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WEB DESIGN FOR IMIND

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ABSTRACT

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This thesis goes through the process of creating a graphic design of a web page which includes determining all the components and how they can affect the visual outcome. The main task is to create a design plan for a website by creating images with an image editing software with the support of theoretical knowledge, end users' preferences, and creativity.

The aim is to create a modern design considering the responsive functions and the users' needs. The users' perspectives, needs, and habits are explored by interviewing companies supplied by the commissioner. The theoretical research contributes technical guidance on making choices in the design of a web page.

The designs were made with Adobe Photoshop, which was accessible at the Oulu University of Applied Sciences, as was the recorder used in the interviews. The images in the designs were chosen from the commissioner's existing website. The colours used in the designs were designated with the help of a colour wheel application.

This thesis may be used by the commissioner for their webpage as well as anyone who is working with visual designs and looking for some theoretical explanations. The information covers many aspects of design as a webpage is a whole consisting of many components, such as text, layouts, and various types of graphics.

Key words: design, web, graphic, colour, usability, responsive, layout, typography

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1 INTRODUCTION

This thesis is a web design project for MotiMind. The idea is to design the appearance and create mock-ups for the website of the commissioner's product, iMind. The design will include three different design versions in order to address the issue of responsive web design; different content and layout for different screen sizes (desktop, tablet, and mobile phones). This thesis will mainly concentrate on the graphical design aspects and responsive design. Information architecture and some aspects of code will be considered but only when necessary. The end product will be three images constructed with an image editing program; three different size images to show how the design will look on different screen sizes. There will also be several images for each screen size to show all parts of the pages.

The subject is related to information technology but there are also marketing aspects in visual design; visitors will be more likely to return to the site if it is aesthetically pleasing and gives a positive impression of the business. Since responsiveness is playing a major part in this design, it is current; most people browse the web with several different types of devices. If a website has poor usability and logic, it will have an undesirable effect on customers. The commissioner is a young company in the field of IT, it is important for them to have a website which portrays their knowhow and offering.

While the thesis topic is current, it also gives an opportunity to work and learn in many different ways. Often a thesis will have research, interviews, or a project to make a product but this thesis will be constructed of all three parts. It will be challenging to confine the thesis in such a large and diverse field. The key is to concentrate on only the vital aspects for a visual design. The text content and images will be provided by the commissioner so the content of the writing will not be a part of the design.

The commissioner is a fairly young Finnish company called MotiMind. The business was established in 2012; currently it develops personal development and human resource management tools for businesses. MotiMind's products are based on cloud and mobile platform concepts and the team members are experts in persuasive technology. iMind is MotiMind's

mobile application which allows companies to make polls and questionnaires easily. The application will give fast results, enabling fast reactions to issues and opportunities.

1.1 Task Description

The web design project will be done with the user-centred design approach, which means that the design is guided by interviews of the target customers and their needs, expectations, and behaviours. This means that one part of the thesis will be a qualitative research, implemented to guide the design work. These contacts for the interviews will be provided by the commissioner. The interviews aim to find out what is the most valuable and interesting information for the customer and what they expect to find visiting the website. This will help organise the content, as only the most important information will be left for the smallest displays, which are mobile phones.

The information needs to be organised into a clear and logical entirety so the end users can find information as easily as possible. For this phase of design diagrams may be a useful tool. This information architecture organising phase includes grouping content under headers to make reading as effortless as possible.

Brainstorming is a common method in designing and a practical option to begin with as the ideas may be refined in later phases. The aim is to write down all possible ideas that come to mind, with no limits. This can be used to come up with ideas for all the design aspects, such as content, colours, and layouts. After this some sketches can be made and any unsatisfactory ideas may be dismissed. Making sketches is less effort than making the actual image with software so the ideas for the design may be considered and thus time is saved. Once the sketches have been approved, the end product of this case may be made with an image editing software.

1.2 Research problem

The questions to be answered are strictly related to design. The interviews aim to find perspective from the desirable visitors; what they expect and need to find and what are their habits when searching a new website. The questions dealing with the graphic design elements will be answered with theoretical research; colours, fonts, font sizes, images, and layouts.

- What is the most valuable information for the visitor, what do they need to find?
- What information does the visitor expects to find regarding the company or the product?
- What colours would give a suitable image for the product and company?
- What is likely to be the most common device for visitors to view the web page?
- What type will be easy to read in each screen size?
- What type of layout is easy to follow?

Navigation of the website and elements of code are important within this subject but they will be discussed in the theoretical parts only if necessary. One aspect in which the code may need to be discussed would be the responsiveness; how does the content change depending on the devices screen size.

2 WEB DESIGN

According to Niederst Robbins (2007, 5), web design is a process which includes a variety of different disciplines such as graphic design, information design, interface design, document production, scripting and programming, and multimedia. Allsop wrote in his article that the control which designers are used to having in the print medium is actually creating an unnecessary limitation for web design. He encourages designers to accept the lack of limitations and design for flexibility and aim for pages which are accessible for everyone. (2000, cited 9.9.2014.)

2.1 Elements of Web Design

The web displays visual information and it is the graphic designer who decides on which type, colour, layouts, or graphics are used. The industry's standard tool for design is Adobe Photoshop. (Niederst Robbins, 2007, 5.) Brannan (2010, 105) also mentions that a good method for beginning the design process is creating mock-ups with an image editing program, such as Adobe Photoshop. Multimedia content commonly seen on websites includes audio, video, animations, and Flash movies (Visocky O'Grady & Visocky O'Grady, 2008, 8).

Information design as a concept refers to how the content is organised and common tools for this design process are flow charts and diagrams. A flow chart may be useful in this case to define the path through which the visitor would find more information if interested. The difference between graphic design and interface design is that the first deals with what the page looks like, as the latter deals with how the page functions. (Niederst Robbins, 2007, 6.) By beginning the design with designing the information architecture and creating a sort of blueprint (a process of breaking the content into separate parts and then organising it into a logical structure) the designer will have a clear picture of what to do (Watrall & Siarto, 2008, 7). See figure 1.

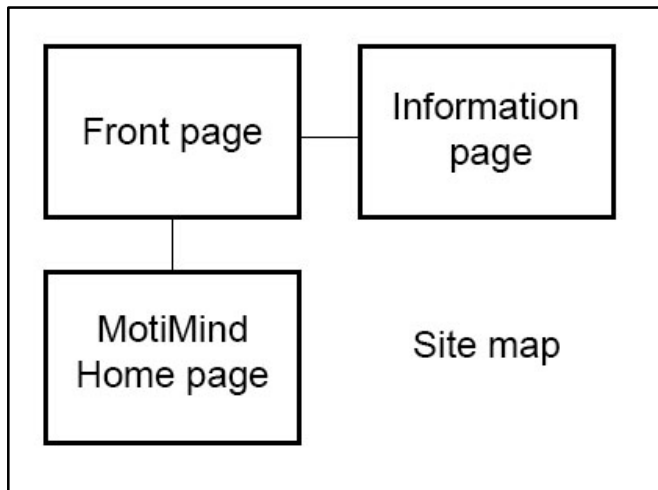


FIGURE 1. Site map

The document creation process may be defined as the process of creating and troubleshooting documents needed in a website, which requires knowledge of HTML. For designing the visual aspects it is not necessary to know how HTML works but it may help to understand what possibilities and challenges it brings. Web programmers produce forms, dynamic content, and interactivity for web pages. These advanced web functionalities are produced by scripting and programming. While they may be important parts of a web page, they do not play a vital part in the design of the visual elements. (Niederst Robbins, 2007, 7-8.)

2.2 Anatomy of a Web page

Web pages are created with HTML text files, which contain only letters, numbers and symbols. These files are known as the source documents. HTML stands for Hyper Text Markup Language and it is a language created for making websites. XHTML (the X stands for eXtensible) is basically an updated version of HTML with stricter rules; both are used to describe content of a web page and they may be referred to together as (X)HTML. (Niederst Robbins, 2007, 9-10.) Allsop (2000, cited 9.9.2014) points out that HTML should not be used as the main tool for visual presentation and suggests using classes as well as style sheets. In XHTML designers may create various different types of documents which is declared with DOCTYPE (short for document type and always written in capital letters) at the beginning of the file. The chosen DOCTYPE informs the browser which version of HTML or XHTML the author is using, which informs them how to handle the file. (Zeldman, 2007, 158.)

Websites can be accessed with graphical or desktop browsers, which are basically software products that display the information in the HTML documents visually, in a window on the computer screen. (Niederst Robbins, 2007, 21.) In 2014, the most popular browser has been Google Chrome with the percentage of users being around 60%, coming in second is Mozilla Firefox with around 25%, and in third place comes the decreasingly popular Internet explorer with percentages of about 10%. The fourth place goes to Safari with about 4% and the fifth to Opera at about 1.8%. Browsers which counted for less than 0.5% were not listed on the website. (W3schools, 2014A, cited 13.10.2014.)

For creating a structure in a web page, the DIV and SPAN elements can be useful. They are used for modifying HTML together with CSS to divide the page into several sections. The elements can be given an ID or CLASS attribute, which gives them names. Those names can be referred to in the CSS files individually. The difference between ID and CLASS is that the former may only be used once, whereas the latter may be used several times on one page. (Zeldman, 2007, 179, 180)

CSS stands for Cascading Style Sheets, it is a document type used for modifying the appearance of the content on a website. CSS files are supported by all modern browsers; they are also the official standard file types for managing text and page layouts. One CSS document can be used to modify several separate pages at once and they can also be used for controlling the content shown on different devices (Niederst Robbins, 2007, 10, 24). Using HTML tags for setting visual values such as fonts may increase the bandwidth required for viewing the page so it is considered a bad option (Zeldman, 2007, 12). Consistency between all pages is important; they ought to have a similar look and navigation system (Brannan, 2010, 10). Properly used style sheets do not control the web page's appearance and they should not be used for conveying information. CSS code should give the browser a suggestion for an appearance, in which case the pages will only look a little plain without compromising accessibility in browsers which do not support the CSS files. (Allsop, 2000, cited 9.9.)

Using the standard tools and technologies for web design means that the website will be accessible for most browsers. If most browsers are able to access a company's website, it means customers will be able to find the information. This is why the design is made considering the aspects of HTML and CSS. These standards are made by the World Wide Web Consortium, also known as W3C, to guarantee that technologies work well with each other. Modern or standards-

compliant browsers can be defined as ones which support (X)HTML, CSS, ECMAScript, and DOM. (Zeldman, 2007, 10, 15.)

PHP (which stands for PHP: Hypertext Processor) is a useful tool for creating dynamic sites as well as web applications, it is an open source scripting language which can be embedded into XHTML. The language is free as it was developed by the Apache Software Foundation and it is supported by Windows, UNIX, and Apache. (Zeldman, 2007, 144.) PHP is used for creating, managing, displaying, and deleting information and it is essential for dynamic website management (Freeman, 2012, cited 3.11.2014).

If there are images on a site, there must be image files, which are linked to the HTML file. Stock photos and illustrations are available for free on some websites, if the web designer does not want to produce new ones. There are three image formats used on the web: GIF, JPEG, and PNG. The GIF format is used for flat coloured, hard edged, animated, or transparent images, the JPEG format is used when the image is a photograph, or has otherwise smooth colour blends, and the PNG format is used with all image types as it is versatile. The three image types, GIF, JPEG, and PNG, are all bitmapped images, which means that they are constructed of pixels. Resolution in images refers to the amount of pixels per inch. Large image sizes mean unnecessary amounts of downloaded data for the user. Images can be resized with image editing software to minimise the amount of data. (Niederst Robbins, 2007, 360,362,373,375.) Brannan recommends using JPEG's for photographs and PNG files for everything else. The author also points out that images are often used to convey information as well as adding an entertaining aspect to a website. (Brannan, 2010, 126, 127.)

When it comes to the text content, the inverted pyramid model is a commonly used model in journalism as well as web design. The idea is that the most important aspects of the story are presented first and rest of the information is in order of relative importance. In short, the beginning answers the questions of who, what, where, why, when, and how. In second place will be the supporting information, and details will be left for the last part. (Visocky O'Grady & Visocky O'Grady, 2008, 84.) The inverted pyramid allows readers to stop at any time, knowing that they got the most important information (Watrall & Siarto, 2008, 241). Designers should present information in small sections with informative headings to produce material which makes an easy read. There is a "three click rule", saying that any information should not be further than three clicks away for the users. (Brannan, 2010, 8, 39, 64.) The text contents can be made scannable

(easy to skim through) by having clear headers, brief introductions, emphasis on the important parts, short paragraphs, and bullet points. One part of the division is the navigation bar and important things to consider are that the navigation bar ought to be where users expect it (top of the page or along the sides) so it is easy to find, the links need to be easily recognised and clearly identified separate from each other. (Watrall & Siarto, 2008, 29, 208.)

Websites tend to include more than one page and all sites need to be provided with links which enable navigation; the user should not have to use the browser's back button. Designers should also include the basic information of who, what, when and where on every page to create a site which appears professional. Another element which all pages must have is a header; an element at the top of the page which is usually the same on each site, keeping the pages consistent. (Brannan, 2010, 43, 45, 46.) Considering business websites, some essential elements needed would be a memorable URL, a logical and useful navigation, the most crucial business information, contact details, social media integration (promoting profiles on such sites as Facebook, Twitter, and Youtube), a functional responsive design, and answers to FAQ (Frequently Asked Questions) (Drell, 2012, cited 3.11.2014).

2.3 Current trends

An article in the Forbes magazine's website (Newtec, 2014, cited 16.6.2014) reports that the web design trends in 2014 concentrate on responsive-, simple-, and storytelling design. The article informs the storytelling design to be a methodology where users are told a story with the content, to make the reading process more enjoyable and interesting. The Information Design Handbook (Visocky O'Grady & Visocky O'Grady, 2008, 85) also mentions stories; the book recommends using stories to place information in context to make information easier to process, relate to, and remember. Regarding responsive design, the Forbes article says that it is becoming a standard and explains that all the information seen on desktop does not need to be visible on the mobile screen. When the article refers to simple design, it explains that it is *"the integration of best practices so site visitors get what they need seamlessly and without complication"*. The text also states that simple design does not mean generic; the content should be important. The article encourages designers to strive for quality content and efficient navigation. (Newtec, 2014, cited 16.6.2014.)

The information *Desing Handbook* is an older publication but none the less still quite valid. The book says that as technology advances, people spend increasing amounts of time at work, and that means less time for leisure activities, which leads to multitasking in order to meet all the demands. This would also mean that the visitors on websites are likely to have limited amounts of time, so the author's encourage designers to pay attention to creating content which may be easily absorbed and efficiently delivered. (Visocky O'Grady & Visocky O'Grady, 2008, 12.)

2.4 Responsive design

The three main elements of web design are a grid based layout, images and media, and media queries. The basic idea is to make a design which adapts, or in other words responds to the constraints which the browser windows or devices set. (Marcotte, 2011, 9.) Adaptability regarding to web design means that the web pages need to be accessible with any browser, platform, or screen. A good place to begin the design is considering what the page is meant to do, instead of what the page should look like. In conclusion the web designer needs to write a code considering all possible visitors and their devices. (2000, cited 9.9.2014.) Responsive web design was first defined by Ethan Marcotte as a design which responds to users needs; the layout changes so that for example on mobile phones the user would only see one column, while a tablet will show two (LePage 2014B, cited 6.10.2014).

With formulas the page's layouts can be made into proportionally functioning grids; combinations of rows and columns, which are expressed as proportions of their element instead of pixels. Instead of writing pixel values in the CSS files, the designer may express the widths in relative terms, and as a result the grid will adjust itself according to the user's screen. (Marcotte, 2011, 23,28,29.) Another perspective is that grids are used for organising content and creating hierarchy by grouping information and elements (Visocky O'Grady & Visocky O'Grady, 2008, 98). Images can also be flexible. Modern browsers resize images proportionally which keeps the image ratio as it should be. As the browser window sizes change, the image may change size so that it is limited by the container in which it is placed in the grid's layout. (Marcotte, 2011, 45.)

The W3C (The World Wide Web Consortium) defined a list of different media types in CSS which are tailored to answer the problems of different browsing tools. This means that a device will

ignore other CSS lines and only reads to one which definition it fits. These media types include: all, braille, embossed, handheld, print, projection, screen, speech, tty, and tv. (Marcotte, 2011, 72.) There should be different options available, since people may not prefer to read online and printing information should be an easy option, especially when there are large amounts of pages and information (Brannan, 2010, 75).

Media queries identify a device's and browsers' physical characteristics as well as their media types. The first criteria in the CSS will specify a media type. The second part defines the query, which is commonly the name of a feature with a related value, such as the minimum width of the device's screen. Most browsers support media queries, and JavaScript offers solutions for the older ones which do not comply. (Marcotte, 2011, 74,75, 98.) CSS media queries may be used for assigning different stylesheets for different browser window sizes, and not only according to the screen width but also the orientation of the device (landscape or portrait) (Coyier, 2010, cited 3.11.2014).

There is a web design method developed by Luke Wroblenski, which is known as "mobile first". This method starts the design from making the mobile page first instead of beginning traditionally with the desktop version. Desktop users can generally see more content than mobile users and a question has been raised whether it is necessary. Marcotte asks, why not offer the same "focused, curated content" for the desktop users. (Marcotte, 2011, 111.) The number of mobile web users across the globe is vast and only increasing and it may be worth considering that it is a possibility that many people will only have a look at websites through their mobile devices screens. A trend for answering this issue of mobile users has been progressive enhancement; offering the mobile platform a functional and appealing website, and enhancing the site with larger screens as they offer less restrictions. In an opposite approach all of the content is served for the browser assuming it is the largest platform. Mobile versions then strip down the unnecessary parts, but the content has already been loaded at this point resulting in slow downloading speeds. However, there is a potential problem with the mobile first approach: there are a lot of constraints with design elements (smaller screen, few resources, less functions available). (Johnson, 2013, cited 3.11.2014).

The design process often begins with figuring out according to which resolution breakpoints the website will be designed. The term "resolution breakpoint" refers to the horizontal widths of the devices screens used for viewing the sites, and recommends beginning the design by defining

what those breakpoints are. A common practise for designers is to choose three breakpoints. (Marcotte, 2011, 113.) The average size of a mobile device's screen is about 320px, but the screen sizes in general vary a lot (Mobile Web Best Practises, cited 23.10.2014). The most common screen resolution is over 1920x1080 pixels, coming in second is 1366x768 pixels, in third place is 1920x1080 pixels (W3Schools , 2014B, cited 23.10.2014). Instead of some specific devices and their brands, products, or browsers, the web pages content should be the defining factor for breakpoints. At first the content should be fitted for a small screen size, then the first breakpoint can be found by expanding the screen until the design breaks and different design is needed. (Le Page, 2014 A, cited 23.10.2014)

3 GRAPHIC DESIGN

The Web presents information visually so as a medium it requires attention to presentation and design. It is the graphic designer who needs to make decisions regarding the graphics, type, colours, and layouts; basically everything that can be seen on a website. The graphic designer doesn't necessarily have to know how to do programming as it can be outsourced. Knowing how to create and edit graphics is necessary so a graphic designer must at the very least learn how to use some basic image editing software. Commonly used graphics software includes such programs as Adobe Photoshop (for image editing and creation, in general a must in for professional designers) and Adobe Illustrator (a vector drawing program mostly used for illustrations). (Niederst Robbins, 2007, 5, 6, 15.) A graphic designer communicates a concept or a message visually, and communication skills are a fundamental aspect of the problem solving (Shillington College, cited 5.11.2014).

3.1 Layout

There are various ways to create layouts but in general they are made with CSS. There are three main ways to create a layout; liquid (adjusting size according to the browser window size), fixed (the content is a specific size and does not alter), and elastic (some areas change in size when the text size is altered). Using any option may work, the choice may vary according to the type of content on the web page. (Niederst Robbins, 2007, 311, 318). A design grid helps to organize a website, it builds up a system of columns, borders, and sections into which content can be placed (Layout and Page Design Fundamentals, cited: 7.11.2014).

One way to balance the design is by considering the weight of the elements; the larger parts with the main content weigh more. In a design with symmetrical balance the weight seems evenly distributed on the site, whereas in an asymmetrical design there may be a larger element which is not balanced by smaller sections and the outlook is disproportionate. Whitespace, also known as negative space, is the area between elements on a page. Leaving space around an element is a way of drawing the viewers' eyes to what is important by separating them from the rest. It is also used for generally organising content into separate parts to clarify the structure. The Golden Ratio

has been defined as aesthetically pleasing, due to its visual balance. If a website is divided into three sections, two of the columns should be the main content and the one third should be for the rest, such as navigation. (Watrall & Siarto, 2008, 49, 51, 133, 134, 137.) The Golden Section is commonly used by artists for composition since it produces natural looking images. The idea is based in mathematics and it works with the Fibonacci Series. (Layout and Page Design Fundamentals, cited: 7.11.2014.) The figure 2. below is an example of dividing a website with the Golden Section; the first two sections take two thirds and one third of the page in width, while they also take up two thirds of the height in relation to the three columns below.

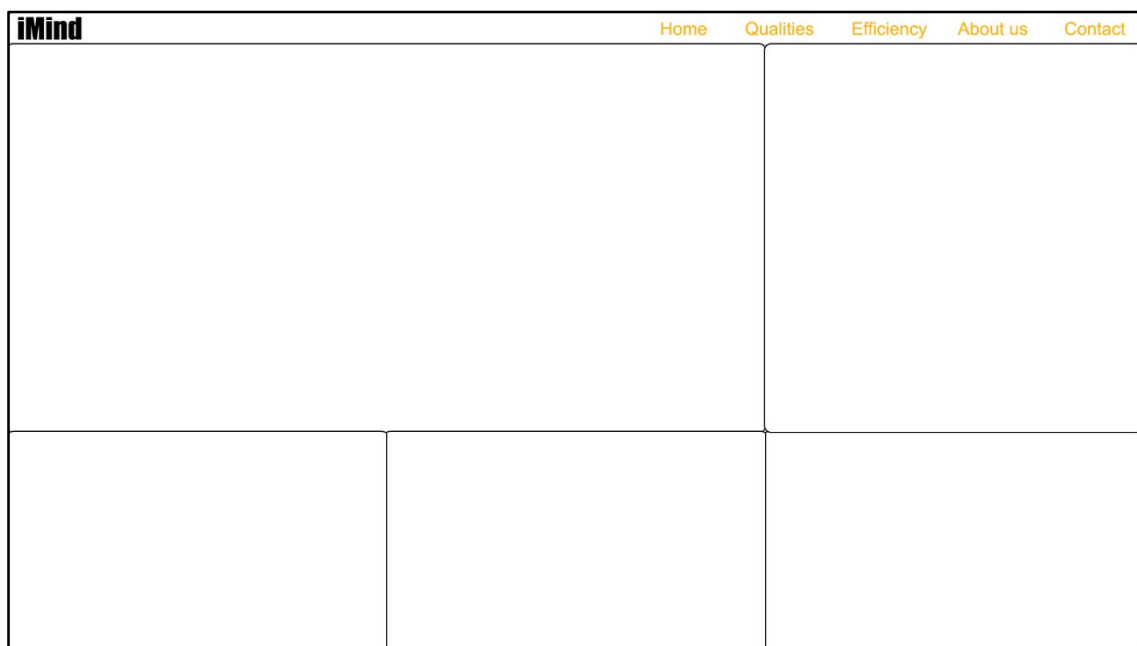


FIGURE 2. Golden Section.

In psychology, Gestalt refers to a “unified whole”, the theories of visual perception. The idea is that humans organize visual elements into groups. (The Gestalt Principles, cited: 7.11.2014.) The Gestalt principles of perception claim that humans perceive compositions as a whole instead of individual parts. These principles may be used in web design to create a visual hierarchy. The principle of proximity explains that when humans see objects close to each other, they are viewed as a group. The principle of similarity declares that objects with similar features are grouped together. An object’s large size and optical weight is usually interpreted to indicate importance. The principle of prägnanz states that objects in a visual area do not seem dominant or recessive, but rather the dominant objects are seen as figures and the recessive are seen as background.

According to the principle of closure, humans imagine individual objects to form a visually connected form when they are close to each other. These sorts of structures may be created with shapes to create meaning. (Visocky O'Grady & Visocky O'Grady, 2008, 64,77,118.)

3.2 Typography

Typography can be defined as *“Design or selection of letter forms to be organized into words and sentences and printed or displayed electronically”*. The three main type families in the Western printing are roman, italic, and gothic. There are around 10 000 typefaces, which are designed sets of letter forms. These typefaces may be categorized into three categories; old, transitional, and modern. (Merriam-Webster Dictionary, 2014, cited 8.8.2014.) Typography can also be defined as *“the style and appearance of printed matter”*, and *“the art or procedure of arranging type or processing data and printing from it”* (Oxford Dictionaries, 2014, cited 8.8.2014).

Fonts can be described as designs (combinations of pitch, size and typeface) for letters, numbers, and other characters;. Typefaces which often are mistakenly referred to as fonts, are font-families, which are divided into two larger categories; serif and sans serif. Serifs are small serifs at the letter ends. (Brannan, 2010, 113.) Generic font families allow the browsers to select an available option in the same stylistic category. There are five generic font families: serif (decorative serifs at the end of letter strokes), sans-serif (straight letter strokes and no serifs, considered to be easiest to read on computer screens), monospace (these constant width typefaces show all letters with the same amount of space around them), cursive (fonts are emulated to appear as handwritten, not common on professional websites), and lastly the fantasy (decorative fonts mainly appropriate for headers and rarely used). (Niederst Robbins, 2007, 205.)



FIGURE 3. Generic font families.

Legibility of type refers to the features of individual letters and words as they affect the reader's ability to recognise them. Humans recognise the shape of a word rather than each letter individually to read faster and the shape, scale, and style of the letters can make a significant difference for recognising them. Readability is a measure of how fast a text can be read and it is affected by the font, design, layout, as well as the text's size, spacing, and alignment. (Visocky O'Grady & Visocky O'Grady, 2008, 120, 124, 125.)

There are vast amounts of different types available. Types can convey emotion and thus send a message to the reader on what kind of message the content will include. When the intention is to offer a clear message to a designated viewer, accessibility is important. A versatile type will have a balanced weight and proportion and a minimal amount of extra forms and decorations. Type size in web design is measured in ems, which is an international standard of measurement. The em units are dynamic in a sense that when a viewer chooses their preferences for the screen, the type is displayed proportionally. (Visocky O'Grady & Visocky O'Grady, 2008, 124, 125.) A standard size for fonts was declared in 1999 by the makers of Netscape, Microsoft browsers, and Mozilla. They made default font sizes of 16px/96ppi for all platforms to avoid the problems of cross-platform size differences which could make a text illegible in some platforms while it looks perfectly alright in the one it was designed for. (Zeldman, 2007, 315.) Font sizes may also be set by percentages or absolute key words (xx-small, x-small, small, medium, large, x-large, xx-large), where medium is often the default size (Niederst Robbins, 2007, 209).

Fonts have limitations; browsers are only capable of displaying fonts which are already installed and accessible in the user's computer. In case the font is not found, the browser will use the default font (Niederst Robbins, 2007, 204). However, nowadays the @font-face is an option in CSS, it allows designers to specify fonts online to display on their websites. This eliminates the previous issue of accessibility of fonts. (Fredchat, etc., 2014, cited 13.10.2014.)

Column width has an effect on readability as well; in an excessively narrow column words become hyphenated, which slows word recognition, whereas a very wide column makes it challenging to find the location of the next row. A study in print has declared that a 10 cm column is the most readable, while a more recent study in online texts would say that a column of 18 cm width makes the easiest read. (Visocky O'Grady & Visocky O'Grady, 2008, 126.) In fact some researches have found that shorter line lengths are preferred for online reading as it appears more organized and easier to comprehend and it has also been researched that short line lengths really are easier to understand. This means that there would be a lot of space for other content and it might not be practical for all websites. One solution is to gain the readers interest by having the first few lines shorter; once the reader is interested, they may continue regardless of the width of the column. (Halpern, cited: 7.11.2014.)

Spacing between letters and lines of type can affect the readability as well. The latter is called leading, and altering the leading in paragraphs may also give a sense of hierarchy. With a very small leading the rows of type may collide and complicate recognising the words, as with a very large leading locating the next line may hinder the reader. Thus it is advisable to have a medium measure for the leader. Commonly web pages have a leading of 120 per cent of the type point size as a standard. The horizontal space between letters may also be adjusted; it is referred to as "kerning" and tracking means the adjustment of the space in a word, line, paragraph, or text. (Visocky O'Grady & Visocky O'Grady, 2008, 127, 128.)

Paragraphs of type can be arranged to align to the left, right, or centre. For western culture the left alignment is common as we read from left to right; the left side will remain straight and the starting point of the next row of type will be easy to find. The paragraph may be aligned or justified; the first option may leave an uneven side but the latter may distort the words with uneven spacing to even the paragraph into straight lines on the sides. (Visocky O'Grady & Visocky O'Grady, 2008, 129.)

Visual hierarchy in design draws the viewer's eye to the right place, informing the reader which parts are most important and guides the reading process with visual clues. This allows the reader to scan the text and read the interesting parts faster. This also means that the designer may decide in which order the information will be read. (Cousins, cited: 7.11.2014.) Hierarchy in structure of the content means organising the graphic and text information. The hierarchy needs to convey each part's relative importance. Visitors tend to first take a quick overview before having a more comprehensive read. The use of colour, contrast, and positioning may draw the eye to the right place. (Visocky O'Grady & Visocky O'Grady, 2008, 105.)

3.3 Colours

Colours have an effect on human emotions so in design work it is important to consider what emotions the site creates in viewers; strong colours result in strong reactions. Related to colours, saturation of a colour indicates its brightness or darkness and using dark colours in a web site may appear heavy. (Watrall & Siarto, 2008, 163, 180.) Colours may present visual identity and have functional attributes such as drawing attention, relying only on colour to bring across a message may not be a good idea (Allsop, 2000, cited 9.9.2014). However, colours can be a more subtle way to convey information than graphic images (Watrall & Siarto, 2008, 175).

Accessibility issues may arise with designing colours; one option for avoiding them would be to use style sheets instead of HTML elements when possible. In CSS colours are indicated with hexadecimal values to inform the browser how much red, green, and blue to display. These values can be found on several sites on the internet. (Watrall & Siarto, 2008, 175.) Computers display colours using RGB (red, green, and blue), the codes and names by which colours may be used in HTML and CSS can easily be found listed on various websites with search engines. It may be worth pointing out that the colours will not always appear the same on different devices and monitors, and accepting the fact may be all a designer can do. (Brannan, 2010, 91, 98.) In addition to physical (colour blindness) and environmental characteristics, the viewer may have a different cultural perspective affecting the way colours are seen or interpreted (Visocky O'Grady & Visocky O'Grady, 2008, 108).

Colours make a great difference in how a design is perceived by viewers and there are a lot of web sites offering tools for determining the right colours (Jones, 2009, cited: 7.11.2014). When choosing the colours in a design, the colour wheel may be a useful tool. It is a diagram showing a range colours and the relations between them. The main colours are red, green, and blue; the secondary colours are yellow, cyan, and magenta. Colours on opposite sides of this circle are referred to as complimentary colours, as they appear well together. They can be used to create colour schemes, which are collections of colours that look aesthetically pleasing together. The base colour of the website should represent the chosen theme, if there is one. The rest of the colours will be chosen to suit the base colour. In colour schemes there are often three colours, which are an equal distance from each other on the colour wheel. However, if there are four base colours, it is called a tetradic colour scheme. In such cases there are four colours in pairs on opposite sides of the colour wheel. There are basic principles with placing colours. Using contrasting colours next to each other divides the layout and creates borders. Using the most dominant colour in one area emphasises it. (Watrall & Siarto, 2008, 163-167,170,171, 182, 185.)

4 INTERVIEWS

As a part of this thesis some interviews were made to support the design process. The idea was to have the site visitors' opinions, needs, and habits to guide the design work. After all, the site's purpose is to serve customers. User-centred design is based on research; the research is meant to reveal the needs, behaviours, and expectations of the target audience in the development process (Visocky O'Grady & Visocky O'Grady, 2008, 25). Asking the right questions will give better results, some points to keep in mind are that they are not leading the answer, they are short and easy to understand, and the questions need to ask either for knowledge or opinion – never both at once. (Watrall & Siarto, 2008, 328).

4.1 Interviewed companies and implementation

The interviews were organized with three companies. As the results needed would be qualitative, the questions were made open to not restrict the responses and each interview lasted about 30 minutes. The interviews were also recorded so the material would be accessible in full at later times, notes were made during the process as well.

Three companies agreed to do an interview, all of which were contacts supplied by the thesis commissioner. One company designs and manufactures wireless electronic appliances, the second one is a large corporation in the health industry, and the third is a provider of vocational education in Oulu. All interviewees were working with tasks in the human resources management.

4.2 Results

The interviewees said that when landing on the front page of the current website all said that if the subject was new to them, they would scroll around to get the main idea. Once they would have some idea about the subject, they would start looking for some specific information. Looking at the current website about the product, the qualities would be the most likely place to begin, whereas another important point of interest would be the efficiency tab. It was also mentioned

that the information may be easier to find if the business website and the product website were in the same location. It seems common that the front page is only expected to explain the main idea of the rest of the website and readers were surprised when the page continued very long (as is common with modern websites).

Regarding the company itself, all parties agreed that it is a positive aspect that the company is local so it ought to be emphasized. One pointed out that having images of the company's personnel produces an image of a small business. Another said that it gives a clearer image of the company, so it may build up trust. All agreed that the references are an important factor for when they are making a decision on whether or not to engage. One said that they would see the news section to see if it is updated, and thought that it doesn't look positive if the site has very old information.

When it comes to accessibility, the most likely device to be used for browsing the website would be a laptop, although it was pointed out that all devices might be used. When it comes to the language issue, only one company had international personnel and felt an English version would be necessary. It seems that in Finland it used to be necessary to have everything available in English but the business sector is now functioning a lot in Finnish.

According to the interviews, a print version should be available although mostly the web page would suffice as the link may be shared. However, one interviewee suggested that a PowerPoint show or some other form of downloadable file should be available for presenting the products and services. This could be used when discussing the purchase within the company.

None of the interviewees felt it necessary to alter the font size other than on mobile phones. The comments on the images were that they did convey the message of whom the product is for (businesses), but there could be images about the actual product and what it does. Some felt that there doesn't need to be so many images since they take a lot of space and don't really convey important information. It was also pointed out that the people in the images did not look Finnish but rather international, which may be an aspect to consider.

When it comes to colourful websites in contrast to more formal, black and white websites, it was agreed that the preferences would depend on the style. If a website is too colourful, it may give an image of a toy store website, which would not be taken as seriously. However, one company

said they appreciated colour and said it can imply that a company is modern, which in turn is a good sign for a company in the IT field. Then again a very dull and formal website may appear old. In the end, one interviewee said they would not say yes or no to a company based on what the website looks like, but rather based on what it contains.

When asked about how fast the interviewees would expect to find the information they are looking for, the first said that during a work day there are a lot of interruptions which means that if the information isn't found fast enough, the whole issue may be forgotten. Another said that if the services or products seem like a real advantage to the company and it solves a problem, there will be sufficient time reserved for thorough research. The third party said that all information should be available within three clicks. All in all it would be an advantage if the desired information is found efficiently.

The preferred form of contact in case they needed more information would be the a phone call if there is a tight deadline, and email in other cases so the issue may be dealt with when there is time for it. No one mentioned any interest in the contact forms, and one said that they never use those. When it comes to making orders, all agreed that an email would be a suitable form for an offer, then a meeting should be scheduled for further discussion.

5 DESIGN

The very first thing to do was to create a sitemap, which is seen in figure 1. Then it was necessary to decide the colours so I found a tool from *10 Super Useful Tools for Choosing the Right Color Palette* (Jones, 2009, cited 13.11.2014), the paletton.com website. The company logo is blue, which is a good, official colour for a business (signifying for example intelligence and trust (J.L. Morton, 2012.)) so I will keep it that way. The paletton.com website shows in the image below a triad colour scheme which offers shades of yellow and orange paired with blue. When another colour is added, the tetradic colour wheel shows a purple colour which is the colour of the the alternative, existing logo colour.

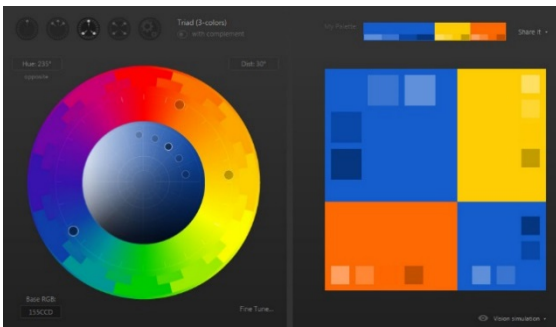


FIGURE 4. Triad colour wheel.
(Paletton, 2014, cited 13.11.2014).

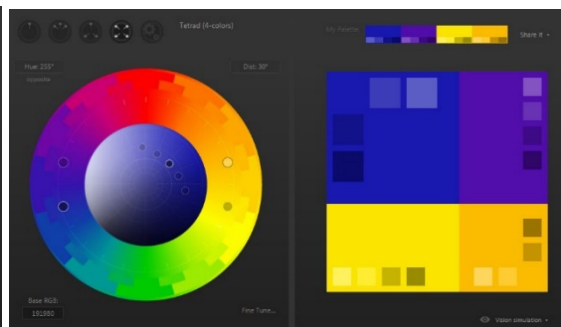


FIGURE 5. Tetradic colour wheel. (Paletton,

Next I picked some photos from the existing website as most of them are quite usable as long as the design is more functional. The interviews concluded that there doesn't need to be so many photos and the images explaining what the company offers could be more central. This is why I chose a picture of a mobile to be placed in the header.

Next comes a title which grabs the reader's attention with a few words, then a short paragraph explaining the main idea as in the pyramid model of writing. Each informative paragraph has a link to more information for the interested readers. The link is always at the same position in relation to the text, creating a square shape, as they are placed close to each other they would be perceived as a shape. Then there is some white space between the paragraphs to divide the information into clear sections. The font sizes vary from large to small depending on the sections relative importance. The first paragraphs are aligned in the centre as they are commonly in the

middle of the page taking up a lot of space. The lower paragraphs are aligned left which makes reading easier. Also a downloadable file could be added so the very smallest details can be found in for example a PDF file. This cuts down the amount of text on the websites.

After the first text paragraphs comes an image of a group of people working together. This image is visible right away on the front page so if the text is too long, the last chapter about the company can be moved below the image. The business image needs to be visible because it gives an image of what the company offers along with the mobile picture. I also wanted to include the graphical image at the bottom of the page to add some visual communication. In the previous design the images are not responsive and tend to be too large for any small screen, which destroys the whole layout. Another picture is also in all three on the designs, an image portraying people being connected via electronic appliances. All three images have the same colour scheme, including blue and a little orange. This creates a colour harmony and a clean visual whole.

The typeface in the basic paragraphs is Arial, as it is a sans-serif font and according to theory, should be easy to read on the web. The headers have a heavier typeface, known as impact, to emphasize them and convey relative importance. The colour white keeps the page clean looking so a black colour for the font would be appropriate as it is very visible and looks official. The headers and the sections which need to be read first are in bold to emphasize them and draw the eye in the right place.

5.1 Mobile

The whole design was begun with the mobile versions. This is because the mobile only has the bare essentials, and the larger designs can be expanded from it. While very basic, the mobile page will show many of the same images but they are responsive and adjust to the user's screen size. In Photoshop I created new images with the mobile & devices preset which means that they are roughly the appropriate size.



FIGURE 6. Mobile front page part one.



FIGURE 7. Mobile front page part two.

The navigation bar is fairly standard for mobiles, which is convenient because users recognize the menu symbol. Instead of the contact form, the mobile version might have just a phone number and an email address, as smartphones usually know how to handle them and the viewer can directly contact the company. Then there is the issue of the contact form but that may be moved to the footer of the page or be included as its own section. The SoMe (Social Media) bar with Facebook, Twitter, Linked in, Youtube, and Google accounts are linked at the bottom of the page simply because the contact information is also there.

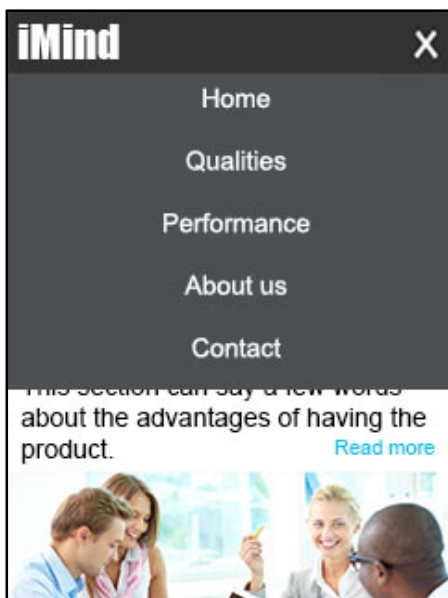


FIGURE 8. Mobile navigation menu.

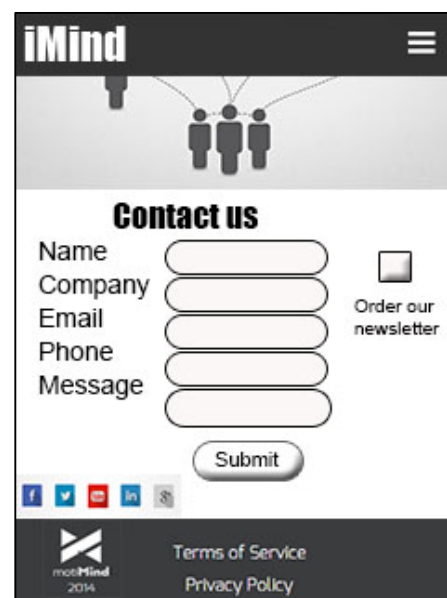


FIGURE 9. Mobile contact form and footer.

The links on the front page lead the reader to the more informative second page seen in figures 9 and 10. This page is purely meant to give interested readers the information they need in a handy package without them having to fetch their computers. There may be long articles of text as long as it is divided into clear sections with informative headers. If there is some more specific information the commissioner wishes to tell, that could be placed on the third page, or optionally a downloadable PDF file which most modern phones are able to open with an application. The references are a point of interest for many companies so they ought to be accessible.



FIGURE 10. Mobile information page part one.

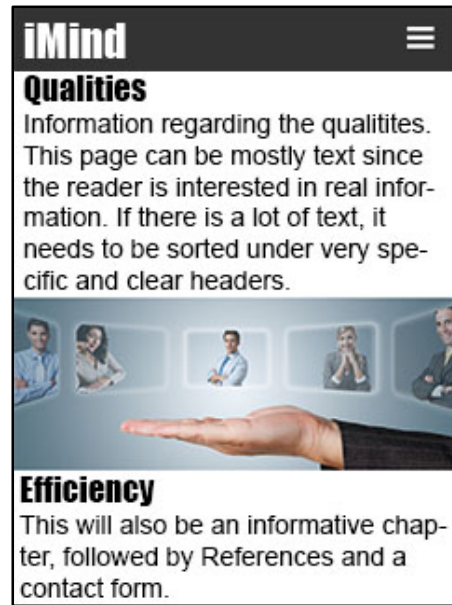


FIGURE 11. Mobile information page part two.

5.2 Tablet

The tablet version was begun with a similar photo header section. The iMind text at the top of the page changes to a bright orange colour while the navigation bar turns to white and the links appear along it. Now the front page also shows additional texts about the Qualities and Efficiency but the amount of images remains almost the same as the screen is still relatively small. The navigation bar is fixed at the top of the page so when the user scrolls down, they have the links available at all times. The iMind and navigation bar texts are orange to make the page look brighter, and there are some small elements which have the same colour to create consistency.

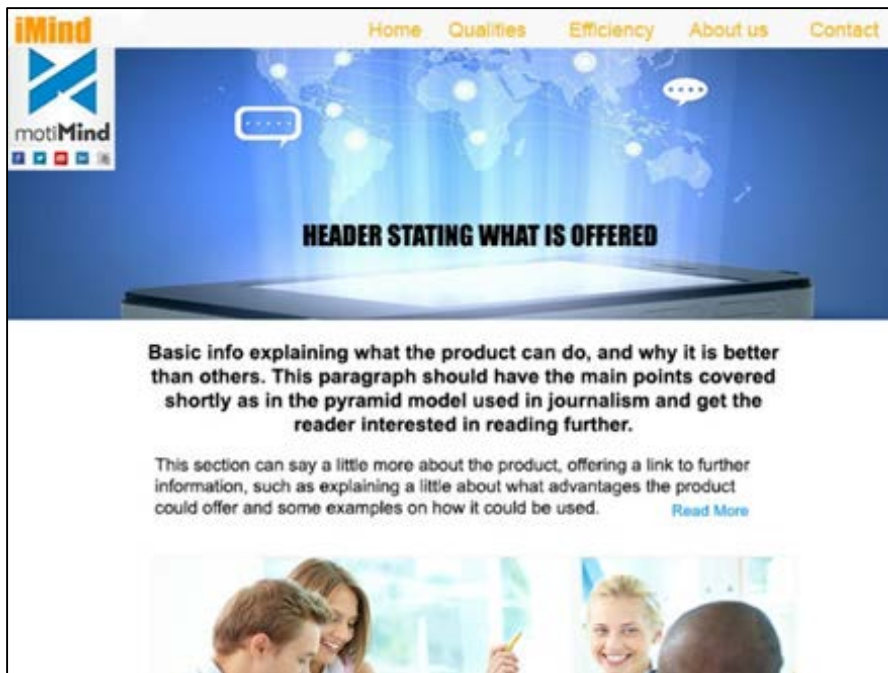


FIGURE 12. Tablet front page part one.

The Qualities and Efficiency sections are additions to the tablet designs, they are cut down to bullet points so they are very fast to read. In the interviews it was apparent that the readers would skim through the front page very fast and were surprised if there was a whole lot of information. Simplifying the information will work since there are links to more specific information regarding the subjects. The amount of information is not overwhelmingly large so rest of the information can be placed on one other page. The mobile page will also have the information available, the front page is just more trimmed.



Figure 13. Tablet front page part two.

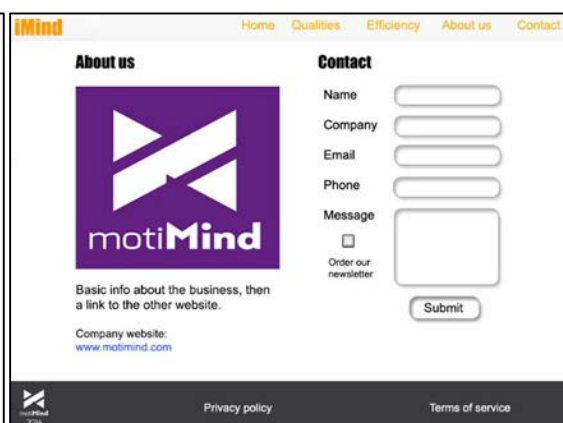


FIGURE 14. Tablet front page part three.

The footer of the page is again grey. With the contact form there is the option to order a newsletter. As in the mobile version, this form may not be necessary and the contact details could be there instead. This is done with a checkbox, which is a very simple way to manage the issue. The user inputs their email, which can be added on a mailing list. The large purple logo of MotiMind in the last part of the front page could also be images of people working in the company. The image brings more colour to the page but is not strictly necessary but it could be used as a link to the company's own separate page.

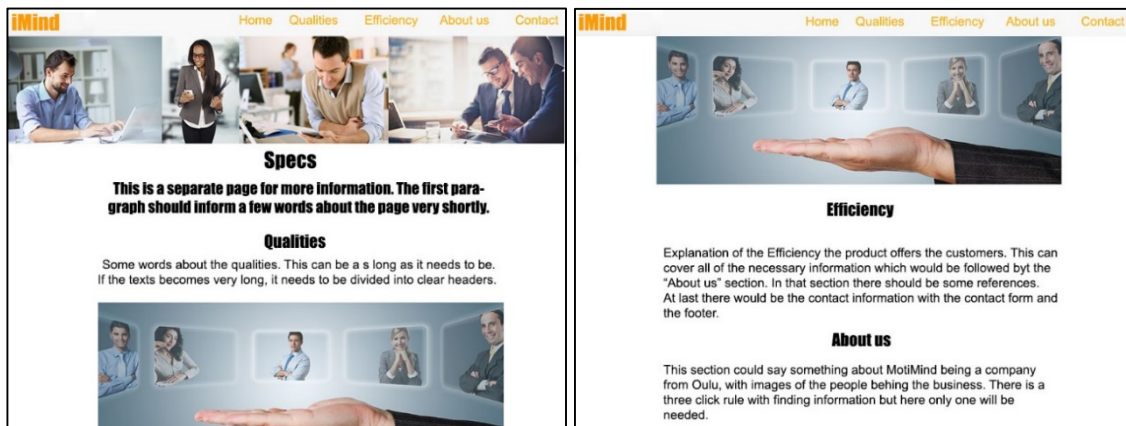


FIGURE 15. Tablet information page part one. FIGURE 16. Tablet information page part two.

On the separate information page the header image is different as there is more space. The image of the mobile version is also in the collage. The second page has more business images as the front page already determines the IT aspect. These images are basically illustrations for the text explaining the added value which MotiMind can bring to a company. If the products would be marketed also towards private users, there should be a separate section for it.

5.3 Desktop

The desktop design doesn't essentially differ from the tablet design. The idea with the mobile design is to keep it simple and then there is the question, why should the tablet or desktop versions be cluttered? There is room to add more information but the readers still seem to prefer a fast read and a clear visual page. There is also room to cut the header image smaller as the whole map does not need to be visible and it does add some scrolling.

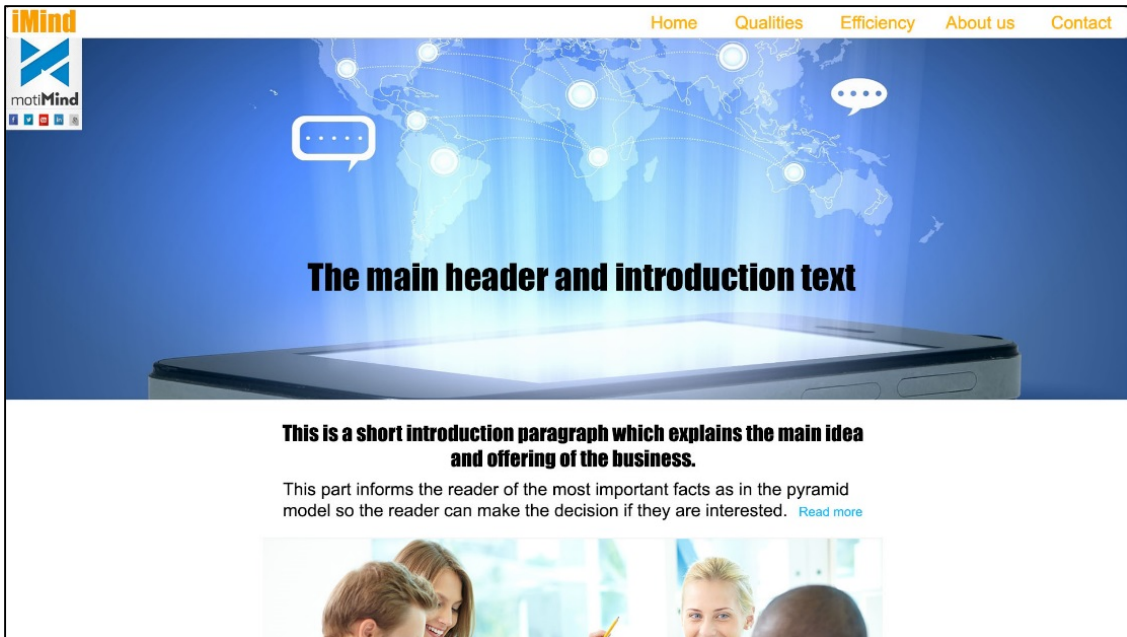


FIGURE 17. Desktop front page part one.

In the desktop design the header and photo take two thirds of the height as calculated with the Golden section. Also the column width is two thirds of the entire page width, leaving the rest for the sides. The text columns should not be more than about 15 cm in width to ensure an easy reading experience. The page layout is quite simple because the main content is text and the images are meant to create mental images and support the message in the texts.



FIGURE 18. Desktop front page part two.

In addition to a downloadable PDF file with the detailed information, there could be a downloadable PowerPoint file or a link to an online presentation which has all the information in it. These files could be added to the footer section of the website. That file could then be used during discussions in customer companies to determine whether or not they need it. This file would be placed at the bottom of the page with information about the company.

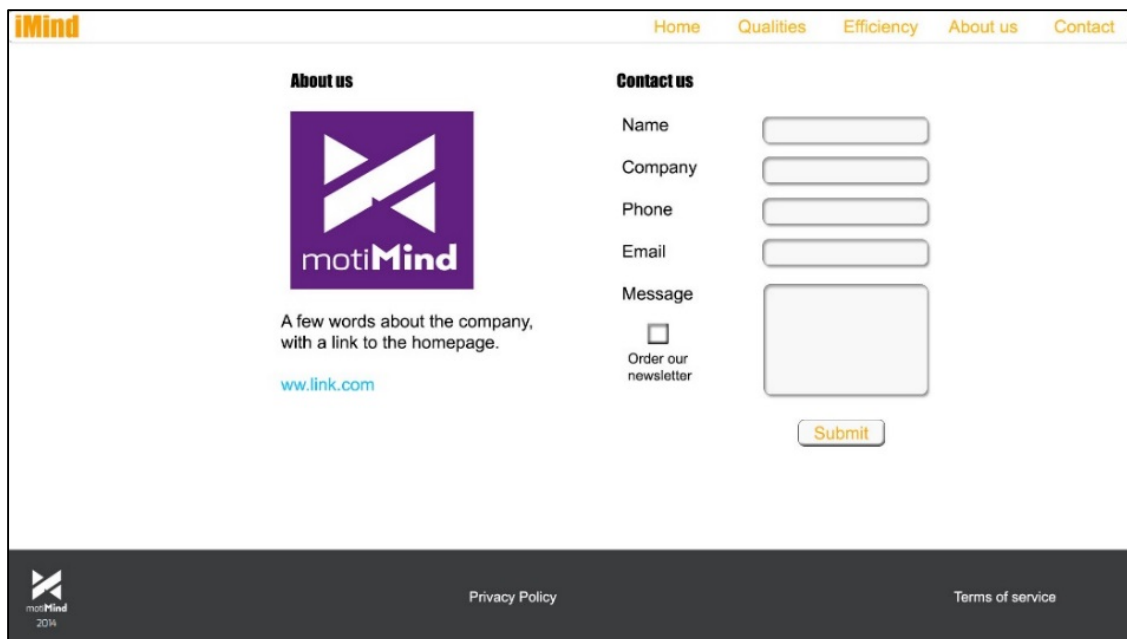


FIGURE 19. Desktop front page part three, footer and contact form.

As in the tablet version, the MotiMind logo would be a link to the official company web page or it could direct the reader to the "About us" section in the information page. A solution for this would be that the two pages are combined but it is not necessary. The titles in the text are basically translated from the Finnish version of the existing website and they could be chosen differently. The idea is to give some sort of idea what would be the structure of information on the pages. Again there is the contact form (figure 19.) and here there is space for it. Commonly companies seem to have these but as according to interviews, they are not very popular. It may be there just in case, but a contact information section may look neater.

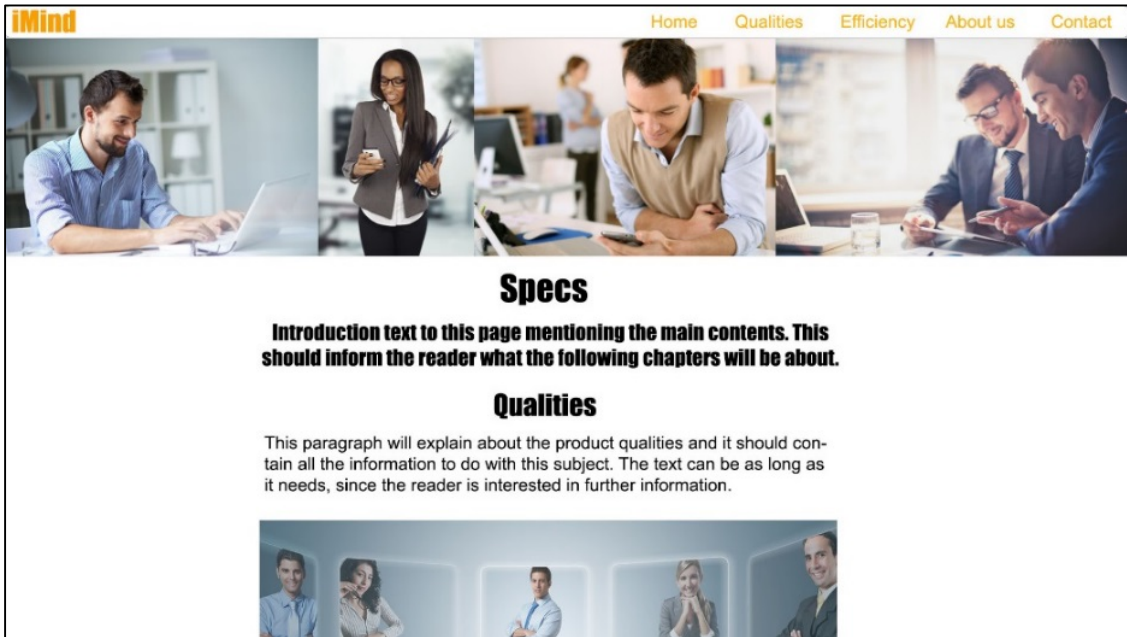


FIGURE 20. Desktop information page part one.

The second page on the desktop would appear very similar to the mobile version as the contents is basically text. More images could be added between chapters if they get very long. This will break down the page into clearer sections which may be easier to follow. The end of the page would include a footer which is not shown in these images since it would look the same as the footer section on the front page. This means that the viewer does not need to go back to the front page to find the contact information.

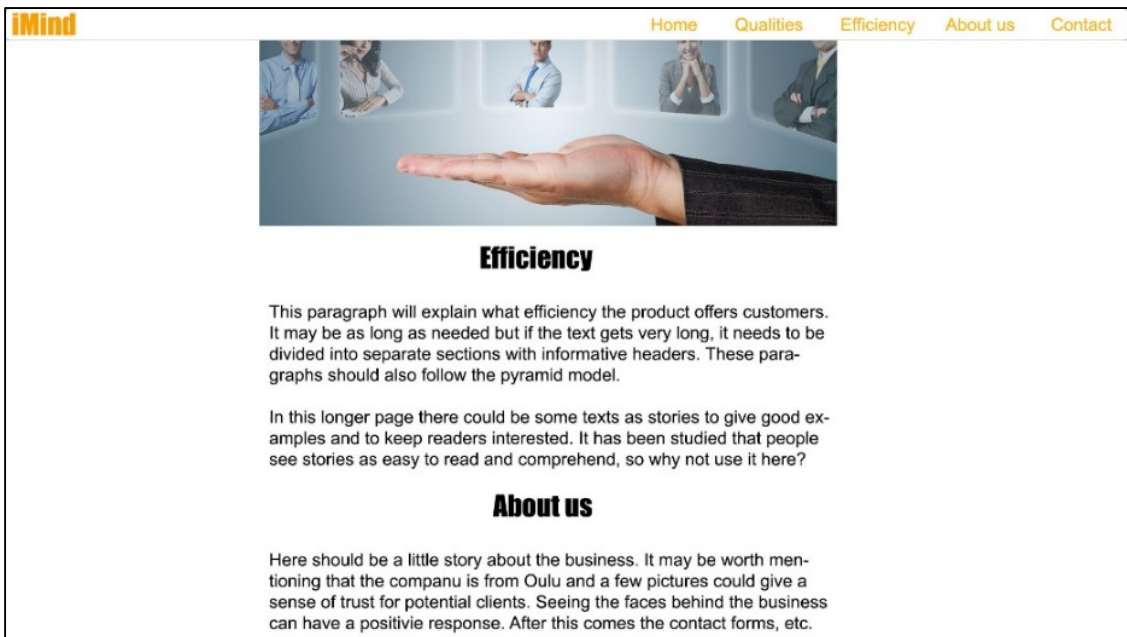


FIGURE 21. Desktop information page part two.

6 CONCLUSIONS AND DISCUSSION

The thesis had the objective to create a design for the iMind web page, which was successful. The idea was to create a design considering the end users, which in this case are the customer companies. Personnel from three companies were interviewed about their interests and methods to guide the design process. The questions which were defined in the research problem were answered with theoretical information as well as the interviews. The theoretical literature helped determine basic issues of typography, layout, responsiveness, colours, and in general the graphic elements. The interviews provided necessary information for the information structure; which were the most important aspects for the interested customers and their preferred methods to access the information.

The main issue with the original design was that the page was not responsive apart from the adapting text width; there was too much text contents and the images did not react to the devices screen size. The images themselves were not an issue but how they were used; there were very many, none of which adapted responsively. This is why a lot of the existing images were reused. There are always issues with finding new images due to copyrights.

During the process of writing the information it was an important issue to draw the line; the subject of web design is very large and the thesis needed to be a coherent whole. This meant that while finding relevant information, it was always necessary to consider whether it should be included. On a positive note, the information was very easy to find as web design and responsiveness is a very modern issue.

The very first thing to decide was which design to begin with; mobile, tablet, or desktop. The interviews concluded that a desktop size device would most likely be used for the design, while some theoretical sources suggested the mobile first method. As the commissioner's page did not have enormous amounts of information, the mobile first seemed like a logical choice. This meant beginning with the bare essentials and adding more content as the screen allowed. However, the larger screens do not have huge differences in content as a simple look will be easier to follow.

Next there was an issue of should the design be something completely new or something made based on what already existed. Since the existing page showed what the commissioner preferred and the nature of the page's contents was quite simple, I decided to use elements from the old web site to construct something new.

Two ideas which are not shown in this design could easily be added; a search box and downloadable PDF and PowerPoint files, or alternatively a link to an online presentation (for example on google drive). The files seemed to have demand as it was an interviewed company who suggested them. The issue with the search box is that the search terms would need to be exact but they may be usable.

In the future it would be advisable for the commissioner to keep the front page simple, have a trimmed text content which only shows the main points, and perhaps consider having the company's homepage and the product page in one location for simplicity. In the future the web development will in all likelihood continue to change and develop at a fast pace which means that updates are bound to be necessary. If the commissioner wishes for a more complicated page with a lot of functions, there is room for changes but this design should give a framework to building a functional and thought out website.

REFERENCES

- Allsop, J. 2000. A Dao of Web Design. A List Apart. Cited 9.9.2014, <http://alistapart.com/article/dao>
- Brannan, J. A. (2010). Web Design. Edinburgh: Pearson Education Limited.
- cios233.community.uaf.edu (2014). Layout and Page Design Fundamentals. Cited 7.11.2014, http://cios233.community.uaf.edu/design-theory-lectures/layout_lecture/
- Cousins, C. (2014). Creating Visual Hierarchy With Typography. Design Shack. Cited 7.11.2014, <http://designshack.net/articles/typography/creating-visual-hierarchy-with-typography/>
- Coyier, C. (2010). CSS Media Queries and Using Available Space. CSS Tricks. Cited 3.11.2014, <http://css-tricks.com/css-media-queries/>
- Drell, L. (2012). 10 Essential Features of Every Good Business Website. Mashable. Cited 3.11.2014, <http://mashable.com/2012/02/09/website-must-haves/>
- Freeman, C. (2012). HTML, CSS, and PHP Explained – An Introduction to Internet Coding Basics. Headway101. Cited 3.11.2014, <https://headway101.com/html-css-and-php-explained-an-introduction-to-internet-coding-basics/>
- Graphic Design Spokanefalls. (2014). The Gestalt Principles. Graphic Design Spokanefalls. Cited 7.11.2014, <http://graphicdesign.spokanefalls.edu/tutorials/process/gestaltprinciples/gestaltprinc.htm>
- Halpern, D. (2014). What's the Perfect Width for Your Online Content? Social Triggers. Cited 7.11.2014, <http://socialtriggers.com/perfect-content-width/>
- Morton, J.L. (2012). The meaning of blue. Cited 20.11.2014, <http://www.colormatters.com: http://www.colormatters.com/blue>
- Johnson, J. (2013). Mobile First Design: Why It's Great and Why It Sucks. Design Shack. Cited 3.11.2014, <http://www.colormatters.com: http://www.colormatters.com/blue>
- Jones, H. (2009). 10 Super Useful Tools for Choosing the Right Color Palette. Web Design Ledger. Cited 7.11.2014, <http://webdesignledger.com/tools/10-super-useful-tools-for-choosing-the-right-color-palette>
- Le Page, P. (2014A). How to choose breakpoints. Google Developers. Cited 7.11.2014, <https://developers.google.com/web/fundamentals/layouts/rwd-fundamentals/how-to-choose-breakpoints#pick-major-breakpoints-by-starting-small-then-working-up>

Le Page, P. (2014B). Responsive Web Design Basics. Google Developers. Cited 6.20.2014, <https://developers.google.com/web/fundamentals/layouts/rwd-fundamentals/>

Marcotte, E. (2011). Responsive Web Design. New York: Zeffrey Zeldman.

Merriam-Webster Dictionary. (2014). Typography. Merriam-Webster Dictionary. Cited 8.8.2014, <http://www.merriam-webster.com/dictionary/typography>

Mozilla Developer Network. (2014). @font-face. Mozilla Developers Network. Cited 13.10.2014, <https://developer.mozilla.org/en-US/docs/Web/CSS/@font-face>

Newtec. (2014). Top Web Design Trends In 2014. Forbes. Cited 16.6.2014, <http://www.forbes.com/sites/thesba/2014/02/10/top-web-design-trends-in-2014/>

Niederst Robbins, J. (2007). Learning Web Design. Sebastopol, California, USA: O'Reilly Media.

Oxford Dictionaries. (2014). Typography. Oxford Dictionaries. Cited 8.8.2014, <http://www.oxforddictionaries.com/definition/english/typography>

Paletton. (2014) Paletton. Cited: 12.11.2014, <http://paletton.com/#uid=1000u0klIllaFw0g0qFqFg0w0aF>

Mobile Web Best Practises. (2014). Design for multiple screen sizes. Mobile Web Best Practises. Cited 23.10.2014, <http://mobilewebbestpractices.com/visual-design/design-multiple-sites-for-multiple-widths/>

Shillington College. (2014). What is Graphic Design? Shillington College. Cited 5.11.2014, <http://www.shillingtoncollege.com.au/graphic-design-course/what-graphic-design>

Steimle, J. (2013). Why your business needs a responsive website before 2014. Forbes. Cited 8.8.2014, <http://www.forbes.com/sites/joshsteimle/2013/11/08/why-your-business-needs-a-responsive-website-before-2014/>

W3Schools. (2014A). Browser Display Statistics. W3Schools. Cited 23.10.2014, http://www.w3schools.com/browsers/browsers_display.asp

W3Schools. (2014B). W3School Browser Statistics. W3Schools. Cited 13.10.2014, http://www.w3schools.com/browsers/browsers_stats.asp

Watrall, E. & Siarto, J. (2008). Head First Web Design. Sebastopol, California, USA: O'Reilly Media.

Visocky O'Grady, K. & Visocky O'Grady, J. (2008). The Information Design Handbook. Mies, Switzerland: RotoVision SA.

Zeldman, J. (2007). Designing With Web Standards. Berkeley, California, USA: AIGA.