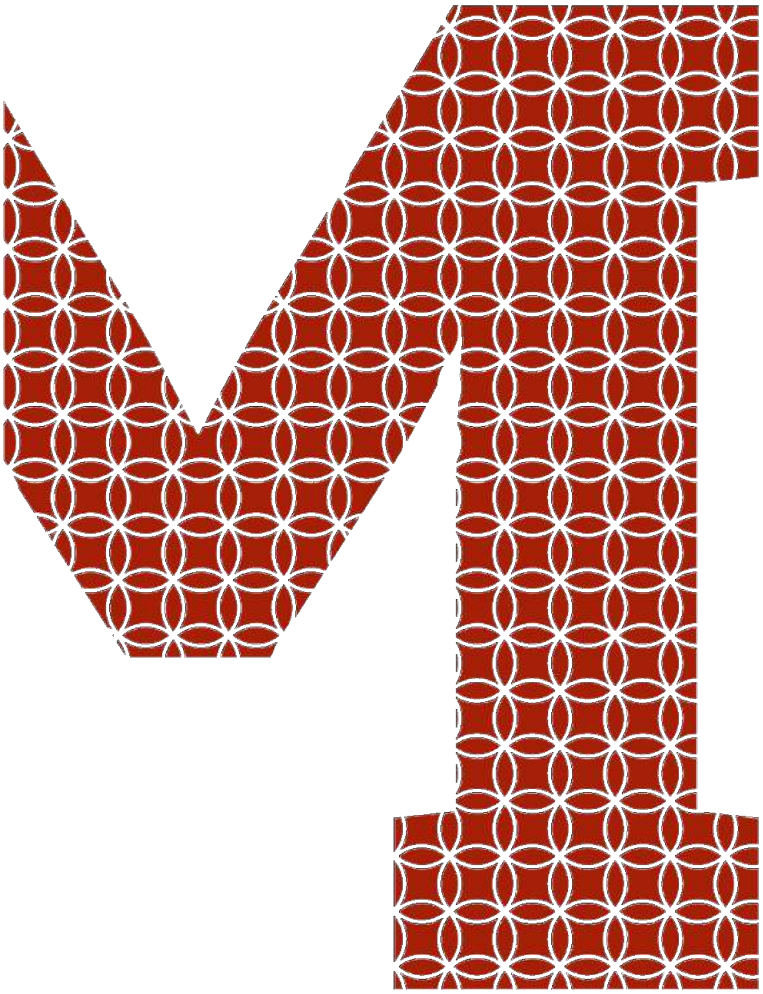

Expertise
and insight
for the future

Yufei Ou

Typography and Its Implementation on Websites

Metropolia University of Applied Sciences

Bachelor of Engineering

Media Engineering

Bachelor's Thesis

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This study focuses on typography in web user interface design. Typography plays a more crucial role in user interface design than other components. I believe that good typography offers a solid base for better performance of the other visuals. The approaches of typography design differs from design goals, styles and are also affected by larger aspects, such as trends and cultures. The purpose of this thesis was to showcase a basic flow of designing efficient and effective typography for websites. The thesis starts by discussing types through a historical aspect and the development of typography from printing to digital. Then, practical and psychological principles applied in web design are introduced.

As for the practical part, I work as a digital designer in a design agency, where I have been taken care of user interface design tasks independently or collaborated with other team members. The practical part of the thesis presents cases from my work as examples for the particular design topics discussed in the theory part.

Keywords	typography, user interface design, website

Contents

1 Introduction

We communicate to convey messages. Writing and typography are the visual forms of communication. Writing is done by hand while typography is more of a technique about arranging types.

Rapid-growing technology has affected our way of living. We receive millions of content through the Internet daily on digital displays and personal devices. Website is one of the most visited platforms. Typography takes an exceedingly important role on web user interface design. It decides how successfully the information can be received, perceived and understood. To be aesthetic is not an essential purpose, but it will be an added bonus. In most cases, readability is the crucial aim, which can directly affect user experience.

Bad typography is visible, because negative feelings will tell, for example, that 'this paragraph is difficult to read, the lines are too tight' or 'I can't find the information I need'. On the contrary, good typography provides readers a smooth journey of browsing the website, even though the design will most probably not be noticed. Besides, from the functional perspective, typography design aims to guide and make reading effortless.

Since typography is about organising types, it is more than choosing nice typefaces and putting them together. The aim of this thesis was to show a general flow of typography design for websites from the selection of typefaces to the implementation to achieve certain purposes. The second chapter discusses the development of types and the basis of typography. The Chapter three introduces web fonts and some methods of selecting typefaces for website projects. The fourth chapter focuses on principles of web typography and meanwhile showcases projects from the author's work as the practical part. The last chapter moves to a larger environment of typography design, which is layouts. From the beginning to the end, this thesis aims to give a clear process of typography design for a website.

2 Type Revolution

2.1 Brief History of Western Typography

The beginning of western typography can be traced back to late fourteenth century, when Johannes Gutenberg started the printing revolution in Europe. He introduced the metal movable type printing press with the concept of rearrangeable individual character blocks. The first mass-produced book—the Gutenberg Bible—was completed with 180 copies. (The Gutenberg-Museum, n.d.)

Gutenberg's invention opened a door of type design. The development of type design is related to the improvement of printing. It also reflects trends and demands of certain periods in different regions or industries. Blackletter and roman types were the early printing types in Europe. Blackletter types are dense and angular with broken strokes (Figure 1). As Gutenberg's printing technology spread to Italy, there came the roman types, which are the base of many legible typefaces afterwards. At the same time, italic types were designed by Aldus Manutius for reducing the cost of printing (Felici, 2011, p.42). Then new typefaces and styles came along with changes of printing techniques, better materials and other aims at the time. For example, display types were created for the needs of eye-catching advertising purpose (Baines and Haslam, 2005, pp.45-48).

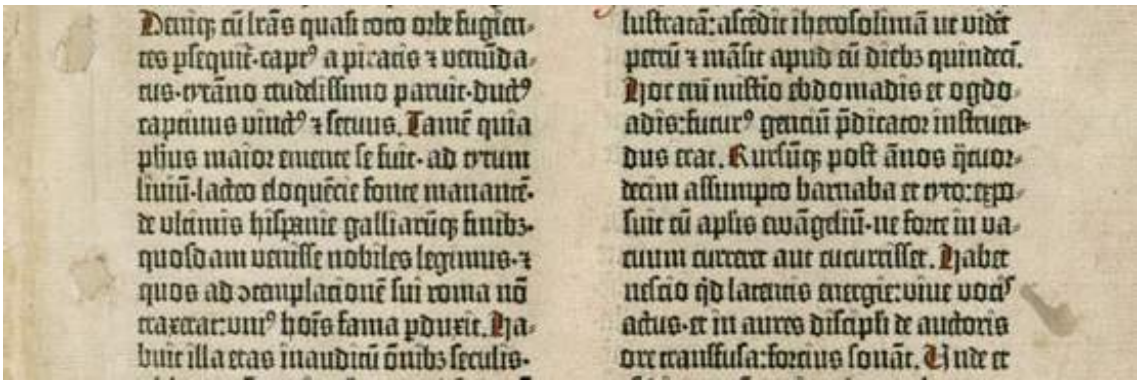
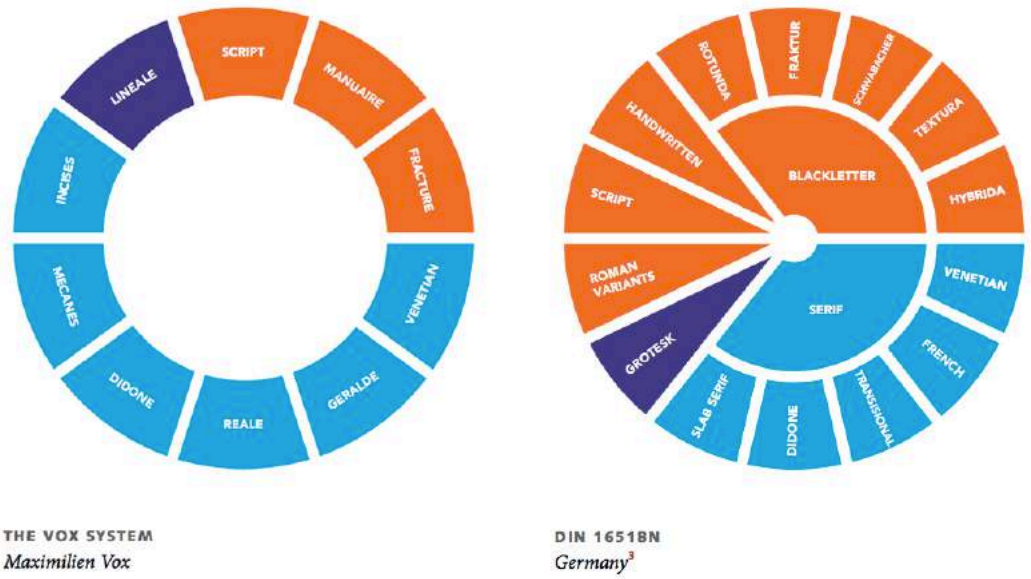


Figure 1. Blackletter types used in the Gutenberg Bible. Cropped from Gutenberg bible Old Testament Epistle of St Jerome. (Wikipedia commons, 2005)

2.2 Classification of Typefaces

The concept of classifying typefaces began during nineteenth century. Typefaces with similar features were sorted into categories. (Baines and Haslam, 2005, p.50) There are many classification systems with smaller or larger groups of type styles. With a history from late fourteenth century, typefaces have become complicated enough. According to their regions, origins, attributes and so on, some terminologies overlap. For example, the term 'Old style' is also known as 'Antiqua'. Typography experts all had been struggling during the creation of their system. Even as a receiver of the results of these experts' studies and researches, the author of this thesis found it confusing at the beginning. Two systems are shown as an example of how different these systems can be in grouping and naming. As shown in Figure 2, the graphic on the left is the Vox System, which was classified by Maximilien Vox in 1954. These ten groups were defined according to the main characteristics of types in particular time periods. The graphic on the right is the DIN 16518N System, released in Germany in 1959. Compared to the left one, it has two layers of categories, which is more complicated. Besides, the grouping and naming in this system have a hint of German source. Such as: the blackletter category with five sub-categories, which cannot be found in the graphic on the left and in some of the other systems. (Childers, Griscti and Leben, 2013)



THE VOX SYSTEM
Maximilien Vox

DIN 16518N
Germany[3]

Figure 2. Two typeface classification systems. These visualized pies of systems were made by Parsons Journal for Information Mapping for their project about classification

naming. Gathered from 25 Systems for Classifying Typography: A Study in Naming Frequency. (Childers, Griscti and Leben, 2013)

In the modern digital world, it might not be necessary to trace the origins and clarify type styles into detailed standards. Nowadays, many type foundries and online font libraries have very simple categories. There are six frequent groups in the market, which are serif, sans serif, slab serif, handwritten, display, and monospaced. Although some groupings are nebulous, they make enough sense and are understandable for general users.

Serif, sans serif and slab serif typefaces (Figure 3). Serif is an extra short line at the beginning or the end of a stroke in a letter. A typeface with this feature is called serif typeface. Sans is 'without' in French; therefore, sans serif means 'without serif'. With less details in the letters, sans serif typefaces are very friendly for text on screen with any resolution. As for slab serif, also known as Egyptian, it is excluded from serif in some font libraries due to its distinct block-looking style and thick serifs.

Figure 3. Examples of serif, sans serif and slab serif. Each orange circle indicates a serif. Compared to serifs, as shown in blue circles, sans serifs characters have clean ends of a stroke, without any line attached.

Handwritten typefaces refer to types which are written by hand with a tool, such as pen, brush or even chalk (Figure 4). They are most commonly merged into script or handwriting categories while some libraries include sub-categories based on their styles, for example, calligraphic, comic or casual.

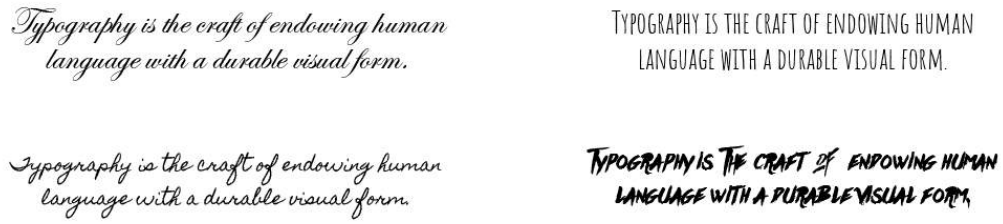


Figure 4. Examples of handwritten fonts.

The category Display is fairly ambiguous. Typefaces from other groups can be found in this category (Figure 5; Figure 6). To put this into perspective, display typefaces are often ornamental, exaggerating or for the purpose of adding mood to the design.

Figure 5. Examples of Display typefaces. Handwritten fonts can be recognized in the list of Display typefaces. Screenshot from www.fonts.com.

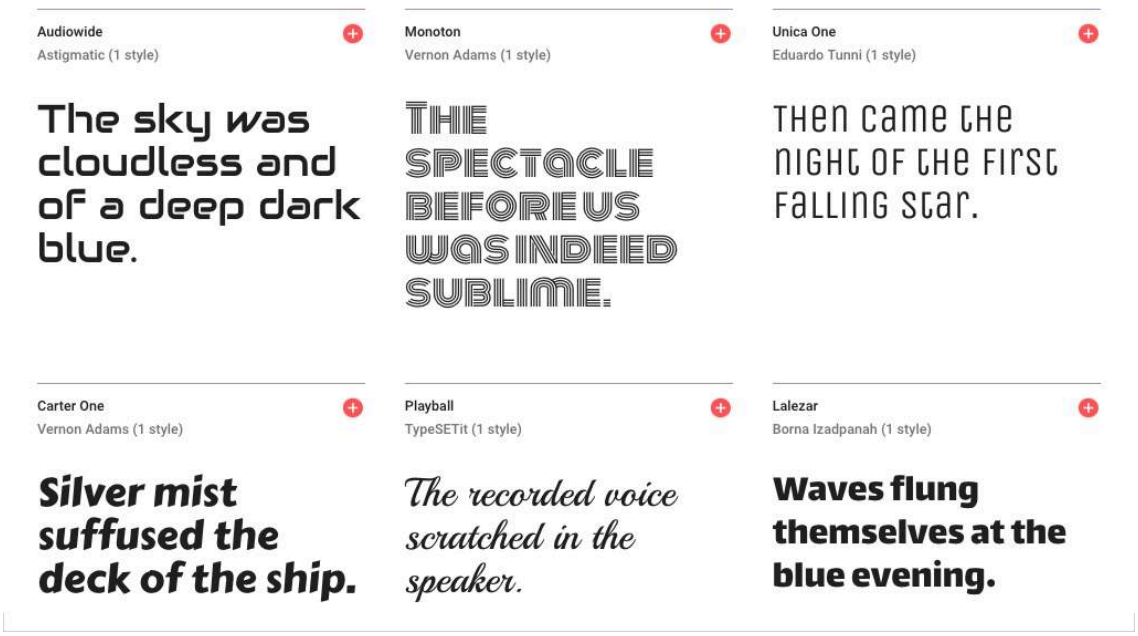


Figure 6. Examples of Display typefaces. As shown above, these display typefaces have strong characteristics. They are often used for titles or small amount of text for decorating purposes. Screenshot from fonts.google.com.

Monospaced typefaces were originally designed for typewriters due to their mechanical requirements. They are distinguished by the same horizontal spacing of each character. They can be in any style or belong to any other category as long as the characters are fix-width. The other typefaces are proportional, which means the characters differ in width. (Figure 7) In practice, on one hand, monospaced typefaces somehow affect the visual balance, for example, letter ‘m’ looks tight while letter ‘l’ has more space on its sides. On the other hand, as for printing, it occupies more space on a page, which means more paper consumption. However, there are occasions when monospaced types are better.

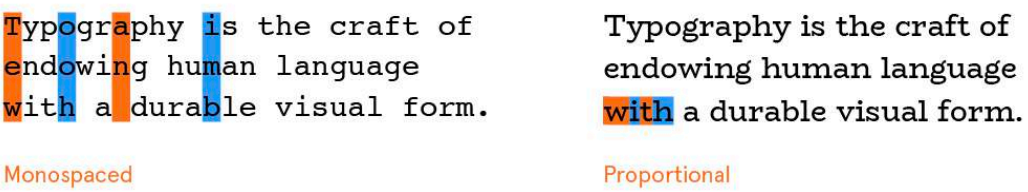


Figure 7. Example of a monospaced and a proportional typeface. As shown above, in the paragraph of monospaced typeface, each character including whitespace can be

aligned perfectly vertically. This fact benefits in computer programming, which makes every line of codes to be viewed easier.

2.3 Printing and Digital Typesetting

Typesetting-wise, all digital text editing tools have common features among each other. Some of the features derive from printing. For example, in Microsoft Word, which the author has used to type the thesis, line spacing (traditionally called leading) has been set as 1.5. In mechanical printing, leading would be adjusted with physical spacing blocks.

As for graphic design, there are many digital programs in the market, which are specialized in producing certain products. In general, the basic yet professional graphic design programs are Adobe Photoshop (for raster graphics) and Adobe Illustrator (for vector graphics). Photoshop was popular for user interface design until Sketch was released and became the most demanded tool so far. The following paragraphs will discuss the common and related terms between digital design programs and printing.

Artboard vs. chase and printing plate. The first step with most digital graphic design programs is to create an artboard in a particular size. An artboard is basically the digital form of a chase or printing plate. A chase was a frame made from wood or metal to hold type with the help of all kinds of spacing blocks (Figure 8). The substances of printing plates vary from printing techniques. Since Sketch is for user interface design, it has a list of screen sizes, from wearable device to desktop screens. The size of digital artboards can be created and changed easily by inputting values of height and width.

Figure 8. Printing form. Type blocks were arranged and locked in a frame with spacers. Copied from Edinburgh City of Print (Edinburgh City of Print, 2008).

Bounding box vs. type block. In digital graphic design programs, there is always a 'Text' tool for typing in text. After having typed in some letters, there will be a rectangle outline, which is called bounding box (Figure 9). The box is bounding volume in a rectangular shape. It contains text which was typed in once. It has the same function as the design of a type block in mechanical printing—to contain types and ensure that they are positioned properly.

Figure 9. Screenshot of bounding boxes from Sketch. As shown in the picture, the light grey rectangular outline around the typed text is the bounding box. Different from printing, a digital bounding box can be flexibly scaled.

Characters. The ‘Character panel’ is like the type cases in letterpress printing. Character panel stores typefaces while type cases kept individual type blocks. In the following, some terms which are sharing the same or similar responsibilities in printing and digital typography will be explained.

Typeface (font family) or font. In mechanical printing, due to the forms of characters, a font was a physical block specified in size, weight and style. For example, 10pt Helvetica Bold Italic was a font. A typeface is a whole set of characters which share the same design attributes. (Felici, 2011, p.29) The meaning of font has changed in modern usage. It generally means a whole typeface due to the wide usage of font instead of typeface in computer software. Therefore, ‘Arial’ is a typeface at the same time a font. Similarly, ‘Arial Bold Italic’ could be called a font without defining the size.

Weight and style. In digital graphic design programs, weight and style can be selected as a feature under the choice of a typeface while each character was made as a physical item in mechanical printing.

Font size. In printing, the standard measurement for font size is in points (pt), which is still in use for digital fonts. Another common unit is Em, an em equals to the specified font size of your design in both printing and web (Felici, 2011, p.24). Besides, there are exclusive units for web, such as Pixel (px) and Percent (%). These units can be converted to each other relatively. For example, the default font size on web is 16px, so 1em equals to 16px, which is 100%. If font size is set to be 20px, then 1em is 20px and 100%.

Leading, tracking and kerning. These terms have been implemented in typography generally. With digital programs, values can be set in particular numbers of a certain unit, or percentage, or as ‘auto’—it will follow what the type designers have defined for the typeface. Leading is the vertical space between two lines of text, which is more often to be called line-height or line spacing. Kerning and tracking are the space between two characters. Adjusting kerning is about to reduce spacing between two letters while they look looser than the rest to achieve visual balance (Figure 10) Tracking can be set for any selected characters, either to reduce or increase spacing. In mechanical printing, these three adjustments were done manually. To increase space, physical spacing objects were placed in between lines of types, for example, thin stripes (see Figure 8). As for bringing kerned types closer, those types needed to

be modified one by one. It was not cost-effective since there was an incredible amount of type blocks in various typefaces and different sizes.

Figure 10. Kerning. Two examples of applying kerning, to bring some letters closer to meet the balance of typography. Copied from Wikipedia 'Kerning'. (Wikipedia Commons, 2010)

Alignment. In most digital graphic programs, there are three basic alignment features: align left, centre or right. Aligning text is done with the 'Paragraph' panel. Within the same text box, lines of text in a paragraph and the space before, between or after paragraphs can be arranged as well. 'Align' panel does a similar job. But it is for aligning objects like the whole text box to the artboard or other selected objects in the same artboard.

3 Typefaces for Web

Typography plays an important role when building up a website. Different from printing or writing, types on web travel to multiple screens. This fact could make web typography less flexible, which would be reflected in font choices or layout design. (Apfelbaum and Cezzar, p.30) Appropriate typography for websites is not just about choosing suitable typefaces. It is more important to see that the chosen fonts behave well technically and meet the needs of the project.

3.1 From the First Website to Today

The first ever website was announced in August 1991. Tim Berners-Lee was the creator, who invented the Web—the World Wide Web (WWW). Thereupon the first

website (Figure 11) was introduced as a medium where information can be shared worldwide via Internet. (Shontell, 2011)

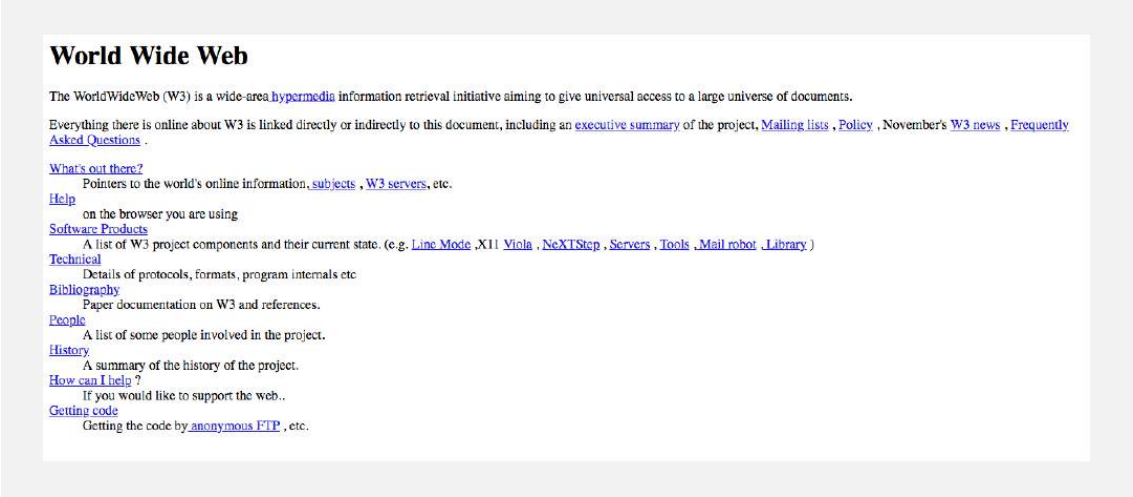


Figure 11. Screenshot of the first website's homepage. I placed the screenshot on a grey background to give a clearer view of the overall visuals.

As shown in figure 11, a serif typeface was used on the website. The homepage contains a title in bold text and paragraphs in regular. The other obvious typographic component is the blue text with underlines, which are the hyperlinks leading to another existing page (Figure 12). Nowadays the default colour for unvisited links are still blue, while visited links are purple. The blue and purple values vary based on web browsers as well as preferences settings.

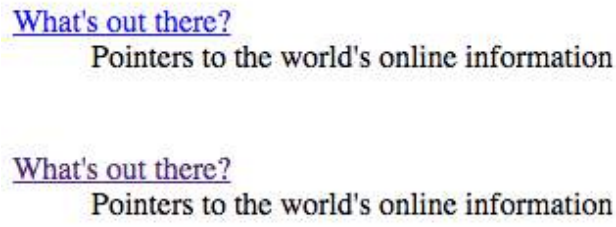


Figure 12. Hyperlink colours on the first website. The screenshots show that the colour of text changed when the link has been visited.

After 27 years, websites have been changed considerably, such as the structure, purposes, capabilities and visual looks. The development of web typography will be shown with few examples from Apple, which had released its first website in October

1996. Three screenshots were taken of Apple's homepage archives from 1997, 2008 and 2018 (Figure 13).

In 1997, similarly to the WWW project (the first website), a serif typeface was used in the first Apple website. However, Apple's website had a more defined structure, and there was more content. As shown in figure 13, there were new elements such as graphics, navigation sidebar and buttons.

In 2008, the website looked much simpler and modern with the use of sans serif typefaces. Meanwhile, visual hierarchy had been well-considered. Components were sorted in clear sections. Text copies had different font sizes and styles based on their functions and levels of importance.

In 2018, when Apple had become one of the largest brands in the world, a strong visual identity could be seen not only from their products but also on their website. In 2014, Apple released their own typeface 'San Francisco', which was specially designed for Apple Watch (Brownlee, 2014) and thereupon it has been the system font for all Apple devices.

Figure 13. Screenshots of Apple.com in different years. The first two are snapped from web.archive.org and the last one is from apple.com.

It could be concluded from the typographic changes on web that in the first website, text content was simply displayed in one typeface, two fonts. Later, more typefaces and fonts have been implemented as certain functions. Font choices, layouts and structures have been studied and refined in order to achieve better results for different types of websites and to reach project goals.

3.2 Selection of Appropriate Typefaces

Every website should have its personality. In order to create an appropriate product, to discover and learn the brand identity and its target groups is an essential start. This will show an image of the current and aimed state of the product, which will help to define the goals and design direction. The result of the brand positioning will influence on how the audiences evaluate the product. (Spies, 2015, pp.66-67) Therefore, as for typography design for any website, the choices of typefaces should reflect the brand's visual look. No matter whether there is a strict brand guide with specific key points or just a style reference, they are valuable to be referred to.

Typefaces have personalities as well, and they perform certain moods. For instance, a law firm would not choose a graffiti font to present their identity on their website or documents, because it will not give the right impression of their profession or services. Serif typefaces are popular, which have a profile of classic, expensive, professional, serious and such. Conversely, pet accessory stores would use friendly fonts, even with delightful colours.

Some brands have their own custom typeface, for example, Stockmann—a large department store from Finland, owns 'Stockmann Sans' typeface. The brand typeface has widely used on their website (Figure 14), in prints and also in their products' design. A custom typeface is surely designed to strengthen a brand's visual look.

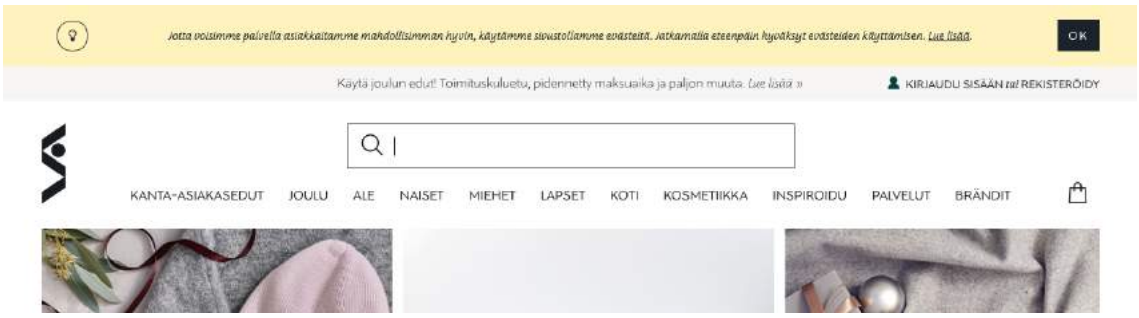


Figure 14. Screenshot of the front page of Stokmann's website. In this figure, all the types are from Stockmann Sans typeface.

Customizing typeface is not necessarily the best solution. Not all brands or companies are willing to or can afford a custom typeface regarding budget, time, project scope or other considerations. Therefore, some brands have purchased existing fonts or selected open-source fonts, which are more prevalent situations. In these cases, to

select the same or a similar typeface as in the logo will be an easy approach, but it could be wrong. For example, VOGUE—a fashion and lifestyle magazine, its logo is modified from Didot (Figure 15), a typeface with extreme contrast. Didot could be used in a fashionable large headline, but not a pleasing typeface for paragraphs (Figure 16). On Vogue's current website, they are using a compatible serif typeface—Georgia for most of the content and a sans serif typeface for small captions (Figure 17).

Figure 15. Vogue logo. Copied from Wikipedia Commons (Wikipedia commons, 2014).

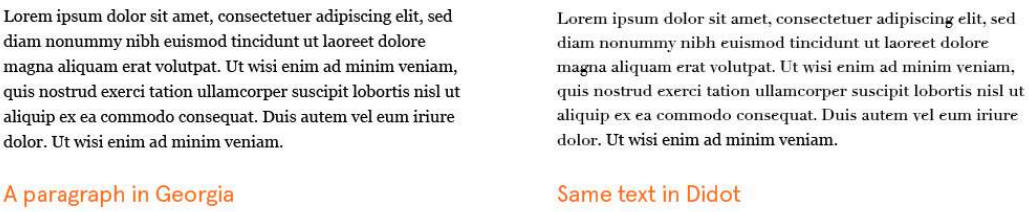


Figure 16. Comparison of Georgia and Didot in the same paragraph text. As Didot has very strong contrast, when in use for long or small paragraphs, it will possibly tire readers compared to Georgia, whose strokes are more even in thickness.

Figure 17. Screenshot of an article from vogue.com. As shown, it contains different typefaces from its logo type.

In addition to previously mentioned, there is a wide range selection of free and paid typefaces. Free typefaces are certainly cost-effective. However, they are not always great while custom and paid typefaces were relatively designed with more input. As for system fonts, they are less liked nowadays due to their overexposure in millions computers. With more possibilities, paid fonts are generally of higher quality. Nevertheless, there are tolerable system fonts and many beautiful free fonts, which will meet your needs. Typefaces contributed by designer all over the world are available from online font libraries or well-known foundries. For instance, for general users, the Google Fonts font library will be a good place to search for free fonts, especially digital fonts. For Adobe users, web fonts can be directly synced from Adobe Typekit.

"Type is a beautiful group of letters, not a group of beautiful letters." — Matthew Carter

Good typography does not necessarily use excellent typefaces. A combination of great fonts is not always good typography. Considering the brand identity and consistency, one typeface which contains multiple weights and styles is enough for styling a

website. Often one typeface will give the optimum result. Combination of two typefaces is a common practice as well.

3.3 Iconography

Icons take an important role in visual communication on websites. Although icons are illustrated, they are smaller and simpler so that they are not equal to illustrations. An icon is more of a symbol of a subject. For instance, an item like a car; or facial expression like a smile; or an action like grow; or just some abstract shapes. There is a broad range of styles and principles of how to use them properly. Similarly to typefaces, same style icons are chosen or one set of icons are used to be consistent (Figure 18). There are tools, such as plugin, offering icon sets for different applications. And there are plenty of icon libraries or platforms where designers share their icons for use.

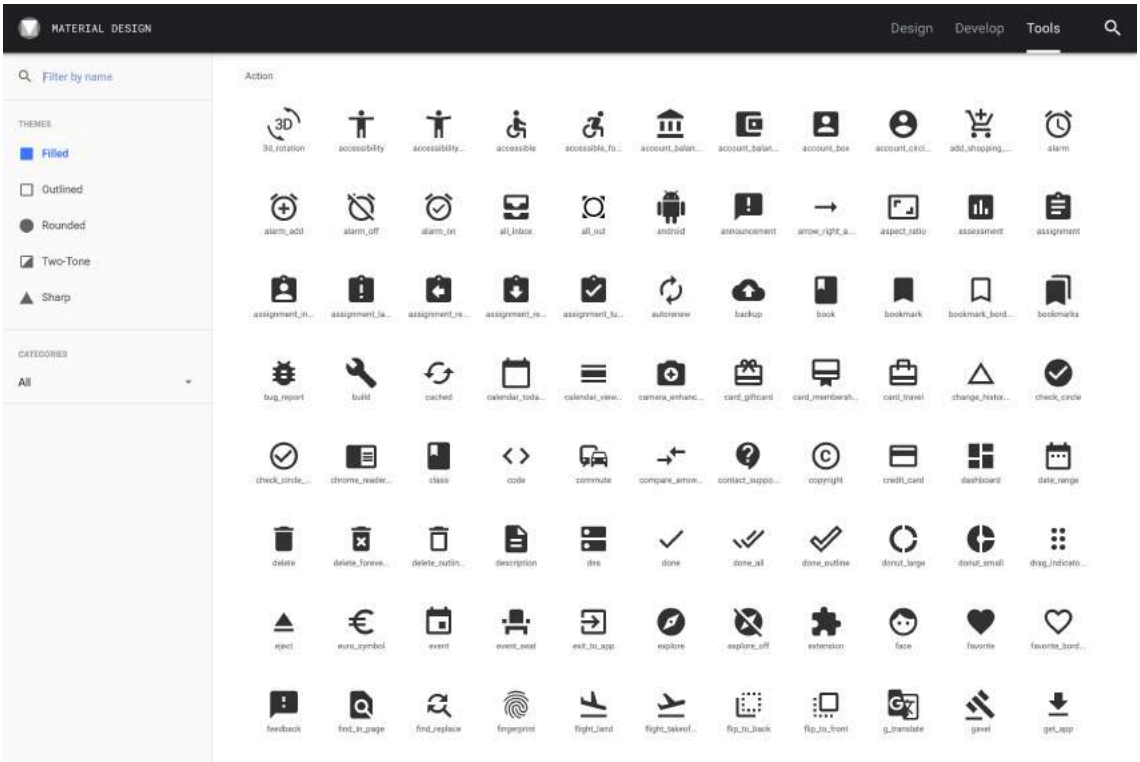


Figure 18. Material Design icons. A screenshot form Material Design, these icons were designed to work together in the same style. Moreover, as shown in the sidebar on the left side of the image, there are five themes available to be chosen. The icons on the right side of the image are part of the Action group, followed by more categories, such as Image, where camera, flash, and lighting related icons are listed. (Google, 2019)

A special case of icons is emoji, which is widely used in chatting apps. The term emoji is originally Japanese. E means picture, and moji means character. They are designed as specific meanings. Compared to icons, emojis are more entertaining. The styles and collections vary from systems, applications or brands of devices. (Figure 19)

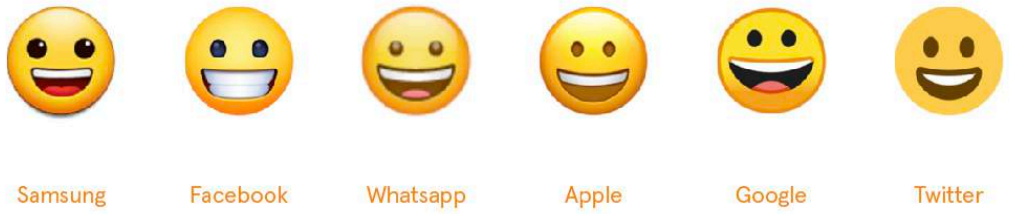


Figure 19. Smiley emojis from different platforms. Emojis gathered from emojipedia.org

4 Effective Typography

An ideal designed product should achieve high quality results in its function, visual presentation and user experiences. To put it simply, a great product should work well, look good and feel good as a whole. (Norman, 2013, p.4) However, in all kinds of projects with different restrictions, it is not always easy to fulfil such a goal. To be effective is much more realistic, and it will form a good foundation for further ideas.

The author of the thesis works as a digital designer in a design agency. The following chapters will discuss web typographic topics with selected cases from the author's work.

4.1 Typographic Hierarchy

As for web design, building visual hierarchy is a technique of organising content and elements according to their levels of importance. It will produce an overall uplift on the visual presentation, structure and effectiveness of a website. Moreover, hierarchy helps audiences distinguish highlights and importance levels of content. Based on Nielsen Norman Group's study about users' attention when browsing websites, they found that 78% of the users glanced through text first rather than other elements on the webpage (Nielsen, 2000). This indicates that typography should be one of the priority concerns in

user interface design. Another crucial fact can be referred to—users scan webpages, even for articles like news, they do not tend to read every line of text (Krug, 2014, p.22). Therefore, emphasised content will be distinct under users' scanning mode. Next, some principles and approaches, which have been commonly used in drawing typographic hierarchy are explained.

Contrast is the most direct way to differentiate content. Size is the easiest tool to create contrast. Simply emphasize more important content in a larger font size. Two of the most popular web design systems on the market—Human Interface Guidelines from Apple Inc. and Material Design developed by Google—offer useful guidelines to user interface design and development, including guides for web typography. They are implemented extensively into two operating system respectively—Human Interface Guidelines for Apple operating systems and Material for Android. They introduce their design style and give complete guidelines in all aspects for /UX design and its development.

In Material's typography guide, there is a set of matching type scale of 13 styles, while Human Interface Guidelines offers a dynamic table of 7 groups, sizes from large to small (Figure 20; Figure 21). These two standards ensure readability and are meant for a specific visual consistency of their styles. Meanwhile, they are exceedingly practical, which brings much convenience for design and decision making. Both Material and Apple are well described and have resources available for downloading as design base or reference. Since these two guides are based on certain fonts (Material in Roboto typeface and Human Interface Guidelines in San San Francisco), in other cases, font sizes should be considered according to the chosen typefaces' visual sizes.

Scale Category	Typeface	Font	Size	Case	Letter spacing
H1	Roboto	Light	96	Sentence	-1.5
H2	Roboto	Light	60	Sentence	-0.5
H3	Roboto	Regular	48	Sentence	0
H4	Roboto	Regular	34	Sentence	0.25
H5	Roboto	Regular	24	Sentence	0
H6	Roboto	Medium	20	Sentence	0.15
Subtitle 1	Roboto	Regular	16	Sentence	0.15
Subtitle 2	Roboto	Medium	14	Sentence	0.1
Body 1	Roboto	Regular	16	Sentence	0.5
Body 2	Roboto	Regular	14	Sentence	0.25
BUTTON	Roboto	Medium	14	All caps	1.25
Caption	Roboto	Regular	12	Sentence	0.4
OVERLINE	Roboto	Regular	10	All caps	1.5

Figure 20. Material Design type scale. Copied from Material Design. (Google, 2019)

xSmall Small Medium **Large (Default)** xLarge xxLarge xxxLarge

Large (Default)

Style	Weight	Size (Points)	Leading (Points)	Tracking (1/1000em)
Large Title	Regular	34	41	+11
Title 1	Regular	28	34	+13
Title 2	Regular	22	28	+16
Title 3	Regular	20	25	+19
Headline	Semi-Bold	17	22	-24
Body	Regular	17	22	-24
Callout	Regular	16	21	-20
Subhead	Regular	15	20	-16
Footnote	Regular	13	18	-6
Caption 1	Regular	12	16	0
Caption 2	Regular	11	13	+6

Figure 21. Dynamic Type Sizes from Human Interface Guidelines. Screenshot from Human Interface Guidelines, Apple Inc. (Apple, 2019)

As shown in these two tables, although they are named differently, it is not too confusing to determine the common types of copy. There are three basic levels. The primary level is the largest, usually headlines. It aims to quickly catch user's eyes and conveys the core idea of the webpage. Meanwhile, it is essential to make headlines short since users scan on web. Nielsen Norman Group's another study supports that an effective headline has only 5 words with in 34 characters on average (Nielson, 2009). Moreover, in order to reduce reader's effort to process content, words for headlines should be wisely chosen to make the best of language if possible. (Figure 22)

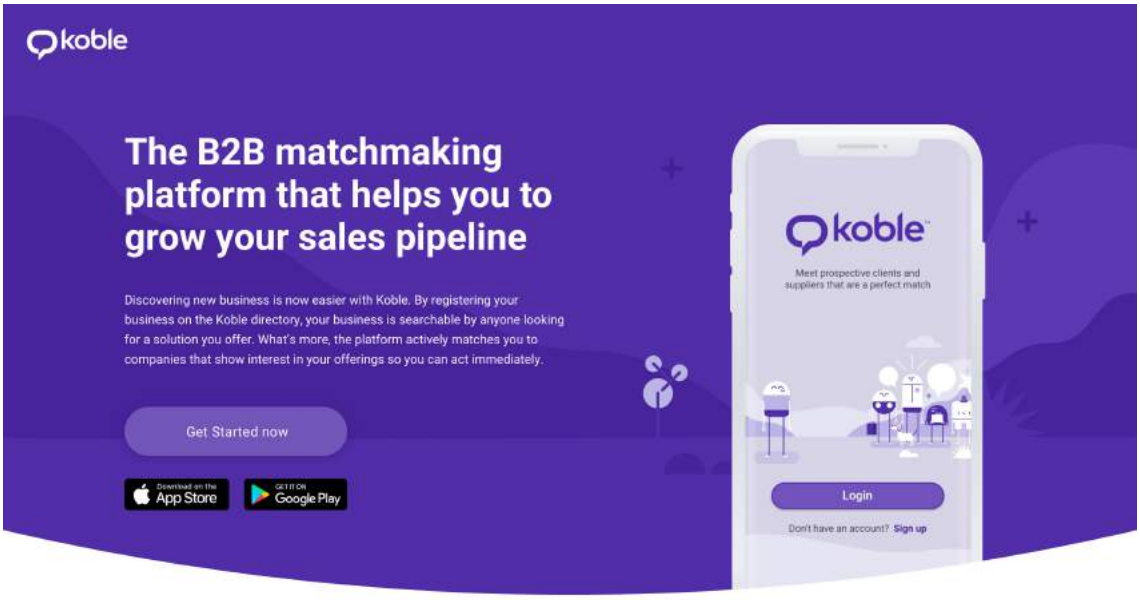


Figure 22. Typographic hierarchy in a hero. This is a landing page I created for an app based on their current brand.

Figure 22 is a screenshot of the hero section. As shown, there are a headline, description paragraph, a call-to-action button, download badges and a device mockup with the app's screenshot in it. This is a classic way to showcase an app. Typography-wise, the large headline can be seen at first glance. As mentioned previously that the effective headline length is 5 characters (the result of Nielsen Norman Group's study), the copy of both headline and description of this case are relatively long. Therefore, rather than having an enormous welcome view, both font sizes were reduced accordingly with the consideration of balancing the overall visual and keeping the spotlight at the headline.

The Secondary level—sub-headings aim to be catchy but do not steal the headlines' spotlights. They are usually key points or short phrases for sections to guide users to find the further information they need. The tertiary level is body text, which usually under a headline or sub-heading as description or detailed information for further reading. The key of body text is readability since body text often occupies a large ratio of a webpage.

Choice of font sizes can contribute to set the tone of a website. Minimalistic or artistic websites are often using smaller or lighter fonts with generous white space, commonly shown in body text. It will create an impression of delicate and airy. As shown in figure 23, on the left is the website of NOWNESS—a video channel sharing creative contents.

Its typography has already given a sense of art and freshness at the first glance. On the right side is a screenshot of an online publishing platform—Medium; obviously, fonts look bigger in sizes and weight, which is very friendly for readers' eyes. It is generally more functional for text-heavy pages. Especially when the text content is priority, for example, articles, online instructions or formal documents. However, larger does not mean the larger the better.

Figure 23. Comparison of font sizes on websites. Screenshot from Nowness.com (left) and medium.com (right).

CTA (Call-to-Action) is a special case, which has a unique characteristic—most of them present as buttons. They should be obvious in the visual form as well as the copy text, which will give users a clear message that they are clickable and avoid unnecessary thinking (Krug 2014, 14). CTA buttons tend to drive users to take an action. They affect the quality of user experience and interactions toward the business goals (Tubik Studio, 2018).

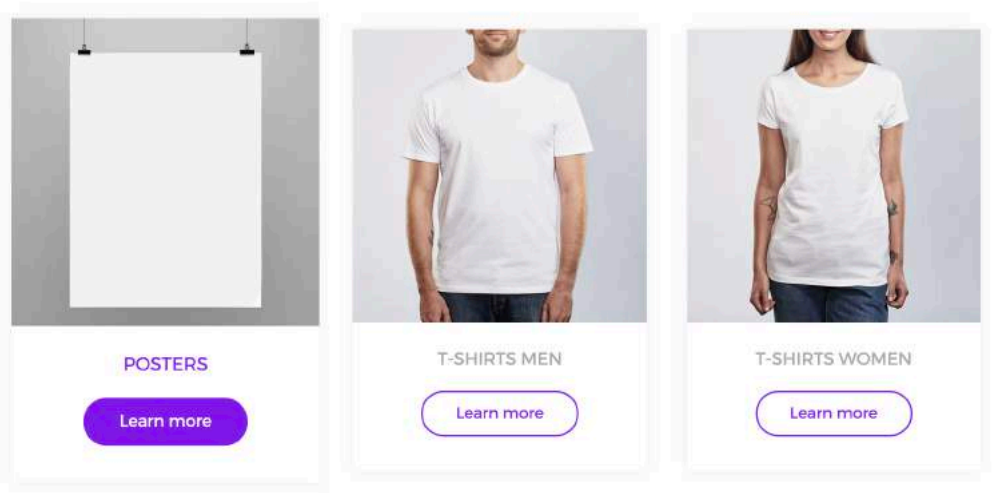


Figure 24. Styles of Call-to-Action buttons. This is a website project which was done for an on-demand production platform. The author was involved in the rebranding process for the website and design.

CTA buttons come in a set of styles, vary from their level of importance and functions. As shown above (see Figure 24), it is a row of the products section, in which there are two types of CTA button for different functions—hover and default. When hover over, the button will turn to purple, which is the brand colour. It indicates the movement of the user's cursor and conveys a positive vibe for the next action. Comparing these two styles of buttons, they share the core characteristics, the size and the specific corner roundness. In this project, there are only two CTA button styles in use. In other cases, the amount of button styles mostly depends on the complexity of a website.

Besides size, to combine different styles of a typeface is another effective way to create contrast. As mentioned in the previous chapter, one typeface with multiple styles can bring good results. As shown in figure styles, there are three styles of the same typeface in use, which creates a clear structure for the content. The title, the quote on the side and two keywords are made distinct in bold, while italic tells the authors' information. (Figure 25)

Figure 25. Example of different styles in use. This is a website project based on a booklet I have designed for the client. Most of the content layouts are the same as the printed booklet. In this case, print and digital typography don't conflict.

Figure 26. An example of different weights in use. A screenshot of a popup window, which shows an article. This is from the same project as above.

Figure 26 shows three types of text, which are the main title, sub-titles, body text and quotes. In order to optimize the text content visually within a small window, size—the tool is limited in the case. Therefore, the main title and sub-titles are in bold, slightly larger in size than the body copy. With the same size as the body text, the quote blocks are indented and indicated with a blue line from the brand colours to be separated from the body copy.

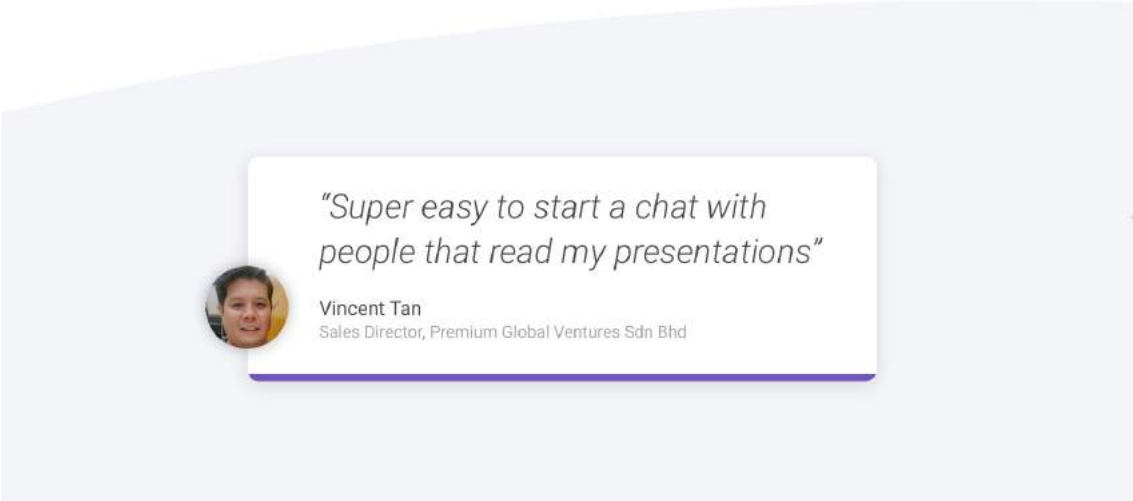


Figure 27. Example of a quote. This is a screenshot from the footer, a landing page of an app, which the author has designed.

To italicize is one of the most typical ways to emphasis quote copy. As shown in the example (Figure 27), this is a quote card design. To have the testimonial information in smaller font sizes creates contrast, which gathers attention to the quote.

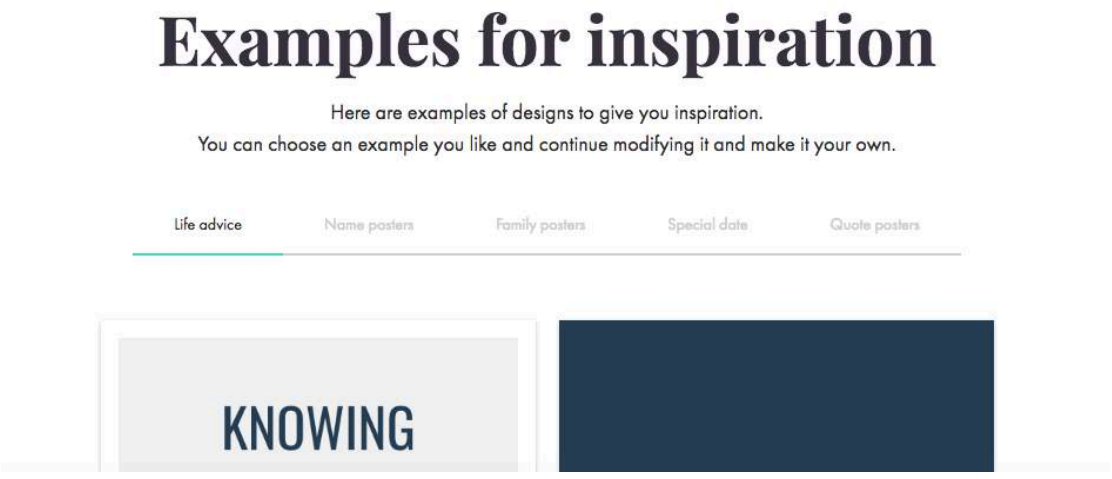


Figure 28. Combination of typefaces. This is a website project for an e-commerce service company. The author was involved in layout design for this project.

Figure 28 shows a type poster website, where customers can order directly or create their own poster. A serif typeface and a sans serif typeface were chosen to create some atmosphere of aesthetic. Some typefaces are better for titles, while others are better for body text. As shown above, the chosen serif typeface looks good in the larger

title, which ornamented the layout. Meanwhile, the sans serif types are perfectly legible in small sizes.

In digital products, colours convey messages faster than other visuals. They can be significant or subtle. Firstly, black and white are the best pair of colours. They are basic, familiar, neutral, and timeless. They have the perfect contrast for legibility, as black letters on a white background. For typography design, using only black and white is always practical. With the rapid improvement of technology, more and more colours will be introduced to digital design processes. (Viction:ary, 2012, p.7) Black and white is classic, but the other colours have their great impact in visual communication throughout nature, history, researches and millions years of experiences of living. Colours are cultural. In a closer perspective, perception of colours are also linked to individuals' personal backgrounds. (Hersh, 2019) At the same time, colours are universal which can raise certain emotions and common senses. For example, intense warm colours such as red, stimulates our nerves, usually links to heat, power, danger or caution (Whelan, 1994, p.13). Colour implementation can be simple as black and white or complex as analysis the cosmos. On web design, one or few accent colours can bring delightful highlights to the eyes.

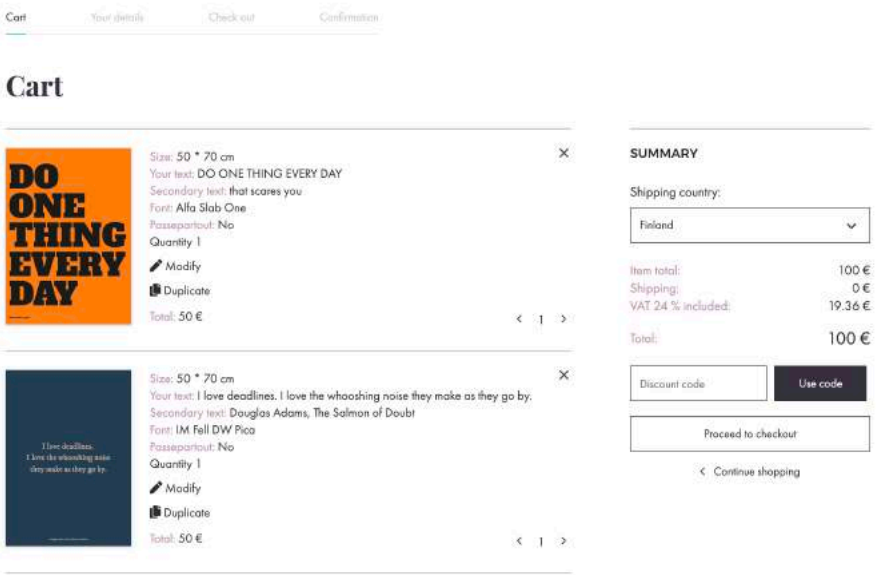


Figure 29. Implement colours in web typography. This is from the same e-commerce website project as mentioned above.

Figure 29 is a screenshot of the first step of the check out process. There are two accent colours, green and light violet. In this case, they are pale which present an elegant feeling. Naturally, the more important contents stand out in the dark grey. Instead, to hide the less essential parts in the lighter colours. In the process bar (on the top), the current step ‘Cart’ is indicated in dark grey chased by a bright green underline, while the following steps are greyed out. Following in the list of items and summary, the selected details of each poster and prices are clearly shown in dark grey.

4.2 Use of Icons and Spacing

Most websites contain icons. Icons help communication and polish layouts. They can be found almost anywhere on a website. They are simple like the close button, which usually shown as a cross icon. And arrows have different meanings in different occasions. For example, in figure 29, there are four types of arrows in the layout. The two arrows pointing left and right around the number 1 tells that this number can be decrease or increase without mentioning a word. The arrow in a dropdown list indicates that more options are collapsed. Icons that represent a specific term are widely used to decorate, in the meanwhile emphasis.

Spacing affects readability and the visual balance. There is no pure science about adjusting spacing in typography, due to millions of typefaces and preferences. The author adjusts spacing based on what she sees. The following paragraphs will discuss several types of spacing, which the author pays attention to.

Spacing for types. Tracking is the horizontal distance between each letter. The author adjusts the tracking when the typeface is too tight or too loose for a certain purpose. (Figure 30)

Figure 30. An example of adjusting tracking. Tracking has applied to a small caption. The result is evident, which boosted readability and visually more appealing.

A proper line-height is important, especially for body copy. Line-height 1 is usually too tight, the common range is from 1.2 to 1.5, depending on the length and amount of rows within a text block. (Figure 31)

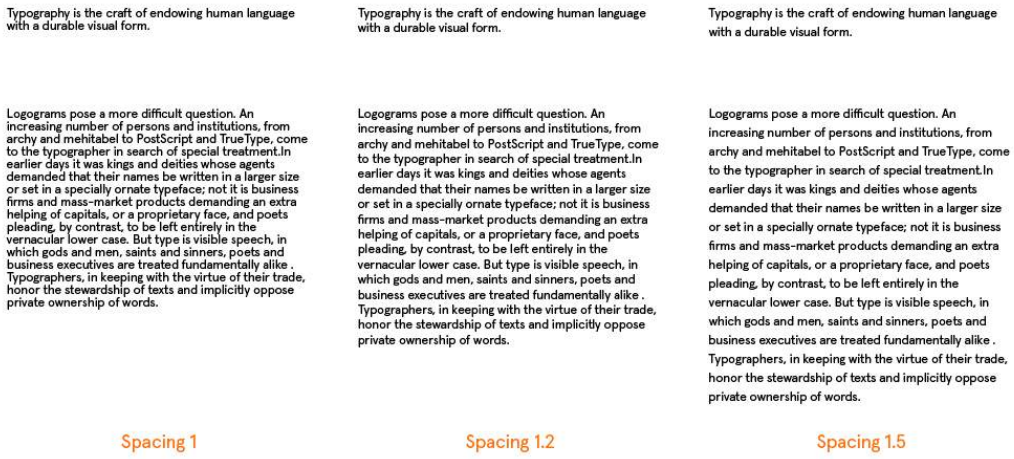


Figure 31. Adjust line-height for body copy. There is a short copy and a long one. As shown, spacing 1 is too tight for both lengths of body text. The short copy looks good in both spacing 1.2 and 1.5 while the longer one requires more space to breath.

White spacing is an important yet basic element for any design. In web user interface design, effective white spaces will ensure readability and give visuals room to breathe. When implementing to typography, white space not only can apply in between text blocks but also content groups. Technically speaking, the space around the content is

padding, which will be seen as a whole with the content. Margin is the space outside padding, to separate two different components. (Figure 32)

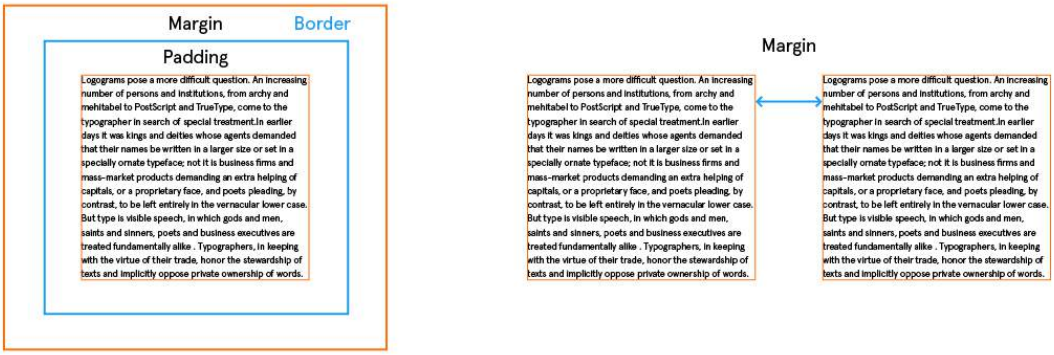


Figure 32. Padding and margin.

5 Layout

5.1 Content Grouping

Visual design is closely related to psychology. With the support of psychological laws, visual communication will become more efficient and effective. Gestalt principles have studied on how we perceive objects as a whole in a certain environment visually (Dejan, 2008). As for content grouping in design, two principles will be presented.

Proximity principle. Objects which are closer in distance are tend to be a group. These groups are commonly called sections. Applying white space is crucial to guide users. (Figure 33)

Similarity principle. Objects which have similar or common characteristics tend to be seen as a whole. (Figure 34) For example, call-to-action buttons, product page of an e-commerce website, which lists the products in the same manner. (Todorovic, 2008)

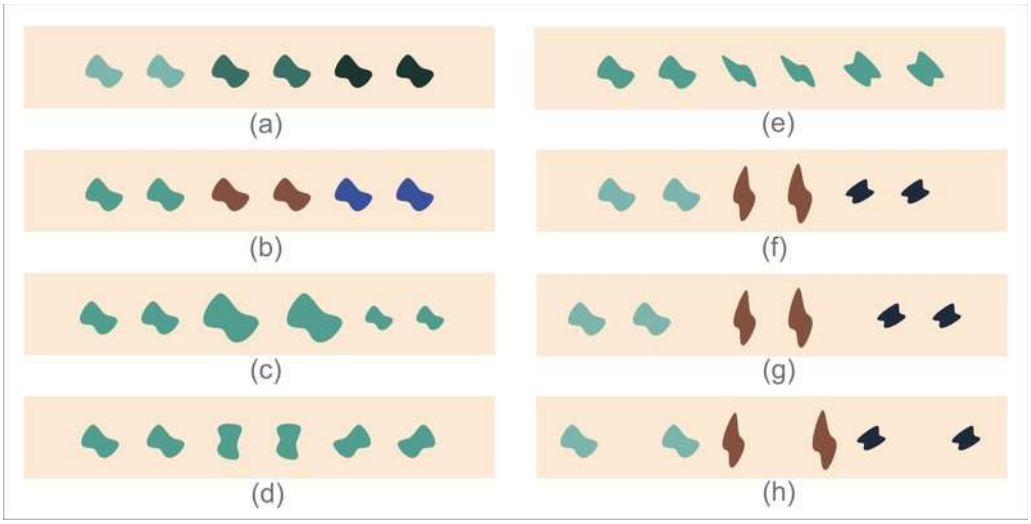


Figure 33. Proximity principle. The placements of these three rows of the same same components show the smaller distance are easier to be perceived as a group. In (a), it is a group of six while in (b) they are divided into three pairs. Figure copied from scholarpedia.org, Gestalt principles (Todorovic, 2008).

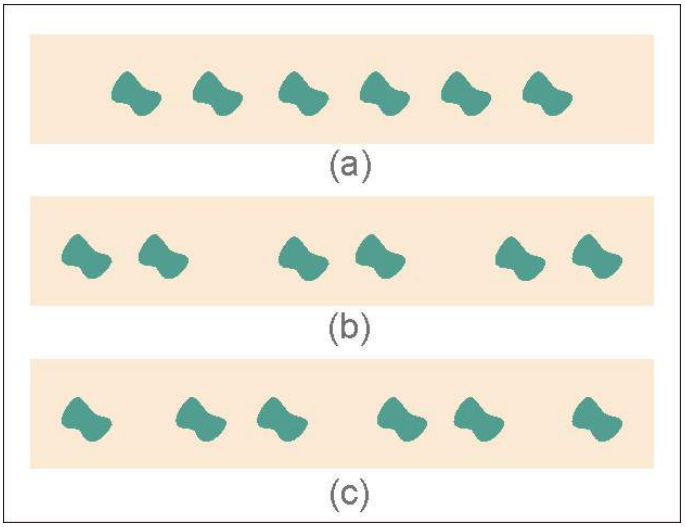


Figure 34. Similarity principle. At a glance, multiple pairs of elements with distinct attributes. Figure copied from scholarpedia.org, Gestalt principles (Todorovic, 2008).

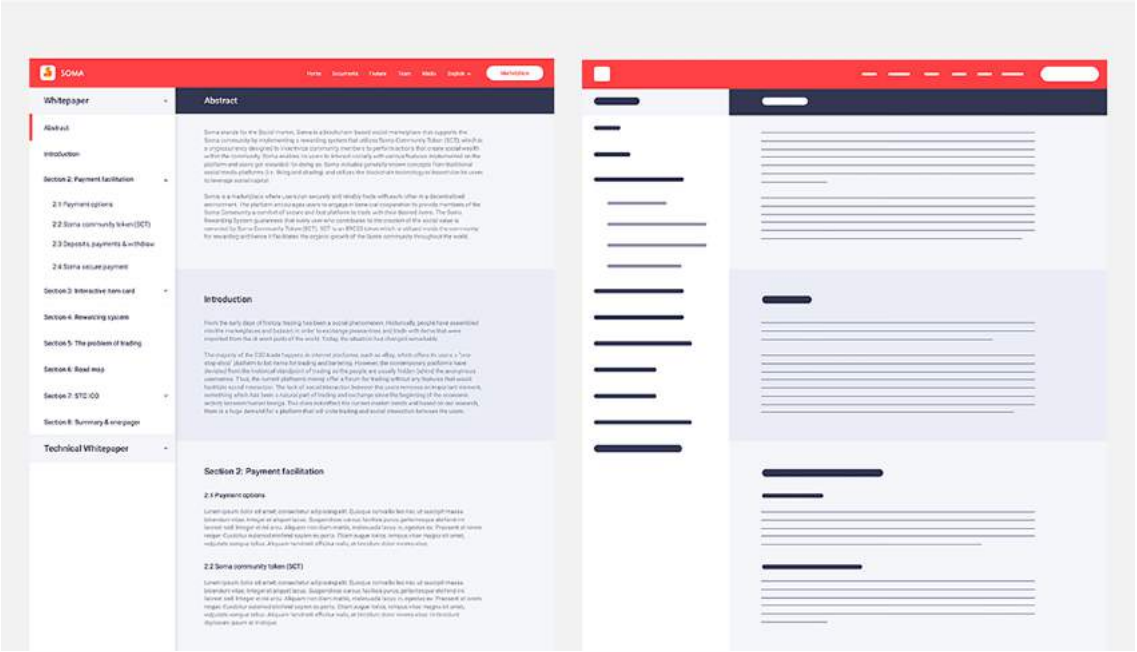


Figure 35.Example of content groups. This is a white paper layout design for web, which

As shown in figure 35, on the left side of the picture, similar manner can be seen easily. Text copies are separated in different fonts based on their hierarchy. For example, either on the side menu or the main content area, main chapter titles are in larger bold fonts while sub-chapter titles are in smaller bold fonts, which can relate to the Similarity principle. As mentioned above about the Proximity principle, spacing has played its role in grouping content. As shown on the right side of the white paper layout, content are laid on two background colours with generous white space around, thereby forming chapter sections.

To compare, the author changed all the elements into shapes according to their functions, shown on the right side of the figure. Without any text copy to explain, content groups are still recognisable.

5.2 Layout and Grid

Websites are not fixed in dimensions, media, nor content. They are changing constantly to refine, renew, or update. And they need to adapt to a variety of screen sizes. (Apfelbaum and Cezzar, 2014, p.59) Responsive design has been taking care of this. This method is about organising content in proportional fluid grids so that they travel well in a good manner to multiple screens (Marcotte, 2009).

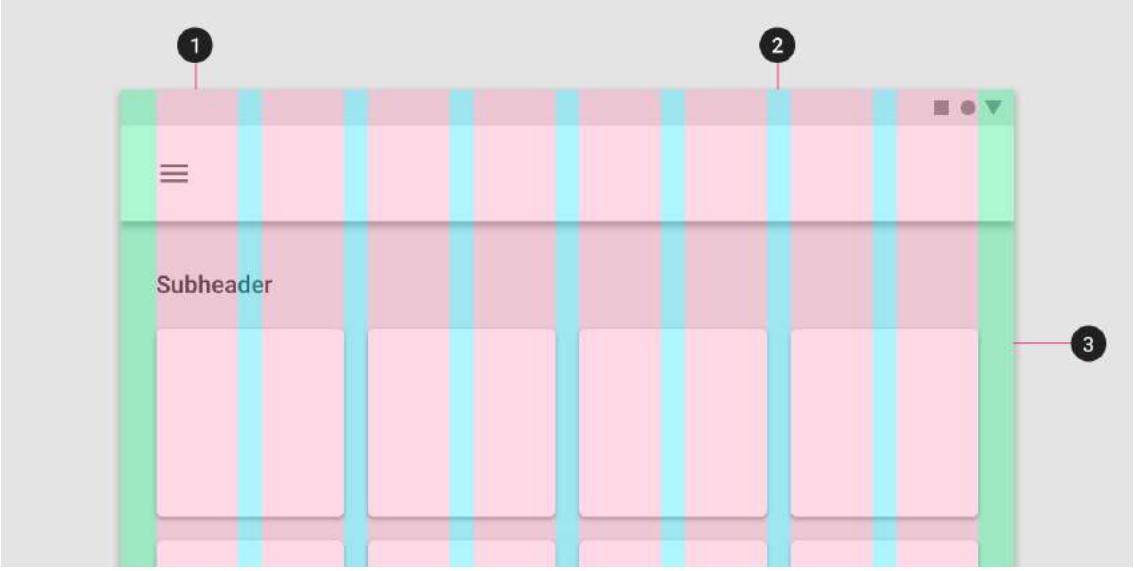


Figure 36. An example of UI components lay in a layout grid. As marked in the picture, from 1 to 3, they are columns, gutters and margins. Since Material is a complete design guide, the values of each space are defined. Copied from Material Design. (Google, 2019)

In Sketch—the design tool, there are layout and grids to help arranging elements. Layout offers a set of columns in the background, usually six, eight or twelve even vertical fields, with same spacing in between. To lay groups of text into defined columns will automatically produce a reading pattern (Ambrose, Harris 2005, 32) and ensure consistency while the layout travels to other screen sizes. Besides, grid is for a more refined result in laying out components. (Figure 37; Figure 38)

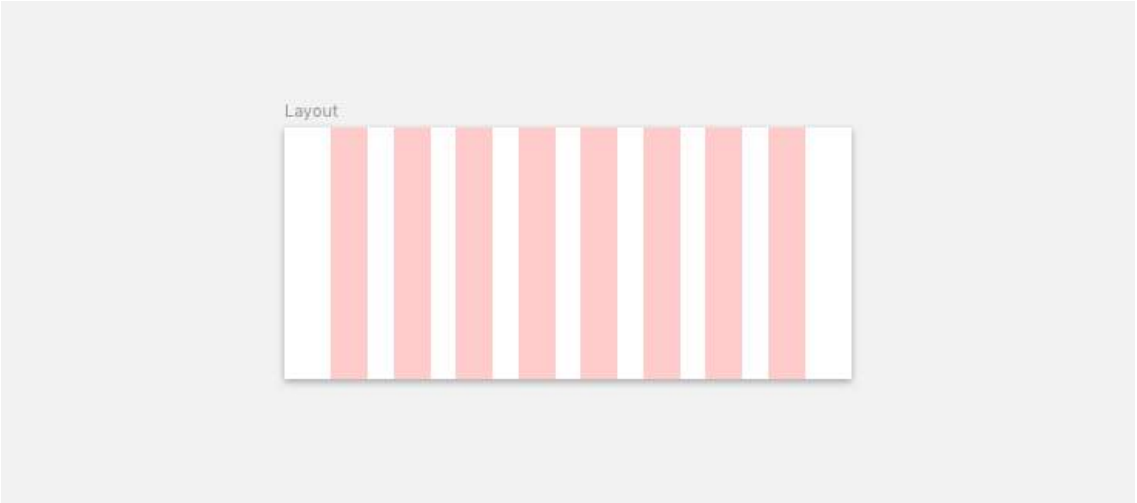


Figure 37. A layout example in Sketch app. Copied form Sketch. (Sketch, 2019)

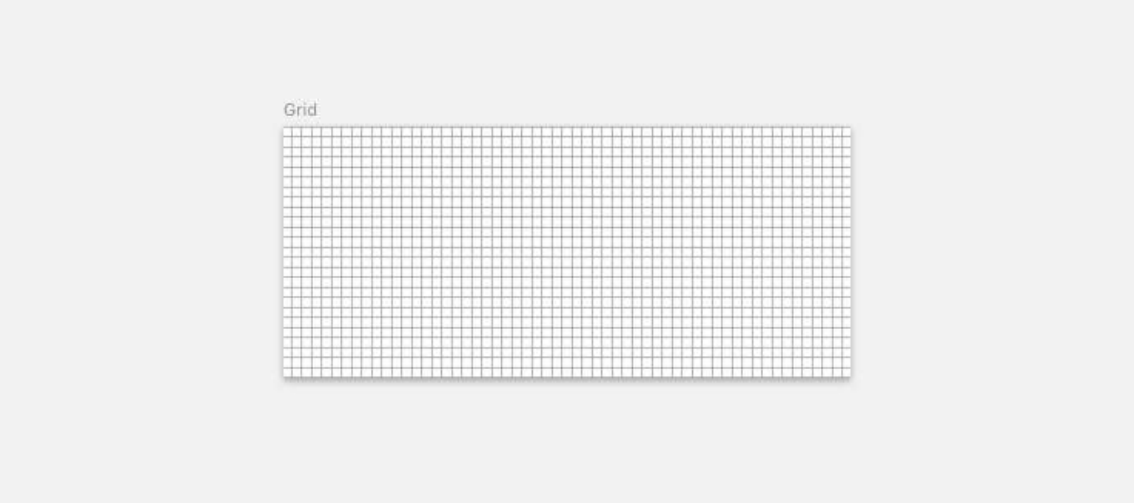


Figure 38. A grid example in Sketch app. Copied form Sketch. (Sketch, 2019)

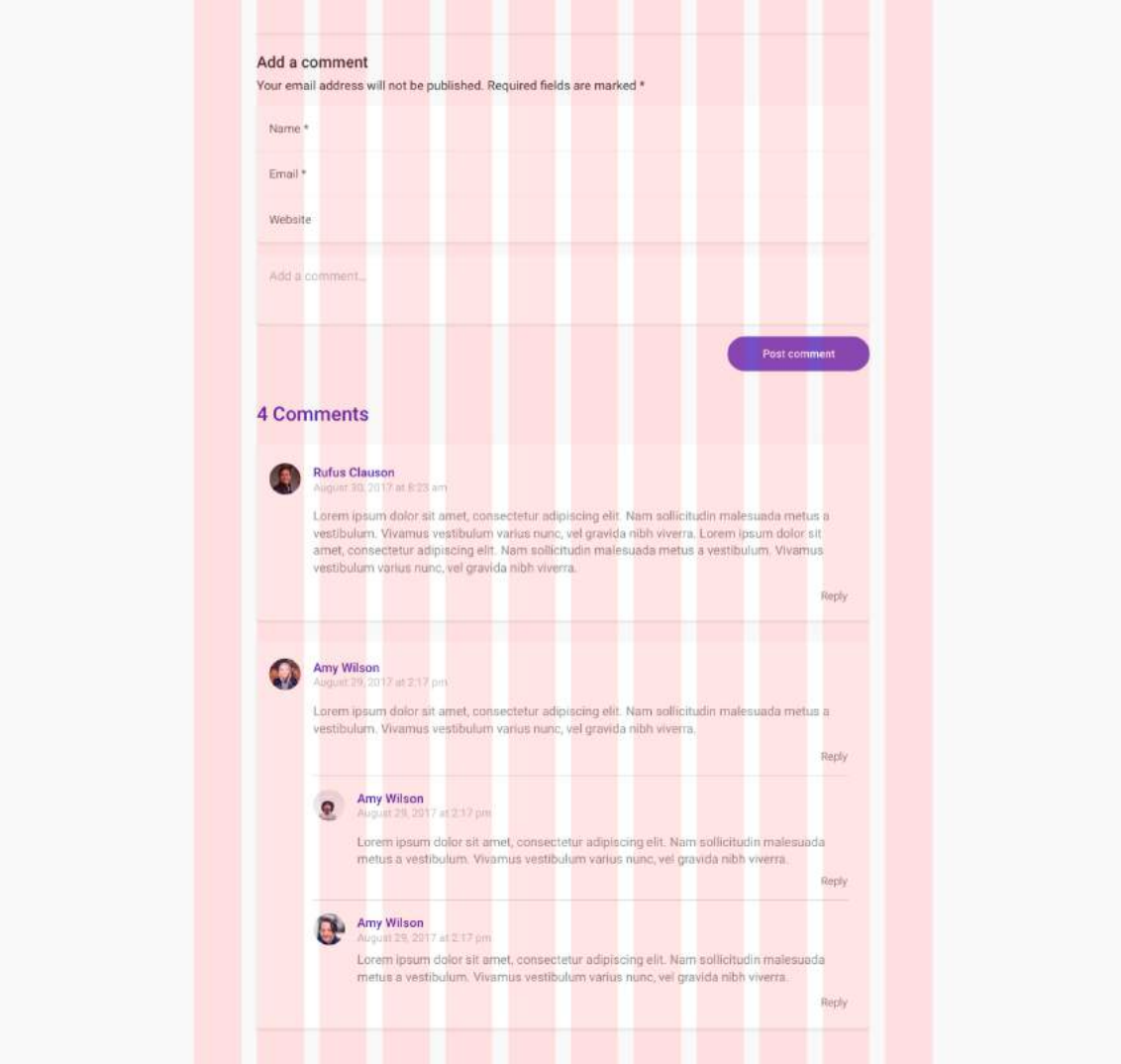


Figure 39. Example of UI design based on a layout grid in Sketch. This is a comment section layout deign for a blog. As shown, the core components are laid out in the columns. When the screen size changes, these components will scale accordingly within the columns.

The 8-point grid was a hot topic, which was discussed by Spec Network, Inc.. As mentioned in the post, to define all elements in the sizes which are multiples of eight is an ideal solution. Due to the fact that most screen sizes can be divided by eight rather than other numbers. In the meanwhile, it eases decision making and maintain consistency of the design. (Spec, n.d.) Material design has already given guidelines of applying 8-point grid to the layout while smaller elements can adapt to a 4-point grid.

6 Conclusion

This study aimed to draw a generic flow of implementing typography on web. As in practice, more input of design and strategy thinking are demanded based on particular goals of a project. From the studies of type history and the evolution of typography, the author has learned that print and web typography do share certain principles. In addition, the facts of digital products, such as displaying in pixels and cross mediums, determine their behaviours associated with technical solutions.

Good typography enhances visual communication and increases the perceptual and emotional impact. There are solid principles for typography design generally or specialised for web. And trends of design preferences can be clearly seen, which influences the market and the audiences by region and time. This is shown in the review of the first website in Chapter three and compared with examples showcased in the following chapters. In author's opinion, there is no timeless web typography design, no matter how much we love any of them for now. At some point, they will all be renewed and reviewed by people's new attitudes and perceptions. Stay curious, keep discovering, learning and growing with technologies.

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