process. Use User Experience (UX) development methods such as wireframing to create a simple-to-use platforms that is attractive for users
To-Do list before arriving to Finland	Add information to the guide

Table 1: Demands and possible solutions

4 Implementation Phase

As noted previously in chapter 2.3 The Thesis Foundation, the foundation for this project is the assumption that the current platforms and services for expats aren't enough. Another assumption was that expats require new and innovative ways to better integrate into the Finnish society. Both assumptions were proven correct in the workshops and interviews during the research phase.

Primary methods for the design process were wireframing and personas. Personas were also used in the evaluation phase of the project (Chapter 5 Evaluation Phase). The website building phase with content management system (CMS) Drupal, was managed by the Agile software development framework Scrum.

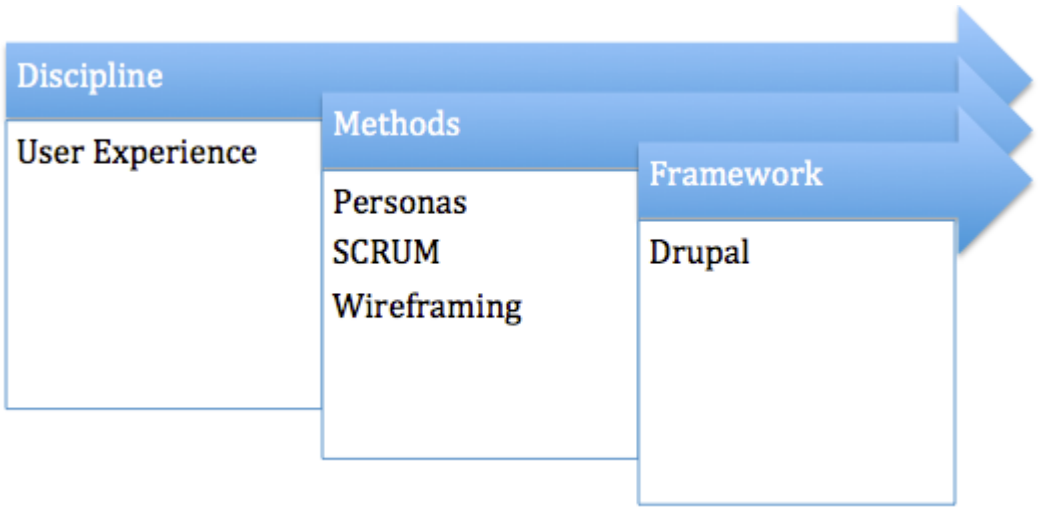


Figure 3: Implementation workflow

An user friendly approach was one the findings during the research phase. Suitable development method for this kind of approach was User Experience Design. It helped the developers focus on the users and their needs and not the developers own point-of-view. UX also provides necessary and flexible tools for creating a website that filled the needs of the users which were found during the research phase.

Wireframing was chosen to easily visualize the website and quickly demonstrate the ideas for other viewers. The main purpose of a wireframing is to keep focus in communicating the layout of the website without getting caught up in color and design elements which are not important in this phase where the goal is to build a functional base for the website. (10 Free UI Wireframe Kits 2013.)

Personas on the other hand were created for the developers to remember who they were creating the website for and what the users really needed. A good persona description is not a list of tasks. It's a narrative that describes someone's day, skills, attitudes, environment and goals. It's not a demographic profile, a market segment or a summary of research data. Rather it's a combination of data , behavioral user research and a narrative. (Personas 101: What Are They and Why Should I Care? 2011.)

4.1 User Experience Design (UX)

According to Jonathan Lazar (2006, 8-20) the ideal situation would be if the site could be developed entirely with the help of the end-users and they could be present at every phase of the project. This is hardly ever possible when developing a website. To create a website that meets the content and the usability needs, users need to be present at least when gathering requirements and when testing the usability of the site. Doing this costs money and takes time, but involving the actual users in the development improves the sites quality, appropriateness and effectiveness.

The goal of UX-design is to create a site that is an easy and enjoyable experience which means that the site will be designed and built from the perspective of the user, not from the developer.

The research phase had a great influence in this area. The gathered information was the foundation for the personas which were created to represent the target group. The personas were used to have a better understanding of who the website was built for and what the users were expect and need.

4.1.1 Wireframing

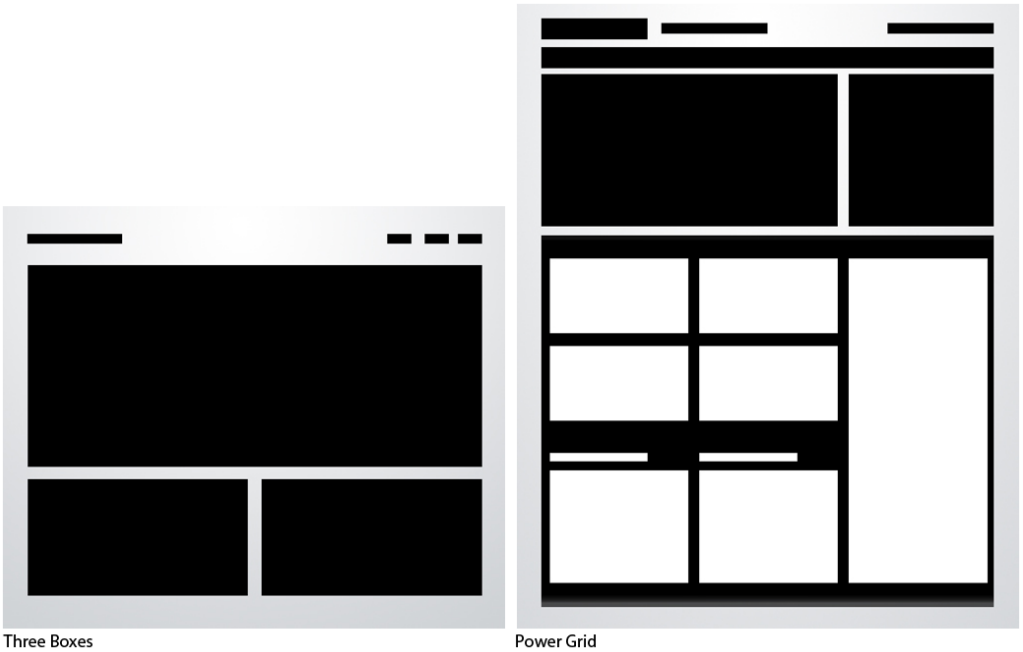
Wireframing stands for simple outlines of the website. It is a simple way to visualize what the website could look like. There are several opinions about wireframing and prototyping a website. For example either one can be done on paper, although according to uxforthemasses.org (Wireframes are dead, long live rapid prototyping 2010.) wireframing on paper is pretty much a thing of the past and it should be replaced with rapid prototyping. This prototyping can be done either on paper or by using computer software such as Axure or Balsamiq. Userfocus.co.uk (7 myths about paper prototyping 2010.) describes paper prototyping as probably the best tool they have used to create great user experiences because it allows involving users early on in the design. Uxforthemasses.org gives two options for designing and creating a website. You can either go straight from sketching to coding or you can create a prototype and then start coding.

In this project the designing was done by drawing wireframes of the website with wireframe tool MockFlow. The next phase will be creating a layout in Photoshop based on those wireframes and then creating a prototype website with Drupal based on that layout. The remote testing and presentation to stakeholders will be done through that prototype which they can easily browse and comment. The process will be iterative and the website will evolve throughout the development phase.

4.1.1.1 Website development using wireframing

Joshua Johnson wrote an article on Design Shack about website layouts. He describes how there are several guidelines to follow for different cases. These principles include choosing an alignment, proper structure of whitespace and highlighting important elements with size and positioning. The article presents ten different layouts which are commonly used on the internet. (10 Rock Solid Website Layout Examples 2011.)

The helsinkiexpats.info website is a combination of two layouts: Three Boxes and Power Grid

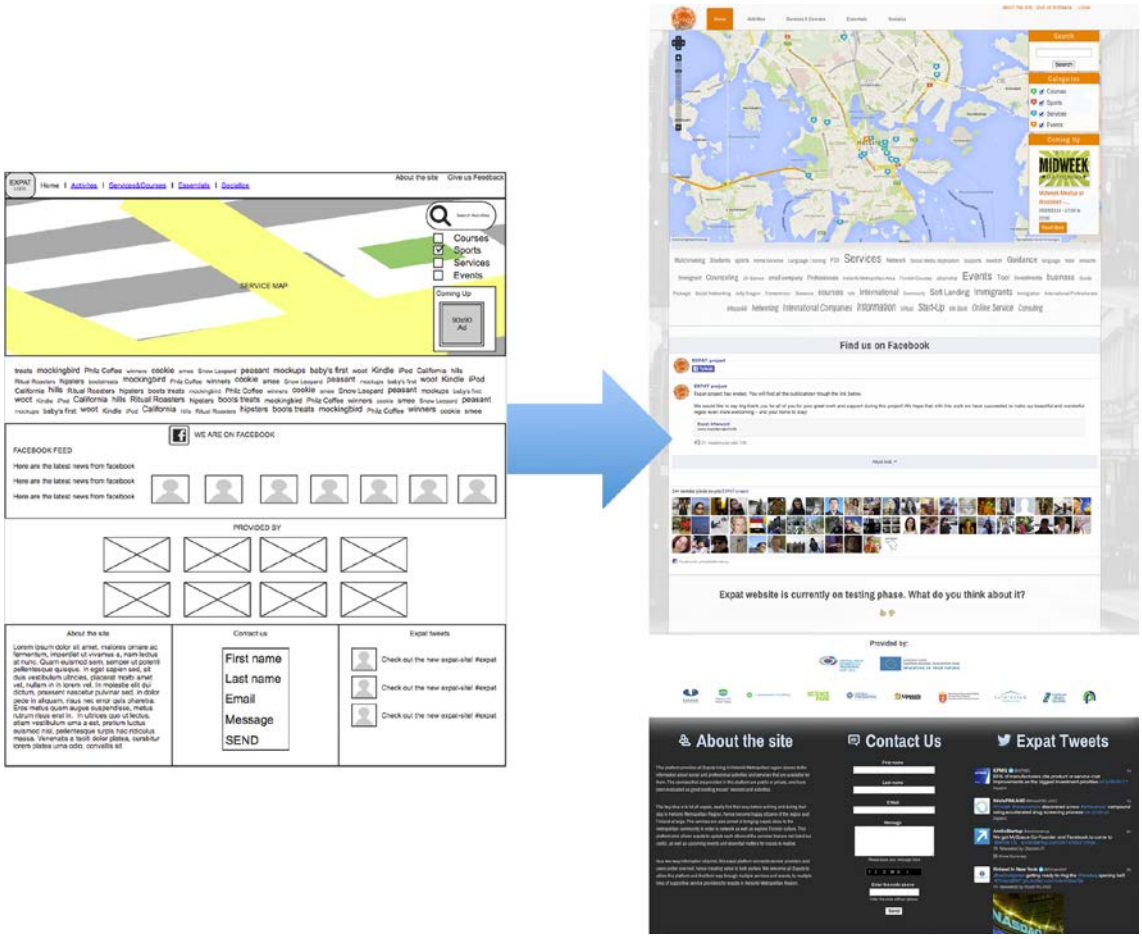


Picture 18: The base for the wireframing

The combination of these layouts produces a simple yet effective end result. For example the homepage provides dynamic information through a service map and emphasizes new and popular events through a tagcloud. The header and footer of the website remain the same on each page.

Homepage

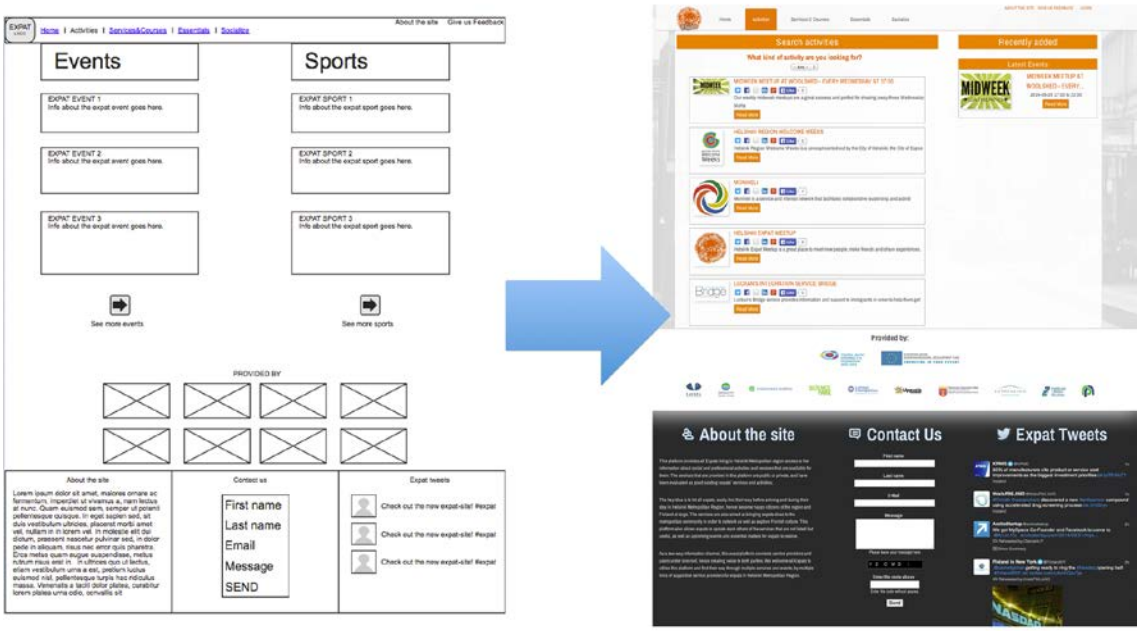
This is the landing page of helsinkiexpats.info. It features a service map which gives it nice fresh look and holds a lot of information. Information is easy to find from the service map with search or filtering options. The project team also planned to have some advertising on this service map to promote upcoming events. If the customer doesn't know what to search, there is a tag cloud under the service map that provides help to figure out what kind of content there is on the website. Facebook and Twitter integrations were planned to be on the site right from the beginning to get more users and visibility for the website.



Picture 19: Home

Activities

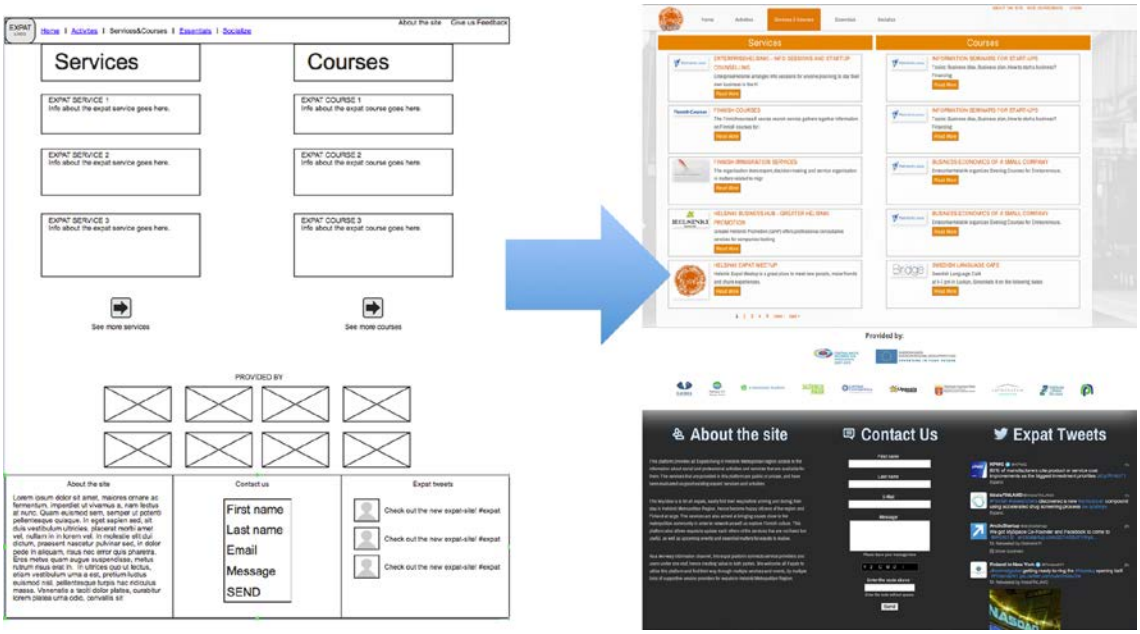
The helsinkiexpats.info has similar throughout the website. This way the site was kept simple and easy to follow. The activities page was planned to list all the activities you can find from the service map on the homepage. In this wireframe we planned to have Events and Courses listings, but later on we decided to go with Activities on the left panel and Recently added activities on the right panel, which can be sorted by the kind of activity the customer is looking for. Filtering options are courses, events, services and sports.



Picture 20: Activities

Services & courses

Layout was planned to be same as in the previous page, because the idea behind the page was similar to the activities page. This way the page structure stayed the same and using it is easier. By clicking one of the objects it opens the object and gives the detailed information of the activity. In the final product the project team made this for more professional usage for customers to easily find education or business related activities.

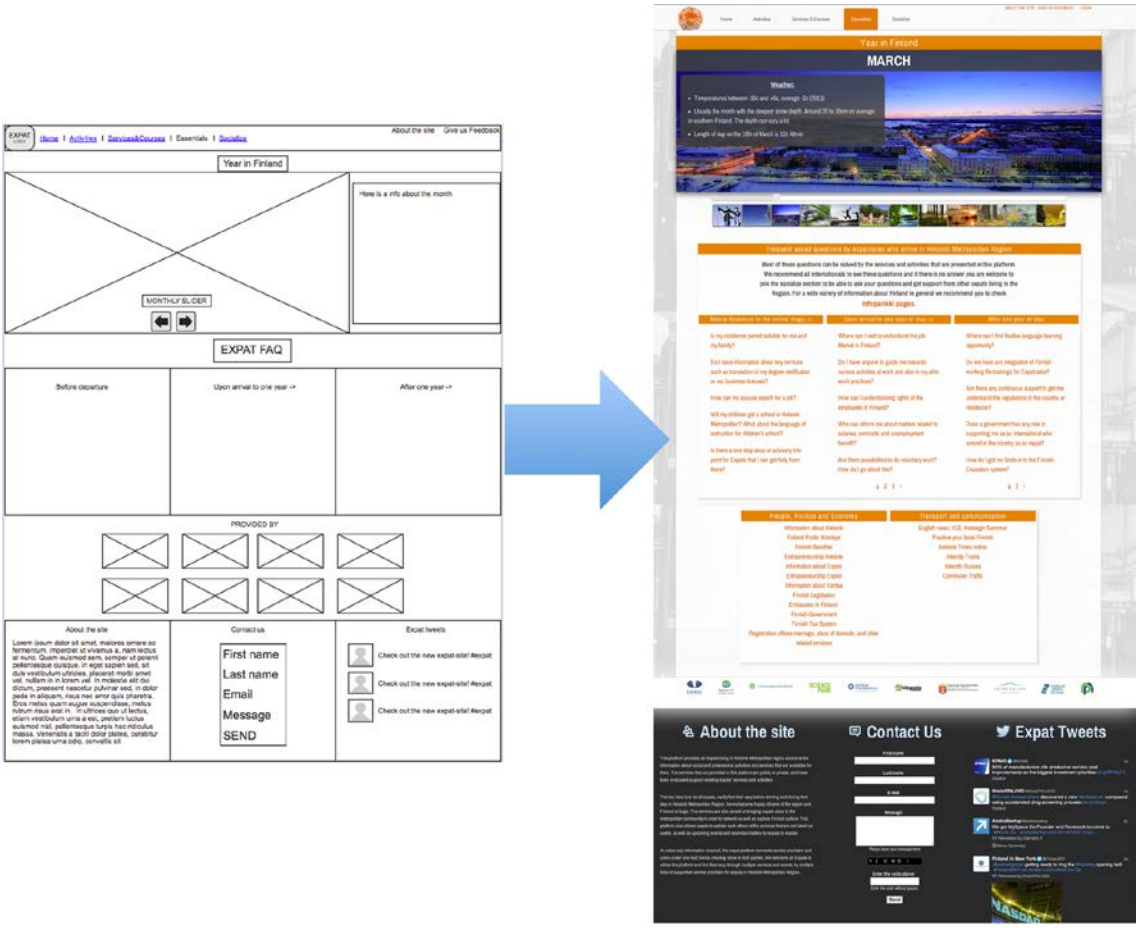


Picture 21: Services & Courses

Essentials

The first idea for the essentials page was to give visual information about a year in Finland. This was conducted with an image slider that views different images from Finland through the year. This provides valuable information for expat. Each slides offers detailed information about temperatures and day lengths as those were requested in the focus groups and interviews. Under the slider there is a FAQ section that features all the information that the expats need when they plan moving to Finland. The FAQ is separated into three sections:

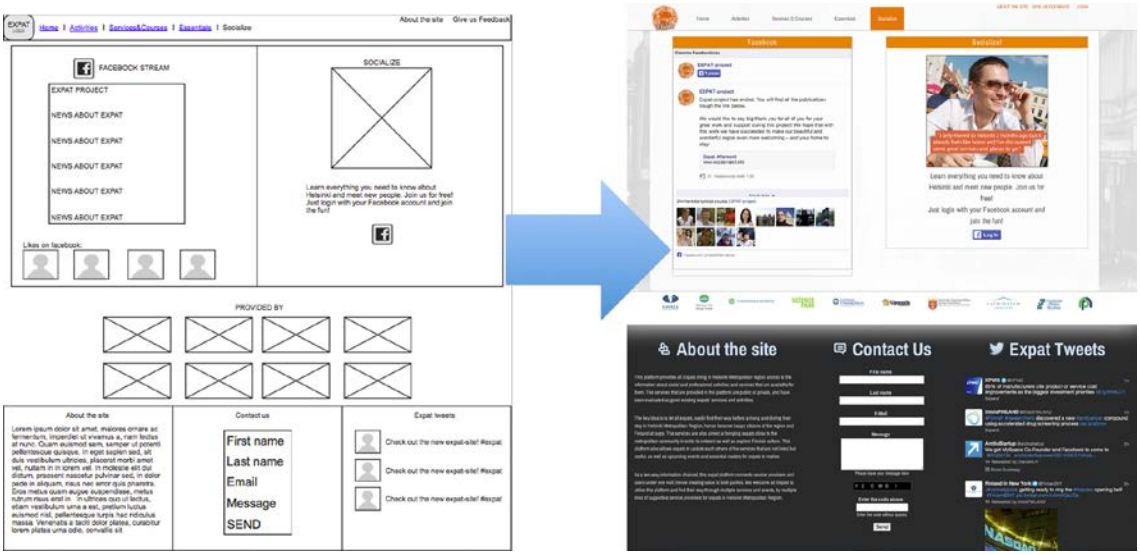
- Before departure, the information you need before leaving your original country
- Arrival to one year of living, the information needed after landing in Finland and during the first year of living in Finland
- After a year, more in-depth info about how to further integrate into Finland



Picture 22: Essentials

Socialize

Socialize page was innovated in one of the guided interviews that were done during the research phase of the project. Socialize page has Facebook feed from the Expat-projects Facebook page on the left and log in option to the Socialize-section on the right. After successful login the customers are allowed to post questions to the website. The project team hoped this to be the solution to those who don't have many connections after arrival. Socialize-section offers them a way to find like-minded people through social media and get connected through them.



Picture 23: Socialize

4.1.2 Personas

Personas are a way to make users more real. They are fictional characters designed to make the research data come to life. These profiles are constructed to represent a whole group of people. (Garrett 2011, 49) Richard Caddick and Steve Cable also describe personas in their book "Communicating The User Experience".

Another perspective for personas is presented in Wright and McCarthy's book "Experience-Centered Design (2010)" where they quote Nielsen, L. (2002) "If scenarios are to help bring users to the fore in user-centered design, they must be character-driven rather than plot driven." This means that it is important to keep in mind, that while the personas might represent a whole group of people they should still rather concentrate on one character instead of a collection of different scenarios from different people.

Both Caddick and Cable's as well as Garrett's descriptions are used to create four personas for this project. The background information for the personas has been gathered from the interviews and the focus group conducted in the research phase of the project.

Separate cards will be created for each persona. These cards will be put on the whiteboard next to the workspace of the project team to remind them who they are creating the portal for.

Creating Personas

Each persona gets their own separate heading under which basic things about the person are described. It is also good if these personas are based on real people, in this project case the personas are based loosely on the people from the interviews. Adding photos and a favourite quotes are not a must, but they help create an image of the person of the reader. Writing a short background story also helps.

Personas explain the key goals the person needs to complete on the website. Creator of personas need to explain which tasks the persons expect to complete quickly and which ones they want to take their time with. It is also important to explain what the users need to know before entering the website and what is the users ultimate goal.

Personas have to explain what motivates the person to use a website, what are they feeling when using the site, do they have time to browse or are they in a hurry, what puts them off and makes them stop using the website.

Personas in this project

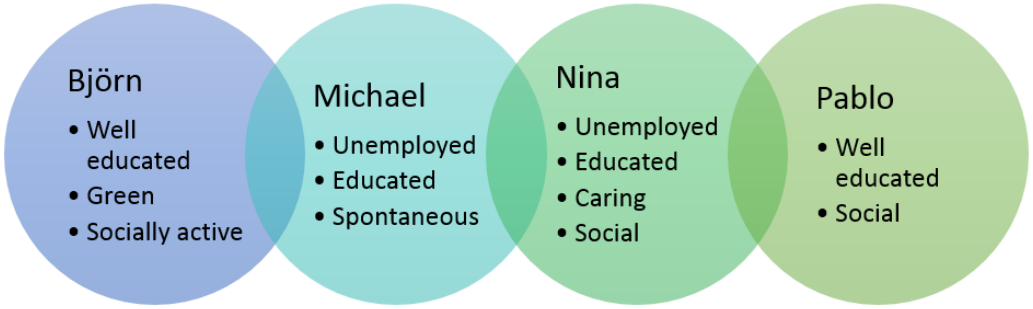
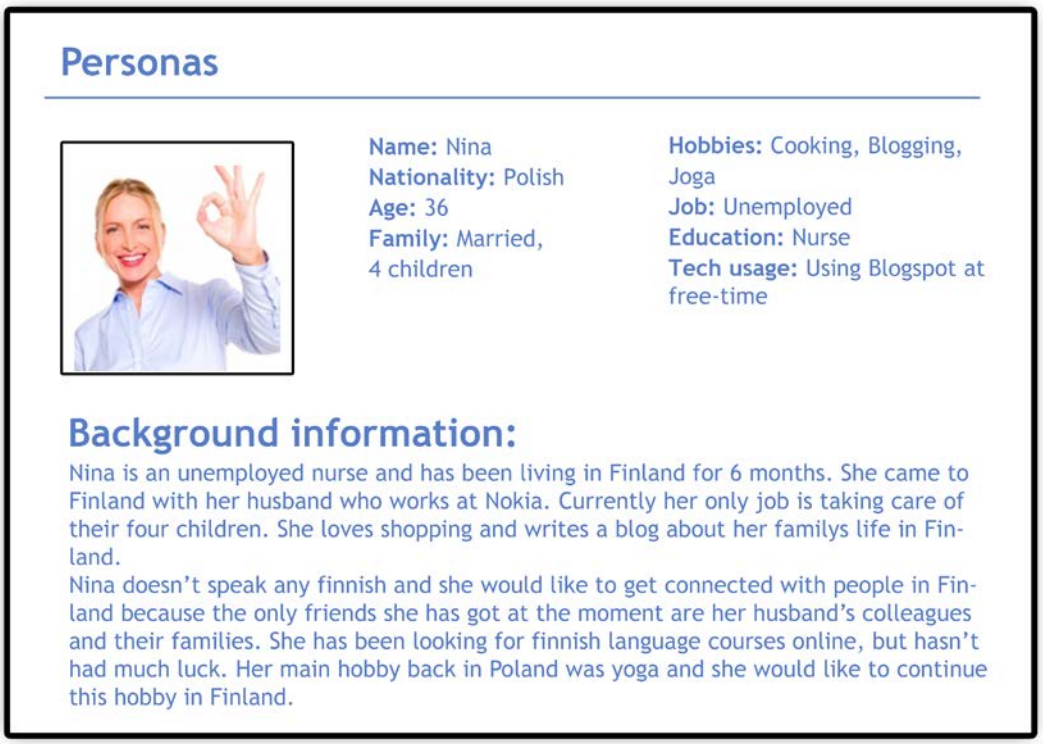


Figure 4: Personas



Picture 24: Example of a Persona Card

Four different personas were created for this project. Rest of the persona cards can be found in the Appendix 3: Persona Cards.

4.2 Scrum

Scrum is an iterative and incremental agile software development tool. It is largely used to manage software projects and product development. It is originally from Japan and it was first reviewed in 1986 in the Harvard Business Review -magazine. It was ahead of its time and was born almost ten years before agility became more largely used in software development. (Haikala, Mikkonen 2011, 46.)

Scrum is generally regarded as the most common development method for software developers. Its popularity is based on its ability to quickly demonstrate the projects key areas and the ability to change direction quickly. This simplicity can be misleading because Scrum only manages a set amount of tasks at a time and it does not handle the whole project lifeline. Scrum is meant to organise the project iterations and it must be combined with other project management tools. (Haikala ym. 2011, 47.)

Scrum only has three roles for project members: Product owner, Scrum master and the team. The Scrum master is the project manager who is responsible for the proper use of the Scrum process and acts as the team coach. He is responsible for the results of each scrum sprint. The optimal size for a Scrum team is seven members. It is the team members and scrum masters job to divide the tasks for each member. (Haikala ym. 2011, 48.)

4.2.1 Scrum in this project

Upon researching Scrum it became clear that it was not possible to create traditional sprints and divide tasks for sprints like they're supposed to. Estimating how long each task would take and how many times the project team might have to re-do steps proved difficult and time consuming. The creation of the prototype was largely an iterative process as new ideas kept appearing and existing ones kept evolving. A special document for Scrum sprints and tasks was created for the beginning of the implementation and creation of the prototype. The objective of that document was to visualize how the tasks were divided into smaller pieces to help evaluate the necessary amount of time.

After the first sprint it was clear that it would be nearly impossible to create tasks for the sprints because the tasks kept changing. Another obstacle was the size of the project group which made it hard to divide the roles properly. In the future, teams should make sure there are enough people available for the sprints and that there is a set scrum master. Each of the project members acted as the Scrum master and learnt what it demands.

All in all, the project team became familiar with Scrum and it helped seeing the bigger picture of the prototype development. Scrum also made task management more efficient and it is also a great tool for visualizing who is responsible for what.

Below are the four scrum sprints that were completed between September and December 2012.

SPRINT 1 26.9 - 9.10.2012

- Site/Hosting
  - install drupal
  - create drupal databases to godaddy
  - design sub-pages template 1.0
  - twitter integration
- Homepage
  - service map (niko)
  - service map event feed
  - create menu-links and sub-pages
  - find slider-module for month-information
- Wiki
  - find out information about wiki-modules
  - choose wiki-module
  - install and integrate the module to expat-site
  - design and modify the module
  - add test content to wiki

Figure 5: Scrum Sprint 1

Sprint 2 10.10 - 24.10.2012

Site

- Create scrollable front page with the following structure
    - Service map
    - filtered events (based on the filters set in the map)
    - essentials (monthly slider)
    - community (as a slider)
        - About us
        - Social media
        - Partners
            - Find information about partners (logos)
- Header follows the scrolling
- Wiki page as a link in the header, opens in a separate tab

Slider (views slideshow)

- Add to the frontpage according to the structure
- Modify and design interface
- Find information for slides

Wiki

- Continue developing the module
    - Start the content structure after the WS on the 17th
- Create instructions about adding content to wiki etc.

Emergencies (A part of Wiki)

- Find critical information about emergencies (www.112.fi)
- Create a structure for this information

Community (slider on front page)

- Design structure
    - About us
        - Describe the project (from the brief in Optima)
    - Social Media
        - feeds from FB and twitter
    - Partners
        - Add partner logos

Misc

- Add twitter feed to the footer
- Create Facebook Group for EXPAT

TASKS TO DO DURING NEXT SPRINTS

- Map from expatproject.eu to expatcbsr.info
- Slider
    - Get images for each month
        - Edit images to fit and don't stretch
    - Create Body content for each month
        - Link Body to the same heading in Essentials
- Essentials
    - Create Monthly headings that are linked to Slider Bodies
- Remove wiki
- Configure Webforms
    - Create Contact Us page
    - Add name, email, message to form for contacting the administrators
- Configure some parts of the site layout CSS and blocks (Rabi)
    - Header
        - Design, add menu, remove login (use /user/login instead)
        - Make it follow the page when scrolling
    - Footer
        - Keep twitter
        - Add Contact Us
        - Add About Us
        - Add Partners
        - Sitemap
    - Menus
        - Pages: **Home, Events, Essential Information**
    - Backgrounds
        - See how they're configured and what you can do
- Visualize a layout for the image slider and content (Rabi)

Modules to install (when needed)

xmlsitemap

webforms

views

chaostools

footermap

openlayers

drupal for facebook

tagclouds

Figure 6: Scrum Sprint 2

Sprint 3 Week 25.10-7.11.2012

Header

- Header Navigation structure
- Create subpages
    - Home
    - Events
    - Essentials
        - add slider
        - Info section with panels menu
- Header Navigation
- Block about different places (helsinki, stockholm, uppsala, tallinna, tartu, riga, turku)
    - New block with text links (Floating menu)

Footer

- Add Contact Us (Contact Form)
    - CSS
- Add Partners
    - Add links
- Sitemap (Footermap)
    - Create Subpages
    - Add About Us

Figure 7: Scrum Sprint 3

Sprint 4 week 8.11-22.11.2012

Create new content types (required fields)

Social Events

Services

Sports

Courses

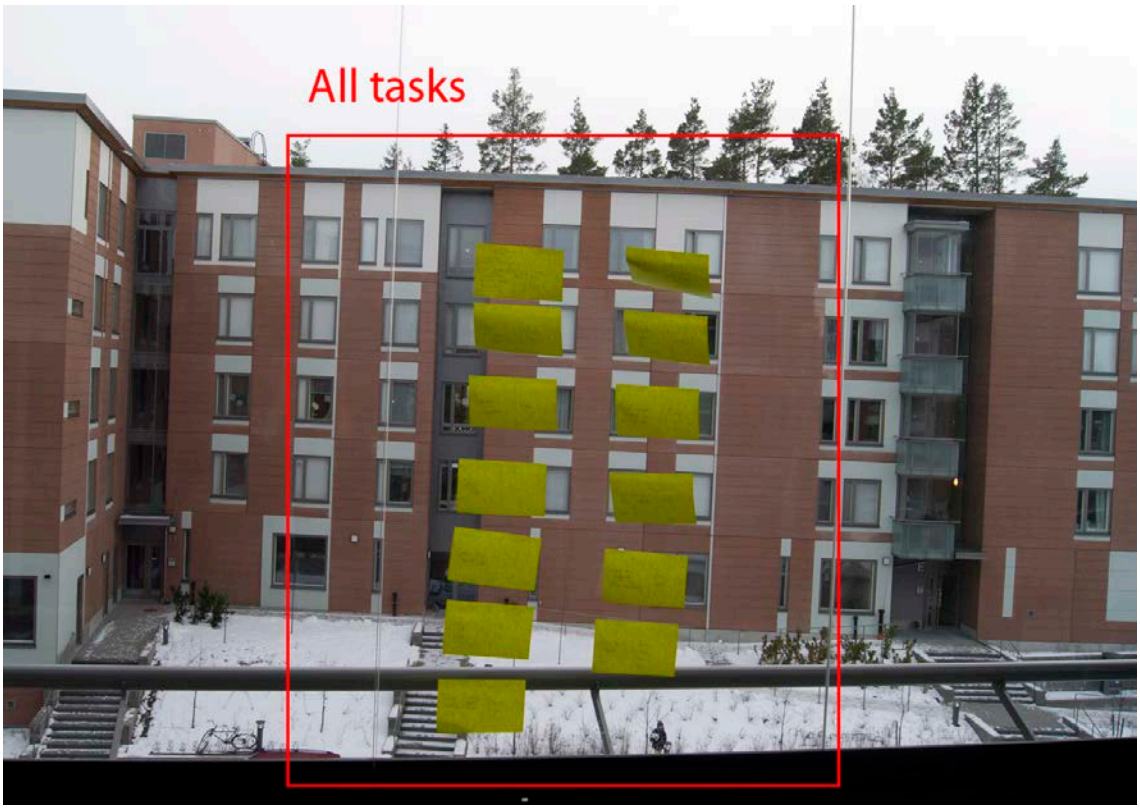
Months

Tags (tagclouds)

Layout configuration

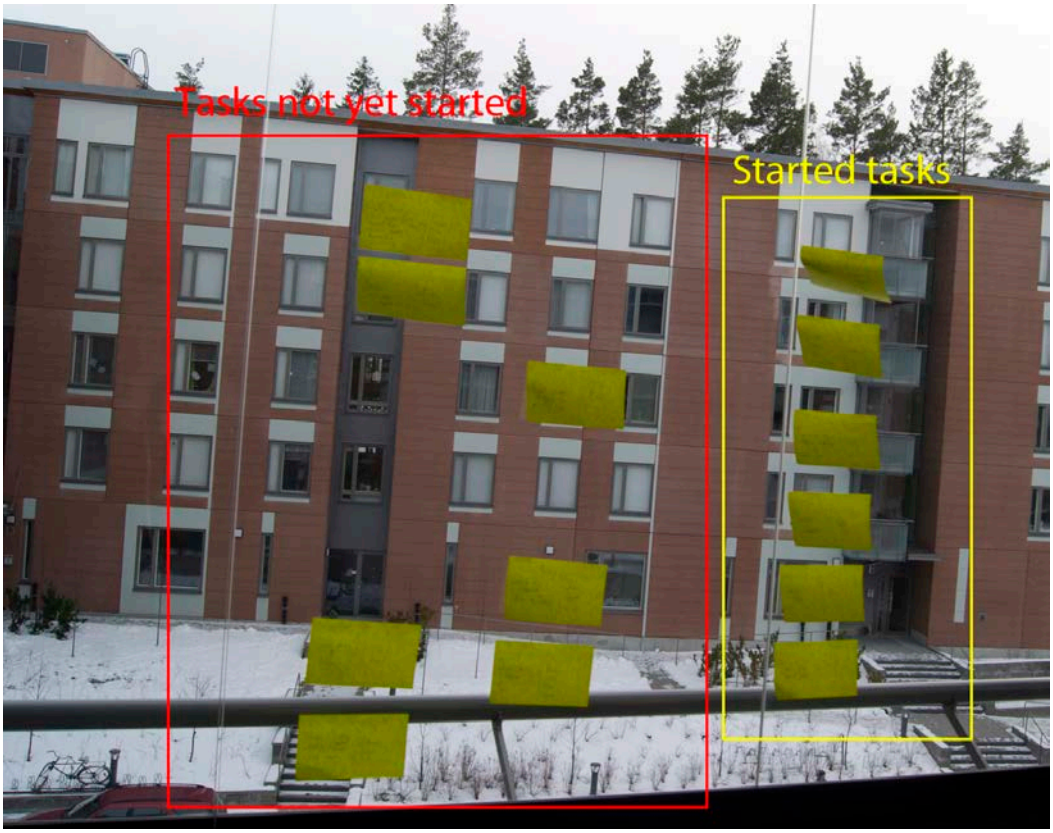
Figure 8: Scrum Sprint 4

An example of how the first sprint was executed



Picture 25: Sprint 1, step 1

All tasks for the sprint listed on post-it's. Each task gets assigned to group member(s).



Picture 26: Sprint 1, step 2

Tasks started:

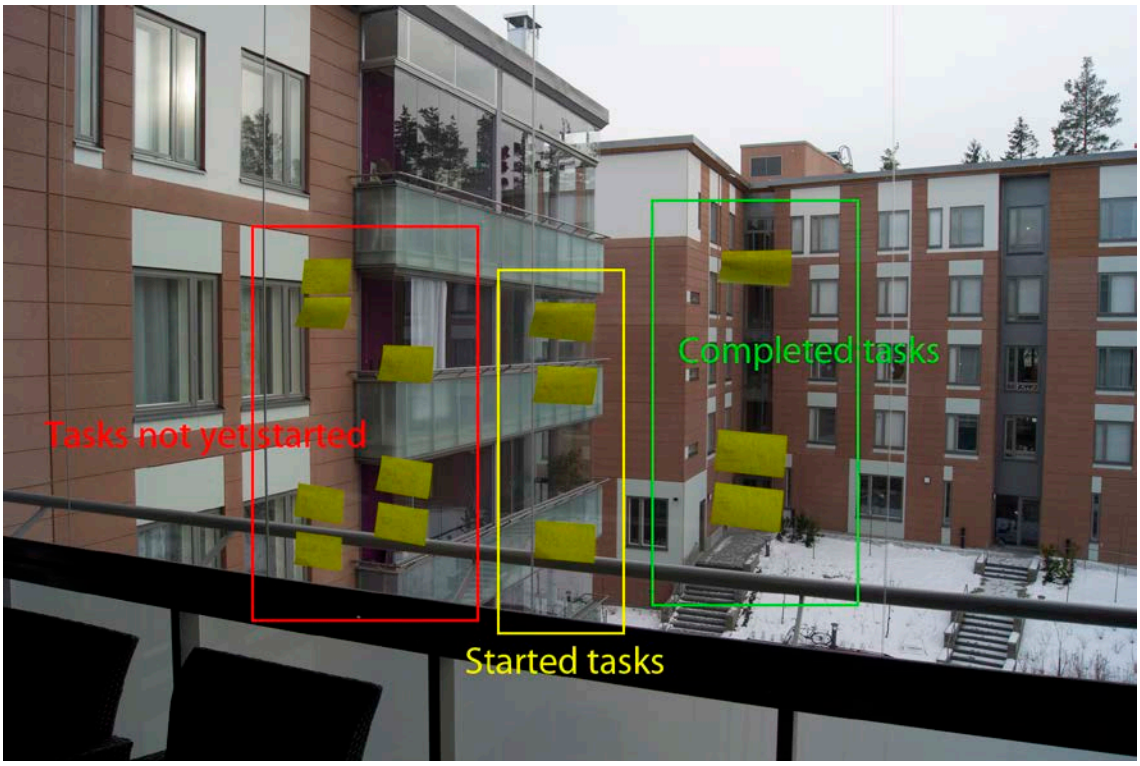
-Install Drupal

-Add databases to the GoDaddy server

-Find a suitable twitter module

-Find a suitable service map and event feed module

-Locate a suitable Wiki module



Picture 27: Sprint 1, step 3

Tasks completed:

-Drupal installed

-Databases added to the server

-Twitter module installed

-Service map and event feed modules added to Drupal

Picture 28: Sprint 1, step 4

Tasks started:

-Wiki module added to Drupal

-Locate a suitable picture slider module for monthly information (1 slide/month)

-Start modifying the Wiki module

Picture 29: Sprint 1, step 5

Tasks completed:	-Wiki module modifications
	-Picture slider module located and installed
Tasks started:	-Modify the picture slider
	-Add a scrollable front page (header follows when you scroll)

Picture 30: Sprint 1, step 6

Tasks completed:	-Picture slider modifications
	-Scrollable front page
Tasks started:	-Create subpage template
	-Add subpages

Picture 31: Sprint 1, step 7

Tasks completed: -Subpage template
-Subpages

4.3 Content Management System

Content management system (CMS) provides a rational framework and also tools that make building and managing a Web site easier. CMS used in this project was Drupal. Thousands of Web sites are built with Drupal and it is one of the most popular Web content management systems. Although there are other content management systems such as Wordpress and Joomla, Drupal suits the purposes of this project the best due to the high level of configurability and the extensive selection of modules. Drupal is also used in web design study units at Laurea Leppävaara.

4.3.1 Drupal

Drupal is a content management system (CMS) for websites. It started as a personal project in 2000 at the University of Antwerp, Belgium. It was designed to allow a group of people to share their thoughts and files via the internet.

Drupal includes many common CMS-features such as:

- Administration through a web browser

  - You can manage your Drupal-sites through a web browser. Log in as an administrator, and you can change the site settings

- A user-management system
  - User-management system lets you identify, track and control visitor access

- Permission control
  - Permission control allows you to grant specific rights to specific groups of users
- Creating and modifying content
  - In Drupal you edit basic pages via browser with forms. In a normal HTML-site you need to download a file and find out what parts to change, then make the changes and upload the file back to the server.

- Extensibility
  - You can add new features by writing or downloading a bit of code. Drupal is usually extended with the use of modules, which allow you to add free and ready-to-use packages to your website. (Drupal 7, geller)

4.3.2 Development tasks, reasons and solutions

The research phase provided a lot of information and ideas for the development. All of these ideas are listed in attachment Appendix 4: Ideas from the research phase. This next chapter describes essential parts of these findings, solutions and ways of implementation. Many of the solutions used in the website required multiple modules to work. All the modules used in the website can be found in the attachment Appendix 5: Modules used in the Website. Table provides categorized overview of the modules for each solution.

Setting up web server environment

First phase of the development was to find a suitable web server. Drupal server requirements are quite typical for a web server. In drupal.org the system requirements for Drupal version 7 are listed as following:

- Disk space: 15-60 Megabytes
- Web server: Apache, Nginx or Microsoft IIS
- Database: MySQL 5.0.15 or higher with PDO, PostgreSQL 8.3 or higher with PDO, SQLite 3.3.7 or higher
- PHP: PHP 5.2.5 or higher.
  (System Requirements 2014.)

At the beginning of the project a web server from Laurea was provided for the project team. This server was running only in the internal network of Laurea which caused many disadvantages to the development. It lacked proper accessibility and testing environment for web development. After determining that this server wasn't suitable for the project purposes, project team researched different web hosting companies to find the best one for the project. During web server research, project team got recommendation from project manager to use web hosting company GoDaddy. GoDaddy is one of the largest internet domain registrars and web hosting companies.

After the purchase of the new servers the project team was able to set up Drupal server environment without problems. Installing Drupal was an easy task and in-depth information of this phase is not vital for this thesis. In a nutshell the basic steps are following:

- Download and upload installation-package to your server
- Create a database for your platform
- Move to your server with your browser and start Drupal installation-wizard

Drupal offered the project team a quick way to setup the server environment for the development. Therefore project team was able to start mapping of the necessary features and modules immediately.

Setting up the platform layout

When creating a theme layout for Drupal it is important to have deeper knowledge of Drupal and understand how information flows between the system's layers. Drupal.org divedes it to five main layers (The Drupal Overview 2014.):

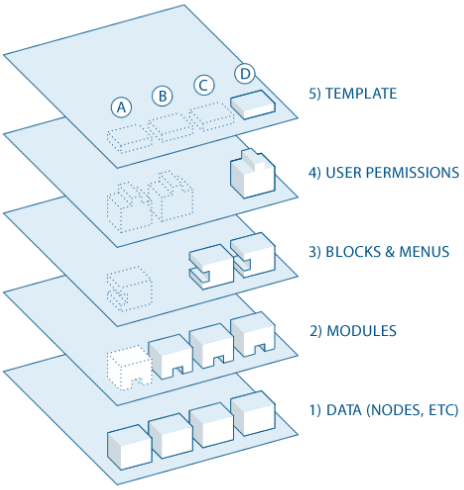


Figure 9: Drupal site flow

When creating a layout you are mostly working only On the top layer which is the site theme. Theme have different kind of functions that can be used to override standard functions set by Drupal or modules. This way you have complete control over how the modules will show the data on your website. (The Drupal Overview 2014.)

To be able to match the needs from wireframing phase, the Drupal site theme layout needed to be built from the scratch. The web site theme was created on top of AdaptiveTheme-framework. Adaptivetheme is a theme framework designed from the ground up to power modern, cross browser/cross device websites using responsive design techniques. Adaptivetheme allowed the project team to set up specific layouts for different wireframes that were created previously. (Adaptivetheme 2009.)

For showing content in different locations on the website, Drupal uses a module called Regions. The number and type of regions available vary among themes. (http://www.dummies.com/how-to/content/drupal-theme-regions.html) Adaptivetheme comes with a standard set of regions, which can be viewed in page.tpl.php and in the adaptivetheme info file. (Adaptivetheme Templates 2012.)These regions can be easily modified to match the needs of the developer.

Drupal uses the Block-module to position information in specific locations on the website A block is a Drupal container object, that is the primary tool used in organizing the website's content. You can use blocks to hold content or website functions. (Blocks 2010.)

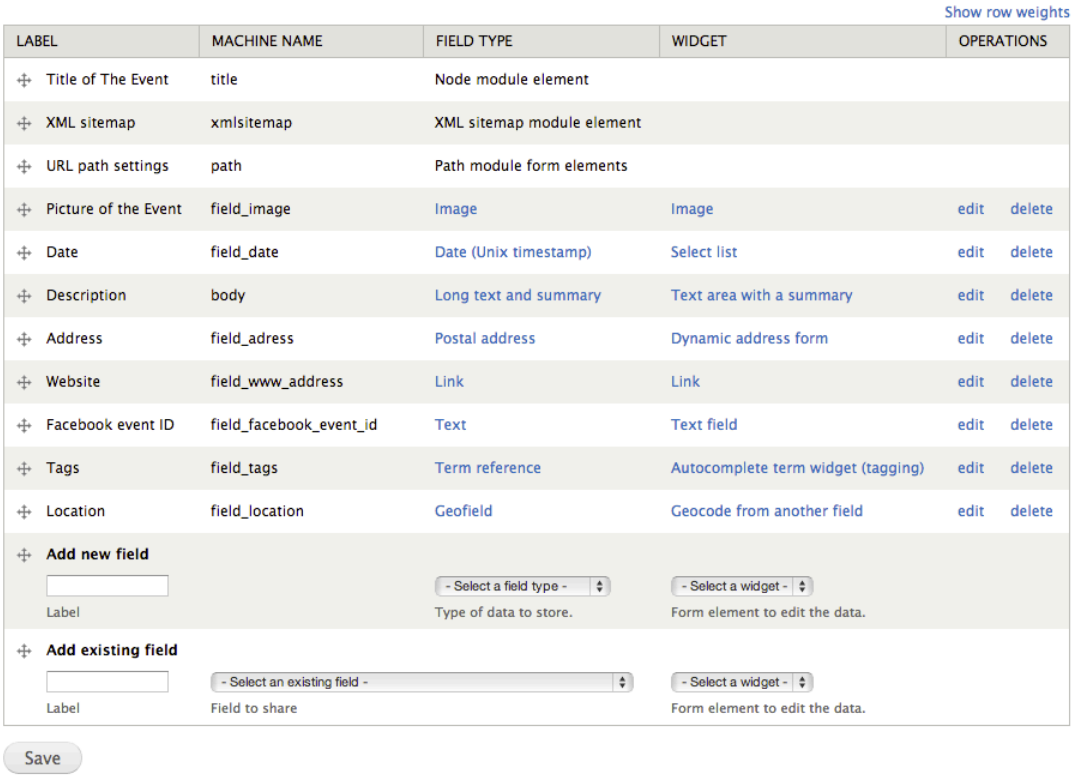
One of these website functions is the Views-module. This module provides a powerful tool for creating custom layouts of content and more. Any information on the website can be gathered from the databases and crafted into dynamic lists, grids, tables, reports, RSS feeds, and navigation. Views can also be configured to show different results based on visitor interactions, such as displaying views depending on the user role. (Views 2010.)

Providing dynamic content

Drupal offers various tools to help organize, structure, find and use the content. Content can be categorized with taxonomies. The content creators of the site can automatically create friendly path urls, custom views for different kinds of content, relationships between different content and smart forms.

Drupal content can be managed with an easy-to-use web interface. It offers flexible ways to handle content types such as video, text, blog, polls from users, real-time statistics and optional revision control. (Drupal CMS Benefits 2014.)

With Drupal content management, project team created various content types to match the needs found during the research phase. By categorizing the content, the website can provide precise information to the users and updating the content is effortless.



Picture 32: Fields inside Events-Content Type

Service Map

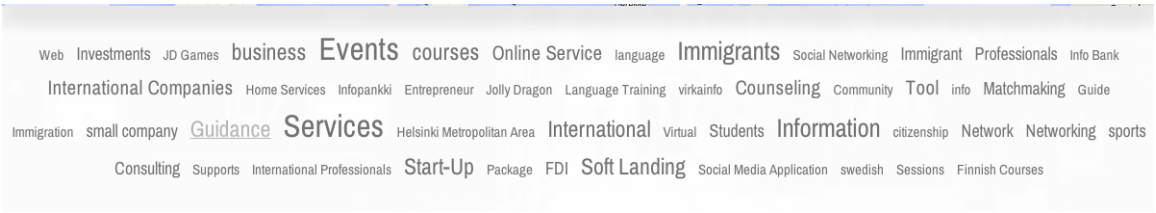
A big part of the website is the Service Map on the frontpage. It provides up-to-date information about the events and services which are located in the target region. Service Map is a combination of various Drupal modules. The main module behind it is OpenLayers. Openlayers gathers configurations from different features on the site and combines them to create the map using the OpenLayers JavaScript library. Other important modules for service map are:

- Address Field - to hold address data in our content.
- Geofield - to hold geographic data in our content, in this case a point.
- Geocoder - converts the address data into geographic data.
- geoPHP - a geocoder dependancy.

Openlayers is linked to content types on the site, which are: Services, Events, Courses, Sports. The module gathers information from these content types and converts the information to geographic data.

Tagcloud

In addition to the Service Map the frontpage also features a tagcloud. Tagcloud is a module that uses Drupal's taxonomy to create a cloud of tags. These tags are gathered from the different services and events created by the users. The more the tag appears on the website, the bigger they get in the cloud. With this feature users are more likely to find out the most popular content on the website.



Picture 33: Tagcloud with the keywords

Platform management

Drupal has in built User-module, which allows users to register, log in and log out. This module helps users to manage their content easier and associate different content to correct users. The User-module also supports user roles, which helps to create better permission control by allowing each role to do only what the site owner wants them to do. (User: access and management settings 2011.)

To be able to provide up-to-date information to the site, project team needed to create user roles that are easy to understand for the users and endures the user to use the site. Two different user roles were created "Expat" and "Service Provider".

Expats-role was created for the basic users of the web-site, who wanted to use the site to communicate and socialize with other expats. This user role was allowed to comment different services & events on the site. They were also able to create new topics in the Socialize-section and comment on other topics. Expat-role is open to all site users. When an user registers to the site he/she is automatically set to this role.

Service Provider-role has all the same rights as the Expat-role, but it also has some extended rights. They are able create new services and events to the site, which are integrated with

the homepages Service Map. This way the project team was able to integrate the dynamic content and make it available for all the service providers. Different service providers could promote their events on the map easily and get good visibility.

Social Network integration

The project team also included different social media solutions to the website. Drupal has a module called Facebook connect. With this module users are able to register/login to the site with their Facebook account. Module uses the Facebook Connect API and connects users to the Drupal website by using their Facebook login and password. Facebook login provides effortless way to login to the site, since the users have no need to create new credentials for site login. (Facebook Connect 2009.)

Site was also integrated with Twitter by using Twitter block-module. Module makes possible to create embeddable timelines which are easy to syndicate to any public Twitter timeline. Embeddable timelines are interactive and site users can use all the same functions there as in Twitter. Users can reply, retweet and favourite Tweets straight from the website.

In this case, we created Twitter timeline for the project, which follows all the conversations that are related to the expat matters. An integrated Twitter encourages users to respond and join the conversations. Twitter block-module also keeps the site interactive and gathers up-to-date content from different sources. (Embedded Timelines 2014.)

5 Evaluation Phase

First phase of the project was to interview expatriates and find their needs. Based on the accumulated data, the project team built up personas and wireframes, which were used to create different variations of the final website.

The project team created a website using Drupal content management system. Scrum agile development was used for project and task management. This helped meeting the deadlines and clarifying project team roles.

Focus in this last phase of the project is to criticize all the earlier works and tasks. This gives an overall look on how the project was accomplished according to original planning and do the results meet the requirements of the project. Two of the most important use case blueprints are described in the next chapter. These two use cases are composed based on the research data and personas which were created based on this data.

The method used for evaluation will be Web Analytics based on the info gathered with Google Analytics over the period one year (01/2013 - 01/2014)

The evaluation will focus on comparing the customer actions level of the two blueprints with the web analytics information gathered from Google Analytics. The evaluation will be based solely on the quantitative information provided by Google as there were clear indications that the website needed more work before it was ready for public use. Further qualitative research with the expatriates should be conducted when the project team has improved suggested elements of the website.

5.1 Web Analytics

Originally the data collected from websites was based on clicks by visitors. In reality, this is only a portion of the web data. Traditionally if you only measure sample metrics such as page views, hits, top exit pages, website engagement and visitor screen resolution you will end up with a long report which will not tell you anything. These sample metrics do not tell you the quality of your content or the reason for users visiting and leaving your website. (Kaushik 2009, 6-9)

Avinash Kaushik writes in his book Web Analytics: An Hour a Day (2007) how web analytics is changing away from regular clickstream analysis towards actually listening to the users. This has lead to the development of Key Insight Analysis (KIA) which includes the following methods:

- Click Density Analysis: developers can walk in the visitors shoes using the overlay of the website and view where the users have clicked. This will tell the developer what the users find interesting and what areas of the website still need development

- Visitor Primary Purpose: for example a survey of why users come to your website

- Task Completion Rates: measure if users have successfully received desired information

- Segmented Visitor Trends: commercially provided tools that allow segmenting the visitors which in return allows for a significantly richer understanding of their interaction with the website

- Multichannel Impact Analysis: measuring the impact of other channels (newspapers, television ads etc.) on your website. (Kaushik 2009, 10-12.)

In a nutshell, visiting users leave behind a significant amount of data, whether their visit to the website was successful or not. All the information that the visitors left behind will help the developers understand what has happened, but it will not tell them why it happened. For a successful analysis you need to combine the quantitative (what happened) and qualitative (why it happened) data. (Kaushik 2009, 13.)

5.2 Service Blueprints

Blueprinting is a powerful and highly flexible approach that can be used at any level of an organization. Blueprints can be used in many areas by anyone who understands how it works. Blueprinting has a lot of potential usage in business processes. Service blueprinting shares same kind of modeling approaches that is visually easy to read by symbols, same kind of idea than in some more internally-focused modeling tools and languages like BPMN (Business Process Modeling Notation) and UML (Unified Modeling Language). Service blueprinting method focus of a service innovation to the human-to-human and human-to-technology interfaces, rather than at the software engine level. One of the service blueprinting's greatest advantage is its versatility and flexibility and because of that it is very useful in this project as it is in many different kind of projects. (Bitner, Ostrom, Morgan 2007.)

5.2.1 Components of Service Blueprints

Typical service blueprint has five main components, which are customer actions, visible contact employee actions, invisible employee actions, support processes and physical evidence. Service blueprinting differences from other flowcharting approaches by focusing to customer actions. Customer actions are central to the creation of the blueprint. First in service blueprint layout the actions of the customer and afterwards all the visible contact employee actions, these are all the visible actions of the customer. The next significant component of the blueprint is the invisible contact employee actions, differs from visible contact employee actions by the very important line of visibility, these invisible actions are described as what contact employees do in order to prepare to serve customers or part of their responsibilities. The fourth critical component of the blueprint is support processes, these are all the activities carried by the company who are not contact employees but needed for the service to be delivered. Finally the physical evidence comes above all of the layers described earlier, these are tangibles that customers are exposed to, that can influence their quality perceptions. (Bitner, Ostrom, Morgan 2007.)

Service Blueprints were made to help the project team to see how the website actually works and what is the customers interests in website. Service Blueprints with Google analytics gives

valid information on customers behaviour on the website. By using this information it is easy to improve the site to provide more customer friendly experience.

5.2.2 Use case Blueprint for socializing

In this use case about socializing, the customer tries to find info about Expats in Helsinki to get some connections, to attend in different events or use some services. Customer uses common search words with google, like “expat” and “helsinki” and then hopefully the Customer will find www.helsinkiexpats.info/. Customer will see firstly the home page and the service map within the home page. User uses filters included to service map to sort out desired events for example and then proceeds to view those events by clicking the event and choosing “read more” -button. Customer sees now the services/events page and from there it is easy to see detailed information about the event. Customer gets all the necessary information to attend the event.

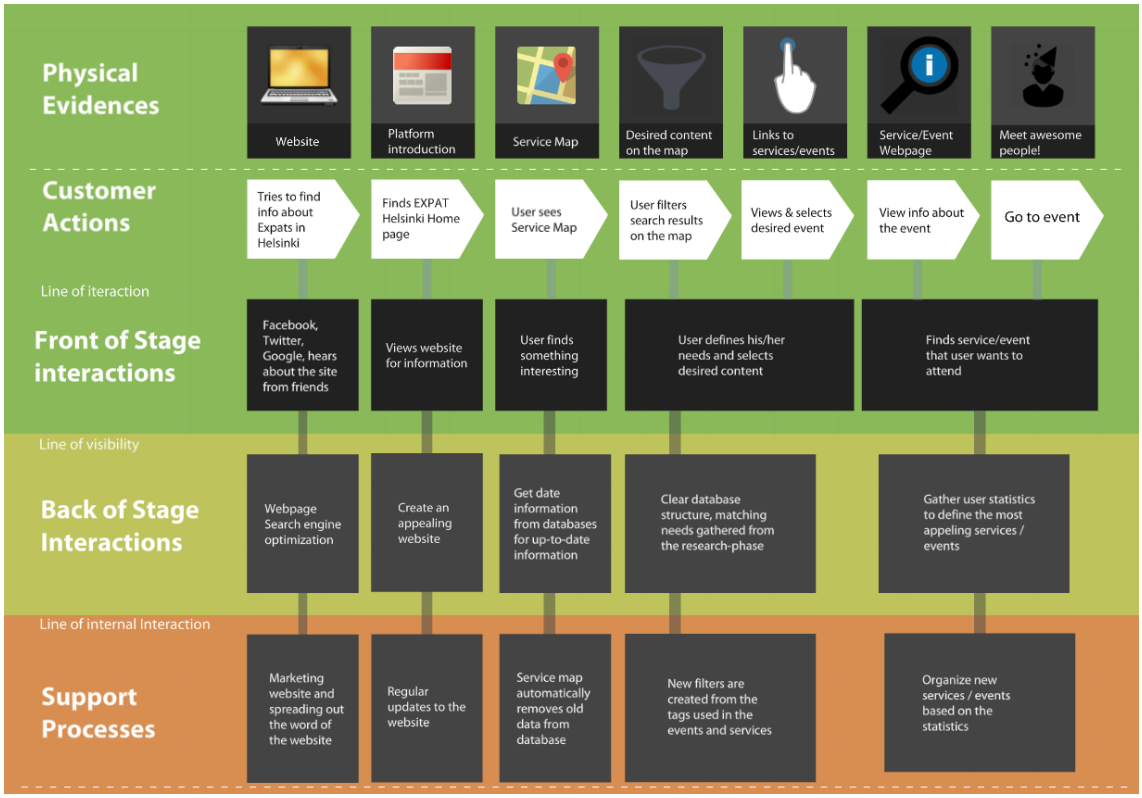


Figure 10: Blueprint for socializing

5.2.3 Use case Blueprint for essential information

In this use case scenario about finding info on the site, the customer firstly searches the site from google as in previous use case. After finding the site user navigates from the top menu to the Essentials -page. In essential page, customer locates easily valid information by using

predefined categories. Customer clicks on relevant information for closer look. The information on behind the link is not all that user desires to have and user needs more help with this issue. User scrolls down a bit, and finds discussion area about the topic and decides to log in via facebook to the web site to get more specific information about the issue or question.

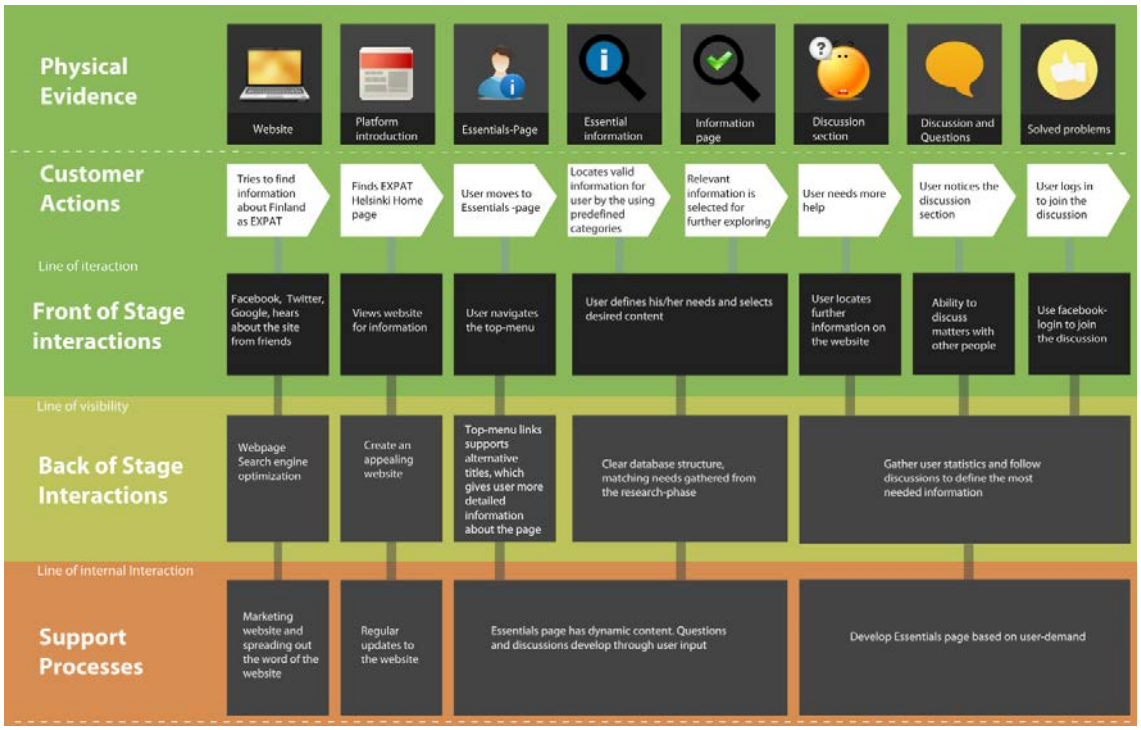


Figure 11: Blueprint for essential information

5.3 Comparison of Google Analytics and Service blueprint cases

To see whether the desirable goals were achieved, project team needed to compare the results of the premeditated use cases and the real user site flows from the Google Analytics.

5.3.1 Blueprint for socializing and Google Analytics

In the use case blueprint picture the project team visualized website customer actions based on the research results. The customer tries to find information about Expatriates in Helsinki region and the customer uses search engines to start off with. Helsinkiexpats.info is a first hit when searching “expat” “helsinki” in google search engine. The customer proceeds from the links that google has to offer and opens the homepage of the website where the customer sees the Service Map. The customer tries to find interesting event by using service maps filtering system to point out only events on the map. The customer clicks on the event and

finds more information about the desired event and goes to the event and connects with other expats.

Figure 12: Blueprint for socializing and Google Analytics - customer actions level

However as the Google Analytics picture (below) shows, most of the customers uses the navigation panel on the top of the page instead of the service map. Almost half of the users goes back to homepage after the activities page. This shows that most of the users on this website doesn't know exactly what they are looking for or they are just randomly following the navigation links from left to right. The most interesting point in this Google Analytics picture is that it shows that very few of the users goes the full path what the project team visualized in the previous picture (above).

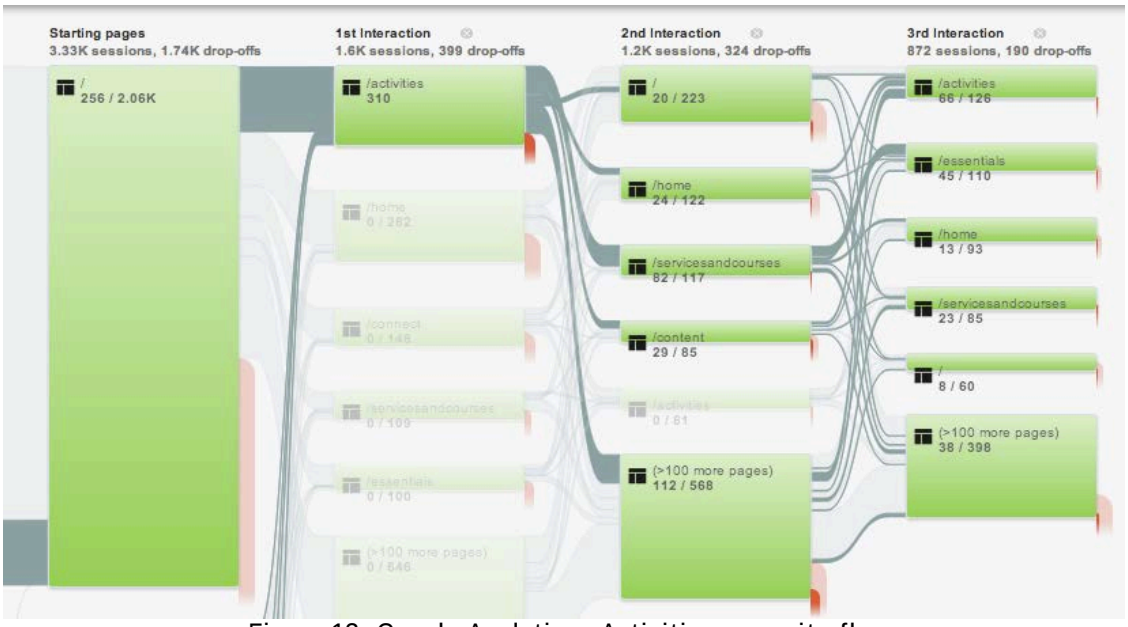


Figure 13: Google Analytics - Activities-page site flow

5.3.2 Blueprint for essential information and Google Analytics

The following picture demonstrates way of the customer when finding information from the Essentials -page. The customer moves from the search engine to our site and then in one point the customer finds Essentials-page. The customer locates valid information using predefined categories and selects a relevant information for further exploring, but in this case, the customer needs more help to find the information in need. The customer notices discussion section and has to login to join the discussion by using the facebook login button.

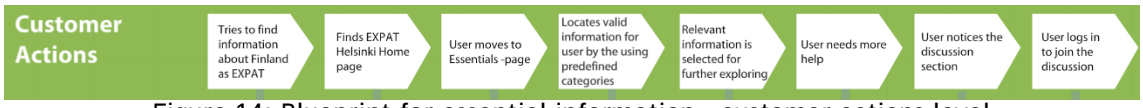


Figure 14: Blueprint for essential information - customer actions level

Google analytics picture shows that the customers who tries to find desired information from the Essentials -page actually finds the information, because most of the users goes back to essentials from the essentials. This means that the customers are looking for much information from the website and reads more than one thing from the essentials page at one visit. However there is not many customers who has been logged in and this means that the customers doesn't need further information in these cases.

Figure 15: Google Analytics - Essential-page site flow

6 Project result

As described in the beginning of this thesis, the Expat Project included many work packages. This website was a part of only one of those packages and as such doesn't represent the entire project. Other project partners have approached the matter from different angles and have for example created centres for expatriates.

From the results of Expat-project workshops, survey and studies, sets of policy recommendations were created for the each partner region/country. There were disparities between the immigration policies and in the quality of the existing expat-services, but the common goals which unite all the partner regions were created:

"1) the recognition of the importance of labour immigration to the competitiveness of its economy and growth

2) a holistic approach to developing immigration policies and services

3) the ability to take soft-departure into account while developing talent attraction strategies.Under each headline, the regions must follow these concrete action points to achieve its goals." (Policy Recommendation 2013).

To best retain and utilise the talents in the Helsinki-Uusimaa region the following actions were suggested by the local stakeholders:

"1) The establishment of an Expat Liaison Office or Officer in the region

2) Develop a priority system for expat employment and social integration support

3) Increase the cultural intelligence of the society

4) Support the third sector and exploit the fourth sector as part of social and professional integration services." (Policy Recommendation 2013).

6.1 Sustainability and future research

It was decided in the Expat-project consortium meeting that each partner region will be responsible for the development and maintenance of its local pilot website after the closure of the project on 31.12.2013.

In order for the website to function and develop properly in terms of the future sustainability, various aspects will have to be thought clearly. Main things to consider are the financial aspects to run the platform, resource distribution as well as a good quality of stakeholders.

If the project leaders wants to gather qualitative data from the users they can use the Trinity approach by Avinash Kaushik. This approach places a huge emphasis on measuring all aspects of the customer experience to deeply understand why users visit the website and how the website has helped them. The metrics/questions in this approach can be such as:

- Purpose (Why are we here?)
- Task completion rate (Was the user able to complete their task?
- Content and structural gaps (How can the user experience be improved?

- Customer satisfaction (Kaushik 2009, 78.)

Sustainability of this website is secured by distributing all the website files, including databases and Drupal installation files with USB flash drives. USB flash drives also include a manual to maintain the website. It provides guidelines how to maintain the website and also information package for the service providers who wants to provide their content to the website. USB flash drives were given to the partners in the last project meeting, because each partner city were set responsible for their own local website after the closure of the project. This way all the partners have possibility to continue the development of their platform after the project ends. Expat-website guidelines can be found from Appendix 6: Expat-website guidelines.

6.2 Results and Discoveries by the project team

Even though the end-result of the project was successful; a working website was created and launched for the public, it still had rough edges. The future developers of this project must refine those edges to achieve a website that has the right content for the right users and is overall more user-friendly.

Dana Winslow (2012) wrote an article about optimizing Drupal. His article "Drupal Performance Optimization: How to Get Your Site to Perform its Best" on DWuser.com describes the optimization process in great detail. Winslow's article begins by addressing the importance of choosing the correct service provider and the correct server configuration. This was carried out without much thought and needs to be examined properly in the future development phases. This is also the main issue with the website as the web hotel service from GoDaddy was running well in the beginning of the development, but as the site grew, the project team were able to see that the server efficiency was lacking. This is most likely due to GoDaddy using a separate server for the database and the main server not having enough processing power. (Winslow, 2012.)

Winslow also describes how to optimize the use of images, properly set-up the site cache and how external resources affect the site.

The article was written in the beginning of January 2012 and is based on version 7.10 of Drupal which was released a month before the article was written. The website developed in this project is using Drupal 7.24 which was released on the 20th of November 2013. At this point in time the newest version is 7.28, which was released on the 8th of May 2014. This means that many issues with the platform have been fixed since then, but it doesn't remove the fact that for example the hosting and server performance are inadequate.

For us, the Expat Project began in January 2012 and ended in May 2014. It started from a clean slate where everything was possible and it was an opportunity to create something new and important. The members of this thesis have worked together since they first started in Laurea University of Applied Sciences which helped a lot with having the right mindset to develop something new. Ideas started forming and evolving when we browsed existing websites and talked with the people who we were actually creating this site for. It was clear that there was a lot of information already available, but somehow everyone we talked to kept expressing how they'd like to have more. Interviews exposed the peoples urge to study, to find people, to socialize, to feel at home. This became the core idea for what we wanted to create, something people could use to find social activities, events and help with everyday life in Finland.

References

Bitner, M., Ostrom, A. & Morgan, F. 2007. Service Blueprinting: A Practical Technique for Service Innovation. Indicated 1.5.2014.
http://files.g51studio.com/parsons/ServiceBlueprinting.pdf

Burnz, J. 2009. AdaptiveTheme. Indicated 18.5.2014.
https://drupal.org/project/adaptivetheme

Burnz, J. 2012. Page.tpl.php. Indicated 18.5.2014.
http://adaptivethemes.com/documentation/pagetplphp

Bustos, L. 2011. Personas 101: What Are They and Why Should I Care?. Indicated 19.3.2013.
http://www.getelastic.com/personas-101-what-are-they-and-why-should-i-care/

CCSU 2008. Helpful Hints for Conducting a Focus Group. Indicated 15.5.2014.
http://www.ccsu.edu/uploaded/departments/AdministrativeDepartments/Institutional_Research_and_Assessment/Assessment/Resources/FocusGroupsHints.pdf

Drupal.org. 2014. Drupal CMS Benefits. Indicated 18.5.2014. https://drupal.org/features

Drupal.org. 2014. System Requirements. Indicated 18.5.2014.
https://drupal.org/requirements

Drupalgardens. 2013. Blocks. Indicated 18.5.2014.
http://www.drupalgardens.com/documentation/blocks

Drupalgardens. 2013. Views. Indicated 18.5.2014.
http://www.drupalgardens.com/documentation/views

Eskola, J. & Suoranta, J. 2005. Johdatus laadulliseen tutkimukseen. Tampere: Vastapaino.

Expat-project 2012. Cultivating the human capital of the Central Baltic Sea Region – Policy recommendation. Indicated 5.11.2013.
http://www.uudenmaanliitto.fi/files/12233/Policy_recommendation.pdf

Expat-project 2012. Successful Helsinki region workshop – service demands rising for developers and connection improving amongst users. Indicated 15.2.2013.
http://www.expatproject.info/2012_12_01_archive.html

Gabe, G. 2007. Bounce Rate and Exit Rate, What is the Difference and Why You Should Care. Indicated 3.5.2014. http://www.hmtweb.com/blog/2007/08/bounce-rate-and-exit-rate-what-is.html

Garrett, J. 2010. The Elements of User Experience. 2 edition. England: New Riders.

Ghankstef. 2001. User: Access and management settings. Indicated 7.3.2014. https://drupal.org/documentation/modules/user

Google Analytics. 2014. Bounce Rate: Learn what a bounce rate is, and how to improve it. Indicated 19.5.2014. https://support.google.com/analytics/answer/1009409?hl=en

Haikala, I. & Mikkonen, T. 2011. Ohjelmistotuotannon käytännöt. Helsinki: Talentum.

Hartwig, E. 2013. How to Lower Your Site's Bounce Rate. Indicated 3.5.2014. http://mashable.com/2013/11/22/bounce-rate-metrics/

Hennink, M. 2014. Focus Group Discussions: Understanding qualitative research. 1 edition. Oxford: University press.

Hirsjärvi, S. & Hurme, H. 2000. Tutkimushaastattelu: teemahaastattelun teoria ja käytäntö. Helsinki: Yliopistopaino.

Johnson, J. 2011. 10 Rock Solid Website Layout Examples. Indicated 21.5.2014. http://designshack.net/articles/layouts/10-rock-solid-website-layout-examples/

Jones, H. 2013. 10 Free UI Wireframe Kits. Indicated 26.6.2013. http://webdesignledger.com/tools/10-free-ui-wireframe-kits

Just Landed 2014. Expatriates worldwide – How many expats are there? Indicated 13.3.2014. http://www.justlanded.com/english/Common/Footer/Expatriates/How-many-expats-are-there

Kaushik, A. 2009. Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity. 1 edition. Sybex.

Kylmä, J. & Juvakka, T. 2007. Laadullinen terveystutkimus. 1 edition. Helsinki: Edita Publishing.

LeeHunter. 2014. The Drupal overview. Indicated 21.5.2014. https://drupal.org/getting-started/before/overview

Metsämuuronen, J. 2006. Laadullisen tutkimuksen käsikirja. Helsinki: International Methelp.

Nielsen, J. 1997. The use and Misuse of Focus Groups. Indicated 20.1.2014. http://www.nngroup.com/articles/focus-groups/

Ojasalo, K., Moilanen, T. & Ritalahti, J. 2009. Kehittämistyön menetelmät. Helsinki: WSOYpro.

Routio 2007. Tiedon hakeminen teksteistä. Indicated 4.8.2013. http://www2.uiah.fi/projekti/metodi/040.htm#practica

Räsänen, H. Kvalitatiiviset tutkimusmenetelmät. Indicated 20.1.2014. http://portal.hamk.fi/portal/page/portal/HAMK/koulutus/Ylempi_AMK_tutkinto/kudos/menetelmat/4_Kvalitatiiviset_tutkimusmenetelmaet.pdf

Tilastokeskus 2009. Ulkomaalaisten tilapäisen työnteon tilastointi on hajanaista ja puutteellista. Indicated 20.2.2014. http://www.stat.fi/artikkelit/2009/art_2009-09-30_008.html?s=5

Travis, D. 2010. 7 Myths about paper prototyping. Indicated 19.3.2013. http://www.userfocus.co.uk/articles/paperprototyping.html

Tuomi, J. & Sarajärvi, A. 2013. Laadullinen tutkimus ja sisällönanalyysi. Helsinki: Tammi.

UX for the masses. 2010. Wireframes are dead, long live rapid prototyping. Indicated 19.3.2013. http://www.uxforthemasses.com/rapid-prototyping/

Varto, J. 1992. Laadullisen tutkimuksen metodologia. Helsinki: Kirjaryhmä.

Winslow, D. 2012. Drupal Performance Optimization: How to Get Your Site to Perform its Best. Indicated 12.3.2014. http://www.dwuser.com/education/content/drupal-performance-optimization-how-to-get-your-site-to-perform-its-best/

Pictures

Figures

Tables

Appendixes

Appendix 1: Interview Questions

Background information from EXPATs coming to Finland

Reasons for these questions

To find the Gaps in virtual information provided to Expats!

Looking at:

- How have EXPATs found information before coming to Finland?
- Has the information been useful to EXPATs?
- How has the information delivered in virtual platforms supported EXPATs and their families to settle in Finland?'
- What information do EXPATs want and it is not available?

Background Variables (just for the interviewer)

Name:
Age:
Education:
Nationality:
Gender:
Marital Status:
Hiring company:

1st perspective – Individuals working in companies

WHAT SOURCES OF INFORMATION ARE COMMONLY USED BY THE INTERNATIONALS WHO ARE COMING TO WORK IN FINLAND?

1. How did you find moving to Finland and have you enjoyed your stay?
2. Have you been an expat in other countries?
3. If you used a search engine (ie. Google), what keywords did you use?
4. Which channel did you use to find information about coming to Finland?
    a. If you found different portals, how would you compare them?
5. Did you find what you were looking for?
    a. what info did you not find?
6. How clear were the details of the information you found?
    a. Was the information up to date?

7. Have you encountered problems finding information during your stay in Finland (if yes, what?)? Did you manage to find information which would help solve that problem?
8. Did you find enough information about Finnish culture and ways, before coming to Finland?
9. Did you find appropriate information for your social life (schools, healthcare, hobbies etc.)?
    a. how?
10. Do you network with other EXPATs?
    a. how?
11. Based on your experience, what would you wish to see in EXPATs portal?
12. What did you miss when you were first looking for info?
13. How would you like the information to be presented on the EXPAT pages?

14. Are you registered @
    a. Facebook
    b. LinkedIN
    c. Twitter
    d. Google+
    e. Some other platform for social networking

2nd perspective – Spouses/ Partners

WHAT SOURCES OF INFORMATION ARE COMMONLY NEEDED BY SPAUSES AND FAMILIES OF THE INTERNATIONALS WHO ARE COMING TO WORK IN FINLAND?

1. What kind of information was useful for you …
    a. before?
    b. after moving to Finland?
2. What was the first problem you ran into?
    a. before (in web pages)?
    b. after moving to Finland?
3. After arriving to Finland, did you manage to find proper information about careers or education?
4. Did you find information about hobbies and other activities for you and your family?
5. Was it easy to find the information? How did you find info?
6. Have you been able to use your professional competencies since arriving to Finland? Did you manage to find places where your expertise can be useful in Finland?

7. Based on your experience, what would you wish to see in EXPATs portal?
8. As an international willing to work or develop yourself in Finland what development can you suggest based on the information offered for experts and their spouses coming to work in Finland?

3rd perspective – Companies

WHAT KIND OF INFORMATION TOOLS DO THE COMPANIES USE TO FIND POTENTIAL RECRUITS TO COME AND WORK FOR THEM IN FINLAND?

1. Do you have any platform where you obtain the information of the potential candidates from elsewhere around the world?
2. What kind of information do those platforms present to those expats?
3. Do you think those platforms are useful? If not what can be developed?
4. Do you give any other supporting information to your employees upon their arrival to Finland?
5. What kind of information do you give? What are the common information portals do you suggest to them?
6. Have they been helpful to them?
7. What challenges have you encountered with those information portals?
8. What do you think would be the best way to give the new employees information about living Finland?
    a) General living information about culture people etc
    b) Networking possibilities and integration
    c) Practical support regarding work, healthcare and education

9. From your experience, if a new expat portal is to be made what aspects would support best the International who is coming to work in Finland?

Appendix 2: Workshop analysis

17.10.2012
Using Service Design Tools with BIT-Students to gather information for the EXPAT project

Background and Objective

The workshop was conducted with the Business Information Technology (BIT) students in the Leppävaara branch of Laurea University of Applied Sciences. As Richard Krueger writes in "Focus Groups - A Practical Guide for Applied Research" it is important to think back to the purpose of the project and consider what kind of people have certain things in common and can give you the information you are looking for (2009, 64-65). These exchange students match closely with the target group of the EXPAT project. The focus group lecture was a part of the A0132 (Creating Innovating through Service Design) study unit and lasted for 3 hours. This workshop will also support the content of the study unit and will help the students to get first-hand experience in creating innovations and using service design methods.

The objective of this workshop was to gather information and ideas from the 27 BIT-students who were present in the workshop. The ages of the students varied between 20 and 30 and they had vastly different backgrounds. Only one of the students was Finnish, but the rest of the students came from different countries, ranging from Albania to the United States of America.

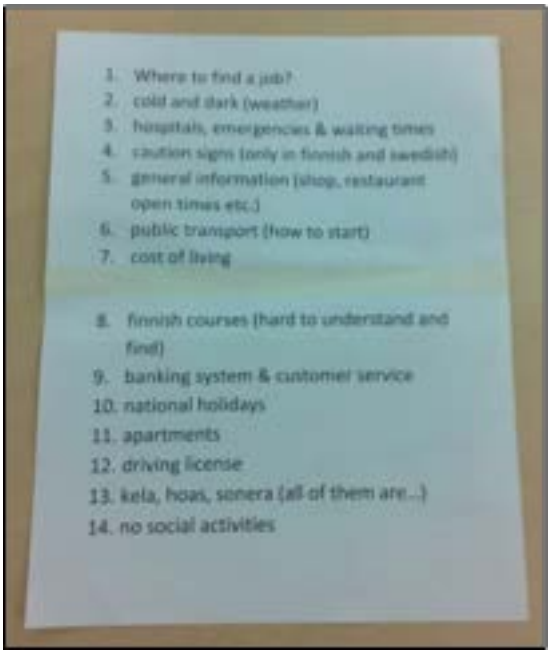
Tools used in the research Information gathering methods:
Students list problems and ideas on Post-Its
Discussion based on listed problems
Biggest problems listed into one document
Group discussion about the biggest problems
Ideas and discussion gathered into notes by discussion moderators
Analysis:
Affinity Diagram

The Workshop

The students were introduced briefly to the project and the objective of the workshop. After the introduction the students were asked to write their ideas and thoughts about arriving to Finland on Post-It notes. These notes can be seen in the picture below.

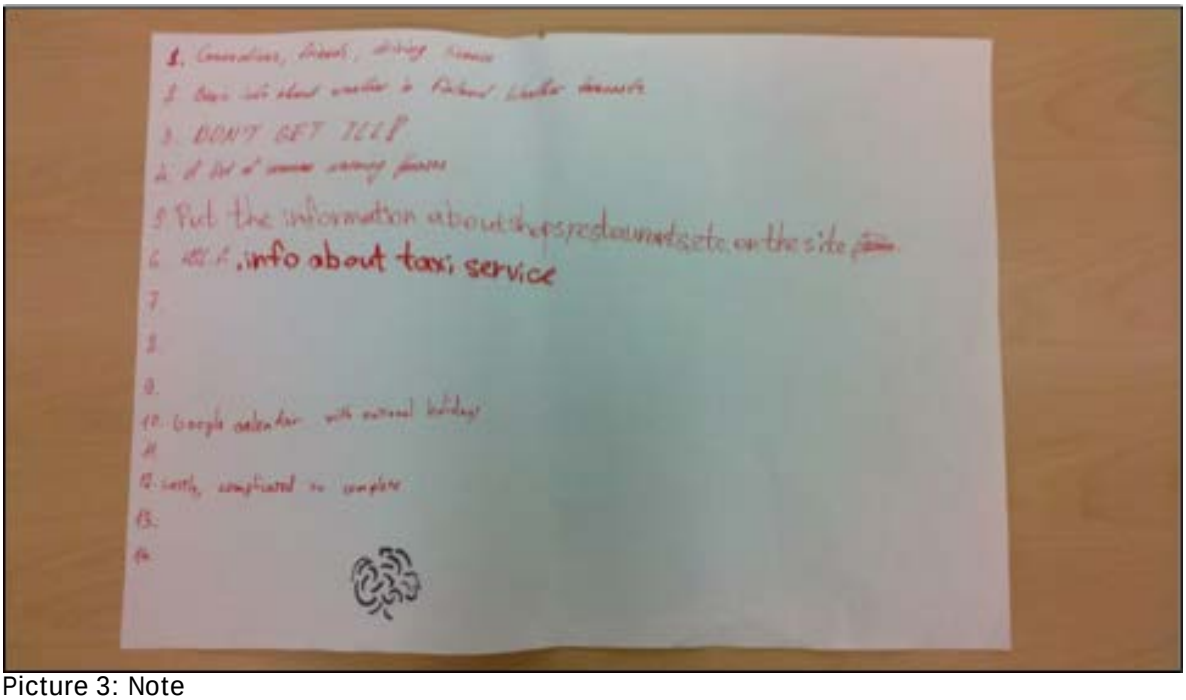
Picture 1: Unsorted Notes

The class was divided into three groups, each with nine students and one moderator. The group discussions were based on the points presented in picture 2. Each team discussed the same points. This means that there were in fact three workshops happening at the same time.

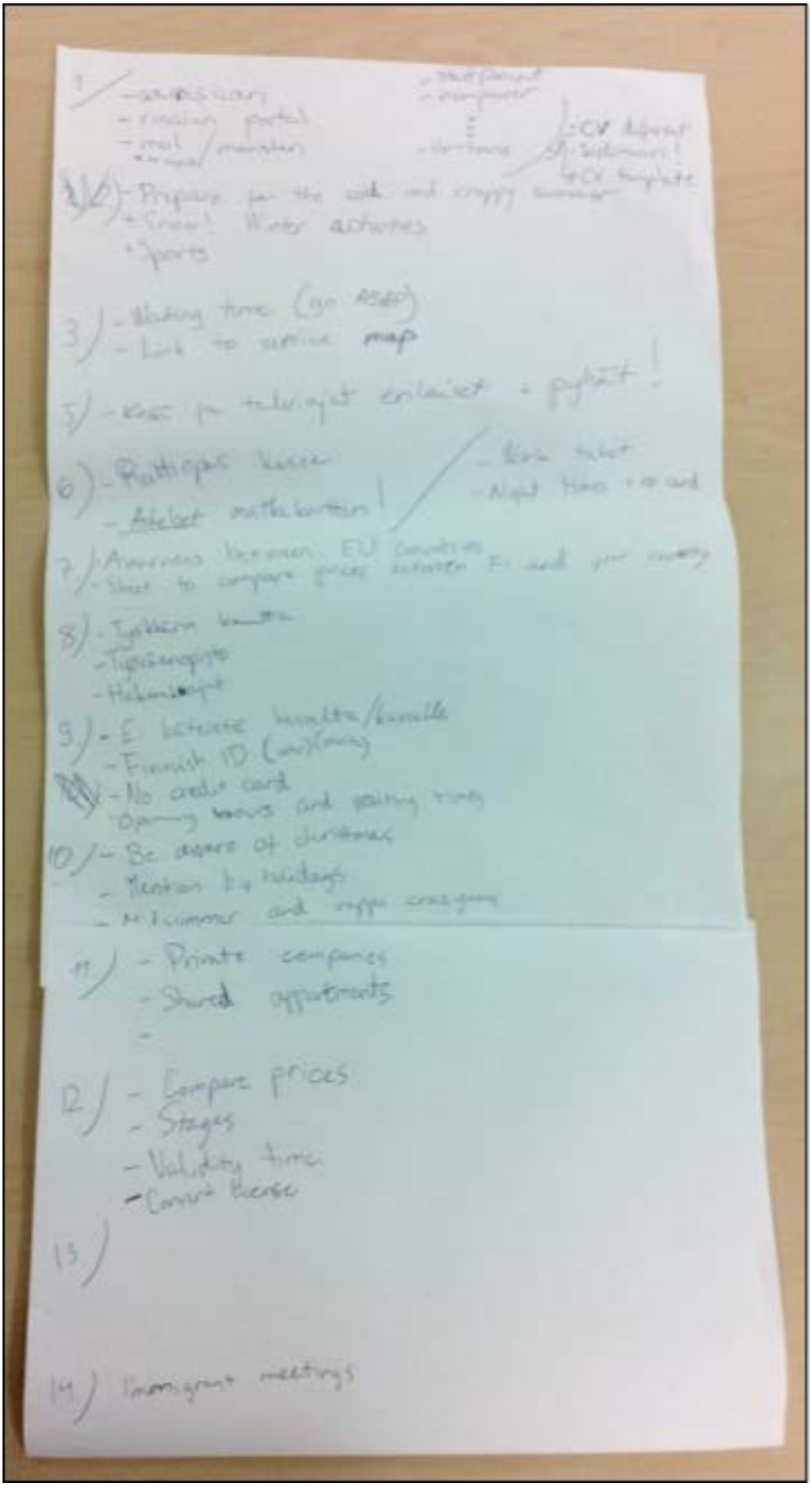


Picture 2: The Main Problems

The Group discussions resulted in notes gathered by the moderators. These can be seen below in pictures 3, 4 and 5.



Picture 3: Note



Picture 4: Note

Picture 5: Note

After that the notes were combined into the following list where each number presents on problem from Picture 1 and bullets present possible ideas and solutions.

Combined Notes and Solutions:

1. Where to find a job?

Employment Office, basic information about seeking a job (Finnish courses)

Job agencies, list of websites (opteam.fi etc.)

CV template

2. Cold and dark!

Monthly information

Length of the day, it's really dark!

Clothing

Snow is fun!!

Winter, its cold also inside of house

3. Hospital, emergencies, waiting times

Link to service map (hel.fi)

Go as soon as you feel sick (horrible waiting times)

4. Caution signs (only in Finnish and Swedish) •

List of common warning phrases

5. General information (shop, restaurant open times etc.)

Information about when shops etc. are open

Closest grocery stores

Information about holidays

6. How to get started with public transport

The steps to get the travel card

Possibility of a travel card from work

Hsl.fi link

Info about taxis + night shift costs with bus / taxi

7. Cost of living

Info about UFF & Recycling Centers for cheap clothes and furniture

Price comparison table between other countries and Finland

General information about shops for cheaper stuff

8. How to study Finnish

Employment offices

Adult Education Facilities

Joining these Finnish courses may take a lot of time

9. Banking system

Some banks require a Finnish ID, Social Security number and address

10. National Holidays

Shops might be closed

Biggest holidays mentioned on the page

Google calendar

Basic information about holidays

11. Apartments

Where to get one

Price differences between private companies and public ones

Shared apartments

12. Driving license

Compare prices

Describe the stages

Validity time

Courses might be only in Finnish

13. Kela

General information about important stuff

14. Social Activities

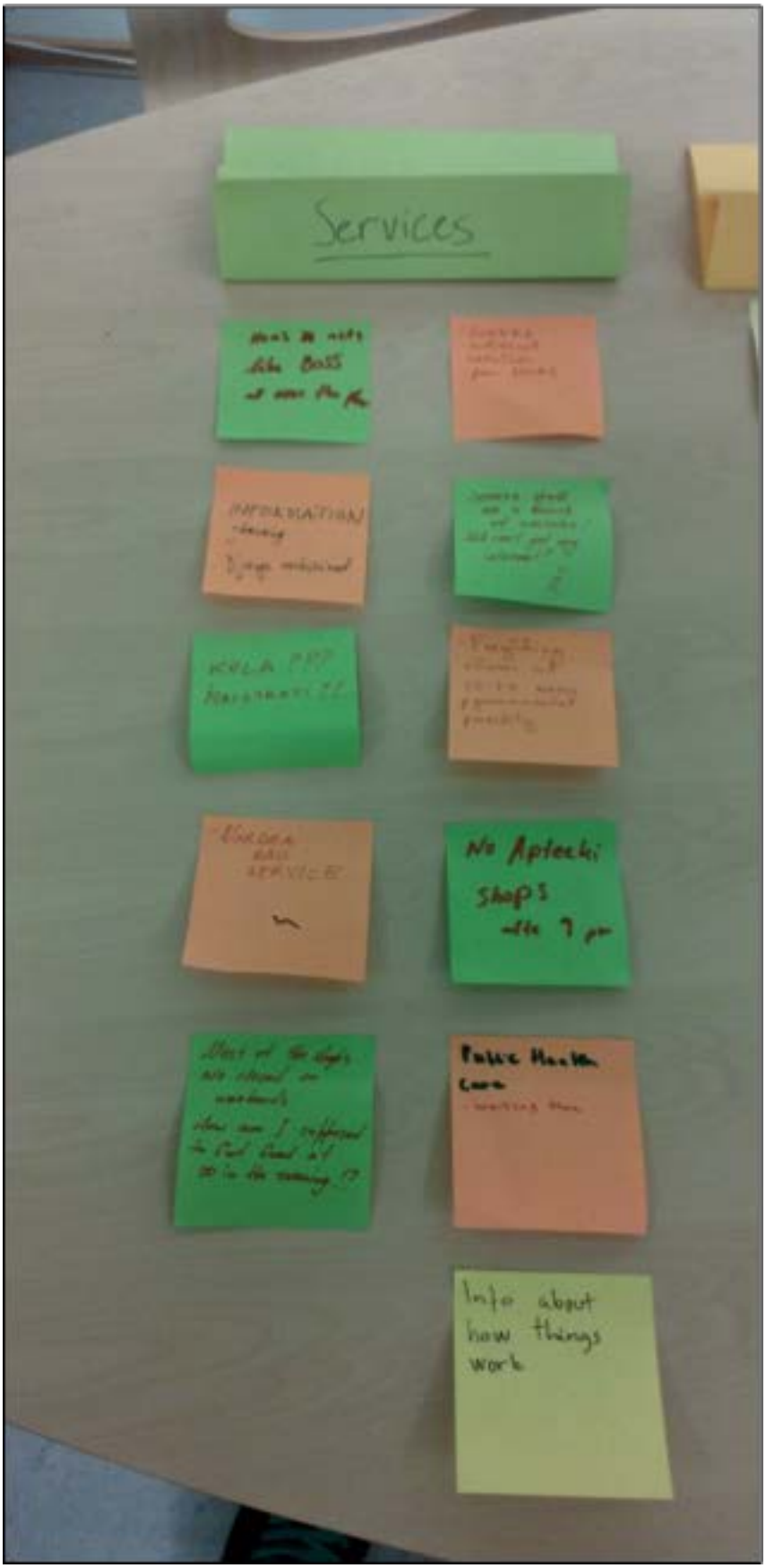
Immigrant meetings

Integration with Facebook

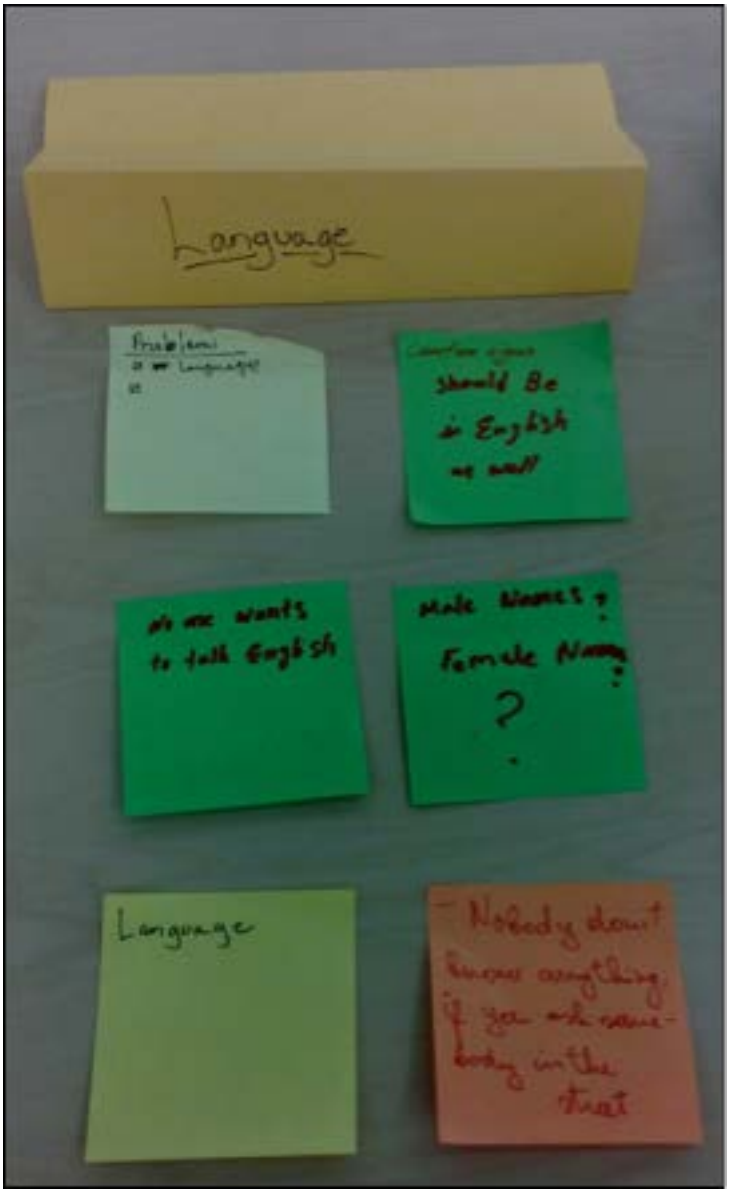
Analysis

The notes were analysed using the affinity diagram by dividing the notes into separate themes. These themes were “Services”, “Language”, “People & Finland”, “Other Problems” and “Unrelated Problems”. Pictures of the affinity diagram below.

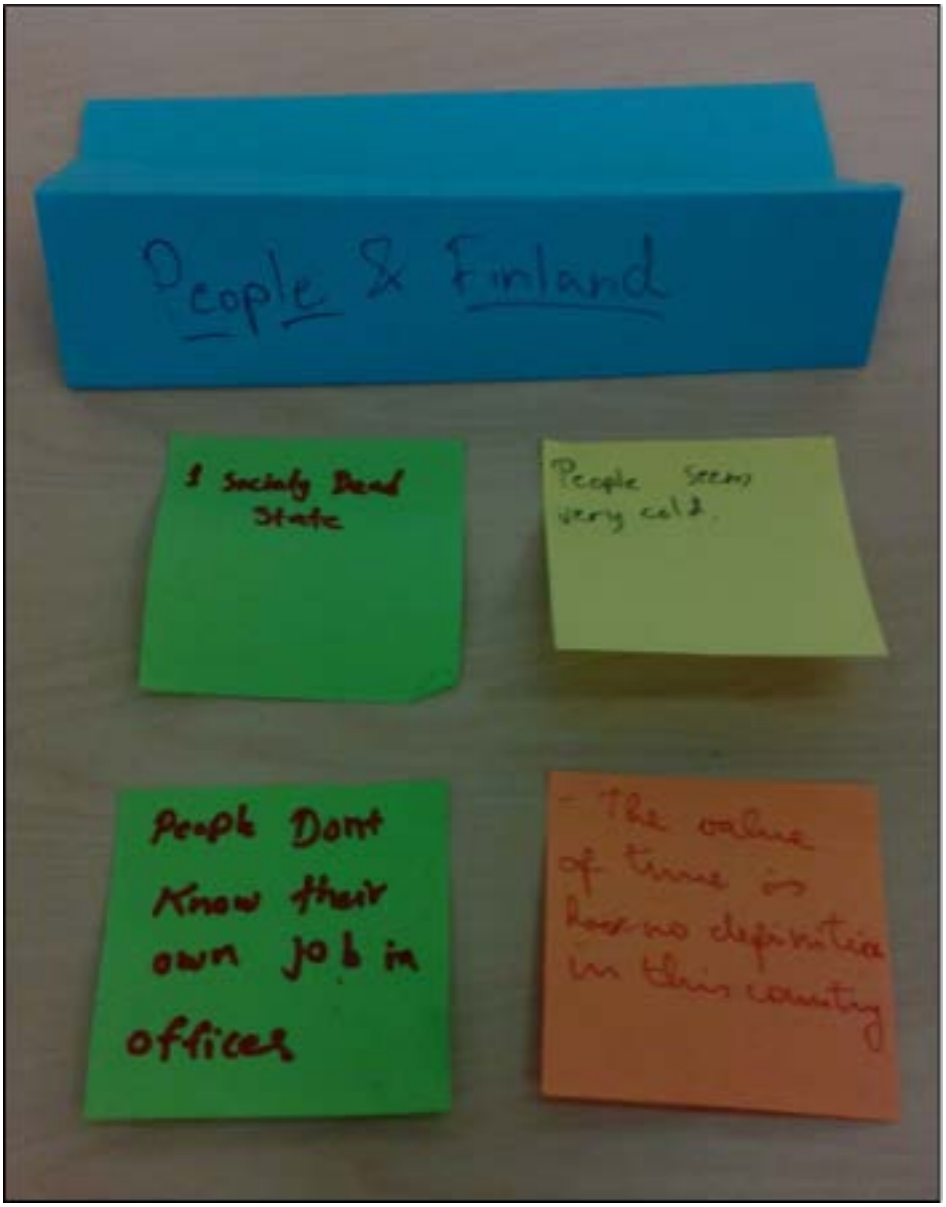
Picture 6: Affinity Diagram



Picture 7: Services



Picture 8: Language



Picture 9: People & Finland

Picture 10: Unrelated Problems

Picture 11: Other Problems

Ideas from the Workshop

During the interviews that were conducted in the beginning of the EXPAT project it was clear that besides looking up information from the Internet expats were also getting in contact with expats who had already stayed in Finland for some time and were familiar with the society. This same approach appeared in the workshop where one of the students described how she had used couchsurfing.org to locate a person to show her around Helsinki and give her information face- to-face.

This idea presents the possibility of steering the site away from information based towards socially active. It would be possible to integrate the site with Facebook to link possibly existing expat groups with the website.

Appendix 3: Persona Cards

Personas

Name: Nina
Nationality: Polish
Age: 36
Family: Married, 4 children

Hobbies: Cooking, Blogging, Joga
Job: Unemployed
Education: Nurse
Tech usage: Using Blogspot at free-time

Background information:

Nina is an unemployed nurse and has been living in Finland for 6 months. She came to Finland with her husband who works at Nokia. Currently her only job is taking care of their four children. She loves shopping and writes a blog about her familys life in Finland.
Nina doesn't speak any finnish and she would like to get connected with people in Finland because the only friends she has got at the moment are her husband's colleagues and their families. She has been looking for finnish language courses online, but hasn't had much luck. Her main hobby back in Poland was yoga and she would like to continue this hobby in Finland.

Persona – Nina

Personas

Name: Michael
Nationality: American
Age: 24
Family: Single

Hobbies: American Football
Job: Unemployed, Just moved
Education: College Graduate
Tech usage: Typical young person with web usage skills in social media and internet.

Background information:

Michael saw Newsweek's article about how Finland is the best country in the world. This changed his world-view completely because he had always believed that the United States was the best.

He jumped on a plane right after he finished college and moved to Finland. He is completely alone here and is in desperate need of acquaintances to help him explore Finland.

Persona – Michael

Personas

Name: Björn
Nationality: Swedish
Age: 27
Family: Single

Hobbies: Jogging
Job: HR manager
Education: University
Tech usage: Uses Office-tools at work and mobile apps at free-time.

Background information:

Björn doesn't have a car. He likes to use public transportation and he's very fond of the finnish public transportation system. Björn enjoys jogging and when he doesn't ride the bus to work he usually walks or jogs there. He also enjoys going to the clubs on week-ends to relax after a long week at work.

Björn graduated from school with an excellent diploma and he is very confident of himself. He's familiar using computers and he loves to use social media sites such as Facebook and Twitter. Björn is constantly updating his status and sharing news and links. When Björn browses the internet he likes simple and well-designed websites.

Persona – Björn

Personas

Name: Pablo
Nationality: Brazilian
Age: 32
Family: Married, 2 children

Hobbies: Football, Cycling
Job: ICT-Specialist
Education: University
Tech usage: ICT professional skills and uses also sport mobile apps during his free-time.

Background information:

Pablo moved to Finland 6 years ago with his wife and two small children to work in a big ICT company. Pablo had been working at the company for many years when he was offered a senior position at the companies Finnish office. The move to Finland came suddenly, he and his family only had a week to decide whether to accept the offer or not. They tried looking for information about Finland, but didn't find anything that would quickly help them.

He is a social person and has many friends in Brazil. He likes football and goes to the gym actively. His wife has a PhD and she was working as a therapist in Brazil. When they got off the plane in Finland, they felt like they were on thin ice and didn't know where to begin.

They settled to Finland nicely. Pablo's wife hasn't been able to find a job and when she isn't looking for a job or handling the children she spends the time online, looking for people to socialize with in Finland. She found many other Brazilian people who lived in Finland, but it wasn't easy and she wished for a simpler way. Their children are in daycare, but Pablo and his wife have trouble every time they need to find medical help for their children.

Persona - Pablo

Appendix 4: Ideas from the research phase

Needs	How it was accomplished	Why?
Simple navigation		To reach massive amounts of data in few simple clicks
Easy site-maintenance use	fancy login-module	To login to website, mainly for admins in alpha/beta phase. Possibility to be used by users if needed, also facebook integrated.
Dynamic Service Map	openlayers	Service map helps users to locate different events and services from the map
Taxonomy for different kind of services and information	Tagcloud	Helps to locate most discussed or visited topics
Social network integration	Facebook login, facebook group-integration Twitter block	Helps users to connect and share via social media
Feedback from end-users	Rate-module (thumbs up&down) Webform-module for contact and other feedback Site analytics with Google analytics-module	To show how the users feel about the page. Contact form for people who wants to report issues or improvement ideas. Google analytics gives detail information about who visits the site and when.
Easy way to find out different services	service map, search, activities and services-pages	Service map helps users to locate different events and services from the map. Search box helps to find specific services or events more easily. Activities and services-pages has all the data listed for users to scroll and find interesting things.
Basic information about Finland	Monthly slider (views and views slideshow) and FAQ for expats for different situations (departure, upon arrival, after one year)	Users gets overall idea of the weather around the year with pictures to describe better how it really is. FAQ for useful data in different situations.
Up to date information about events	With views-module site is able to provide up-to-date information. With automatic node delete-module old events are deleted when they get old.	To keep services and events up to date without great maintenance work.

Appendix 5: Modules used in the Website

Overall site Structure

Module	Description	Dependency
Chaos tools 7.x-1.3	A library of helpful tools by Merlin of Chaos.	Required by: Address Field (enabled), Bulk Export (disabled), Views (enabled), Date Views (enabled), Calendar (enabled), Custom rulesets (disabled), Chaos Tools (CTools) AJAX Example (disabled), Custom content panes (disabled), Panels (enabled), Page manager (enabled), Chaos Tools (CTools) Plugin Example (disabled), Facet API (enabled), Current Search Blocks (disabled), Facet API Pretty Paths (enabled), FB Views (enabled), Feeds (enabled), Feeds Crawler (enabled), Feeds: Facebook parser (enabled), Feeds Import (enabled), Feeds New (enabled), Feeds Admin UI (enabled), Feeds URL Fetcher (enabled), Geocoder (enabled), JS injector (enabled), OpenLayers (enabled), OpenLayers UI (enabled), OpenLayers Views (enabled), Panels In-Place Editor (enabled), Mini panels (enabled), Panel nodes (enabled), Search ajaxified (enabled), Search facets (disabled), Search views (enabled), Stylizer (disabled), Views content panes (disabled), Views Slideshow (enabled), Views Slideshow: Cycle (enabled), Views Slideshow: Slider (enabled), Views UI (enabled)
Mini panels 7.x-3.3	Create mini panels that can be used as blocks by Drupal and panes by other panel modules.	Requires: Panels (enabled), Chaos tools (enabled)
Page manager 7.x-1.3	Provides a UI and API to manage pages within the site.	Requires: Chaos tools (enabled) Required by: Chaos Tools (CTools) Plugin Example (disabled)
Panel nodes 7.x-3.3	Create nodes that are divided into areas with selectable content.	Requires: Panels (enabled), Chaos tools (enabled)
Panels 7.x-3.3	Core Panels display functions; provides no	Requires: Chaos tools (enabled) Required by: Chaos Tools (CTools)

	external UI, at least one other Panels module should be enabled.	Plugin Example (disabled), Panels In-Place Editor (enabled), Mini panels (enabled), Panel nodes (enabled)
Panels In-Place Editor 7.x-3.3	Provide a UI for managing some Panels directly on the frontend, instead of having to use the backend.	Requires: Panels (enabled), Chaos tools (enabled) Requires: Path (enabled), Token (enabled)
Views 7.x-3.7	Create customized lists and queries from your database.	Requires: Chaos tools (enabled) Required by: Date Views (enabled), Calendar (enabled), FB Views (enabled), Feeds News (enabled), OpenLayers Views (enabled), Search views (enabled), Views content panes (disabled), Views Slideshow (enabled), Views Slideshow: Cycle (enabled), Views Slideshow: Slider (enabled), Views UI (enabled)
Views UI	Administrative interface to views. Without this 7.x-3.7 module, you cannot create or edit your views.	Requires: Views (enabled), Chaos tools (enabled)

Service map front-end

Map

Module	Description	Dependency
Geocoder 7.x-1.2	An API and widget to geocode various known data into other GIS data types.	Requires: geoPHP (enabled), Chaos tools (enabled)
Geofield 7.x-1.1	Stores geographic and location data (points, lines, and polygons).	Requires: geoPHP (enabled) Help Required by: Drupal (Field type(s) in use - see Field list), Geofield Map (enabled)

Geofield Map 7.x-1.1	Provides a basic mapping interface for Geofield.	Requires: Geofield (enabled), geoPHP (enabled)
geoP HP 7.x-1.7	Wraps the geoPHP library: advanced geometry operations in PHP	Required by: Geocoder (enabled), Geofield (enabled), Geofield Map (enabled)
jCaption 7.x-1.3	Provides a caption for images from the alt or title attribute using jQuery.	
Nodeblock 7.x-1.2	Enables use of specified node types as custom blocks.	
OpenLayers 7.x-2.0-beta1	OpenLayers base API module	Requires: Chaos tools (enabled) Help Required by: OpenLayers UI (enabled), OpenLayers Views (enabled)
OpenLayers UI 7.x-2.0-beta1	Provides a user interface to manage OpenLayers maps.	Requires: OpenLayers (enabled), Chaos tools (enabled)
OpenLayers Views 7.x-2.0-beta1	Provides OpenLayers Views plugins.	Requires: OpenLayers (enabled), Chaos tools (enabled), Views (enabled)

Search

Module	Description	Dependency
Freelinking 7.x-3.2	A filter that allows flexible linking of content	Requires: Filter (enabled) Required by: Freelinking Prepopulate (disabled)
Custom Search 7.x-1.13	Customize the default search, change labels, default texts, ordering, and display content types and taxonomy selectors.	Requires: Search (enabled) Required by: Custom Search Blocks (enabled), Custom Search Internationalization (disabled), Custom Search Taxonomy (enabled)
Custom Search Blocks 7.x-1.13	Provides additional search blocks.	Requires: Block (enabled), Custom Search (enabled), Search (enabled)
Custom Search Taxonomy 7.x-1.13	Adds taxonomy selectors to Custom Search.	Requires: Custom Search (enabled), Search (enabled), Taxonomy (enabled), Options (enabled), Field (enabled), Field SQL storage (enabled)

Entity API 7.x-1.2	Enables modules to work with any entity type and to provide entities.	Required by: Entity tokens (disabled), Search API Help (enabled), Search ajaxified (enabled), Search facets (disabled), Search views (enabled)
Facet API 7.x-1.2	An abstracted facet API that can be used by various search backends.	Requires: Chaos tools (enabled) Required by: Current Search Blocks (disabled), Facet API Pretty Paths (enabled), Search ajaxified (enabled), Search facets (disabled)
Date Views 7.x-2.6	Views integration for date fields and date functionality.	Requires: Date API (enabled), Views (enabled), Chaos tools (enabled) Required by: Calendar (enabled)
Search ajaxified 7.x-1.1	Ajaxifies Search API pages with jQuery BBQ.	Requires: Search API (enabled), Entity API (enabled), Facet API Pretty Paths (enabled), Facet API (enabled), Chaos tools (enabled)
Search API 7.x-1.10	Provides a generic API for modules offering search capabilites.	Requires: Entity API (enabled) Required by: Search ajaxified (enabled), Search facets (disabled), Search views (enabled)
Search views 7.x-1.10	Integrates the Search API with Views, enabling users to create views with searches as filters or arguments.	Requires: Search API (enabled), Entity API (enabled), Views (enabled), Chaos tools (enabled)

Service map back-end

Content Fields

Module	Description	Dependency
Date 7.x-2.6	Makes date/time fields available.	Requires: Date API (enabled) Required by: Drupal (Field type(s) in use - see Field

		list), Date All Day Help (disabled), Date Context (disabled), Date Migration (disabled), Date Repeat Field (disabled), Date Migration Example (disabled), Date Tools (disabled), Rate Expiration (disabled) Requires: Date API (enabled), Date (enabled)
Date API 7.x-2.6	A Date API that can be used by other modules.	Required by: Date Views (enabled), Calendar (enabled), Date (enabled), Date All Day (disabled), Date Context (disabled), Date Migration (disabled), Date Repeat API (disabled), Date Repeat Field (disabled), Date Migration Example (disabled), Date Popup (disabled), Date Tools (disabled), Rate Expiration (disabled)
Date All Day 7.x-2.6	Adds 'All Day' functionality to date fields, including an 'All Day' theme and 'All Day' checkboxes for the Date select and Date popup widgets.	
Address Field 7.x-1.0-beta5	Manage a flexible address field, implementing the xNAL standard.	Requires: Chaos tools (enabled) Required by: Drupal (Field type(s) in use - see Field list)
Calendar 7.x-3.4	Views plugin to display views containing dates as Calendars.	Requires: Views (enabled), Help Chaos tools (enabled), Date API (enabled), Date Views (enabled)
Auto node delete	Delete old nodes automatically.	
Advanced help 7.x-1.0	Allow advanced help and documentation.	Required by: Chaos Tools (CTools) Plugin Example

		(disabled), Advanced help example (disabled)
Insert 7.x-1.3	Assists in inserting files, images, or other media into the body field or other text areas.	
LinkImage 7.x-1.x-dev	Defines an link image field type.	Requires: Field (enabled), Field SQL storage (enabled), Image (enabled), File (enabled)
TagClouds 7.x-1.9	TagClouds makes weighted tag clouds from your taxonomy terms.	Requires: Taxonomy (enabled), Options (enabled), Field (enabled), Field SQL storage (enabled)

Map integration with Facebook events

Module	Description	Dependency
Automatic Nodetitles 7.x-1.0	Allows hiding of the automatic title creation. content title field and automatic title creation	
Feeds 7.x-2.0-alpha8	Aggregates RSS/Atom/RDF feeds, imports CSV files and more.	Requires: Chaos tools (enabled), Job Scheduler (enabled) Required by: Feeds Crawler (enabled), Feeds: Facebook parser (enabled), Feeds Import (enabled), Feeds News (enabled), Feeds Admin UI (enabled), Feeds URL Fetcher (enabled)
Feeds Admin UI alpha8	Administrative UI for 7.x-2.0- Feeds module.	Requires: Feeds (enabled), Chaos tools (enabled), Job Scheduler

		(enabled)
Feeds Crawler 7.x-1.0-beta2	Crawl a site using Feeds.	Requires: Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled)
Feeds Import 7.x-2.0-alpha8	An example of a node importer and a user importer.	Requires: Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled)
Feeds News 7.x-2.0-alpha8	A news aggregator built with feeds, creates nodes from imported feed items. With OPML import.	Requires: Features (enabled), Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled), Views (enabled)
Feeds URL Fetcher 7.x-1.0	A Feeds plugin that will fetch files from an any URL supported by PHP	Requires: Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled)
Feeds: Facebook parser 7.x-1.x- dev	Adds a Facebook Graph home feed processor to the Feeds module	Requires: Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled)
Features 7.x-2.0	Provides feature management for Drupal.	Required by: Date Migration Example (disabled), Feeds News (enabled)
Job Scheduler 7.x-2.0-alpha3	Scheduler API	Required by: Feeds (enabled), Feeds Crawler (enabled), Feeds: Facebook parser (enabled), Feeds Help Import (enabled), Feeds News (enabled), Feeds Admin UI (enabled), Feeds URL Fetcher (enabled), Job Scheduler Trigger (disabled)
Pathauto 7.x-1.2	Provides a mechanism for modules to automatically generate aliases for the content they manage.	

Social network integration

Site login

Module	Description	Dependency
Facebook API 7.x-	(fb.module) Initializes	Required by: Facebook Apps

3.3-beta6	facebook's PHP and Javascript client libraries. Enables FBML Like buttons and other social plugins.	(enabled), FB Canvas Pages (enabled), Facebook Connect (enabled), FB Development tools (disabled), FB Forms (disabled), FB Example beta6 Customizations (disabled), FB Friend Features (disabled), Open Graph and Timeline (disabled), FB Extended Permissions (disabled), FB Registration (disabled), FB Rules Integration (disabled), FB Streams (disabled), FB Tabs (disabled), FB Testing Helpers (disabled), FB User Management (enabled), FB User Tracking (disabled), FB Views (enabled)
Facebook Apps 7.x-3.3-beta6	(fb_app.module) Host and administer Facebook apps.	Requires: Facebook API (enabled) Required by: FB Canvas Pages (enabled), Facebook Connect (enabled), FB Example Customizations (disabled), FB Friend, Features (disabled), FB Extended Permissions (disabled), FB Registration (disabled), FB Tabs (disabled), FB Testing Helpers (disabled), FB User Management (enabled), FB User Tracking (disabled), FB Views (enabled)
FacebookConnect 7.x-3.3-beta6	(fb_connect.module) Host Facebook Connect apps. Login buttons and FBML helpers that are useful on iframe canvas pages as well.	Requires: Facebook API (enabled), Facebook Apps (enabled)
FB Canvas Pages 7.x-3.3-beta6	(fb_canvas.module) Host apps on facebook.com using iframe canvas pages.	Requires: Facebook API (enabled), Facebook Apps (enabled)
FB User Management 7.x-3.3- beta6	(fb_user.module) Maps local user accounts to facebook user ids. Creates local accounts for app users when configured to do so.	Requires: Facebook API (enabled), Facebook Apps (enabled) Required by: FB Views (enabled)
FB Views 7.x-3.3-beta6	(fb_views.module) Provides features specific to Views module for Facebook Apps.	Requires: Facebook API (enabled), FB User Management (enabled), Facebook Apps (enabled), Views (enabled), Chaos tools (enabled)

Other social media

Module	Description	Dependency
ShareThis 7.x-2.5	Add the ShareThis widget to nodes on your site.	
Twitter Block 7.x-2.0	Provides configurable blocks for a Twitter feed.	Requires: Block (enabled)

Site login

Module	Description	Dependency
Fancy Login 7.x-2.0	Creates a fancy javascript based popup login window	
Customize the destination 7.x-1.1	Login Destination that the user is redirected to after login.	
JS injector 7.x-2.1	Adds JavaScript to the page output based on configurable rules	Requires: Chaos tools (enabled)

Feedback and analytics

Module	Description	Dependency
RDF 7.24	Enriches your content with metadata to let other applications (e.g. search engines, aggregators) better understand its relationships and attributes.	
Rate 7.x-1.6	Flexible voting options for nodes and comments	Requires: Voting API (enabled) Required by: Rate Expiration (disabled), Rate Slider (disabled)
Google Analytics 7.x-1.4	Allows your site to be tracked by Google Analytics by adding a Javascript tracking code to every page.	

CAPTCHA 7.x-1.0	Base CAPTCHA module for adding challenges to arbitrary forms.	
Voting API 7.x-2.11	Provides a shared voting API for other modules.	Required by: Rate (enabled), Rate Expiration (disabled), Rate Slider (disabled)
Webform 7.x-3.19	Enables the creation of forms and questionnaires.	
XML sitemap 7.x-2.0-rc2	Creates an XML sitemap conforming to the sitemaps.org protocol.	Required by: XML sitemap custom (enabled), XML sitemap engines (enabled), XML sitemap internationalization (disabled), XML sitemap menu (enabled), XML sitemap node (enabled), XML sitemap taxonomy (enabled), XML sitemap user (enabled)
XML sitemap 7.x-2.0-custom rc2	Adds user configurable links to the sitemap.	Requires: XML sitemap (enabled)
XML sitemap 7.x-2.0-engines rc2	Submit the sitemap to search engines.	Requires: XML sitemap (enabled)
XML sitemap 7.x-2.0-menu rc2	Adds menu item links to the sitemap.	Requires: XML sitemap (enabled), Menu (enabled)
XML sitemap node 7.x-2.0-rc2	Adds content links to the sitemap.	Requires: XML sitemap (enabled)
XML sitemap taxonomy 7.x-2.0-rc2	Add taxonomy term links to the sitemap.	Requires: XML sitemap (enabled), Taxonomy (enabled), Options (enabled), Field (enabled), Field SQL storage (enabled)
XML sitemap user 7.x-2.0-rc2	Adds user profile links to 7.x-2.0- the sitemap.	Requires: XML sitemap (enabled)

Monthly slider

Module	Description	Dependency
Views	Provides a View style that displays rows as	Requires: Views (enabled),

Slideshow 7.x-3.0	a jQuery slideshow. This is an API and requires Views Slideshow Cycle or another module that supports the API.	Chaos tools (enabled) Required by: Views Slideshow: Cycle (enabled), Views Slideshow: Slider (enabled)
Views Slideshow: Cycle 7.x-3.0	Adds a Rotating slideshow mode to Views Slideshow.	Requires: Views Slideshow (enabled), Views (enabled), Chaos tools (enabled), Libraries (enabled)
Views Slideshow: Slider 7.x-3.0	Adds a jQuery UI slider bar widget to Views Slideshows.	Requires: Views Slideshow (enabled), Views (enabled), Chaos tools (enabled)

Appendix 6: Expat-website guidelines

Introduction

This report goes through various guidelines about the Expat-platform. These guidelines will help you understand all the technicalities behind the platform. Main aspects will be:

- How to implement the platform to new site?
- How to maintain your platform?
- How to develop your platform further?
- How your local Expat-service providers can use the platform?

Along with this report you will receive USB-memory stick, which contains:

- PDF-version of this report
- All the content of your local platform (Drupal website content and the MySQL databases)

Your current platform will continue to operate till 24th of January 2014. After this date you will need to provide new hosting services for the platform, if you want to use your platform in the future.

Domain addresses (*cityname*expats.info) are rented to us till 24th of January 2015. These domain names can be transferred to your new hosting service or you can also start to use the platform in new domain-address.

To carry out the next steps you need a person with a basic knowledge of web-hosting services and Drupal CMS.

Implementing the platform to new site

Requirements for the hosting server:
The new server should support Drupal which is our platforms current Content management system. This basically means that web-server supports PHP5 and MySQL databases.

Current web-server is hosted by GoDaddy.com which is world's largest domain name registrar and Web hosting provider. You can continue using Godaddy.com services by buying new server from there or you are also able to choose different hosting service provider and move your current platform there.

After you have acquired your new server, copy all the content from the USB-stick which you received with this report to your new server. Copy website-content to your web-servers root-folder and import MySQL-databases to new database. After this make necessary modifications to Drupal settings.php file (change database settings to match the new server.)

You will find all the needed account information (Drupal and MySQL) in the end of this document.

Maintaining the platform

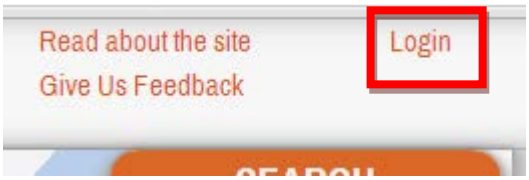
After you have successfully implemented the platform to a new website you can start to maintain it. Go through the different configuration and modules and they are working correctly and set them up to date (Contact email-address etc.).

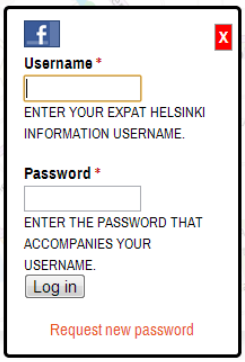
The platform itself is easy to use, and after the installation it can be maintained, just by adding new content to the site. Next steps will show you how to add new content to the website and how to add new local service-provider account.

Adding new content

How-to Login

Click the Login button on the top-right of the website and enter your username and password



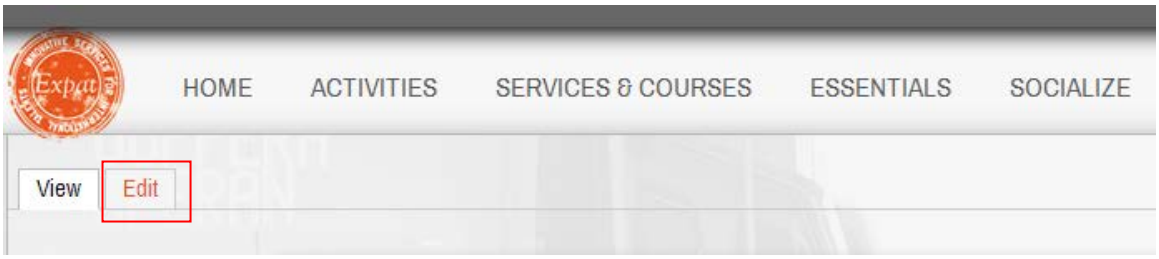


Your homepage

After login you are redirected to your user page. From here you can add new content to the website and also see all the content you have added to the site.

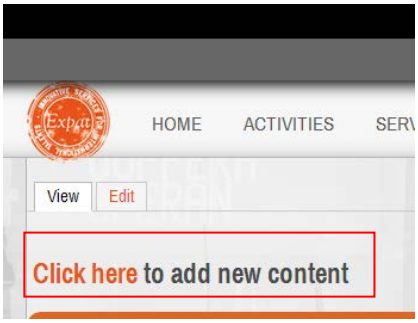
You can get back to this page by clicking the “Hello –“ –link on the top right of the page.

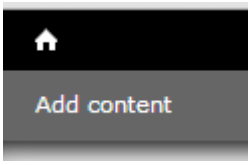
You can change your current password or e-mail by clicking the “Edit”-link while you are on your homepage.



How-to Add new content

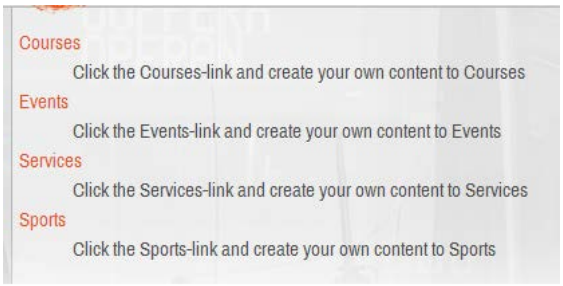
After login you are redirected to your user page. From there press “Click here to add new content”-link.





You can also use the “Add content” button on the top left of the page.

Next, selected what kind of content you want to add to the page.



This will open content form page and you can fill out the form with your information.

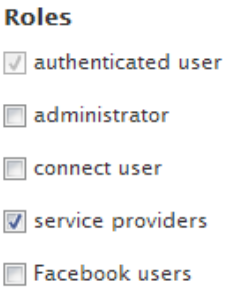
When you are accessing your platform with your website root-account, (expat_*cityname*) you will have permission to change anything on the website so you should remember to be careful with it.

Add new service provider account

Click people on the top bar of the page

After this click Add user-link 

Fill out the form and remember to check the "service-provider"-role from the Roles-section



Click Create new user-link, and after this you are able to login to the website with the new account. Service provider user-group has limited permissions and they are only allowed to add new events and services to the website.

Develop the platform further

For the future development of your platform we have also provided you with the helsinkiexpats.info platform. Helsinkiexpats.info has some new features which could be implemented also to your sites. You can setup helsinkiexpat-site to your servers for test purposes and develop your own platform further.
Some features:

- Facebook integrated login.
    - login by using your facebook account
    - requires Facebook app and SSL-verifications
- Facebook event import. You can add your events to your website by using the Facebook event ID
- Better functionality with different views (activities, coming up, map etc.)

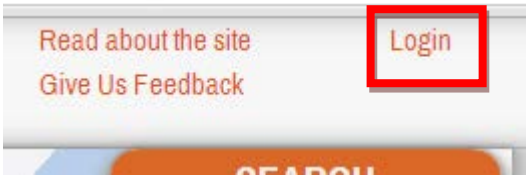
It's good to keep in mind that these functions are still under development and may not work flawlessly without modifications.

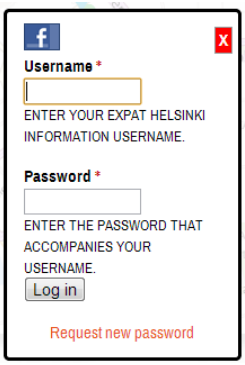
Service provider Guideline

This is a guideline for your local service providers. By following this tutorial they can add their events and services to the platform.

How-to Login

Click the Login button on the top-right of the website and enter your username and password



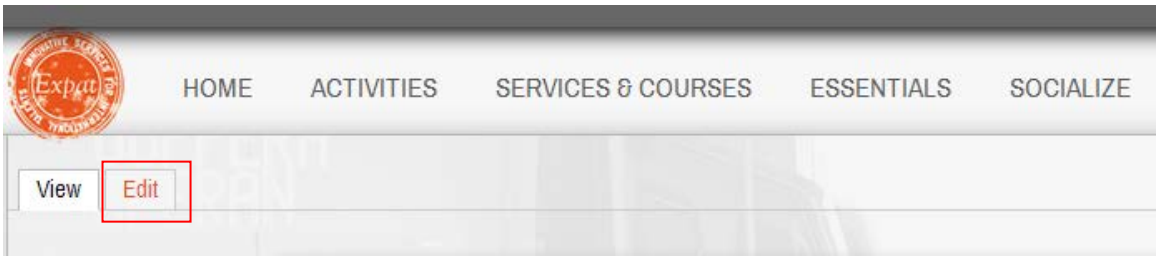


Your homepage

After login you are redirected to your user page. From here you can add new content to the website and also see all the content you have added to the site.

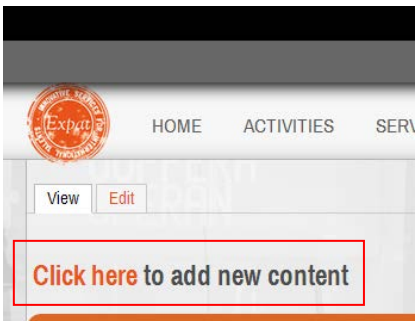
You can get back to this page by clicking the "Hello –" –link on the top right of the page.

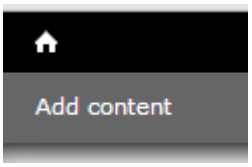
You can change your current password or e-mail by clicking the "Edit"-link while you are on your homepage.



How-to Add new content

After login you are redirected to your user page. From there press "Click here to add new content"-link.





You can also use the "Add content" button on the top left of the page.

Next, selected what kind of content you want to add to the page.

This will open content form page and you can fill out the form with your information.

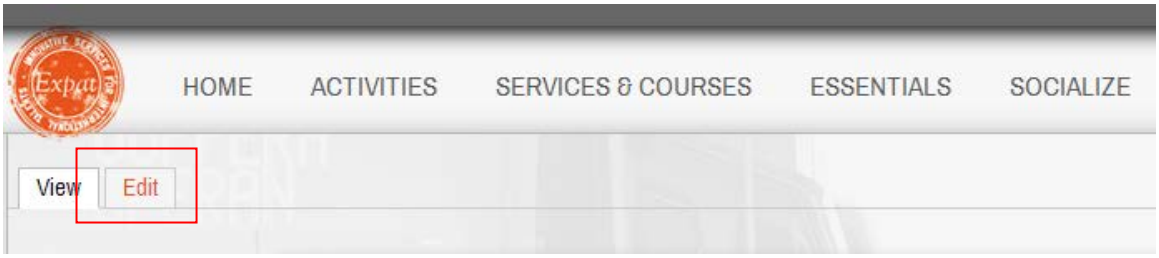
Required fields are:
Title, **Description**, **Address** and **Tags**
You can also set the **Date** and **Website** for your content.

Please remember to use tag-keywords, while adding content to the site. These keywords will appear in the

“tagcloud” on the front page of the website. This helps people to find right content for them easier.

When you have filled out the form, just click “Save”-button and you are done.
Edit or Delete your content

Open the content page you want to edit or delete and click “Edit”-link.



From there you can edit/update or delete your content.