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Website for Ideatalli

Design of a website's user interface and experience

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Understanding the process of software development when the task is reduced to a small team, provides many opportunities for the developer to get involved with the design process and plan the structure of the project to develop an optimal product.

This thesis project focused on the web development for a company named Ideatalli. Ideatalli is a company that develops commercial ideas for its clients to help them gain competitive advantage, new business, brand differentiation and more sales. The website user interface and graphic elements were designed with Adobe Photoshop and Adobe Illustrator. The website frontend uses CSS, HTML and JavaScript.

The outcome of the project is the implementation of the responsive website. Which is the point of contact between the user and the company that owns the website. The development of the website could be improved and more functionality features would be added in future collaboration with the company.

Keywords	CSS, HTML JavaScript, Web development

Contents

Abbreviations and Terms

CSS	Cascading Style Sheets
DOM	Document Object Model
HTML	Hyper Text Markup Language
HTTP	Hyper Text Transfer Protocol
JS	JavaScript
OS	Operating System
PS	Photoshop
RWD	Responsive Web Design
SVG	Scalable Vector Graphics
URL	Uniform Resource Locator
UI	User Interface
UX	User Experience
W3C	World Wide Web Consortium
WWW	World Wide Web
XML	Extended Markup Language
XHTML	Extensible Hypertext Markup Language

1 Introduction

This thesis is about creating a website for a company named Ideatalli and the aim is not just to create a website, but to document the process that I followed and the tools that were used for this purpose. Other purpose is that this document could be useful for a student or somebody that is interested into the web development and in search for experiences within this software development field.

The website will have a concept and every element will be developed within the same style adding animations and functionality. This website will be also based on user interface and user experience concepts.

During the process, different concepts like usability, website modelling that will help to enhance the experience of using a website from the point of view of a web designer and also as a developer, and improving professional skills to create web designs. The experience of working side by side with the client will provide some insights of how the relationship with customers will be like through the different stages of a professional career.

For a company, a website has become the best way along with social media to promote their services, it has become a point where they introduced themselves with a unique style that reflects not only what they do, but also how they will perform a task or job. The personnel at Ideatalli wanted to renew the website layout, with the purpose of bringing more customers. They asked me, to take the task of coding and designing the interface according to their preferences and also to the common standards used among the current web development trends.

2 Background

2.1 Defining a Website Design

The point of view I took to make this website is from a web developer with a graphic design approach. By this I mean that some elements will be ruled by some colour theory and some small psychological approaches to be able to transmit the message desired by the company.

To begin a website, we need to come with its design and for that reason we need to define what is going to be the design and the concepts that come along with designing a website.

One definition for design that is that the design of software is the activity of the software life-cycle in which the requirements are analysed to produce a description of the software internal structure that helps to build the bases for its construction [1]. When working in software design, is important to use models, to project thoughts or abstract ideas, so we can have a better understanding.

2.2 Web Design Modelling Process

A model is a fundamental process for designing and helping us to simplify and project reality but including relevant aspects of the elements. The modelling process gives a better understanding on the website (system) we are developing. A model could be seen as abstraction of the system. This will help us to visualise a system as it is or as we want it to be. [15]

2.2.1 Reasons for Modelling a Website

The primary objective of a software designer is to produce a software that satisfies the needs of the users and the relationship with the business, any other aspect that comes after this is secondary, although it does not mean it is irrelevant or without importance. In order to achieve this result, we need to properly plan and design the structure and layout.

2.3 User Interface

User interface (UI) design focuses on anticipating what users might need to do and make these elements easy to access, easy to understand and to facilitate other elements. This includes concepts from interaction design and visual design. [2]

A user interface will include different elements that are common but it is not limited to a certain kinds of elements. Choosing what kind of user interface elements are going to be included need to be done in a consistent and predictable fashion. This does not exclude any kind of innovation. [2]

It is recommended to know what kind of users are going to be visiting the website, to understand why they are visiting it, their goal, the company's goal and what the reason is why you want to stablish a connection between the website and the user. In this particular situation with Ideatalli, the users or target audience is every person or company that is interested in having new ideas to increase their competiveness, more sales. Also to this particular case it was very important to consider how the personnel from Ideatalli wanted to share the essence of the company on the webpage. This will be discussed in the Design Process section.

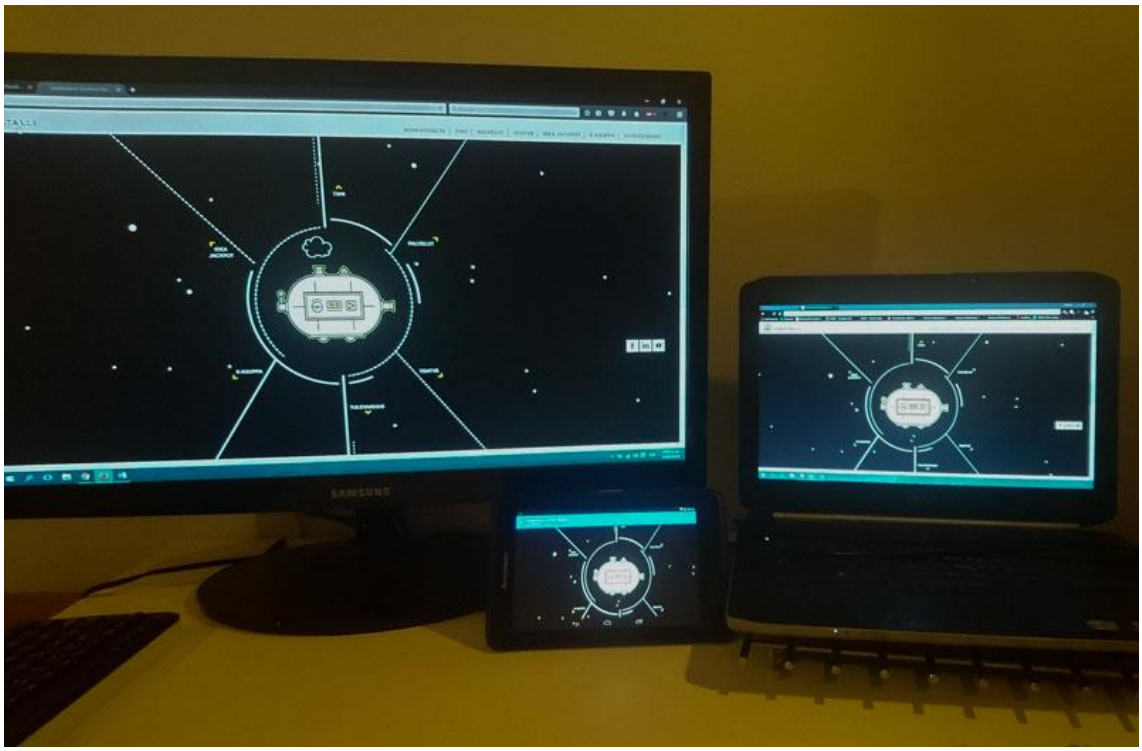


Figure 1. Example of the different GUI (graphical user interface).

As figure 1 illustrates, a website could be viewed from different devices with different screen sizes and some elements within the user interface could be displayed in different sizes depending on how adaptable the design is.

2.4 Usability

Usability is the practice of designing and architecting websites to focus on the user's experience. The next definition is taken from the International Standards Organization that says that usability is "the effectiveness, efficiency, and satisfaction with which users can achieve tasks in a particular environment of a product. High usability means that a system is easy to learn and remember; efficient, visually pleasing and fun to use; and quick to recover from errors" [3]. Usability is a quality or attribute to the user interface in this context.

We need to understand that usability is related to user experience, which as a consequence will tell us how well a product is designed. In order to create an optimal website, usability concepts are vital to have successful product that is enjoyable and simple. This

involves coding knowledge, interaction design, graphic design, marketing, and user experience design.

2.5 User Experience (UX)

User experience design includes what, when, where, why, how and who uses the product which affects every interaction with that product. A user experience designer will answer business needs with user needs as showed in the figure 2. User interface and usability are included as part of User experience. User experience is a broad concept.

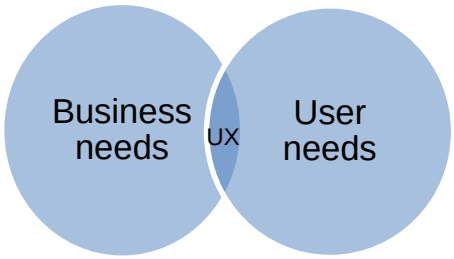


Figure 2. UX as a joint between needs.

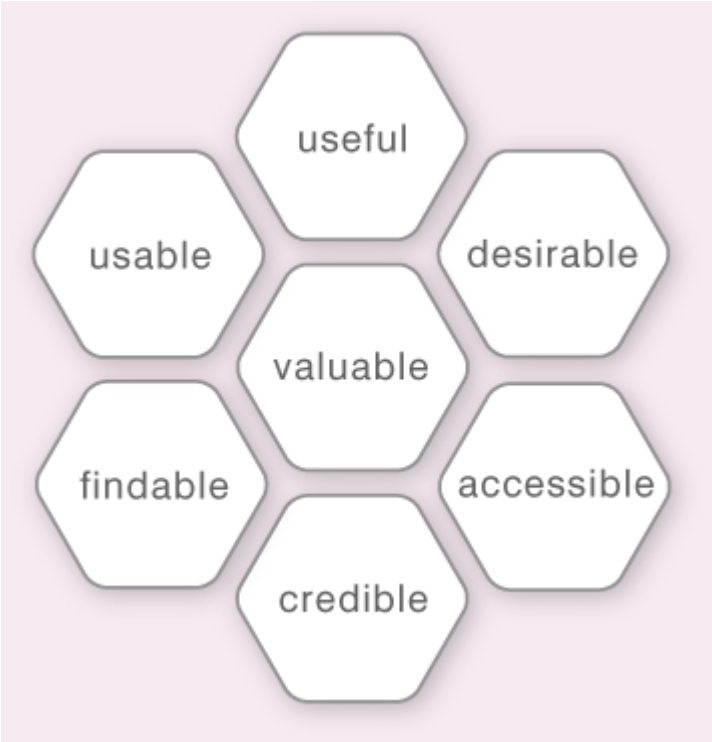


Figure 3. Peter Morville's user experience honeycomb [4].

Figure 3 shows the concepts to be considered when designing a website. Peter Morville explains that he came up with this diagram after working in an information architecture environment but encountered the needed to explain why they need to contemplate products beyond the concept of usability. He has applied this concept to his projects with positive results. [12]

The responsibility to create a positive user experience is most of the times given to the developers and web designers. In some cases, companies might require the services of consultant companies or an agency to improve the quality of the services offered by researching any opportunity areas and to make a better design. With Ideatalli website the idea was to start a new complete idea to renew the website of the company by making it easy to read with powerful message, minimalistic in colours and visual elements, so the message would be transmitted without too many distractions and displaying a small taste of what the company could provide.

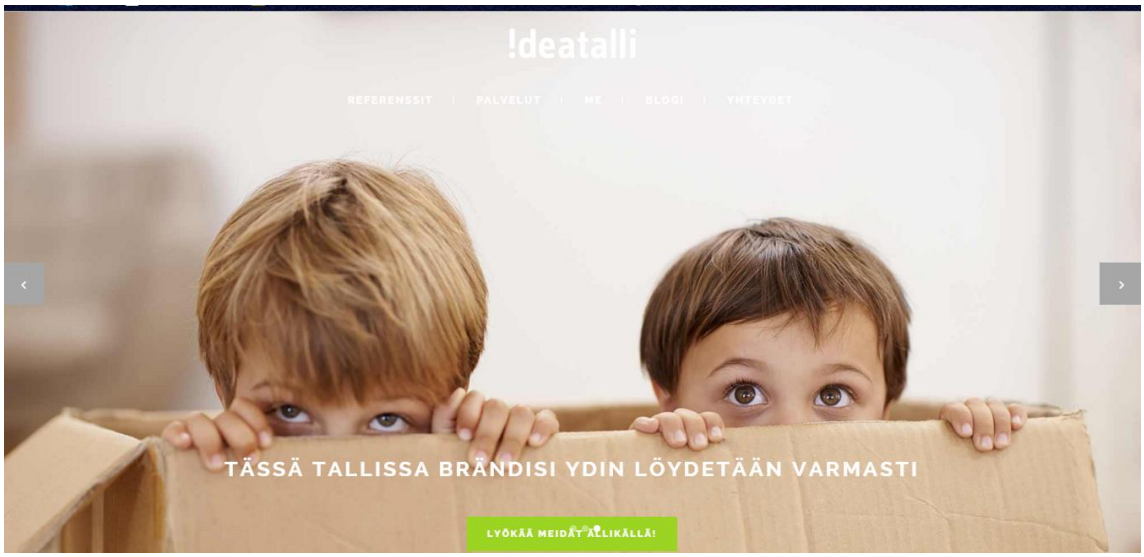


Figure 4. Homepage of the Ideatalli website accessed 15th of October 2015

Figure 4 shows the website of the Ideatalli company before the agreement to create a new site for them. This is the header of the website.

Figure 5. Homepage of the Ideatalli website accessed 15th of October 2015

Figure 5 shows the services (palvelut) section of the previous website.

The layout of the website refered in figure 5 has a more traditional interaction design with a vertical display of information, which required the user to scroll only on the Y axis. The creative partners of Ideatalli wanted a non-traditional layout in order to make a difference and to give a new form of interaction but still easy to understand without being familiar. Those were among the reasons the layout and how information was displayed on the website needed to be redesigned.

3 Web Design Technologies and Programming Languages

3.1 Introduction

To apply this technology and create the website from scratch, I have decided to employ the most commonly used languages to build a website by coding the front end side of the website which focuses on the look, and functionality. These languages had been stablished as the standard languages for the web design and development. HTML & CSS are the fundamental technologies for building the website while JavaScript has the ability to manipulate the element in the DOM. [16]

3.2 HTML

Every information contained in a Webpage, is going to be display by using HTML which acronym stands for Hypertext Mark-up Language. HTML contains all the elements like the graphics content and other information that could be found on a website. It could be considered just as a text file. Containing text is what makes easier for each web browser to read it or by any computer and it does not matter the name of the brand. Each file that is in the HTML format has a name and after a dot the html extension.

e.g. nameofthefile.**html**

In order to create a file, we can use a simple notepad or any code editor available, usually adding manually the extension manually. To understand the structure or anatomy of HTML, is important to know that every file that must start with a statement that tells the web browser that this file has a format of HTML.

```
<! DOCTYPE html>
```

Listing 1. Initial statement of a HTML file.

After code showed in the listing 1, we need to be aware of the fact that there are main elements that conform each file of HTML that are consider labels or tags. The main labels to build a HTML file are named html, head and body.

```
<html>
<head>
<body>
```

Listing 2. Example of the tags or labels.

Each element needs to have and ending tag or label in order to tell the browser that this section is closed. This is done as similar to the tag that opens the section but adding slash sign after the “lesser than” sign. The logic of the labels follows the concept of parents and children. A child is contained within a parent label or tag.

```
<html>
<head>
</head>
<body>
</body>
</html>
```

Listing 3. Initial and final tag or label.

The <head> and <body> sections are contained within the <html> pair of tags in order to tell the browser that this needs to be considered inside the HTML file. This means the html tag is the parent of the head and body. Inside the head tag resides information about our website that is not necessarily shown when the browser renders or interprets the HTML file. In the body tag we can include the information that is going to be displayed when the file has been interpreted by the browser. Inside both of the mentioned tags more tags can be added to divide each section into more sections but considering that each tag will be the child of the parent tag that precedes.

The logic behind how the HTML elements are organized is known as the Document Object Model or DOM and this is a convention created to make it easier to understand, for the developer, how programs and scripting languages access and modify the content, the structure and display of the elements in the HTML file.

Figure 6. HTML example syntax

Figure 6 gives an example of what the code looks like a real website.

3.3 Cascading Style Sheet

Another language we need to use in order to provide style to our HTML file is the CSS which stands for Cascading Style Sheet. This language is a scripting language which means that it will just consist in sentences that will describe what the page is going to look like and how the user is going to interact with the website. This language has evolved into levels with CSS3 the last level released and it comes with features that enable the website to have animations that previously were possible with the JavaScript language. There are three different ways to link an HTML file with a CSS file or code. Similarly, to the HTML file, to create a file we can use a simple notepad or code editor and add the extension .css to specify the format of the file.

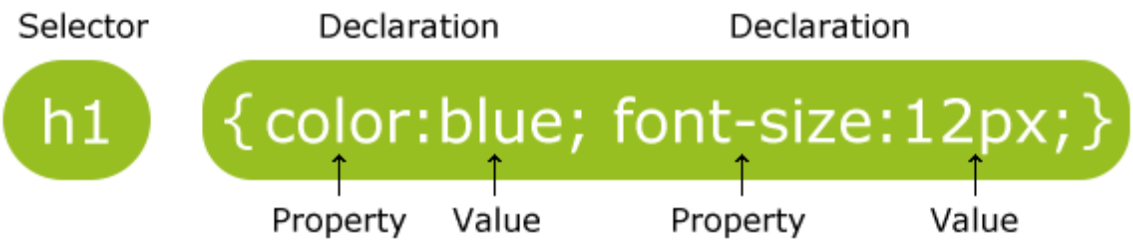


Figure 7.CSS syntax declaration, Reprinted from w3schools website [9]

One option is the internal style, which consist to give style to our HTML file with CSS adding a tag <style> and closing the tag with </style> and in between the tags we add the style with the properties and rules for the elements we want to apply into the file.

```
<head>
<style>
body {
    background-color: blue;
}

h1 {
    color: black;
    margin-left: 40px;
}
</style>
</head>
```

Listing 4. CSS internal style syntax

Another option to include the CSS code into the HTML file is the inline style, which consist of adding the rule into the tag or label that opens the section. This will be specific to the element or tag to which we are aiming to apply the style.

```
<h1 style="color: blue; margin-left:30px;">This is a heading.
</h1>
```

Listing 5. CSS inline style syntax

The third option to add style our HTML file is the external style sheet which consists of sequences of code to tell the browser that there is a file that contains the information about the style in which the website should be displayed. This is done by adding a link tag into the head section of the HTML file in order to tell the browser where the file is located and that it should be interpreted before the rendering process is done.

```
<head>
<link rel="stylesheet" type="text/css" href="style.css">
</head>
```

Listing 6. CSS external style sheet

I decided to proceed with the external style sheet option and the reason why I chose this was to keep the HTML file lighter and the information easier to read and just to focus on what is included in HTML file. The CSS file will contain all the information needed to edit the style of the website.

3.4 JavaScript

JavaScript (JS) is a lightweight, interpreted, programming language with first-class functions. Being most well-known as the scripting language for Web pages, many non-browser environments use it such as node.js and Apache Couch DB. JS is a prototype-based, multi-paradigm, dynamic scripting language, supporting object-oriented, imperative, and functional programming styles. [6] JavaScript is a cross-platform, object-oriented scripting language. It is a small and lightweight language. Inside a host environment (for example, a web browser), JavaScript can be connected to the objects of its environment to provide programmatic control over them. [6]

JavaScript is going to be used to make animations that are not possible with CSS and also to give a better experience to the user when using and browsing the website. One of the advantages about JS is that libraries have been created to manipulate elements, handling events like the move of the mouse over the website or animation that will be able to display in multiple browsers. One of these libraries is called JQuery and this is one of the most popular libraries available for the front-end side of a website. This library is widely used to shorten the syntax and to have a better understanding of the code being manipulated on the web page. This library was used in this project combined with JavaScript logic syntax.

The syntax of JavaScript is similar to other programming languages and requires a better understanding of the programming logic.

3.5 Photoshop

The next tool that is going to be used during the process of creating a website is widely known by many web designers, photographers and graphic designers and it is called Photoshop from Adobe. This is software specialized in image editing and it allows the user to manipulate, crop, resize, and correct colour on digital photos. This is software is going to be used to create an image of the website to have a better understanding of how it is going to look and how each section is going to be placed. The advantage of using the CS6 version of the Photoshop product is that it allows to export images with specific colours that will not change through different browsers where the website will be displayed will give consistency to the design. This software allows one to divide the website into layers which resembles to the layering system that it is possible to have in a website using HTML, CSS and JavaScript. This also helps to give names to the classes or ids to the elements and helps to have a better plan for the final product.

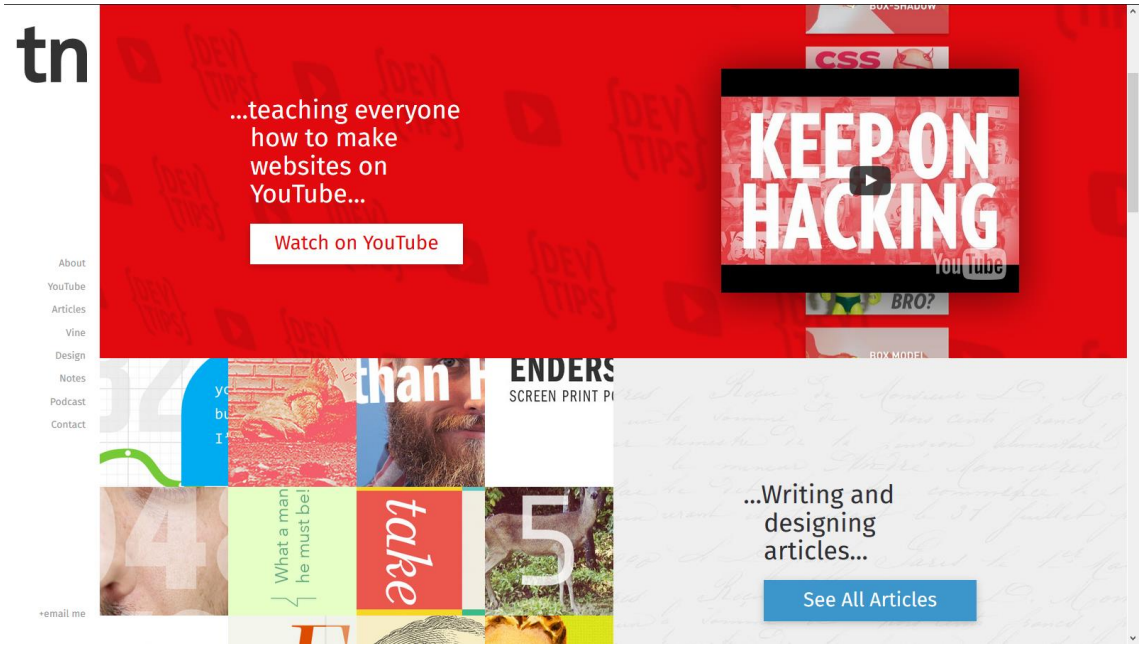


Figure 8. Example of a website with an emphasis on visual elements [13]

Visual elements are the main part of the website and what will provide the user the experience and the concept that the company wants to leave in each user as shown in figure 8.

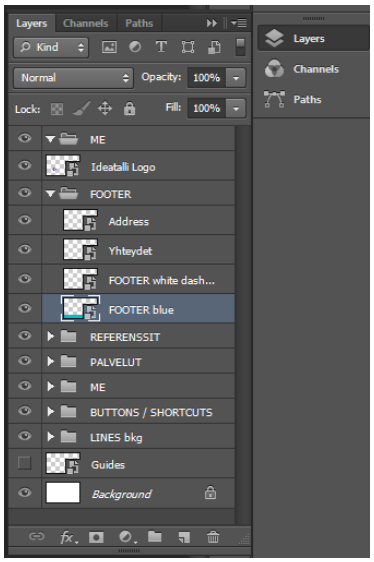


Figure 9. Layers in Photoshop.

Figure 9 shows the layers that a document with the format or extension ".psd" will be shown in the interface of the software when the elements form the visual image of the website.

3.6 Illustrator

During the design process, it has been contemplated to use Adobe Illustrator in order to manipulate scalable vector graphics also now as SVG files. This software has a similar interface as Adobe Photoshop, which is a very useful for designers familiarized with Adobe product, for web designers that need to create icons, or artistic elements that will form part of the layout of the website. The purpose of this software was not intended for web design but due to the features, it has been integrated on the workflow of several web designers that are an inspiration for me.

Scalable Vector Graphics

Vector Graphics are images made out of polygons in computer graphics. Vector graphics, as the name indicates, is based on vectors which are directed to points that are called control points. As a vector that is finite has a position defined in the x axis and y axis of the plane is being represented. The segment of the vector represented as a line, is known as a path, and each path may be modified to have color, curve and thickness. When adding the term Scalable to this definition, it is to state that this vector graphics can be used with different width sizes and height that have a same proportion

to its original sketch, and the visual quality and its shape will always be the same. These files are being used to avoid bad quality images that have low resolution and pixels are visible.

An SVG works as a description of an image combined with the Extensible Markup Language or XML. For that matter, a browser can recognize it, interpret it and render it. The shape and form described of the image is defined and specific to each image. Scalable vector graphics are supported by web browsers, but how a browser interpret it may change from one browser to another. This may cause that images are rendered incorrectly without a proper definition of each width and height element declared in CSS or HTML file.

3.7 Brackets

The last tool is as important as the previous ones listed and described within this thesis. Brackets is an open-source code/text editor designed with a web design approach because of its multiple tools that help to visualize changes in real time on the browser and website when the code has been modified. Another reason that I considered as a strong aspect of this code/text editor is that it lets you extract information from the PS design and incorporate this information into the CSS code, take layer by layer and use them as images that will give the desire look to the website.

The reason behind this is that this code/text editor was made by the same company that has created Photoshop and it gives the user tools to incorporate other tools from Adobe. The term open source refers to software that could be modified by anyone who is interested to customize and contribute to the development of the software and this adds multiple options designed by people around the world to help and make it easier to work on the code including the previous tools named before.

4 Design process

After setting all the basics and understanding what tools are going to be used, we need to understand more aspects related to the actual product which in this case is the website

for Ideatalli. To properly understand the project, we need to make research, make questions to the client (company personnel) and interact with them and to pay attention to every detail mentioned.

In this particular project, I attended to three different meetings with the founders of Ideatalli and the graphic designer. During these meetings I used a notebook to write anything that could be useful and give us details of what we were trying to achieve. After the first meeting I started a process I called this *discovery process* and consisting of analysing each participant of the creation of the website.

The following process was taken from the professional experienced shared by Travis Neilson and Carlos Montoya podcast, two successful web designers and developers that give insights of the process in the professional environment. [14]

To start with this process, it is necessary to ask to ourselves the following questions:

- Who is the owner?
- What is important to the owner?

- Who is the audience?
- What is important to the audience?

Who is the owner?

In this project the owner is Ideatalli, so after talking to the Ideatalli personnel expressed what they wanted to reach with the website and what they wanted to reflect with the concept of Ideatalli.

What is important to owner?

What is important to the Ideatalli is to let the future client or prospect partner know that in Ideatalli is not just about building a new image for a certain brand, it is about producing new and fresh ideas to be executed and delivered to them. The purpose is to show an image that shows a more playful and fresh side of the company with a strong focus on the original design.

The graphic designer at Ideatalli, the creatives and I have worked together in order to come with the concept of the website. The ideas or the first sketches of the website were shared in a format that is only possible to visualize in this software.

Who is the audience and what are their needs?

- Promoters
- Perspective employers

What is important to the audience?

The listed audience will mainly get in contact with the website with the purpose to get to know what kind of services are offered and how to get in contact to use the services or to get more information with more details.

4.1 Layout

The layout design for the website of the company Ideatalli was thought to look and feel as a board game according to the requirements from the company. The reason behind this was that the company wants to give an image and a perception as a company that has, according to the requirements and concepts from Ideatalli, original and fresh ideas, that outstand because of these reasons from other different websites, which for the company, is one of the main points of contact with the customers.

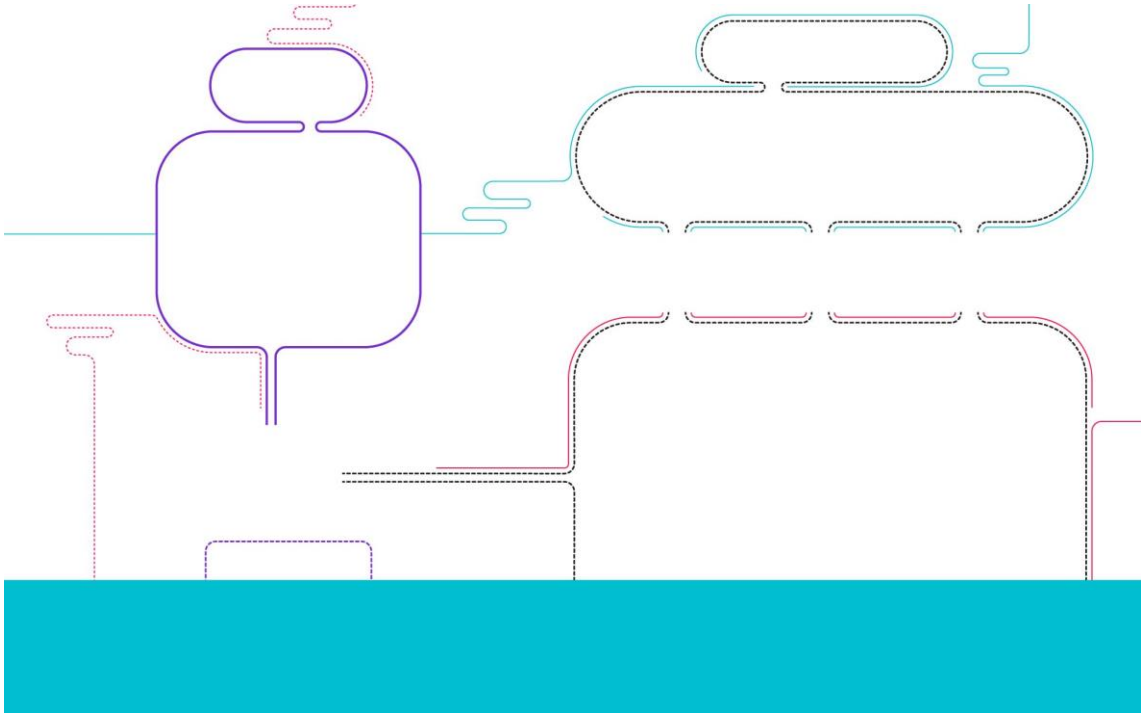
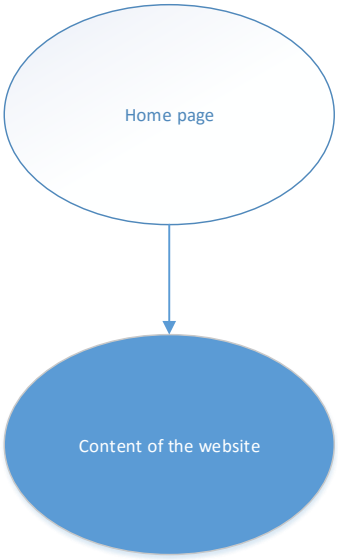


Figure 10. First sketch for website layout.

Figure 10 shows the first sketch done after the ideas were discussed about the location of sections of the website and how different the layout would be. The ideas came also from other websites, but this is common practise within web designers to be up-to-date in the latest design styles and technologies used to give interaction and experience.

It is necessary to addressed that the layout changed during the process due to requirements of the personnel at Ideatalli. This is a good example that in this kind of projects redesigning is an actual part of the design process, because the first sketches might not tackle all the aspects that the client want to achieve, and as an advice, it is recommended to keep a constant communication with the clients to minimize time and to get a better understanding of what the goal and the final design is going to be the final result.



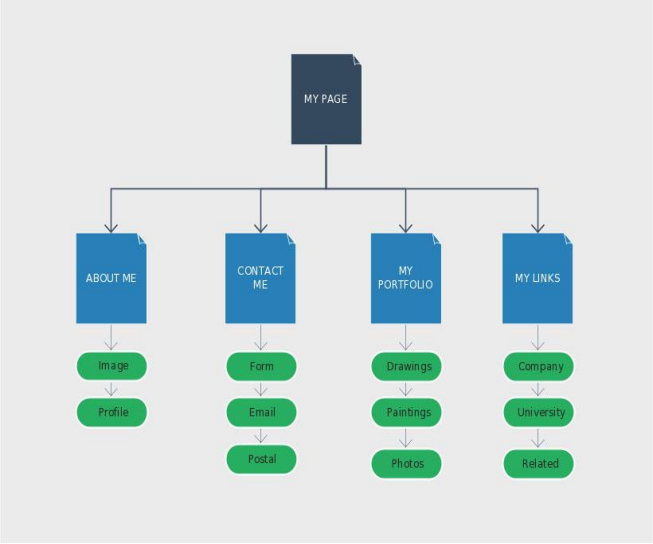


Figure 11. Website map of Ideatalli website compared to common examples of a personal website map. The left side is Ideatalli and the right side is the example.

The simple map on this particular case for Ideatalli website, is because the layout structure was requested to have all the information in the main page, but the site map in many other cases is a visual representation of the information space in order to understand and to organize its layout. [7]

The visual elements like icons and forms on the website, in this case were designed by the people and mainly the graphic designer at Ideatalli. This obey to a concept that the Ideatalli personnel had designed previous the start of this thesis. All the images were provided in SVG format.

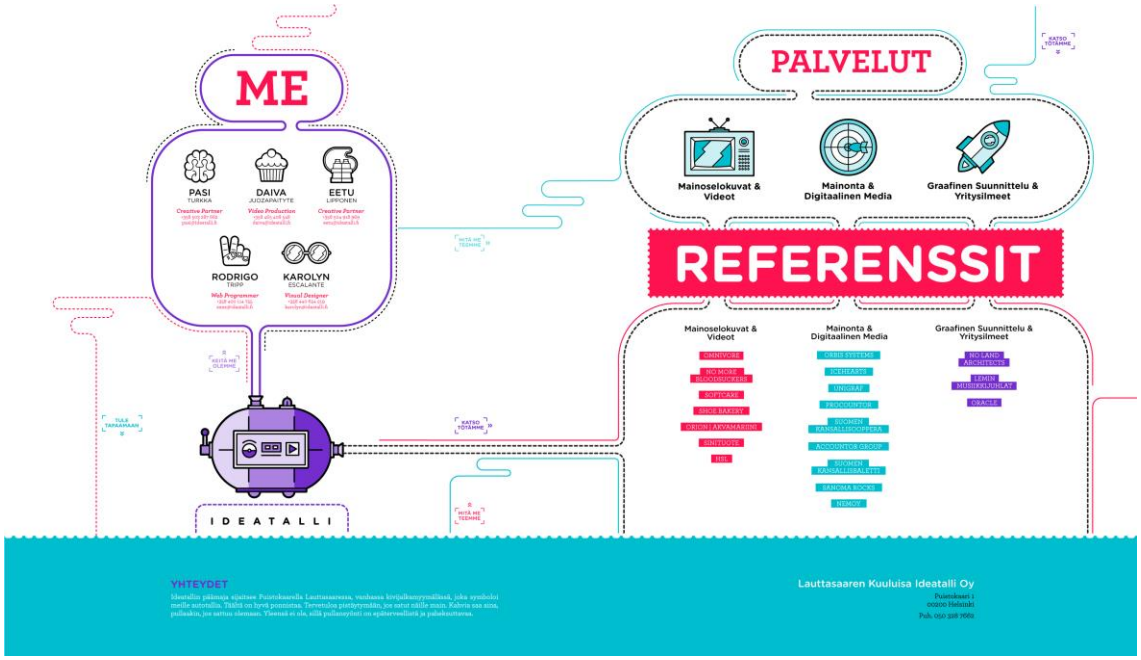


Figure 12. First sketch for website layout with the information to display.

The layout of the website was designed to have bigger and larger dimensions than any available display or monitor commonly used, and this was with the purpose of having one section each time the user moves or navigates through the website.

Modifications to the layout

After different meetings, the layout of the website changed adding two different sections, and changing the colours of the layout. This was due to decisions done by the Ideatalli team and several brainstorming sessions. They had considered aspects that they wanted to include and be displayed, so the user would get what they wanted to transmit in each message.

Figure 13 illustrates a session where new ideas were added to the original design and sketch of the website, adding new sections and functionality to the website.

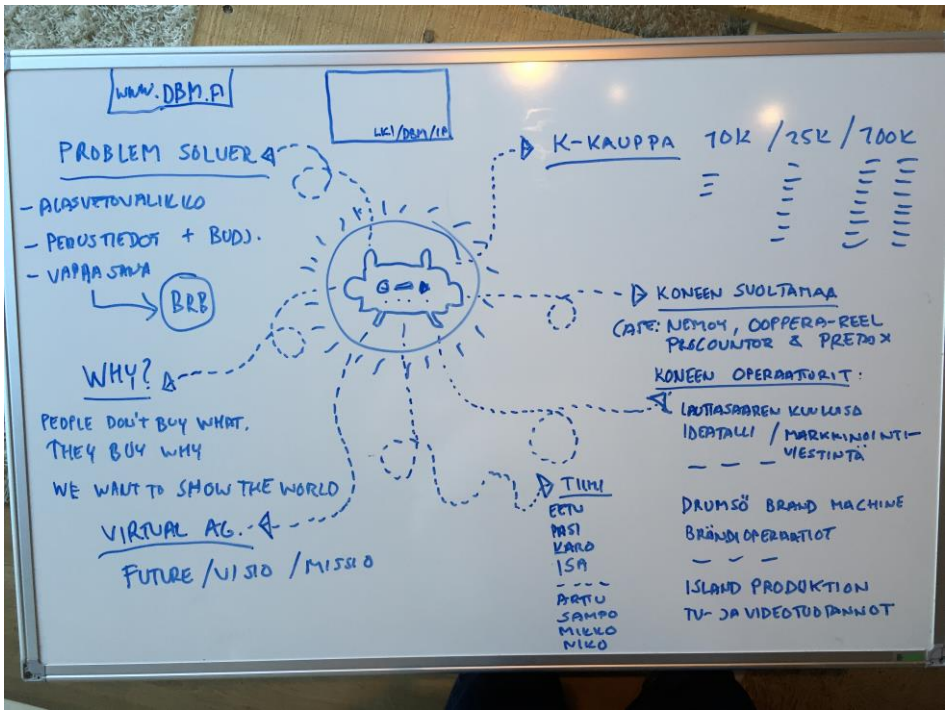


Figure 13. Result of the different ideas during brainstorming meeting to redesign the website.

After these changes were done to the layout design, planning the structure of the code was necessary. This previous planning had been just focused on what the website should look like and the layout, but now the layout was already defined and then it was easier to write the code, using the tools already mentioned.

Figure 14 shows the layout of the website which will have two more minor modifications but those changes will be shown in the final outcome at appendix 1.

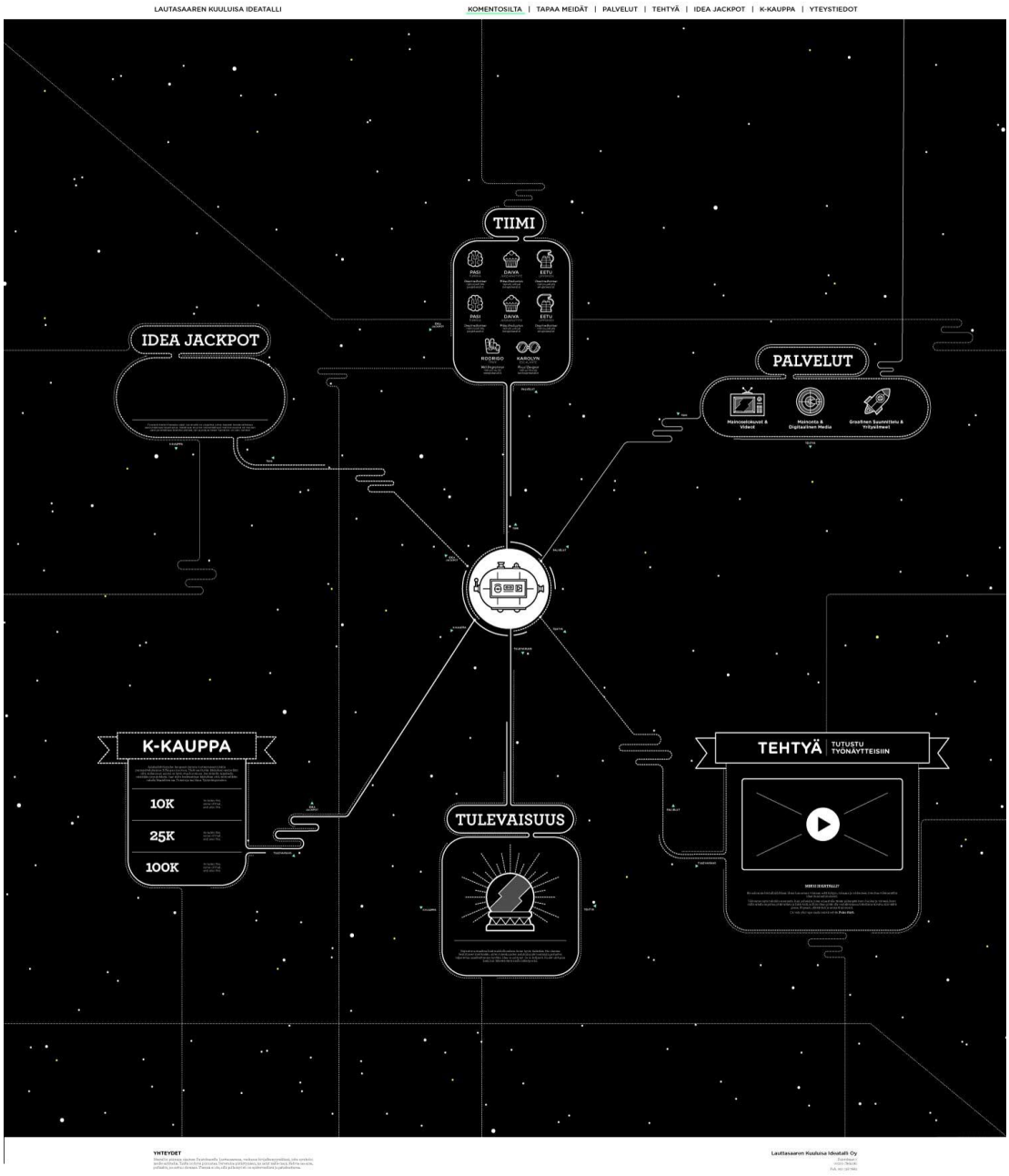


Figure 14. Changes and concept of the website.

The changes were made with the idea to minimize the color, and to be able to communicate the message without any visual interference, but trying to come with a layout that does not resemble a design that has been considered as a standard. These were considerations by the team and performed by the graphic designer.

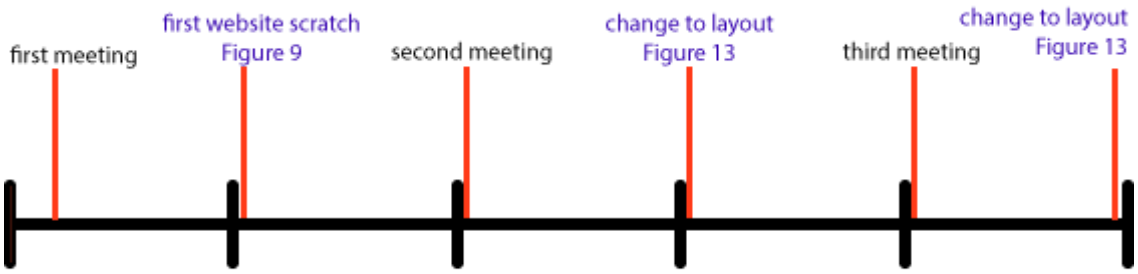


Figure 15. Timeline of the contacts and outcomes with Ideatalli people.

5 Implementation

The development of this website was done with the programming languages explained before. Each section will talk about the HTML, CSS and JavaScript using the JQuery library and plug ins available for JavaScript. It is better to describe each element found at the sketch of the website and every text element. After that, starting with the layout code and style with the CSS, and finally after every element has been set in the right position, it is time start the code for JavaScript. It is necessary to mention that each code will need to be revised multiple times as the elements are being affected but for an optimal workflow rhythm, the previous advice must be followed.

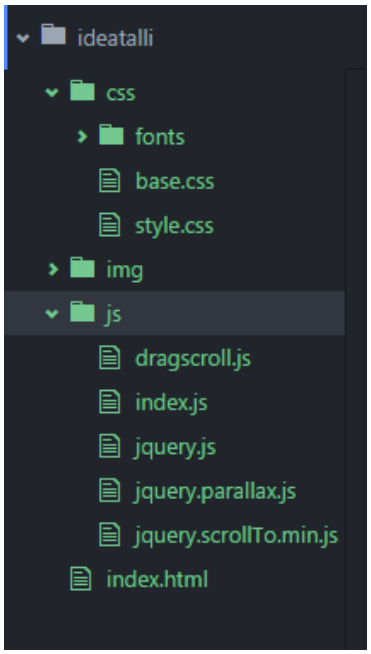


Figure 16. Structure of the files.

For this project, Figure 16 shows the file tree structure, being index.html file the file that CSS and JS files convey to display the website. Inside the CSS folder, the fonts folder contains the fonts used along the website layout. The purpose of this was to not to depend from any online font.

5.1 Responsive Header

The header of a website is the top part of the layout and it is often used as a guide for the navigation through the layout of the website. In the special case of this website, the header also contains the name and logo of the company. Each section of the website has its own link that once clicked by the user will be shown in the middle of the browser, depending on the size of the device used to visit the website.

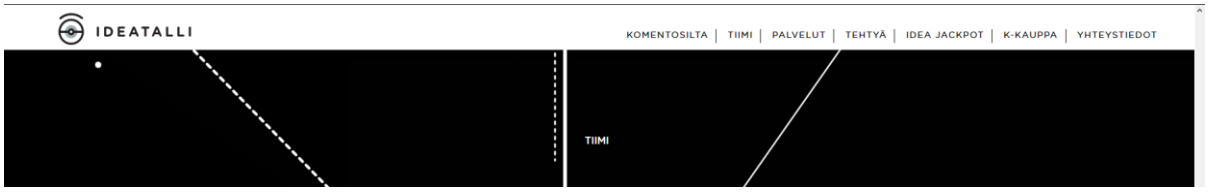


Figure 17. Header of the Ideatalli website.

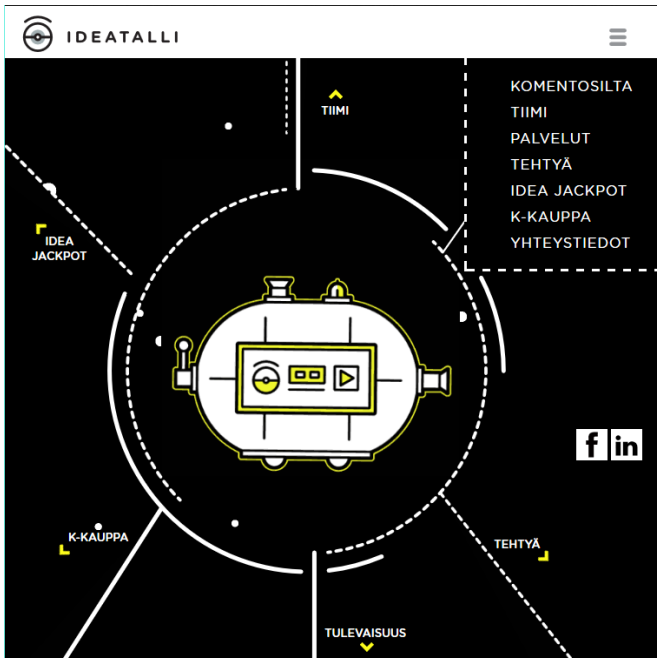


Figure 18. Header of the Ideatalli website responding to the width of the display.

The header section for the Ideatalli website, needed to be responsive, which means that the elements will adapt to any size of the display of the device. This is done by implementing a media query statement in CSS style sheet linked to the HTML document. The listing 7 shows that the minimum width in order to display the characteristics of each element contained within the brackets is 1550 pixels. If the width of the display is smaller than 1550 pixels, other characteristics will apply, usually the default characteristics set outside the media query.

```
@media only screen and (min-width: 1550px) {
    element {
        setting: specification;
    }
}
```

Listing 7. CSS media query

Listing 7 code example has the same width as a media query declared in the CSS style sheet.

Figure 16 shows how the header will change, how it is going to be displayed when the width is not optimal to display inline, and an icon that has been the standard to let the user know that when clicking, a menu will be displayed, and this kind of menu is called drop-down display. The header has a position declared static within the CSS file. With the purpose of keeping the menu always visible does not matter where the user is located, at any time, the header will be displayed. The code of the header was done using HTML and CSS, JavaScript code was not necessary for this particular case, the code will be added at the appendix 1.

5.2 Body and Content

Each section of information in the website is placed without following the natural flow of elements, but following the one-page design shown in the sketch image of figure 13. This means that each section was placed in the exact position and coordinates to match the design in the sketch. To be able to do this, it is necessary to set the element in the CSS

style with an “absolute” position, which allows us to move the element freely through the Document Object Model or DOM. After we have set the position as “absolute”, we can now consider this element, to have elements within itself like SVG images or GIF. Depending on the amount of information that each section is required to have, it is recommended to create a grid of columns and rows.

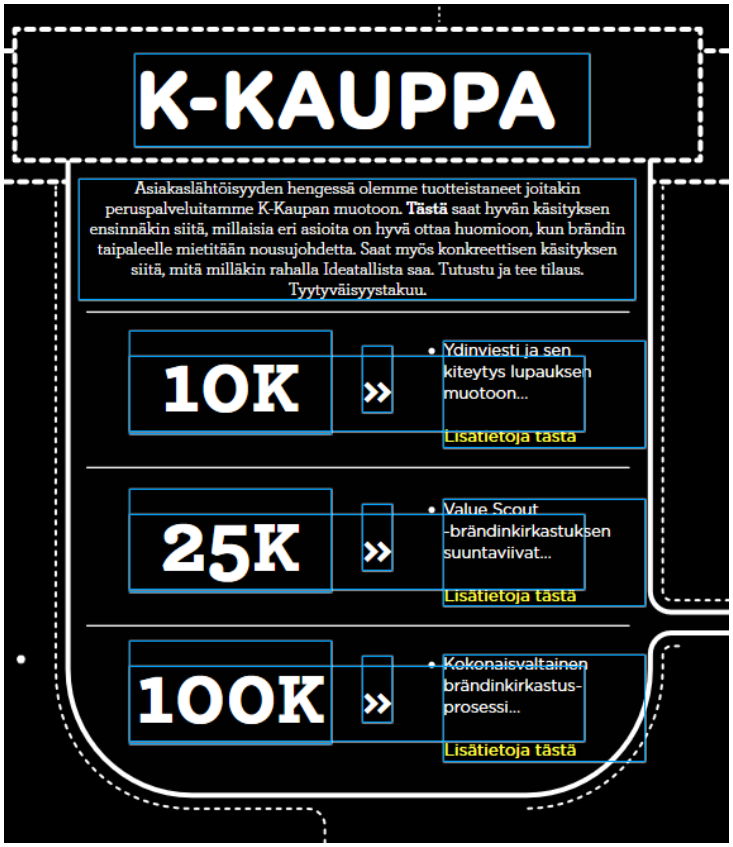


Figure 19. Brackets code editor showing outline elements.

These elements in the figure 17 are hold within the element assigned to the “K-kauppa” section.

The SVG image files have been used but also GIF images and PNG image files. A GIF or Graphics Interchange Format is an image format file commonly used in the web because of its light weight. This is because it may only contain 256 colours, and for that reason is used for images that does not need millions of colours like other image formats. For its light weight, it is also used as an animation, as a sequence of images during certain period of time.

Two GIF animated images were used in the layout of this website. The purpose of these animations is to provide the website with movement. The movement of the animation can be controlled with a JavaScript script.

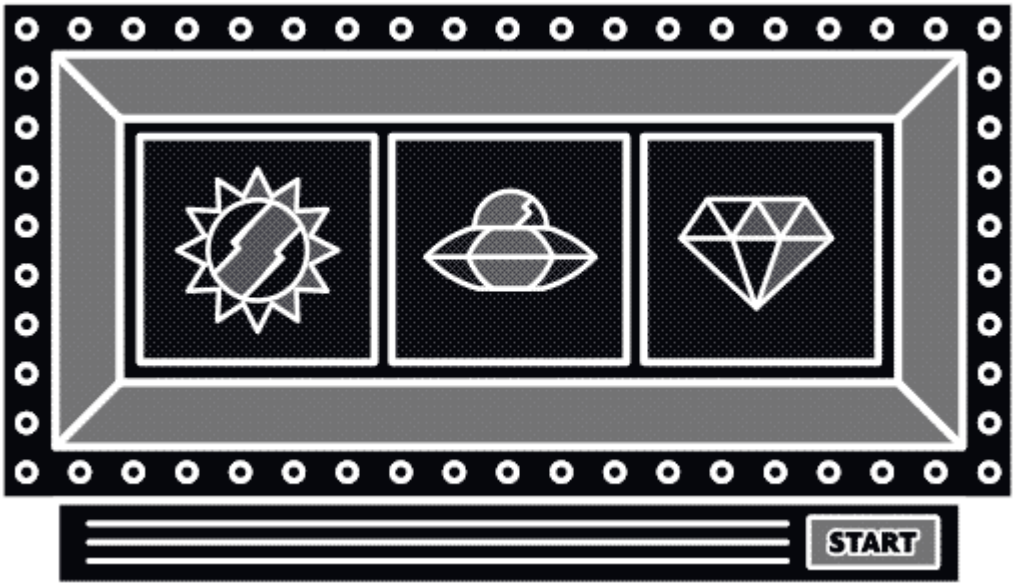


Figure 20. GIF image used in the Jackpot section of the website

In figure 19 the image used is in GIF format but the sequence can be seen in the live version of the site. The number of colours used is not considered big, compared to other formats, and this is visible in the dots that are placed in order to give a different tone. In this case black and grey dots combined give the illusion of a slightly lighter dark surrounding the sun, spaceship and gem, compared to the edge of the jackpot machine

5.3 JavaScript code

The use of JavaScript in the Ideatalli website was mostly to provide with movement visual elements and adding functionality to the website. This was done using the library JQuery and using JavaScript, and three different plug-ins for JQuery.

To create the animation of the Jackpot machine GIF, when the mouse scrolls over the image, JQuery was used to change the attribute of the image element.

```
$(document).ready(function(){
          $(".jackmach").hover(function(){
              var src = $(this).attr("src");
             $(this).attr("src", src.replace(/\.png$/i, ".gif"));
          },
          function(){
              var src = $(this).attr("src");
              $(this).attr("src",          src.replace(/\.gif$/i,
".png"));
          });
});
```

Listing 8. JQuery code for the GIF animation

To make the animation to be activated by the mouse hovering over the element, first we need the image files, the animated GIF and PNG image file. You place the PNG file image and named them with the same name, but the difference will be the format ending, in this case the GIF file has the name “jackpot.gif” and “jackpot.png”. With JQuery we store the attribute in a variable that reads the source ending like “.png” or “.gif”. After we store the source into the variable, and when the event of the mouse happens, we put the “.gif” and then the animation will start, and whenever the mouse is somewhere else, the image without an animation will be shown. For the footer, at the bottom of the website, it was suggested to make it visible once the user has reached that area by scrolling down. This was achieved using JQuery and JavaScript.

First, storing the amount of the scrolling of the window is used in relation to the top edge in a variable called “wScroll”. Afterwards we put the “if” conditional and we compare the amount of scrolling that the user has done according to the offset of the element “#footer” in relationship to the top. We say that if the amount of the “wScroll” variable is bigger than the height of the display of device divided by 1.35, the footer will display.

```
$(window).scroll(function(){
   var wScroll=$(this).scrollTop();
   if(    wScroll    >    $('#footer').offset().top    -($(win-
dow).height()/1.35)){
          $('.footer').each(function(){
                    $('.footer').addClass('is-showing');
          });
}
    else{
          $('.footer').each(function(){
          $('.footer').removeClass('is-showing'); });}
});
```

Listing 9. JQuery code for the GIF animation

The rest of the JQuery and JavaScript is going to be added to the appendix 1 section for further review.

6 The Implemented Content Management System

After the interface and website development was done, we needed to consider if the client or customer would like to make changes to the website like modifying content, text or images. For that reason, it is very important to know if the customer would be able to do it by itself or if there is a need to use a Content Management System. A CMS is a software application used to upload, edit, and manage content displayed on a website. [10] A content management system can perform a variety of different tasks for a website including regulating when the content is displayed, how many times the content is shown to a specific user, and managing how the content connects or interacts with other elements of the website. This software also enables technical individuals to manage content on a website easily without having an extensive coding background. [10]

Using a CMS will increase the efficiency of the work done, making it easier for editing or any kind of revisions for people not familiar with development languages. This will also improve the ranking of the website within the search engines like Google or Yahoo. This

is because the CMS was built with that purpose already embedded in its code, to increase its popularity within the web development community. It increases possibilities to increase to learn from visitors about their behaviour of that website, and preferences, which this will make a perfect target for a website that its main purpose.

For this reason, also the Ideatalli website has a CMS running in the background, and choosing one of the main four different most popular options available depends on what kind of website the client wants and which kind of contact is expected to have with the users.

There are four CMS software that are in the market, each of them having a version that is possible to download and be implemented without any extra cost, but also not having the features that might be necessary.

The list considered for this project was

- WordPress
- Dotclear
- Joomla
- Drupal

After studying the characteristics of each of them, I decided to use Drupal for the following reasons. With Drupal is possible to implement a dynamic site, it adapts to the necessities of each kind of website while others have special features for different kind of users and might not work depending on how complex the website is. The disadvantage is that it does not have a friendly interface for an average user but for the particular case of the project for Ideatalli website,it will not have any implications due to the website simple structure.

7 Conclusions

After this project, I can conclude that web development is a very complex area within the Information Technology. When I started I knew that I would face different obstacles in the development process, or with the layout design, however since this task was a project where people from Ideatalli involved a small team of creative partners and a graphic designer, the different point of views and different ideas were an obstacle that was not contemplated for lack of experience within a real work environment. Also I can conclude that at school, we learned the basics for what is waiting for us in the job market, but it totally depends on us to keep updating ourselves and make the learning a habit more than a need to achieve something. This happened to me since I had to learn by myself concepts that for different reasons were not covered in any lecture in school courses.

I am pleased by the result but more with the learning that I have accomplished. After meeting with my tutor, and realizing that the objectives of the thesis project which were give the student an opportunity to work in a real-work environment and to learn how to deal with this were accomplished, it fills me up with satisfaction.

As a personal goal or aim for myself, this thesis will hopefully add a significant value to his portfolio for future references.

When building the website for Ideatalli, I decided to create and name each section according to the information it would contain. I decided to do this to make it easy to read for the personnel at Ideatalli and easy to edit when there is a need to make changes. As a recommendation or advice, I suggest to add comments to every section and explaining every single section, with details of what is being contained and displayed and what could be typed in order to alter the website in the desire way.

I find it very important to make a list of the tools that are going to be used or that could be used every time a project is going to start, for that reason I wanted to reflect my workflow because this is something that is not being taught at university, and it is something that I have learned through experience.

As a personal piece of advice, it is very important to have these sessions with the customer or client who will be the owner of the website, since they might want to add different elements to the website while the designing part is being done.

To keep the code organized, it is recommendable to research and consider how the files of code will be organized, trying to use the naming conventions to make the code easy to read for other people who are going to edit and review the code, and the structure of the file tree. [8]

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Links for the complete code of the website

This code will be available for 5 years. Starting from Abril 2016 until April 2021.

The code contains the version of the website that was given to the customer as final product of the thesis, but modifications to it could be done after thesis project was finalized.

Thesis version.
http://www.rodrigotripp.com/portfolio/ideatalli

Live version of the Ideatalli website.

www.ideatalli.com

Link for the HTML code

view-source:http://www.rodrigotripp.com/portfolio/ideatalli/index.html

Link for the CSS code

http://www.rodrigotripp.com/portfolio/ideatalli/css/style.css

Link for the JavaScript code

http://www.rodrigotripp.com/portfolio/ideatalli/js/index.js