

Developing a website with user experience

Case study: Bumi Asian Kitchen & Cafe

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Abstract

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Name, title and organization of the supervising teacher Pasi Tiihonen, Vesa Koskela		
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<p>The Internet has played an essential role in human life with its convenience, and it has been attached to people's lives for several decades. Many people daily use the Internet on their own electronic devices for various purposes. In fact, through human habits and behavior that use electronic devices to access the Internet daily, user experience design has been created to enhance the Interaction of humans with the application and websites in their own devices.</p> <p>The thesis idea was based on Bumi Asian Kitchen & Café, an Asian restaurant in Helsinki. Bumi is also no exception with the traditional business, which has served its regular food menu on the street corner since 2016. By combining technology and human behaviors, the thesis aims to research customer behavior and expectations and develop a website design for a restaurant to bring a convenient user experience and exemplary user interface to its customers. That website design helps the business attract customers, raise the reputation, and enhance customer connection in the smooth method.</p> <p>In the thesis, the essential design knowledge will clarify the basis of user experience and user interface. The author then keeps researching the website's basic knowledge to describe the importance of website design and website usability. The author uses the qualitative method and explains the UX design methodology with persona, customer journey, heuristic evaluation, user interview, and usability testing before choosing a suitable methodology for the practical process of website development for Bumi Asian Kitchen & Cafe. After evaluation based on data collection, author can point out the advantages of website development that bring to a restaurant business.</p>		
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1 INTRODUCTION

According to (Elizabeth 2016), the first website on the world with the content of creating a webpage and hypertext was active and lived on the Internet by Tim Berners-Lee on August 6, 1991. The root technology of website development, including Hypertext Markup Language (HTML), Hypertext transfer protocol (HTTP), and Uniform Resource Identifier (URI), impacts the computer sciences community strongly. It leads to a premise for developing future websites such as Yahoo!, Amazon, Google, Paypal, and so on. The massive difference between the first generation of website versions with the next websites is the changing and improving the website layers and graphics from the text-based (hypertext) website to an interactive, colorful, and flat design. That change is essential for the future of webpage design because a website not only plays a role of a tool for showing text information about a business but also represents as a business appearance along with specific interactions with customers. With excellent UI design and UX design, the website can attract more customers, enhance the customer flow to maintain the traffic and the conversion rate between customers and the business.

The business's brand identity also strongly impacts the success or failure of a company. For the food and beverage industry, both interior and exterior are more critical. Customers can see both of them to identify the restaurant's type, level of convenience, and luxury. It is the same for the website of a restaurant, lounge, bar, and pub because the website is a marketing channel and also a method of Interaction between customers and a business's products and services. By visiting a website, customers connect to the business's marketing channel, gain essential information such as opening hours, type of restaurant, menu list, and interact with the restaurant with order buttons, contact form in the fastest and most convenient method. As a marketing strategy, the importance of credibility and accessibility is unquestionable, and online website is an excellent tool to improve and maintain them. However, due to the cost of improving and maintaining a good website as a marketing strategy, there is a large number of businesses that do not have online websites or have low-quality website content as too simple and not interactive websites. It negatively affects the ability to approach the potential customer groups that business focus, and it will lead to losing many customers.

Bumi Asian Kitchen & Café is an Asian restaurant opening in Helsinki. It has started in 2016 with a small coffee shop name Bumi, and since then, Bumi has expanded to three locations and a food truck to sell Asian food, catering, restaurant services. In fact, if it had only one place as a small coffee shop in 2016, it is evident that Bumi website just needs to be simple

and has some necessary information such as opening hours, address, contact, and an optional function – dessert or drink tab. Instead, Bumi has expanded to be three locations restaurant brand in Helsinki. It requires more effort to transform a simple website made from 2016 to a new functional website as a marketing tool for modern purposes. With the aiming of new other customer groups, Bumi website had to be more applicable to be considered one of the powerful marketing tools for the business and to clarify the credibility and visibility of the company to customers. Through Bumi up-to-date website, new customer groups can bring significant traffic and increase the sale as well as the high value for the business. In order to meet the demand of the business's extension and increase the engagement traffic for products and services, the company's website has been re-design with UX and UI design, and it has made the improvement and adjustment based on the up-to-date restaurant's website trend and suitable customer traffic flow.

1.1 Thesis objects and research questions.

With the combination of user experience design and user interface design, the vital role of UX design and UI design for a restaurant website is analyzed and highlighted based on the usability of the Bumi website as a marketing strategy channel. Besides, as a website for the restaurant, the factor of attraction is indispensable. UI design and website design components are also analyzed in-depth to point out how the trending design and attractive elements for the website can impact strongly to the customer's perspective.

This theory focuses mainly on UX research for website design, and website for the marketing strategy purpose. They include the user experience in customer's flow, function system, attractive user interface design, and how suitable and useful the combination of UX and UI design apply to the marketing purpose through the website. That is also an excellent way to evaluate the success and usability of the website in the pursuit of aiming to both old and new groups of customers, including local customers, travel customers, and investors who are interested in starting and opening a restaurant business in Finland. With the evaluations of user experience level and conversion rate analytics from customer traffics, Bumi website can be pointed out following the criteria of customer's friendliness, convenience, comfort, usability, attraction. Those evaluations can bring high values in both business sales and branding factors for Bumi Asian Kitchen & Café.

In order to keep track of the process of practicing the case study for the thesis, the data collected through the study case will be saved and used for both purposes of the theory research and practical process. Therefore, the thesis will be written as practice-based research with qualitative methods through qualitative research interviews and data collection from both non-relevant and relevant participants.

Below is the questions list for the theory research:

- What is user experience design?
- What is user interface design?
- What is website design?
- What are the elements and signs of a good website and a terrible website design?
- What are the UX design principles for the food and beverage industry?

1.2 Limitation of the thesis

One of the most significant limitations for the thesis and study case is the lack of an older version for Bumi Asian Kitchen & Café website. Because this website has been re-designed and coded by the developer and me, the older version has been removed and changed to Bumi's newest version for marketing strategy running, marketing analytics, and conversion rate management. Obviously, it is very disadvantageous to Bumi website because the website cannot be compared between both old and new website design versions for evaluation, which is based on the customer's perspective for the products and service via the website as A/B testing. There are some other methods of analytics to show the impact of the website to Bumi Asian Kitchen & Café such as google analytics and booking message.

Besides, because this thesis will be researched deeply in the effect of the website as the marketing strategy as well as the marketing operation of Bumi Asian Kitchen & Café, there is some confidential information that cannot be public like partner and customer's data. Consequently, this thesis will go through several factors including the customer's perspective, interview with the managing director of Bumi to avoid confidential information that Bumi Asian Kitchen & Café cannot public.

1.3 Practice-based thesis

According to (HAMK Guideline for thesis processes 2018, 8), the practice-based thesis includes theoretical and practical sections. The theoretical part is determined by the research of problems/questions related to the thesis's objects. It can be based on the demands of business owner from Bumi Asian Kitchen & Cafe and customers interested in the food and beverage industry. Besides, practical section focuses strongly on planning, data collection, analysis, practical process, and result evaluation.

In this thesis, the success of the campaign bases highly on the customer's perspective. Thus, this thesis focuses mainly on the definition of user experience design as well as the

process of design with the user-centered website. User experience and user interface design and the real experience in serving customers in the restaurant are essential, the business owner will stay close with the author to solve the problems related to the website together. For these reasons, this thesis will be written in the form of a practice based research, and the author uses the deductive approach. The methods are qualitative research, including the owner and customer's interview, usability test, user persona, customer journey. The data of user experience will be collected from both real expertise and requirements of the business owner and the demands and behaviors of customers before preparing live stocks for user interface design.

Under the control and management of the business owner, every information & data collected from the customer and owner will be moderated by the business owner to avoid confidential data leaking. Thus, the structured questionnaires were made separately for both the business owner and customers under the control of the business owner step by step to follow the operation way of Bumi Asian Kitchen & Cafe.

The questions for the business owner are related to the basic knowledge of the company background, owner's opinions about their restaurant concept, service, and products, then the awareness of the business owner with UX UI design in website design as a marketing strategy. To understand more about the concept and the theme of the business as well as Bumi Asian Kitchen & Café, a list of structured questionnaires delivered to the business owner before the interview to clarify the demands and the points of view of business owner.

On the other hand, for the customer's data collection, the questionnaires will be target firmly on the customers' perspective in brand identify, customer's behaviors with the demands, and their feeling when they look for the company information on the Internet.

Because there are two roles in this project, the business owner as a data & information moderation and the student as the researcher and UX UI designer, every information has been transferred directly between 2 people and the language using in the document, data, and conversation was English.

1.4 Framework of the thesis

In the thesis, there are nine chapters with the step-by-step progression from the introduction, Essential knowledge background to the design process, and conclusion.

After the background and objective of introducing the thesis, the second chapter is the essential knowledge background of this thesis. It contains basic knowledge of user-centered design, user experience and user interface. It presents the research in UX UI design to

understand the necessary foundation before the step of applying UX UI on the website. After that, it is the third chapter with the main focus on the importance of the website to dig deeper into the connection between a website with UX UI design and marketing tool & strategy. This step will point out separately the impact of UX design for a website and UI design for a website and then the website usability.

The fourth chapter will point out the relevant research and design method based on the practice research for Bumi Asian Kitchen & Cafe study case. It also shows the evaluations related to the validity and reliability of the thesis.

In the fifth chapter, the case study methodology will be introduced and explained in detail about the situation of the business as well as the background, requirements, future visions, responsibility of the company. Moreover, this chapter also analyses Bumi Asian Kitchen & Cafe based on several factors such as SWOT analysis, website, marketing, sale, groups of customers, the connection between third party companies as the marketing tools, booking channels with Bumi Asian Kitchen & Café. Through these analytics and researches, Bumi Asian Kitchen & Café can be optimized to follow the next step of the design process in chapter six.

The sixth chapter is the chapter of the design process with the optimized analytics basing on the study case. It shows the research results from the several aspects of objective, planning, persona, customer journey, usability test.

Finally, in the last two chapters – seventh and eighth chapters, the thesis shows the recommendation basing on the research, analytics, and data collected from customers. With the inclusion in chapter eight, the theory will point out the connection between research theory and empirical study before ending and summary of research in chapter nine.

2 ESSENTIAL KNOWLEDGE BACKGROUND

2.1 User-centered design

For every business globally, customers play a crucial role even in the B2B or B2C industry, and the businesses understand that it is the company's source of income. The organizations turn to focus intensely on customers with customers support, customer experience to provide the smoothest interaction and experience to customers as well as to bring the most satisfaction to their customers. They not only offer particular products or services to satisfy their customers but also want to create a process or a system revolving around the customers. That is to help customers recognize the organization care, the interaction between the organization and customers. It also brings a smooth and convenient feeling to customers when they try the company's products or services.

Afterward, the concept of user-centered design and user experience had been created to meet the demands of business owners or organizations to raise the customer's value and loyalty.

In order to clarify and distinguish the difference between user-centered design and user experience design with the benefit of them bring to business owners or organizations, this part of the thesis introduces the original concept both of them separately. Moreover, how vital user experience and its factors to the success of a business will also be discussed based on online material research.

2.1.1 Concept of user-centered design

According to (Justinmind 2018), user-centered design is an approach method basing Interaction between the design project and the user's role. It keeps the user's role in the center of the design process from research, planning to implementation, and testing for products or services. Each design process based on user-centered design can be different because it usually follows the type and size of a design project. It is also affected by the combination of customer's data, research and user experience design.

Justinmind also mentioned that user-centered design impacts to people awareness, and it changes people mind in the term of human and computer as Norman and Draper presented. In order to develop an effective product or service, the design process will focus firmly on the impact of the human factor. It keeps the human role as a center of the design process with the active involvement of users in every step in the whole design process of a product or service. The process with the step by step includes:

- Research & analysis
- Concept & strategy
- Design
- Development
- Implementation and testing

UCD process

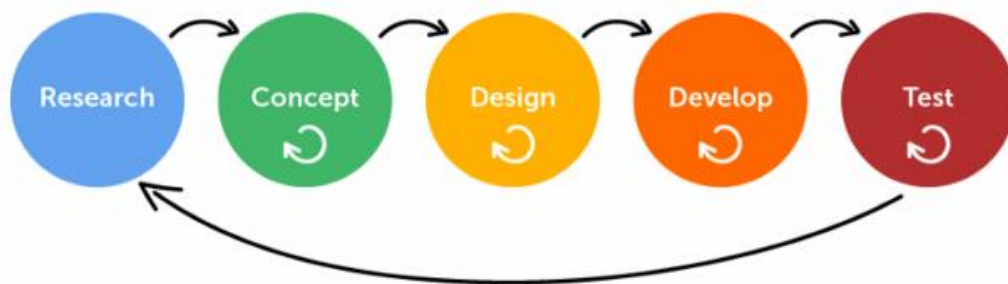


Figure 1. User-centered design process

2.2 User experience

To meet customers' demands and bring the best customer experiences to customers with the company's product or service, understanding the customer's demands is one of the main points that the company needs to focus intensely on. According to User Experience Basics in 2020, interaction quality through user experience between users and the company product or service significantly affects the customer's awareness of the company branding. The company can find suitable solutions to optimize the customer's feeling with user experience through the questions related to the customer's demand, customer's value, customers' ability, and limitation. It raises the quality of the Interaction between users and perceptions of a company's product or service.

The association among users' aspects with services, products, applications, and websites helps user experience exploit the interaction's positive points. It shapes and brings fundamental values to businesses to avoid the mess up users can get when using the products or services. Consequently, tracing back on user experiences' history helps us understand more about user experience and an evolution in its development from day one to the present user experience.

2.2.1 The history of user experience design

According to (Stevens 2019), although user experience has existed for some decades, the user experience design term of concept has been named by Donald Norman – a cognitive psychologist and designer from the 1990s.

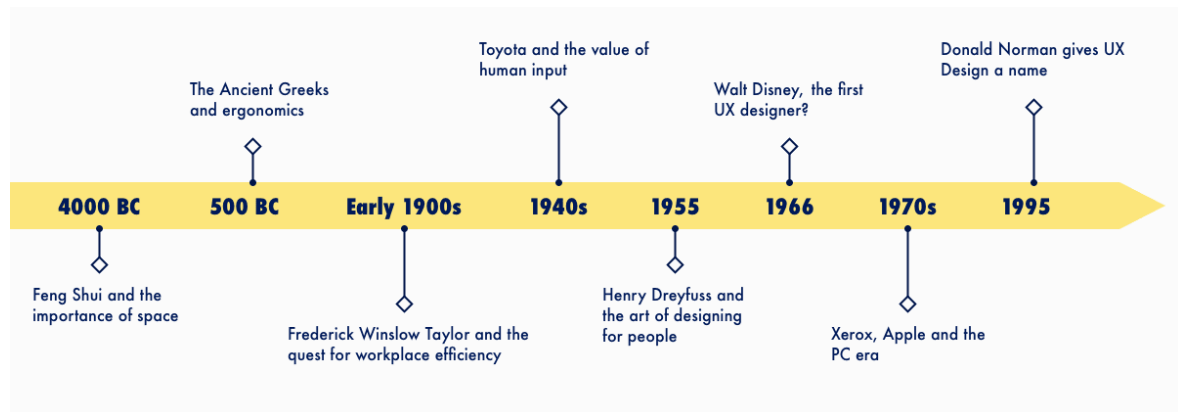


Figure 2. The origin of user experience

Following Illustration from (Vieira 2020), user experience was born in 4000 BC with the relevance of “Feng Shui” – an ancient Chinese term in philosophy. Feng Shui is the concept of space arrangement between objects related to the flow of energy. The user-friendly space's optimal placements bring the association between items based on the interactive factors such as materials, colors, layout, and framework. It is harmonious to the area and brings convenience to people owning or using that space.

With the original purpose of creating a user-friendly and intuitive experience, Feng Shui and user experience design seem similar because they keep the interactions and connections between people with the objects on the top. If the association in interior design or architecture design is from people with the objects or items with items, user experience designers with the website or application development aim to connect between colors, buttons, positions, and those strongly impact users' awareness.

According to another trace with the ergonomics of Ancient Greeks 500 BC, people already have a clear awareness of layouts' arrangement in a system. It applies to the measurement in the principles, data, and methods to optimize and create a smooth flow in the overall system performance. It was mentioned as the interactions between the positions of lights, tools and a surgeon because the places of equipment and lights have to bring the most convenience without obstruction for the surgeon.

Until the early 1900s, the first management consultant and a mechanical engineer - Frederick Winslow Taylor (Taylor 1911, 144) showed us the interactions between workers with working tools and the example of systematic user experience. With the purpose of bringing the most efficiency into human labor work, Frederick Winslow Talor's research brought to the solutions for the optimizations in the connection between humans and their tools as the early precursor user experience of today.

After a period until the 1940s, Toyota also aimed at the purpose of finding efficiency in the workplace. Toyota laid an essential foundation in user experience history because it significantly affected people's attention by putting the user role in the center of the project. The Toyota production system actively encourages the worker to put their vital role in the feedback or suggestions with the working process. Through the worker's right to stop the assembly line or enhance the active process, Toyota keeps people's respect and much attention in creating the optimal working environment for their workers.

In 1955, Henry Dreyfuss – an industrial designer who wrote the book “Designing for people” pointed out the importance of user experience between people, customer's personal experiences and the product's design. In the book “Design for people” (Dreyfuss 1955, 25-26), the authority has emphasized that:

“When the point of contact between the product and the people becomes a point of friction, then the [designer] has failed. On the other hand, if people are made safer, more comfortable, more eager to purchase, more efficient— or just plain happier—by contact with the product, then the designer has succeeded.”

According to (Vieira 2020), If Henry Dreyfuss focuses on product's quality through user experience to improve the usability and the product's sale, Walt Disney in 1966 has been supposed as one of the first user experience design, the user experience genius with his Disney World. To bring the best experience for his customer with Disney World, Walt Disney's guiding principles have been created for his engineering team to understand audience behavior by working with shape, color, texture, etc.

In the 1970s, there was a cooperation between psychologists and engineers to research and develop the user experience. Then, the graphical user interface and computer mouse have been the first examples of the unique products related to user experience developed in the 1970s by Xerox's Palo Alto Research Center (PARC). In 1984, the first mass-market personal computer including a graphical user interface, built-in screen, and mouse was announced and sold to the market by Apple. Apple became a leader of the innovators in the user experience field based on the massive contribution in technology such as the first iPod

in 2001 and the first iPhone in 2007. According to (Vieira 2020), The term UX design was also contributed significantly by Apple – the world's technology giant.

In 1990, the user experience term of concept has been used widely by developers and designers, but it didn't have a formal name. Then, due to the legal name requirement for that term of concept, there was a cognitive scientist from Apple – Donald Norman explained for the situation of that time:

“I invented the term because I thought human interface and usability were too narrow. I wanted to cover all aspects of the person’s experience with a system, including industrial design, graphics, the interface, the physical Interaction, and the manual.”

Consequently, Donald Norman has been the first person in the world to have the title “UX” in with his job as “Apple’s User Experience Architect.”.

After a long time of innovation from 4000 BC to the present, user experience has become one of the most common words used by developers, designers, business owners in the technology industry in recent years. The origin of user experience showed us that every milestone of the development and innovation has reciprocal interactions between human beings and technology. They strongly impacted each other and sharpened the user experience term before bringing the core value to the present. According to (Vieira 2020), she also commented that user experience has become one of the most fast-growing fields. It can continue to bring its value to the sustainable development as expected, and the continuing change of user experience can evolve until 2050.

2.2.2 Why does user experience essential for a business?

According to (Gangadharan 2019), user experience is acknowledged as a tool that helps developers or designers understand customers based on the interaction of people when interacting with a system. With the rapid development of technology, the system can be an online website, mobile or desktop application. The interaction between the system and people brings the data to developers and designers in the information form of users’ needs. With the cycle process of user-centered design including research, concept, design, development, and testing, developers and designers can rely on the user’s interaction and requirements to find the best solution to create positive experiences to customers. That helps to build loyal customer groups for business including the company’s products or brand. Furthermore, based on the data collected from customer’s traffics through analysing websites or applications, developers can control customer journeys on products as well as find solutions for estimating the most conducive strategy to business success.

2.2.3 5 UX design principles for the food and drink industry

According to (Ben 2019), as a UX designer working in Nez – an application to sharing food and drink offers in London. He applies user experience design for food and beverage industry and he approaches his customers by showing local food and drink offers to customer's phone. 5 user experience design principles shared by Ben Strak include:

1. Practice good UX writing

Language used in food and beverage field is vitally important. Choosing wrong words may lead to a misunderstanding of food products or services you offer. The chosen words have to be related to the industry. For instance, in restaurants, customers are referred to be called as "diners". In addition, words also bring emotion to users as they can boost people's appetite or may turn off mood for food from customers. It is crucial to spend time investigating the way your customers talk about food and drinks.

2. Pay extra attention to HCD

HCD, human-centered design, is one of the most important factors to be considered before designing a product. There are two emotional categories, including hunger and thirst, which a designer has to bring to its design. The primary emotions can deliver a strong foundation for unforgettable experiences. That's why a designer has to double think about the image they want to bring to customers' minds. Sustaining customers' interests and meeting up their expectations for better experiences leads to their decision to purchase the products.

3. Remember Hick's Law

According to Hick's Law, the more options you provide, the more effort and time customers decide to purchase your products. That's why you don't want customers to spend more than five minutes to choose which one they want for lunch. Therefore, a fast and easy to read design is the best choice.

To conclude, knowing the essential parts of information will help avoid unimportant details, which eventually decreases the time and effort customers spend on choosing your products. This may increase customers' satisfaction with their orders' experiences.

4. Design for delight

Your job as a designer is not the end during and after customers' experiences. As in the title, design for delight, you should think about increasing customers' satisfaction by using

maybe a feedback form for customers to review your services. This shows that you are interested in how customers enjoy their meals and make them feel important by giving their ideas to help bring other good experiences.

5. Consider different attitudes towards food

Finally, as a designer, you should understand that not everyone has the same diet. For example, there are vegans, food-related allergy, special diets, etc. Your job is to make your website look friendly to all types of customers. It is necessary to enhance your design with more details to fit all customer segmentation.

2.2.4 How does good UX design enhance the business?

People have more and more Internet interaction in the modern world, which desires a smoother and comfortable digital experience in their lives. Throughout time, customers' expectation of optimized user experience is higher than before. Several companies now have chance to organize their business more effectively by adding targeted plans into their market and their digital system.

According to (Paun 2017), a well-designed user could increase the website's conversion rates by up to 200%, and a better UX design could raise the speeds up to 400%. That's why having a good understanding that UX design can definitely change the face of their business is vital for some companies to change right away.

It is necessary to know that it only takes a second to be sure if your customers are convinced by your products or not. Hence, paying for UX optimization is one of the best choices to make customers believe in your products and build up your brand name and recognition from customers.

As an independent company, you should understand your market and provide appropriate strategies to fit the market needs. By determining user experience strategies, you can go for the most suitable UX metrics for your products.

By optimizing both website and app in all digital devices, UX helps ease the difficulty and enhance customers' satisfaction by providing more interactions between companies and customers. With UX, creating new business models is right on hand.

2.2.5 User experience design process

“User Experience Design (UXD or UED) is the process of enhancing user satisfaction with a product by improving the usability, accessibility, and pleasure provided in the interaction with the product.” — Wikipedia

According to (Saadia 2018), the process of reaching customer satisfaction is the vision of a company, not just an individual or a team's responsibility. Outstanding user experience design helps to boost your products' image in customers' viewpoints and increase customer confidence.

Product advancement progress always includes well-being user experience design. The interaction between the company and customers to create structure and content will help achieve goals effectively. User is always a critical factor in the design process.

The user experience design process contains six steps: understand, research, sketch, design, implement, and evaluate.

Firstly, understanding the problem is significant in providing the best solution. To evaluate customers' requirements, the team has to look at the industrial standard of research methods with both circumstantial and personal interviews and, at the same time, watching the user in real life. Organizing brainstorming meetings with customers and getting feedback from clients about existing products or ideas is also a must. The Business Manager's role is vital as they will work straight with the customers and receive demands from them. The design team will work, after that, closely with the manager to find out the customers' needs.

Secondly, research is a fundamental stage in the design process. Knowing the market competition, studying your domain, and being inspired by your competitors are three purposes of doing the research. There are a couple of activities in this research process. They are learning competitors' accesses, researching related aspects globally, investigating the latest UI/UX trends, design principles and conduct, and following up with your UX guidelines. This process will bring you several ideas and materials for your actual design.

Additionally, the sketch step requires the UI definition of the desired feature. This step is to draw a draft of your ideas and share them with stakeholders. Designing involves many drafts and redrafts, not just something pop upright immediately, and can be used as a final product. Three activities follow this step: creating ideas and start with basic sketches, having a meeting with stakeholders to get their viewpoint on technical aspects, and re-arrange sketches and retest them with shareholders.

Next, this is the time for you to gather all primary mockups and wireframes from the previous task to make the final graphics. This part also includes Interaction with the Development

team by sharing design blueprints, including principles, guidelines, colors, typography, and iconography. The step consists of designing UI images, determining the final theme, specs, and procedures needed for the fulfillment, creating icons to show on screen, and meeting with shareholders to receive feedback from business and technical points of view.

Implementation is the next stage with the involvement of the development team and design team. The task is to fulfill the back-end performance and front alliance. The outcome of this step is the developed UI with complete functionality and experience.

Finally, after all the above steps, the final product is assessed by these features: the usability of the system, the easy-to-use factor, flexibility and adjustability, the reliability of the solution to customers' problems, and the credibility of the products for the experience it offers. For this last step, the design team and product manager will participate in the process to review the experience and compare between implementation and defined interface. This stage's final results are user assessment, UI audit reports, and marked places are to upgrade later.

In conclusion, by pursuing an iterative Design process, a company can provide an outstanding user experience for its customers.

2.3 UX Strategy

2.3.1 Agile UX

As project management bases on the principles of Agile Software Manifesto, Agile UX maintains the iterative approach to designing and enhancing features in the development process. It collects and handles through co-working team and customer feedback management. According to (Babich 2018), Agile UX has been developed since 1990 with a variety of themes bringing many advantages to users. There are four fundamental values of Agile Manifesto listed by (Neotys 2014):

- Individual interactions over process and tools
- Working software over comprehensive documentation
- Customer collaboration with contract negotiation
- Responding to changes by following a plan

2.3.2 Lean UX

To avoid wasting resources, Lean User Experience is designed with minimum feasible targets and can determine the project's success through results based on the origin benefit hypothesis. Along with Agile UX and the traditional UX role, Lean UX can intervene deeper and broader than implement the design and manage customer interactions with the system. It can clearly point out existing reasons for a feature, which is the essential function that needs to be developed.

As the new design trending in UX is developed for Lean startup, it focuses strongly on user-centered design and development. It adjusts the method flexibility to maintain the process in a short period of time, and then it can receive the response faster.

2.4 The essential factors of a successful UX Design

Each user has different perspective and their own user story; therefore, it is impossible to find the best and single solution to solve matters related to customer's requirements in order to satisfy every customer. Because each user experience's theory simply focuses on managing interaction between design and user's perspective and expectation, there are four elements which help business owner, designer, or developer be able to identify the most suitable solution for development. Four essential key points include value, usability, adoptability, and desirability (Brattle 2015).

2.4.1 Value

Value is an essential factor that should be paid attention from the beginning of the road. As business's effort is to bring the best value to the customers, customers will receive those efforts and give back responses, which is the interaction in the user-centered method. Building customer loyalty and converting clicks from customer traffic into real sales for a business are the primary and long-term purposes of developing a business and gaining success. With the data collected from analysing customer traffic on a website or an application, it converts to real information related to demographics, sources of customers, and conversion rate data. Then data helps business owners know the advantages and disadvantages of its website and bring suitable solutions and marketing campaigns to its website as a marketing tool.

To balance and guarantee users' value, providing enough information for products sold on the website and giving simple step flow for customers to make the order are necessary.

Users always want the best value which brings convenience, comfort, and safety in shopping or ordering something. The ineffectiveness in building a convenient customer traffic or an unreliable payment system might negatively affect customer's perspective. These matters create a comparison among various businesses and websites in customer's mind, and consequently, customers will choose better websites with higher value to stick closely.

2.4.2 Usability

A better website's or application's design maintains higher customer satisfaction and attracts more customers than a low quality and poorly-designed website. Obviously, customers will choose a reliable website with a well-designed system due to comfort and safety. A business with a more impoverished designer website might lose its customers to other better businesses or fail to attract the first significant impression from customer's point of view. That matter leads to a decrease in customer retention percentage and negatively affects the ability to implement an order on the website as customers might be confused in making order or payment.

2.4.3 Adoptability

Beside the impacts of value estimation of customers and usability of a website to a business, accessible ability between customers and business's website is also one of essential factors that developers need to pay attention to. For example, two customers are looking for a restaurant to have lunch. The first person is a traveler using a mobile phone and the second person is an office worker using a desktop browser. In the first case, a restaurant only pays attention to develop its website mainly on the desktop browser, which leads to the fact that the accessible ability of the traveler using a mobile device might negatively affect to the sale in the restaurant because the restaurant cut-off a customer group of travelers away from its marketing tool – its website.

A website cannot be accessed by some different browsers, delay in accession, and long loading time, which can also negatively impact the customer's perspective. All of these matters are classified as the factors of "adoptability."

2.4.4 Desirability

One of the factors to attract and inspire customers is desirability. Almost all customers will be attracted by eye-catching images or videos related to products, services they care about. A perfect layout arrangement between items and product photos in a suitable theme for a web page brings convenient experience to the customer and enhances customer's desire

to purchase product or service. It has the same concept as the brick and mortar store because both online shopping or traditional shopping need to bring the best experiences to customers in many kinds of human senses such as visual, feeling, smelling, etc. That boosts confidence in sales and maintain customers' loyalty because customers prefer the professional business online and offline. With the strength in building the brand identity in the customer's perspective, it brings the prominence in creating reputation among companies in the same field. It boosts the growth sustainably through value customers return to the business.

2.5 User Interface

According to (Berezhnoi 2019), user interface is a concept belonging to the information technology field with websites, applications, or software developments. It is the bridge to help people interact directly with the application platform through buttons, images, texts, etc. It is regarded as a type of programming; user interface design facilitates users and developers in interactions with user experiences and enhances website usability. Through clickable buttons, category lists, and text boxes for input data, developers can analyze and control the customer's traffic flow to improve the website's usability.

2.5.1 History of UI design

From the 1960s to the 1980s, according to (Asher 2017), user interface has been developed from the keyboard's presence in the late 20th century. Although at that time, people used keyboard as a primary device to interact with computing technology without clickable interfaces, voice control, or interactive screen touching, keyboard was a significant improvement from punchcards used in technology programming for the computer in the 1940s and 1950s.

In 1984, for the first time in the history, an original form of graphical user interface and mouse were developed by the inspiration from the well-known visit of Steve Jobs to Xerox Parc in 1979. This led to the boom in the sale of Apple with 1 million Macintoshes sold in 1988. Then, several companies including IBM, Compaq, and Microsoft follow Apple's footsteps to develop their computer mouse. Microsoft developed and introduced its Windows 1.0 to catch up with the market, but the first graphic user interface used by Microsoft was published with Windows 3.1 in 1992.

Computer technology was overgrown at the beginning of the 1990s with the popularity of laptop computers with desktop. Numerous companies marketed their own interactive products beside mouse and keyboards to support their laptop products. They included trackball and trackpads from Apple, pointing sticks as the brand of "TrackPoint" of IBM. On the other

hand, to miniaturize the desktop computer versions to be more portable, PalmPilot was developed and introduced to the market with the modern feature related to user interface – the stylus. Working as a touchscreen with a stylus, PalmPilot was a new device with high reputation in the 1990s.

Before the existence of a wide range of interactive features, software, or virtual assistants, the origin of voice interaction software – Dragon NaturallySpeaking was published as a form of new interaction in 1997 by Dragon (then became Nuance after Dragon acquired Nuance in 2000). Dragon NaturallySpeaking was sold in the amount of several million copies.

Then, UI development had a significant increase at the end of the 20s century with wide range of enhancement in devices and tools. Apple contributed many devices in technology development such as “Pro Mouse” – the first commercially famous mouse with non-trackball, “Mighty Mouse” which enhances touch & pressure awareness feature, and “Magic Mouse” – the composite in multiple fingers for more practical uses. Apple also brought the scroll wheel to users to enhance iPod music devices' interaction in 2001 before it became popular and more touch-sensitive, which enabled Apple to cut down the unnecessary external buttons.

From 2007 to 2010, a massive jump in development brought UI design close to users with a wide range of devices aiming at every consumer. The leader is Apple with the launch of the iPhone in 2007 and iPad in 2010 with the multipoint capacity touch interfaces for phone and tablet. That brought new experiences to users using phones and tablets to interact with the content in their devices digitally. Although Fringerworks is the company which owned the technology of multipoint capacity touch, they adjusted to provide the other phone and tablet companies with the right to manufacture their phones and tablets.

Finally, with the technological developments in multipoint capacity touch, it became an essential part of users' interaction methods in modern life. The technology companies have developed many devices with new touch screen technology, including kiosks, ATMs, and household appliances. Hence, Apple brought the new change to the development process with Siri - a voice assistant in 2011. Apple still led and opened the evolution path for other companies to develop their voice assistants, such as Google Now in 2012 and Amazon's Alexa in 2014. The voice assistant device can connect, access, use the owner company's data content assets, and implement user voice commands. It depends on the company's database, and the accessibility of data because voice assistants only run on the platform of the company which developed it. For example, Siri accesses to Apple's database, searches, and makes the driver's routine via Apple Maps which is related to the cloud technology to help Siri access necessary data.

It is evident that user interface runs parallel to user experience by enhancing the interaction of many fields of modern technology. Virtual reality and augmented reality are extensive examples of state-of-the-art technology. As user interface enhances users' interaction, users can use devices to connect to the virtual-reality system, and it allows user's perception and the interaction affects virtually on the virtual objects. With fullbody interaction, users can touch, walk, and run in the virtual environment through their body movements.

2.5.2 Why is UI design important for a business

According to (Omnibridge 2017), he points out the real challenge for every business in creating, marketing, and maintaining a business website or application. With the significant development in technology, it is difficult to stand out among companies and make sure the difference is related to the products and services. It also needs to bring unique user experiences to customers and satisfy them. There are three elements strongly impacting the website or application operation, which are content, function, and design. Content and function base on the business's show products, services, information, or interaction methods with customers. Design is a vital aspect that naturally affects users by managing connections and building customer engagement via website.

As a functional and useful user interface design, it has the ability to guide users in the whole process of user flow in a website or application. User flow or user traffic is a travel process from page to page, step to step through a chain of screens, clickable buttons, images, and forms that users can interact directly for their specific purpose. Consequently, as there is a huge competition among businesses in the market, the better user interface design for a business through their website or application is also a useful marketing tool to take the advantage against their competitors. There are five unquestionable factors to answer the question of how important user interface is.

1. Customer's awareness of the presence of products, services

A terrible user interface can negatively impact user's perspective and incoming traffic because it causes complex interaction. If customers cannot find the information which they are looking for or don't know how to make an order or contact business owner, problems drive their mind to close the website, application, and finally, destroy their belief in that business. These matters are why business owners take the user interface design seriously for their website or application.

2. The parallel between good design and business

The similarity in analyzing a good design and a business is the interaction level between the users and the website or application. Customers can identify a company through its branding, brand's color, brand's style, or graphic layouts. A designer or developer needs to keep the visual interaction between tabs and clickable button placements with a website, typography texts following the company's brand guidelines. As a company's branding can build trust in the customer's awareness, and the right branding template online has to reach customers to make the business website look professional.

3. Using as the best marketing tool in the world

There are many methods to run a marketing campaign to approach customers. Website approach is a potential and effective way to interact with customers because most people use their mobile phones to search for information. Attracting customers through images, videos of products, and services can stimulate customers' curiosity and make them return next time. That requires a sustainable user interface and logical information arrangement.

4. Optimizing the right thing, right place, and the right time

Each business type, product, or service has different arrangement in information arrangement through the website's user interface or application design. It depends on the customer segmentation, and it can create misunderstanding, information missing, complexed navigation for customers to access a company's website. Consequently, it is essential to understand the importance of information which company wants to show to customers, arrange the right category for each section of information, and build the right step by step based on the whole process of traffic flow. It helps the customers save their time, puts customers under stress-free zone to find information on a complex website, and optimizes essential information to customers.

5. Usability functionality and its form

Multiple platforms are necessary to meet the demands of customers and optimize the reach to customer groups. Some of the differences between a desktop and a mobile version is loading speed, size of text, images, text box, etc. It will negatively impact customer experiences. In this term, the combination between user experience and user interface is indispensable. It adjusts and provides the ability to use the website or application on both desktop and mobile, affecting both the short and long-term success of a business. With the high demands in the convenient level, each company offers the best services and user experiences to raise the customer's expectation bar.

2.5.3 Three steps in the process of UI design

There are various user interface design elements, but not all of them are always suitable for every company website or application. To create an exemplary user interface for any business, developers need to follow the right step in the whole process of building a complete user interface. According to (Intetics 2020), there are three steps in the user interface process to understand the customers, develop and publish the most useful and suitable user interface product to attract customers. Three steps include user research, design and prototyping, and evaluation.

1. User research

In every business field, understanding the customers is essential because it is the bridge to connect to the customer's requirements and meet their demands. Defining your customers, customer's needs, how to meet their conditions, and how they use your product or service can help you manage your operation strategy.

- With the user's demands, developers need to research both user's needs and challenges for developers to approach customers, and products' problems after development.
- To understand and split the customer's group, developers need to know precisely about user types, user experience, knowledge, or skill level of customers to define the best target group of customers.
- Finally, understanding customer's behaviors through activities that customers can do or use the products, services, or whole development system is essential.

A fundamental step in the whole process of building an exemplary user interface is required to implement before the design and prototyping step. It helps developers define their customers, avoid the risks in developments from inconsistent information problems. Every missing information or mistake in determining customers can lead to a potential user interface's unsuccessful design.

2. Design and Prototyping

After having all necessary information from customer groups, developers can start to step in the design and prototyping. Starting from the first step in design and prototyping, developers or designers need to sketch the simple and low-fidelity wireframe to release their creativity. In this step, every simple sketch or plan needs to stick to the user research information to avoid wasting resources. After wireframes, developers or designers continue with prototypes and finish with mockups before bringing products to evaluation.

- **Wireframes:** As the primary and straightforward sketch version for the whole system needs to be developed, it does not require to provide enough detail of the products, but the factors and requirements must be clarified for every function of the product to show to the client or the business owner. This step might not require many developer's efforts and time, and it helps the client or business owner imagine the original idea of the product or understand the workflow of the product. Moreover, it is also easy to be adjusted to control all of the processes more effectively.
- **Prototypes:** After wireframes, developers or designers continue with the next step to develop the prototype to build the semi-functional layout before showing the high-fidelity preview of the website or applications as the front-end user interface to the clients or business owners. This step does not require developers or designers to implement full functionality for the website or application. It helps clients and business owners can do a simple test or try the products with the ability to click around buttons, images, elements related to website or application functions. It merely works as a simulation, and both developers and clients can discuss the factors and how the website or application works in the prototypes version. Some decisions on the idea, such as adding, changing, removing can be decided in this step before focusing significantly on building the visual design of full functions and elements.
- **Mockups:** Finally, the finish version of the user interface design will be transformed into the mockup module to show all the elements and functions of the product, including buttons, typography, graphic motions, colors, etc. With mockup models, clients or business owners can see full parts and interactions through transition and animation between pages.

3. Evaluation

Through design and prototyping, the evaluation should be put in every phase to control and track the design quality. The combination of assessment and user experience can analyze each function, useful product elements based on product usability and meet users' demands. After various testing and evaluation times through sketches, wireframes, design, prototyping, discussion, and decisions based on brainstorming, the final version of the product will be increasingly perfect. Then, it raises the percentage, leading to the success of the products.

2.6 Five essential elements of a user interface design

In every user interface design project, some critical factors related to user research such as content, context, and audience need to be analyzed and discuss carefully. With a successful

user interface design, clear goals, constraints, platforms, and audiences' groups significantly impact the shaping process of creation. It helps developers choose the right visual solutions for each design phase or function. According to (Akindunjoye 2018), five fundamental factors need to be intensely focused on user interface design, including language, color, imagery, typography, and icons.

2.6.1 Language

- **Word as Naming/Branding:** as customer will have first impression when users connect to a website or application, naming for a brand of product or service is vital. That affects the user's mood and creates any feeling to customers as professional, funny, serious, or attractive in the first phase of the brand's experience (*Facebook logo and Snapchat logo*).



Image 1. Facebook logo and Snapchat logo

- **Word as Tone/Attitude:** the set of words used to navigate users' direction; it is also essential because it has the unique function to direct users to the destination page they want. With the difference in the tones of texts, it leads to decisions of users through their feeling. Some of the factors boosting the user's emotion include strict, friendly, entertaining, fun, and the texts' message must be suitable for those interns (*Coursera and Medium user of words to set tones*).

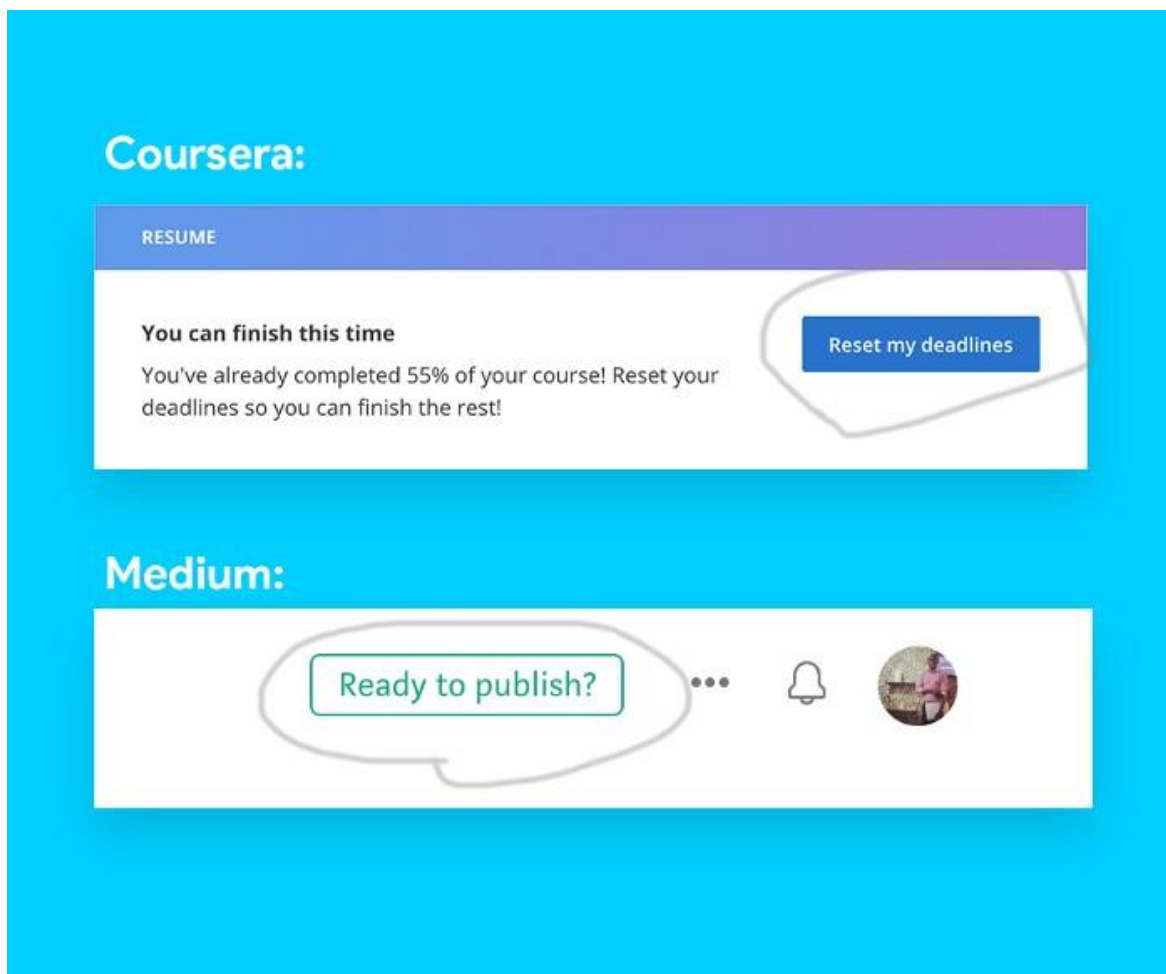


Image 2. Coursera and Medium use of words to set tones

2.6.2 Color

Not only in design, every field of life always has the existence of colors, and colors can naturally impact people's awareness. When designers use the colors in the design following

unique method, colors can control people's moods and feelings through emotional Interaction. Using colors correctly, colors can create a suitable sense, atmosphere for each interface of a business's brand or functions of a website or application.

- **Color as mood:** instead of using black & white, each color has its own message, and it can be delivered passively to users when they see it. For example, red color with the "danger" message, pink color with the "fun" message, and orange color brings the full-energy feeling to users. With the different connotations of colors, the designers can use each unique color to send any message and emotion to customer. (*Color as mood*).



Image 3. Color as mood

- **Color as navigation:** Beside delivering feeling and message to customers, colors also play an essential role in navigation of the text or button. The contrasting colors cause the separation of human perception in each case. For an example of (*Color as navigation*), colors impact people's awareness with active and inactive feelings. The green color stands out in the middle of the white background, making the button "I am clickable" stand out more and creating an active feeling for the viewers. Moreover, colors can control people's awareness to identify the display shades in design as passive, active, activated, etc.

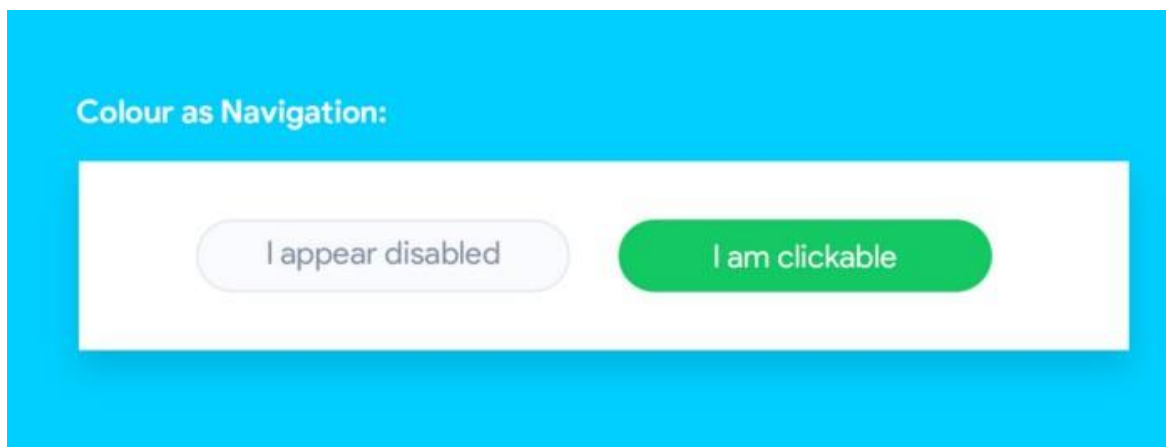


Image 4. Color as navigation

2.6.3 Imagery

There are different types of imagery, including shapes, photography, 3D rendering, shapes. Each kind of image plays a different role in the user interface design from imagery as content, imagery as mood, and imagery as navigation.

- **Imagery as content**

The imagery as content can be divided into two smaller imagery types, including contained imagery and immersive imagery.

- Contained imagery: it is a method of using imagery in a collection of a grid or a frame. With contained imagery, designers focus mainly on showcasing many images at the same time. It helps users search, classify, and compare clearly between pictures and information attached to that image. This kind of imagery is often used in e-commerce, electronic news, or blog website.

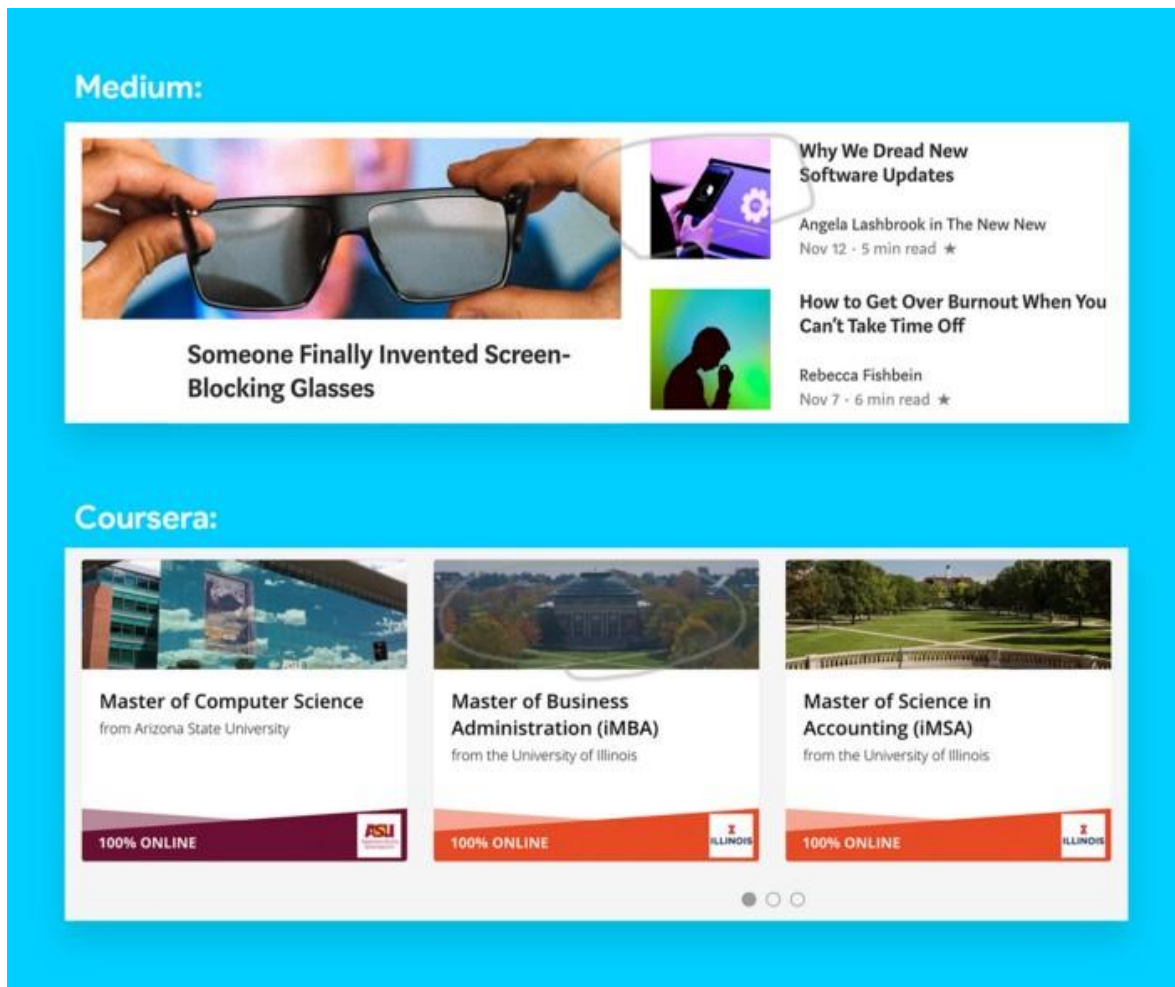


Image 5. Contained Imagery

- Immersive imagery: This type of imagery often stands alone with the immense size to highlight itself to customers. It is used as a unique element in the design to show the primary purpose as presenting the best food image, best game, best product or service pictures.



Image 6. Immersive imagery

- **Imagery as mood**

The imagery as the mood is an excellent tool for transferring the feeling through pictures and bringing emotions to customers. With the emotional themes, designers can lead customers to experience a tone or ambiance that the business is aiming to. For example, a website selling memory books can show emotional pictures related to memory to boost customers purchase their products.

- **Imagery as navigation**

Nothing navigates customers' mind better than images. Indeed, imagery as navigation can be used to replace buttons on the websites. Instead of reading text in category and buttons, designers can use pictures to show category with different features or symbols. For instance, instead of using texts related to clothes such as jeans, T-shirts, shirt or man & women, designers can change that to images showing pictures of jeans, t-shirt or shirt to help customers interact visually. That allows customers to experience the unique design types of company's fashion brand.

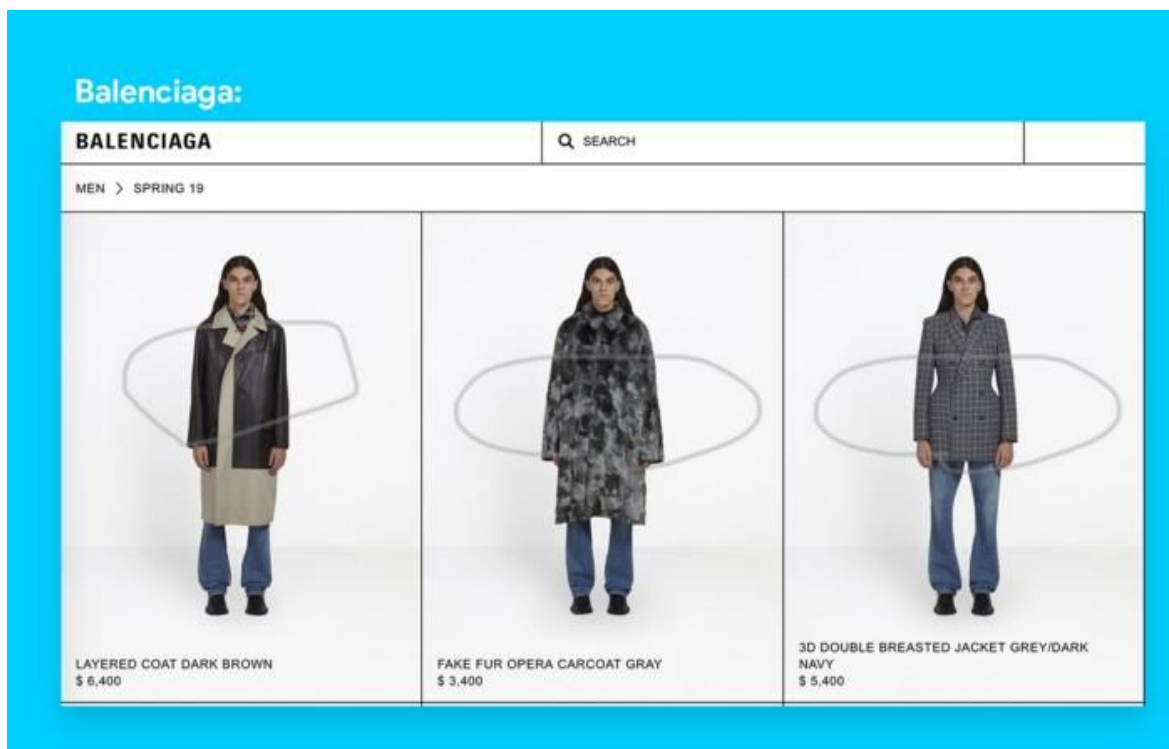


Image 7. Imagery as navigation

2.6.4 Typography

There are different purposes of using typography, and each type of typography plays a distinct role in expressing purpose on a website. As user interface elements, they can build the brand identity system through buttons, labels, slogan, etc.

- **Typography as content**

As a primary type of content used in most websites or applications, typography as the content is displayed as plain text. It conveys information to the viewer through text format. It is an optimal and useful method in the cases of videos or images that cannot bring the designer's intentions to the customers.

- **Typography as branding**

In each brand book of a company or business, they still have some typography types as the brand text representing the company. Each typography type reveals different brand personality, and they provide a personalized customer experience. For example, Product Sans, a typography brand of Google, works tightly to colors and symbols of Google's branding.

2.6.5 Icons

Beside texts or typography, icons are also the essential elements in user interface design to bring customers a good experience. It helps websites or applications to simplify as well as save time and space for creation. But there are some differences between icons and symbols that make designers feel confused.

- **Icon vs symbol**

An icon is a unique version to replace the texts or things that have close meanings with the icon. On the other hand, the symbol doesn't need to have the same or close appearance to its replacement. It can be simply understood that an icon needs to have pictorial nature, and symbol is a kind of non-pictorial nature.

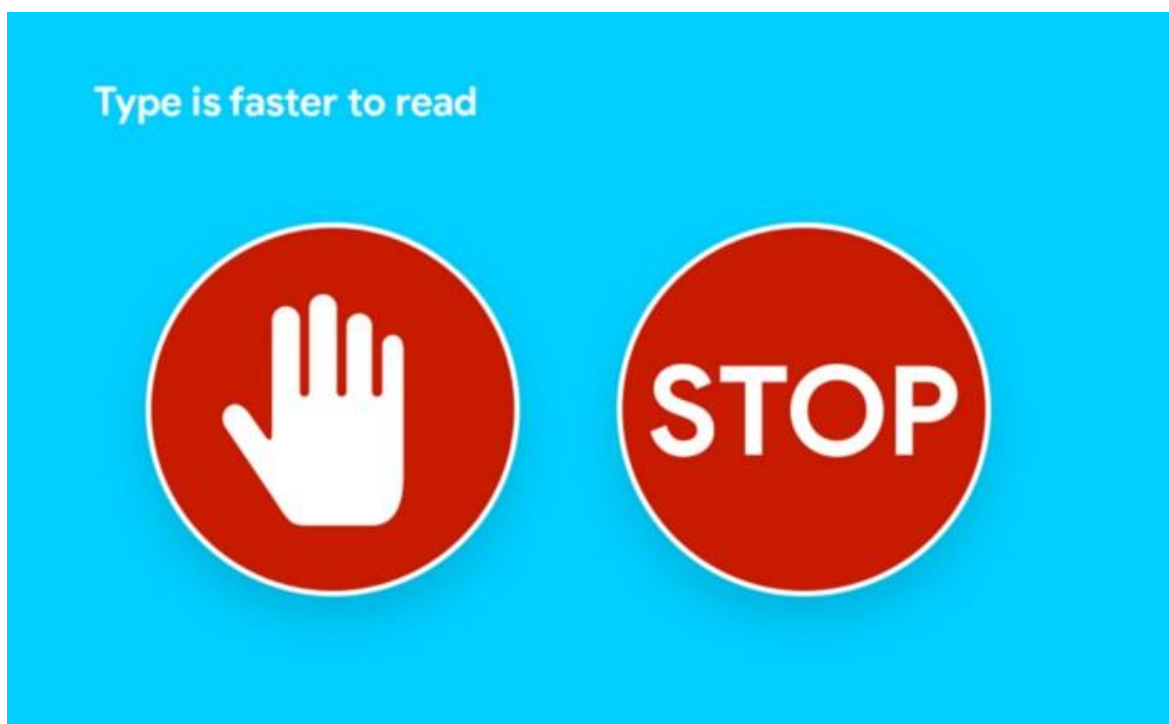


Image 8. Figure 10 Icon vs Symbol

- **Icon as interface**

Acting as elements in the user interface, icon and symbol work to simplify the interface and represent things. For an example of the icon "the bell", instead of using the text the bell or notification meaning in website or applications, customers can see the bell icon and automatically understand its right implications by synchronizing the bell's meanings. Moreover,

there is one more example of the magnifying glass. By synchronizing every website or application, every time users see the symbol of the magnifying glass, it has been set to make customers' minds understand the meanings of zoom In and zoom out.

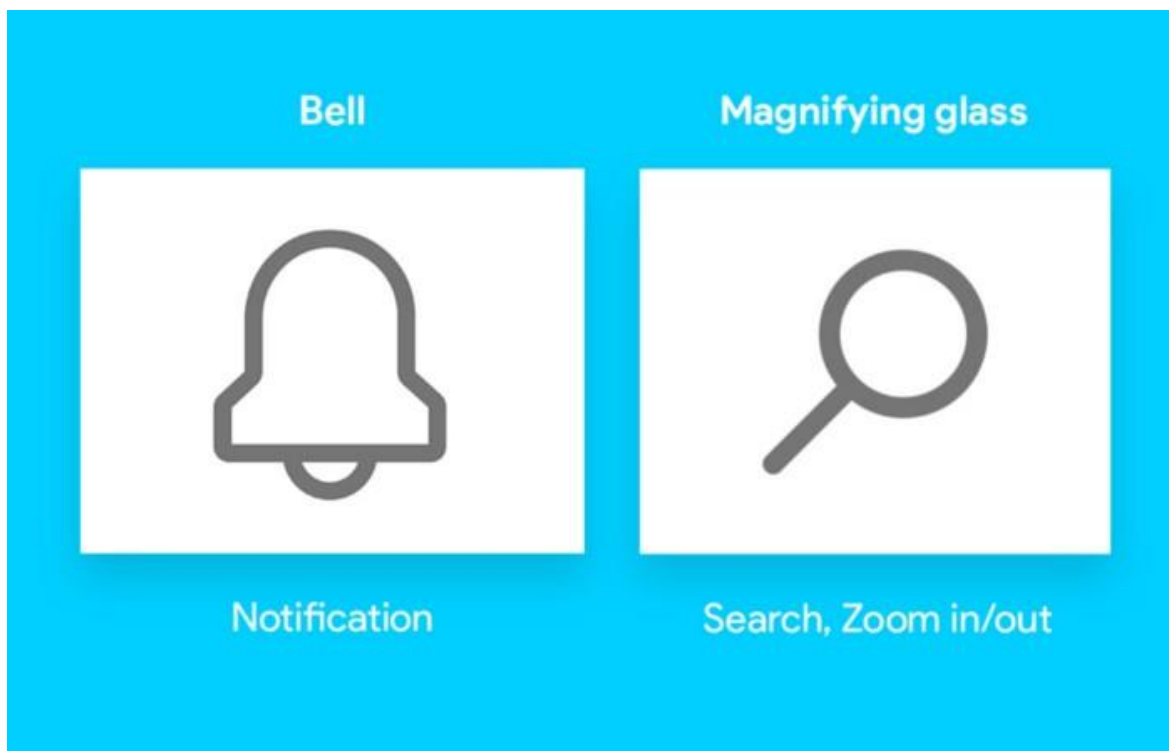


Image 9. Icon as interface

- **Icon as branding**

Besides, the representatives of a function or meaning for an element, items, icons, and symbols still have more features to appear as the branding logo or products of a business. As an example of Apple, with the image of apple's identity, customers will recognize the image as the food in the icon part because it represents in both visual and abstract ways. In contrast, customers will recognize the Apple logo as a symbol because it is only non-pictorial and simplified.

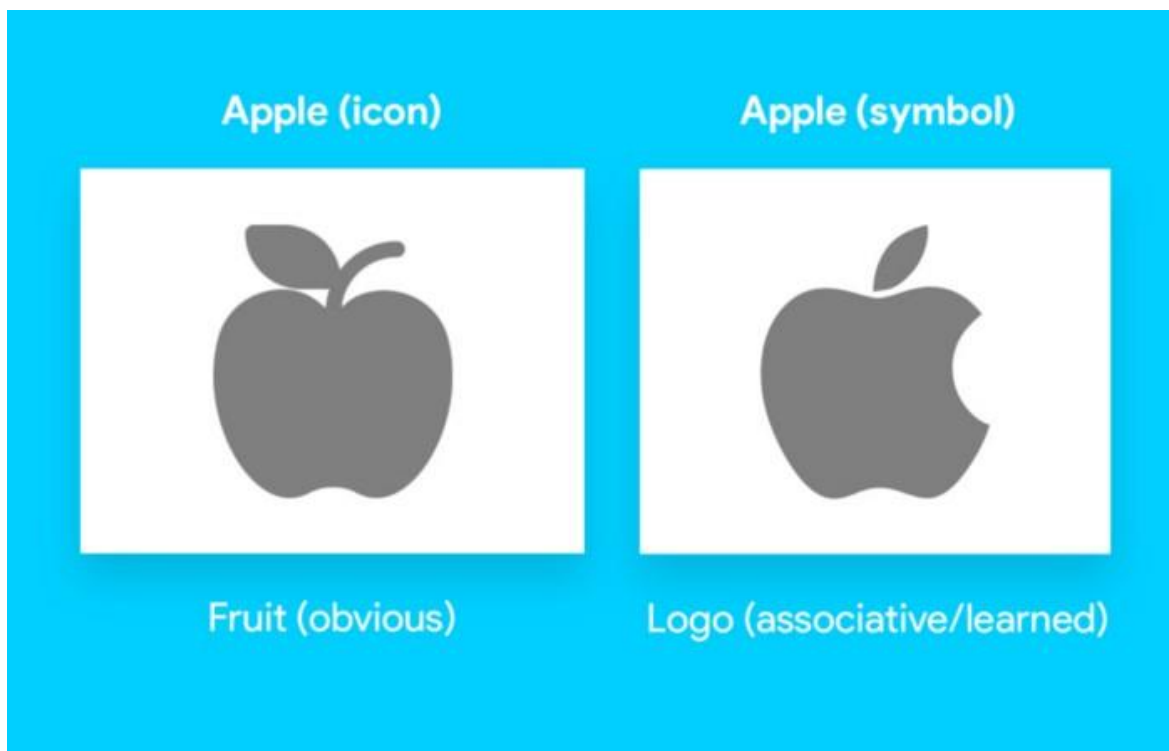


Image 10. Icon as branding

3 WEBSITE

A website is a potential marketing tool for every business. According to (Sherman 2019), before buying products or services, customers often take time to research the company's products and services online through review websites, company websites, social media, etc. With 88% of consumers spending time on research product or service information before buying – recorded by the eCommerce Foundation, consumers' purchasing behavior boosts and highlights the importance of online marketing through the company's website. A professional website with enough necessary information for consumers leads the company's business to the market's success with a massive competitive advantage.

3.1 Essential of a website of a business in marketing

A website is considered as the backbone of a business because it supports enhancing marketing through online platforms. With the ability to manage the Interaction between customers and developers, business owners can collect various data related to customer traffic to analyze and find more solutions to improve business operation.

Digital marketing strategies have a tight connection to the importance of a business's website, and it impacts significantly on the market and customer approach. With the marketing materials or contents promoted via online website and primary information of products or services, the company brings value to customers and attracts them to travel step by step in the online website. Missing information or misunderstanding can negatively affect the customer's awareness of a business's brand or product. Consequently, providing enough and clear ideas about the brand's company and its product or service through the website is necessary.

Cross-marketing is a term of marketing strategy used in a variety of fields. The connection among a website, social media sites, third-parties company, or food review websites is essential because the business owner can use those different websites to promote and link them to their own company's website. It is an excellent way to reach other customer groups, and it helps business owners attract a large number of customers from different channels or sources. The business owner only needs to embed their website's link in social media and third parties' websites, boost website SEO in google. Therefore, customers can see the link and understand that they can access to the business owner's website by clicking on that link. With the primary purpose of purchasing or learning more about services or products that the company offers, website becomes the "home base" to convey information or solicit customers.

Every content or news or product booked from a business needs a database for storage, and it should always be available for customers to learn or purchase. A website is also an excellent place to use the database to store, save, or display product's descriptions or images. It is also a potential tool to inform and engage customers for the purpose of building customers' loyalty through online channel. Finally, customers can sign in or register to receive news, deals, discount campaigns or new products, and service information directly to their email.

3.2 Website Usability

3.2.1 What is website usability?

According to (Witten, 2018), there are three key points to evaluate a website's usability: effective, efficient, and satisfactory. These factors reflect customers' emotions or satisfaction levels when they access and experience the website through the Interaction with the navigation bar, images, colors, menu, contents, buttons, forms, etc.

It will bring good values to customers if the website has high usability and helps customers use the website to finish their purpose quickly. It satisfies customers and guides them to travel smoothly between pages on the website without wasting customer's time and effort. Customer satisfaction is one of the most essential factors in the key points. An useful website needs to meet the customer's demands or requests through questions and provides the necessary information and sources to customers. It raises the customer's satisfaction and builds customer loyalty.

3.2.2 Why is website usability necessary?

A business through a website is nearly the same as a traditional business because both business types require fast response and excellent customer services. As one of the main targets in every organization or business owner, meeting the customer's demands and expectations quickly and reliably is vital. It attracts and brings back customers to the business by becoming significant and useful to your website's customers. Consequently, understanding and exploiting the business's website as a marketing tool and an interactive channel to solve customer service questions and giving company and product information to customers are unquestionable. It requires great efforts from employees and business owners to maintain and take responsibility to raise any investments in serving customers.

4 RESEARCH APPROACH

According to (Chetty 2016), to conduct a research process step by step, there are two types of data analyzing approaches which are inductive approaches with qualitative method and deductive approaches with quantitative research. This thesis will focus intensely on quantitative research because the case study for this thesis has been developed and analyzed based on experience and the business owner's perspective.

While quantitative research method focuses strongly on collecting data from users as surveys or polls before analyzing numerical data collected as statistical analysis, qualitative research method aims at non-numerical data to collect and analyze data from texts, videos, interviews, or audio – according to (Bhandari 2020). Hence, qualitative method helps to understand concepts, object's opinions, or their experiences. Because it bases on the research problem's nature to find the solution and reasoning, deeper insight can be collected to analyze and generate news ideas for the whole research.

4.1 Qualitative method

The qualitative method focuses strongly on personality to understand how people experience problems and subjects in life. There are various approaches to the qualitative research method including grounded theory, ethnography, action research, phenomenological research, and narrative research. Although all approaches have some similar points, each technique has a different target and aspect of the collection and analytics method.

Besides, there are many different data collection methods from other research approaches. A research approach can use one or more ways to meet data collection requirements before starting with analytics. Some data collection methods include observations, interviews, focus groups, surveys, and secondary research.

- **Observations:** A recording method that requires researchers to take part in the detailed field to record, note, or do everything to save the scripts or information they have seen and heard.
- **Interviews:** With a face-to-face meeting, this method requires researchers to be interviewers and have direct conversations with people to collect the answers for the research data.
- **Focus groups:** Quite similar to the interview. Instead of one-by-one meeting, this method focuses on collecting data from multiple sources as conversation in a group of people.

- **Surveys:** Researchers need to create a questionnaire list with open-ended questions for a specific target group to collect information from many people. That needs to be related to the research subject and distribute it to the target groups to collect data.
- **Secondary research:** This method focuses on using existing data as the other sources or results, including texts, pictures, recorded videos and audios.

Due to the specifics of the thesis and case study, the interview method has been used as the only way to collect data for this thesis. As a website development project, business owners and some customers in the food and beverage industry have been invited to the interviews.

4.2 Ux design methodology

Many user experience design methods can be used for data gathering and research due to its usefulness. It depends mainly on the project's researching environment or subject due to the difference in data collection requirements. However, in the different steps of the whole design process, some data gathering methods can be useful and suitable in a specific way.

4.2.1 Persona

According to (Babich 2017), researchers use the term of persona to assign people with personal goals, characteristics, requirements, and demands related to the subject. Personas will be collected and listed from the beginning of development process, which is created to represent the individual fictional information in different user groups. Usually, the necessary information needed to collect for creating personas includes personal characteristics such as customer perspective, basic demands, lifestyle, goals, attitude, skills, and motivations impacting customer behavior. Designers will use this persona to characterize and humanize to create hypothetical real cases. That will be used and combined with customer journey to bring the most valuable information to designers or developers in the whole design process.

4.2.2 Customer journey

A customer journey or user journey is a hypothetical scenario that includes several steps representing how users interact with the whole website or application – according to (Mears 2013). A customer journey is used as a user experience design method, and it points out different customer's routines with other customer's perspectives to travel to different pages by analytics. After analysing information, business owners or developers can understand

negative and positive factors during the process from websites to customers through senses and user interface design techniques. With the repeat of the whole process including testing, checking, analyzing, and fixing, it brings flexibility and adjustment ability for a website to keep improving.

There are two hypothetical scenarios that designers usually use to adjust. They include the customers' scenario when they currently interact with a business's product or service, and the customer's scenario could interact with service or product. From these factors, development can base on the data from issues to improve or find solutions that customers get in the using time.

4.2.3 Heuristic evaluation

According to (Lin 2019), Heuristic evaluation is an assessment method that brings the overviews in user interface usability to user experience developers. Heuristic evaluation method is a practical method based on psychological analytic purposes. It helps to solve the problems that user interface negatively affects customers in the fastest way.

There is a theory of Jakob Nielsen about ten Heuristic Evaluation, it includes

Table 1. Jakob Nielsen's 10 Heuristic Evaluation (Lin 2019)

Jakob Nielsen's ten Heuristic Evaluation	Explanation
1. Visibility of system status	As a real-time notification system, it will show visible system status directly to developers as the specific response within suitable periods.
2. Match between system and the real world	Language is a barrier between users and the technology system. It requires synchronization in the real-world conventions that is familiar to customers. And it helps to export information naturally.
3. User control and freedom	Providing flexibility to users to help them interact with the website or application quickly and conveniently. For example, undo or

	redo button is necessary for customers when they want to back the last page..
4. Consistency and standards	Setup and synchronize in the same consistency to unify users in a specific system. That helps to remove confusion from customers in different situations or words.
5. Error prevention	Beside the error notification system, an error prevention system from the beginning of the error's root can strengthen the whole process and system's safety. Checking the conditions causing errors to eliminate them and asking customers to confirm before implementing the actions.
6. Recognition rather than recall	Instructions and information in the whole process when users use the website or application are vital, and they should be easy to display or access to customers. It helps to optimize user's memory load as they do not need to remember everything from pages to pages. It brings the most convenient feeling to users.
7. Flexibility and efficiency of use	Speeding up user's actions or interactions through accelerators as the support and the system can provide the best function to experienced users and inexperienced users.
8. Aesthetic and minimalist design	Only displays the preliminary information needed for users to avoid decreasing their visibility among unnecessary information.
9. Help user recognize, diagnose, and recover from errors	Based on the interaction between users and the system, it requires the understanding of errors message and provides the best solutions for the customer's issue. The infor-

	information should be transferred simply with primary language without any complex information and codes
10. Help and documentation	The guide or instruction for customers should be constructive with enough information. It is essential for customers to find information easily and quickly.

4.2.4 User interview

According to (Mortensen 2020), the user interview is a useful tool to interact with users, and developers or designers understand and empathize with users. Because it helps interviewers gain an in-depth understanding of customer's values, points of view, and experience via direct conversations. With the list of specific questions related to the website, application development, or design preparation, it allows developers or designers to explore participant's perspective through particular matters and collect data for the product. Besides, it's possible to combine user interviews with other data collection methods such as surveys and usability tests to gain the most valuable information from the interviews through interaction between interviewers and participants.

4.2.5 Usability testing

Usability testing is a user experience evaluation method that invites users to try or test the website or application through the navigation and multiple tasks in the real trial environment (Mester 2017). It collects user's feedback from testing on the website or application before transferring data to developers to adjust and fix errors, button layout, or items.

Through usability testing, developers can understand more about their products through questions such as

- what do users do with the website or application?
- When do they do it?
- How do they do it?
- What are functions that customers care about, usually interact, and don't care?.

- Etc

However, with many questions and answers through user's interaction with products in the usability testing method, it still requires developers to answer by themselves questions "why" because the data cannot transfer the "why" answer to developers. To be able to answer the question "why" as the reason for "why do users not interact with the specific function," it also means that developers can understand the "must" of products to bring the suitable functions and excellent work to users.

4.3 Chosen methodology

To have the best preparation for the study case of developing a website for Bumi Asian Kitchen & Cafe as the practice-based research, it needs to focus intensely on the data collection through qualitative research methods. Several questionnaires and face-to-face interviews will be organized to collect user's mindsets, necessary information, persona, and what they expect or require from the website. The whole process of the development can be split into step by step, including:

Step 1: The developer will create a questionnaire with the specifics questions to clarify and understand more about the business owner's requirements, perspective, expectation, and goal in the company's plan and vision. After that, there is an appointment to discuss and receive the answer for the questionnaire prepared for the business owner. Collecting data of target groups of customers is also a vital aspect of this step because it helps developers save sources and time to focus on the right customer groups that Bumi Asian Kitchen & Cafe target at.

Step 2: In this step, the developer will focus directly on customers who are interested in the food & beverage industry, and they also need to meet the requirements based on the restaurant's customer group. There are two times of interviews including stage 1 and stage 2.

- **Stage 1:** In the first stage, the developer needs to understand and clarify customer's demands, necessary information as the personas, customer's behaviors, and their's perspective for a local restaurant and Bumi Asian Kitchen & Cafe. Thus, the developer will create a questionnaire for customers and have interviews with around 10 participants to collect data.
- **Stage 2:** After a period of development, the developer contact 10 participants for interviews and a new questionnaire will be created for participants. Because the developer asks participants to fill in the questionnaire after implementing usability testing of Bumi Asian Kitchen & Cafe website, this will point out the different aspects

of participant's perspective and give the developer feedback on the website to fix and improve the website.

Because Bumi Asian Kitchen & Cafe is a restaurant in Helsinki, the interviews will be organized in Bumi Kallio under the business owner's monitoring. The whole process of the user experience research will go through several steps, including personas, customer journey, heuristic evaluation, user interviews, and usability testing.

4.4 Validity and reliability

According to (Middleton 2019), validity and reliability are necessary for every research because it plays an essential role in evaluating the research's quality. With the difference in reliability and validity, it should be clarified that the consistency of the research will point out the levels of reliability through measuring. On the other hand, the validity will be measured, based on the accuracy of the information.

In this thesis, every information and basic knowledge used to explain the term of the concept is based on the references from websites and books with enough information, including name of websites, name of web pages, author names, book names, day of publishment, etc. Besides, information, data, and materials including bookings through the website, website traffic analytics, and other documents provided by the business owner of Bumi Asian Kitchen & Cafe will be saved and kept as original versions listed under references list.

Because each restaurant has many different types of customers, this research will rely directly on the Bumi Asian Kitchen & Cafe case and its own goals and strategy. After a period of development in Bumi's website, the website will be adjustable and able to develop more functions in the future.

5 CASE: BUMI ASIAN KITCHEN & CAFE

5.1 Basic background

Bumi Asian Kitchen & Cafe is a brand of fast-casual Asian restaurant or kitchen in Helsinki area. Bumi was first founded in 2016 by 2 Vietnamese people living in Helsinki. It started with one small coffee shop named Bumi in the corner of Punavuori street. With the ambition to bring Asian cuisine to Finnish market, they have expanded to three locations and a food truck in 2020 to have the ability to serve convenient healthy food with their greatest care and enthusiasm.

Currently, Bumi Asian Kitchen & Cafe wants to expand to reach more customers from multiple online channels. They plan to focus on google business, website, and social media to attract more customers. Besides, the target of Bumi Asian Kitchen & Café is to turn its website into a marketing tool to show its menu, services, featuring booking tables and takeaway through third-party companies. Moreover, as the owners of an Asian restaurant in Helsinki, they want to spread Asian vibes and culture to everyone who wants to experience Asian cuisine and culture in Helsinki. Thus, they require some features such as menu display, blog content, catering services, restaurant partner recruit, and restaurant building service on their websites.

Their website also needs to have two languages: Finnish language for Finnish native speakers and English language for travelers as well as English speakers Helsinki. Both mobile and desktop versions are required to estimate a largest number of customers that Bumi Asian Kitchen & Cafe website can approach. Bumi Asian Kitchen & Cafe has two types of customers. The first customer segmentation is traditional consumers who want to enjoy Asian food with four target groups of customers:

- **Young families with children:** As typical young families and their children in Helsinki, some families spend too much time on working during day time. Therefore, they can spend their dinner with their family in Bumi locations because Bumi offers healthy and suitable food for both parents and their children.
- **Local people:** Bumi prefers to attract people who live near Bumi locations below 1 km.
- **Office workers near restaurant locations:** Bumi prefers to approach people who work in the offices near Bumi locations below 1 km.
- **Tourists & travelers:** This is a group of tourists and travelers who come to Helsinki from aboard or other cities.

The second customer segment is a group of customers who want to invest in or open a restaurant. Bumi has the ability and strong network to serve a restaurant-building service to customers.

5.2 S.W.O.T analysis

Table 2. S.W.O.T

<p style="text-align: center;">Strength</p> <ul style="list-style-type: none"> • Competitive food price • Experience Asian cultures • Healthy food with many kinds of herbs • Locations near offices • Multiple locations in crowded streets • Partner of many third-party companies in construction, food delivery, deals, and travel fields 	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> • Low budget in marketing & website development • Few staffs know Finnish language • Doesn't have direct delivery option from restaurants • Lack marketing tools to approach customers
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> • Attract office workers with deals for lunch • Sustainable business with eco-friendly optimization in eco-packaging & food waste • High brand identity in Asian communications such as Vietnam, China, Korean to approach customers in Asian communications 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> • Many competitors as Asian restaurants sell the same kind of food in the Helsinki area • Can be impacted negatively by other company marketing campaigns (for example: SYO 10 – a discount campaign)

5.3 The role of the website

The website plays a crucial role as a marketing tool to approach Bumi Asian Kitchen & Cafe customers. With two customer segments mentioned above, Bumi wants to have enough functions and information to attract customers from both groups with an average development cost. Moreover, Bumi's vibes and brand identity are essential factors to keep them differentiated from other Asian restaurants in Helsinki. Consequently, Bumi's owner also expects to bring his company brand identity to the website development as requirements in the user interface design.

5.3.1 Website pages and functions

Bumi Asian Kitchen & Cafe website will have some basic pages with specific functions, including:

1. Bumi needs a main page to show Bumi's menu list with every necessary information including food images, description, price, etc.
2. The order functions will show multiple locations with each location offering various options of choosing delivery companies or booking tables. This function has to be developed to appear on different pages as buttons "order" and "order now".
3. Bumi also needs a background information page for Bumi Asian Kitchen & Cafe to build trust from customers.
4. They require a blog page to spread Asian culture news, food deals, events to customers. That is also an excellent tool to approach search engine optimization through hot searching keywords.
5. Catering services and restaurant building services are also needed to publish information to customers.
6. The website needs some other small features that bring convenience to customers, including social media button links, languages changing buttons, maps, contacts, and booking on the website.

6 PRACTICAL PROCESS

In this stage, the whole process of website development will be implemented step by step to ensure the success and plenty of data for the website. There are four critical phases in the whole process of website development: planning, research, design, and testing. Because Bumi Asian Kitchen & Cafe started in 2016, they already have their business logo and brand book & guideline. The author, who participates in Bumi Asian Kitchen & Cafe website design & development, does not need to invest too much time in branding design for Bumi. Consequently, four phases of website development will be focus firmly on website development.

The design and development process started in June 2020, and it increasingly keeps continue to develop the Bumi website until the current time. This thesis's primary purpose is to research the business owner's perspective, expectation, and requirement in developing Bumi website, collect data from the customer such as customer's behavior, point of view, and analytics before building solutions for website functions. Although the user interface design step will not be mentioned due to the irrelevancy in thesis purpose, the author still notes some user interface aspects that are used in the Bumi website to boost customer's experience on Bumi's website.

6.1 Objective

The objective aims to research and study customers' opinions, behaviors, and perspectives for an Asian restaurant in Helsinki when they use a restaurant website. By doing that, the author, as a developer and designer, will find the opportunities and solutions to help the business owner of Bumi Asian Kitchen & Cafe build their website with relevant requirement data to serve their customers.

6.2 Planning

Table 3. Planing of research & development for Bumi's website

Schedule	Work
May 25, 2020	The student contacted the business owner of Bumi Asian Kitchen & Cafe to ask for re-branding and design for their website.

June 1, 2020	The first interview with Bumi's owner to understand more about Bumi's information, his business, and his opinion about the importance of a website
June 4, 2020	Creating a questionnaire related to issues of website development for the business owner
June 8, 2020	The second interview with Bumi's owner to collect necessary data for his website development including business customer target, requirements, business goal, and vision, essential website's features
June 10, 2020	Meeting with the author's friend who is working as a website developer in Helsinki to ask him for advice
June 11, 2020	Planning for the design process
June 14, 2020	Finalizing the design process and send it to the business owner for checking
June 16, 2020	Having meeting with the business owner to collect more data of customer approach methods based on Bumi's customer targets and discuss the design process for the restaurant's website
June 18, 2020	Starting design, wireframe, and do the prototype for Bumi's website
July 3, 2020	Finalizing the first version of the prototype and ready for testing
July 4, 2020	Having a meeting with the business owner to show up the first version of the prototype and checking
July 6, 2020	Receiving feedback for the first version of the prototype from the business owner
July 7, 2020	Fixing prototype based on business owner feedback
July 17, 2020	Finalizing the second version of the prototype and ready for testing in the next interview
July 20, 2020	Having a meeting with the business owner for checking the second version of the prototype

July 22, 2020	Creating a questionnaire to clarify customer's demands, necessary information, opinions, and expectation as the data gathering method through the website's prototype
July 23, 2020 – July 24, 2020	Staying in Bumi restaurant to ask 5 of their customers for interviews, questionnaire and data collection
July 25, 2020 – July 26, 2020	Having interviews with 5 other participants not from Bumi restaurant
July 27, 2020	Aggregating data collected, creating persona and customer journey based last interviews with participants
July 30, 2020	Starting to develop Bumi's website by WordPress
August 28, 2020	Finalizing necessary function, linking to third-party service websites, google analysis, and finishing user interface design for the website. Website is ready for testing
September 1, 2020	Meeting with the business owner for analyzing Bumi website using Heuristic Evaluation
September 3, 2020	Receiving feedback and test results and suggestion from the business owner and his friends
September 6, 2020	Finalizing Bumi website basing on test results of Heuristic Evaluation
September 8, 2020	Creating a questionnaire related to the customer's opinion and perspective after implementing usability testing
September 14, 2020	Having interviews with the first 5 participants
September 16, 2020	Having interviews with the last 5 participants
September 18, 2020	Aggregating data collected, giving them to the business owner for monitoring and checking
September 21, 2020	Receiving feedback from the business owner with every data collected. Then, fixing Bumi's website as the suggestion and requirements
October 22, 2020	Finishing the final version of the website. Sending every information & website admin data to the business owner.

The author needs to do every steps in the planning table above due to the low-budget. However, the author can deeply understand every data collected from the business owner and participants as their experience to Bumi's website as a result of working throughout the project. Then, it can be applied to the real customer's demand to create appropriate functions step by step.

6.3 Persona and customer journey

Persona

The data collected from a participant will be recorded as a persona for development purposes. After collecting, every data will be sent to Bumi business owner to monitor and then give back to the author for storage data as resources.

Each participant has a different perspective, opinion, personality, and purpose of using a restaurant website in the personas. Although those differences bring different point of view in using a restaurant website, the interaction between participants and the website including the feeling, comfort, and convenience is not changed. The errors from an incomplete website can negatively impact participants' feelings and comfort. They can quit the website immediately if they get any error in the interaction process between them and the website.

Jason is a marketing specialist in Helsinki who has been in Finland for four years. He is a typical office worker who usually spends 8 hours in the office every working day. Because he has many works to do in his job, he often has to overwork, which negatively affects his mood. Consequently, the healthy food restaurants near his office are always his choice to have lunch. In the questionnaire and the interview, he admitted that he is a person who pays attention to the food ingredient and food allergy because he really cares about his body. That boosted the demand for creating a detailed system with food image, food price, food ingredients for each dish on Bumi's website.

PARTICIPANT CASE

26 July 2020

He Zhi Chen (Jason)

Marketing specialist



BASIC INFORMATION

- **Age:** 33
- **Marital status:** Single
- **Job:** Marketing specialist - 2200 euros/ month
- **Graduated in** HAAGA-HELIA University of Applied Sciences
- **Personality:** friendly, hard-working, talkative

PERSONA

- **Strengths:** enthusiasm, respectfulness
- **Weaknesses:** confrontation, too sensitive
- **Frustration:** complex process
- **Hobbies:** cooking, sport, gym

GOAL

build the most value networking for every restaurant to share the customer value in Helsinki

PURPOSE OF USING A RESTAURANT WEBSITE

- As a office worker, he want to find restaurant offer lunch near his office for saving travel time
- A person who is serious about food allergy, he wants to know exactly every food ingredient in restaurant's menu
- Booking in advance before arriving restaurant

Case number 7



BUMI ASIAN KITCHEN & CAFE

Figure 3. Persona

With Jason's persona, it is easy to see that Jason is a sensitive person who gets problems with complex structure processes. The author saved his contact number from the first interview, which is used to collect his customer's perspective, opinion, and demands for building Bumi website's functions. The author then asked him to participate in the second interview to try the customer journey on Bumi website. Through his trial, the author collected various

questions, problems, and information related to Bumi website's usability. Some of them can help Bumi improve the website more while some help Bumi realize the lack of functions caused by Bumi's low-budget issue.

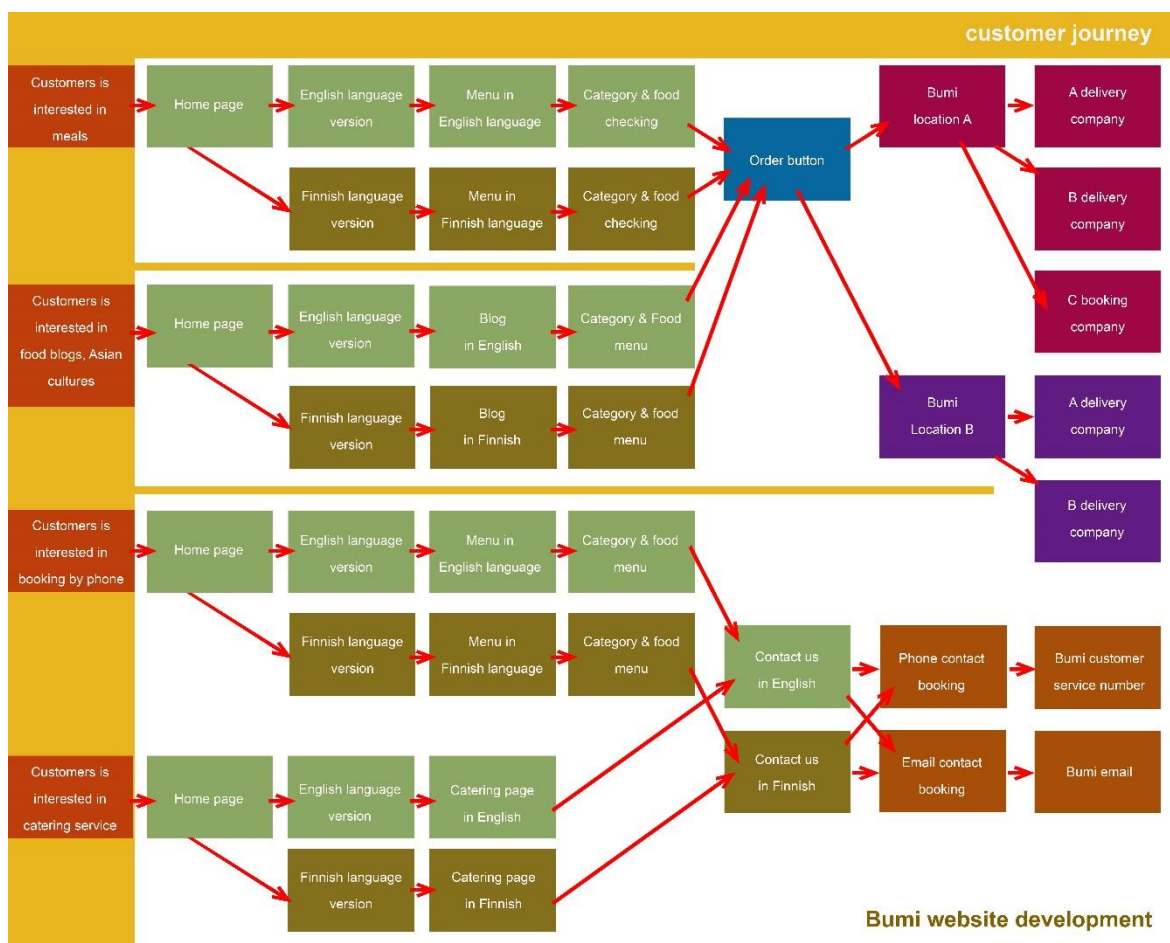


Figure 4. Bumi Website – customer journey

Moreover, other nine participants in the second interview also played vital roles in testing and checking the customer journeys for Bumi website. Each participant has different point of views and demands. They accessed the Bumi website and interacted with it as an usual user accessing a restaurant website. After testing, participants had been divided into different user groups that have particular using demands. The author gave participants the questionnaire to collect every feedback and comments from them to improve the Bumi website.

Bumi website's problems after interviews:

- Bumi website doesn't have a direct booking system or website order system with the delivery option. This problem is caused by a lack of budget and human resources

in Bumi company operation. They made effort to bring alternative solutions by linking Bumi website to third-party companies as the delivery service companies for their restaurant.

- When participants use Bumi website to check the food menu, some already plan to order several meals after checking the menu on the website. But it is inconvenient for them to click onto the “order now” button and choose a delivery company and then make the order list again. It wastes double time for checking the menu and making an order on the order website for customers. That is also a problem related to the direct delivery system of Bumi. Bumi does not have enough budget to build that system for Bumi customers; hence, they cannot create the “cart” function to save the list of meals for their customers.
- After reading an article on the blog page, if customers want to leave their comment, there is no sign in button linking to social media or Gmail account. That means customers cannot receive the notification for their comments reply.
- When a customer leaves their comment in the blog page's comment box, it requires waiting time for Bumi website's admin to login and moderate it before it can be published. That brings confusion to customers, and they might think that their Internet connection get a problem instead of the technical issue from Bumi website.

6.4 Usability test

Due to the lack of budget, Bumi website is used with the primary purpose of showing the catering service, menu display, food information, including food description, ingredient, price, without direct delivery option from the restaurant. That leads to the function to link Bumi restaurant with third-party delivery companies on Bumi website.

To test the Bumi website's usability, the author had created three tasks as the usability test's primary purposes for participants. Participants will implement the task structure from task 1 to task 3 and give the author and the business owner feedback. Because of evaluating the website's smooth level in customer flow and its usability, business owners agreed to sponsor the participants, which were food price and delivery price to participants.

Besides, to assess the interaction between participants and the Bumi website, participants' behaviors will be recorded to monitor the interruption in the interaction. Sometimes complexation can impact customer's actions, and it interrupts them from the process they are doing. Thus, they will be free to stop the process from task 1 to task 3 whenever they want.

Table 4. Usability test task list

Task 1	Checking food list/menu with food description, price as the food participants love to enjoy
Task 2	Making order/reservation through the delivery company linked on Bumi website
Task 3	Trying order/reservation through email system on the “contact page.”

6.5 Result

After five months of putting all efforts into research, data collection, wireframing, design, prototype, development, testing, and report, the author finished the entire process to develop a restaurant website for Bumi Asian Kitchen & Café. In the development process, all data collected from participants were transferred to Bumi business owner for monitoring. The data was analyzed to bring suitable solutions and functions that satisfy Bumi budget and customer expectations.

Through the first interviews, the primary customer's data has been collect, including:

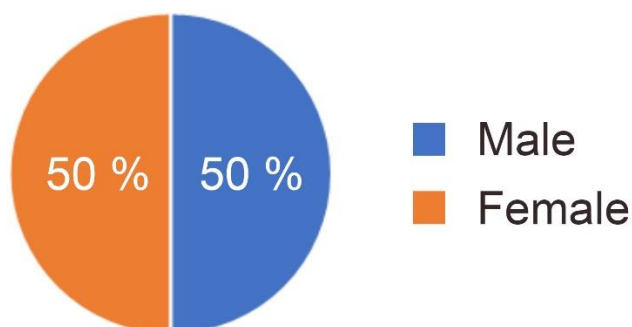


Figure 5. Gender

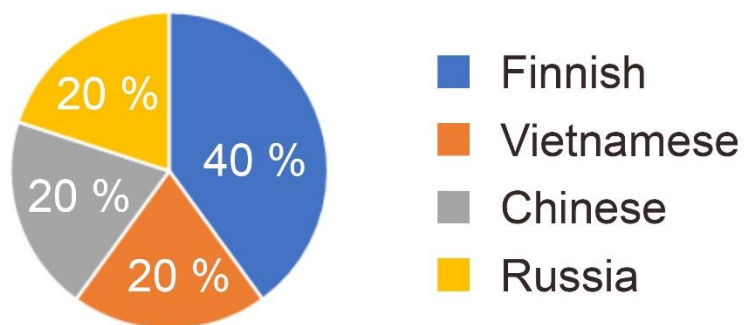


Figure 6. Nationality

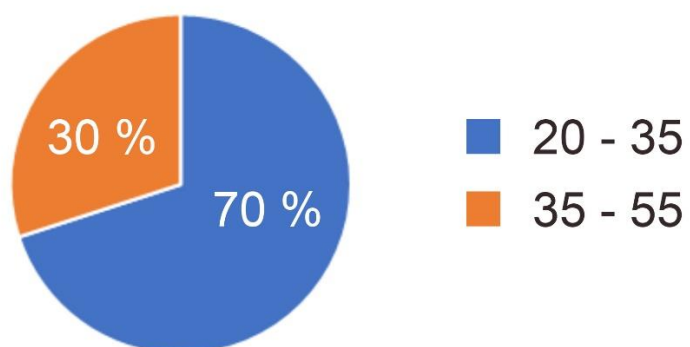


Figure 7. Age

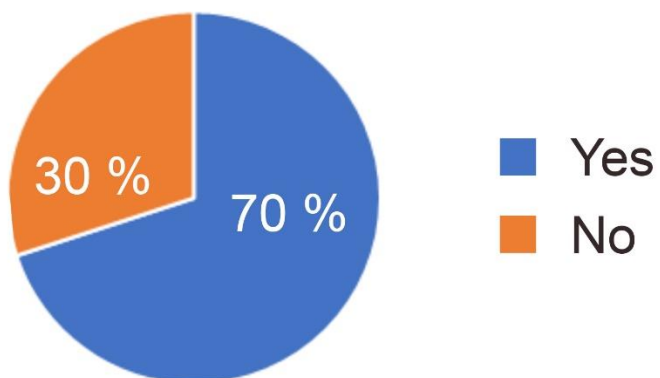


Figure 8. Frequency of eating out

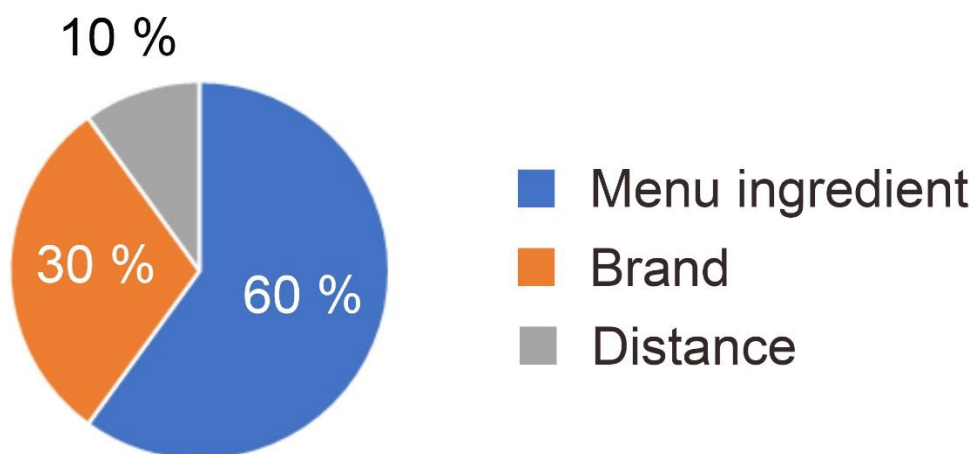


Figure 9. Factors in choosing a restaurant

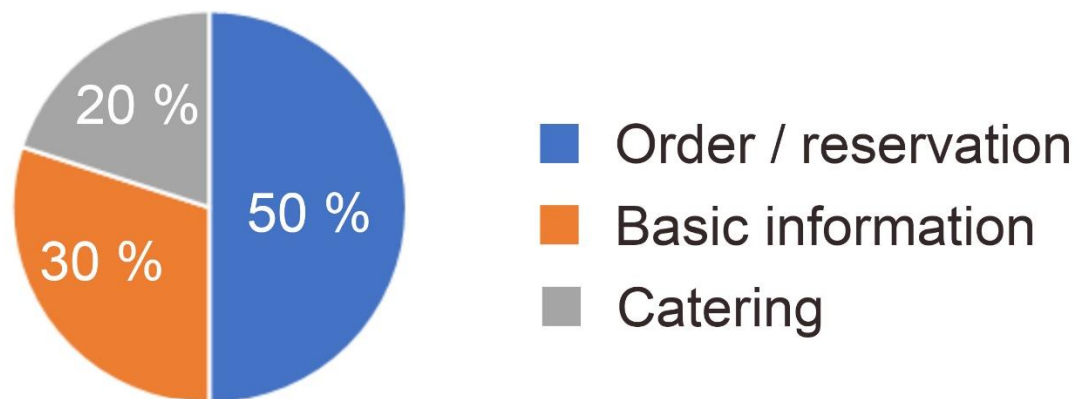


Figure 10. Reasons for checking an online restaurant website

After the first interview with participants, data collected for Bumi's website development pointed out the functions and factors that the author and business owner must pay attention to.

- The balance in nationalities between the Finnish and international English speakers shows the importance of using a bilingual text system in the Bumi website because Bumi does not only target the Finnish market with all Finnish language speakers. The business owner also wants to spread the Asian vibes and cultures to all people, including Finnish and international people. That is why Bumi website decided to keep English as the default language for its website.
- Following the data collection, participants also pointed out the importance of Bumi necessary information that contains the menu, food category, food description, price, campaigns, contact information, etc. A large group of participants shows the expectations and demands to research each restaurant's menu information when they access a restaurant website.
- There are three primary and essential functions of a restaurant website: order/ reservation, introductory information, and other services. Based on these features suggested by participants, the author found more suitable solutions for the customer's suggestions and expectations.

Besides, after the website's development, there was a table of Heuristic evaluation that the author sent to Bumi business owner for checking.

Table 5. Heuristic evaluation results





Heuristic principles	Severity	Issues
Visibility of system status	Severe issue	As a restaurant website does not have the order feature with direct delivery, it is a waste of time for customers to check every food information in Menu & category of website and then move to other delivery websites to order.
User control and freedom	Medium issue	Although both desktop and mobile do not have "back button" that helps customers interact with the website smoothly, Bumi website had been developed in most simple ways. It optimized and reduced the number of pages for saving, loading time and clicking times.
Match between system and the real world	Good solution	The bilingual text system helps both international English speakers and Finnish speakers understand and interact well with Bumi website.
Consistency and standards	Low issue	The Bumi website is simple, with a few simple functions






		that do not require much effort.
Error prevention	No issue	With the optimization in loading time and digital data upload, the loading time problem has been solved. There is no long waiting time, and every button works well.
Recognition rather than recall	Severe issue	Due to low-budget, there are no “cart” or direct order features from Bumi website. That makes people read the menu again and book on the new page (booking or ordering through third-party companies).
Flexibility and Efficiency of use	Good solution	There are various shortcut buttons linked to booking and delivery companies from the home page to the menu page. That prevents customer from finding the button “order now” again. Because the order button appears on every page related to menu, category, and food.
Aesthetic and minimalist design	No issue	There are no ads on Bumi website, and the website has been optimized to have enough information for the customer without displaying any massive file impacting loading time.


Help users recognize, diagnose, and recover from errors	Medium issue	There is no message box to show the interaction between users and the system
Help and documentation	Medium issue	There is no guide for customers because Bumi website simply shows essential information with no complex structure.

After the second interview with participants for the usability test of Bumi website, there is a result list based on the second questionnaire version for participants.

Table 6. Usability test results

Questionnaire	Responses
Is the website slow to access?	 <ul style="list-style-type: none"> No Yes <p>Every participant filled in the questionnaire that the website connection is fast and without any loading problem.</p>
Does the website look complex?	 <ul style="list-style-type: none"> No Yes <p>As customers' comments, the website has quite much information that they feel overwhelmed when finding information.</p>
Is the navigation useful to you?	 <ul style="list-style-type: none"> No Yes <p>Navigation is useful for most of the participants, especially in the mobile version, because it estimates interaction space for users.</p>
Does the website provide enough information you	 <ul style="list-style-type: none"> No Yes

need from a restaurant website?	Some participants said no because they ask for more information in the blog page. The blog page is quite unuseful for them because they can follow Bumi restaurant deals on social media.
Is it slow to travel between pages?	 <p>■ No ■ Yes</p> <p>The speed of page loading is fast, and there is no complaint about that.</p>
Is it easy for users to interact with products on the website?	 <p>■ No ■ Yes</p> <p>The developer has estimated to save the space for displaying food information for each food. However, there is no “back button” on the website in both desktop and mobile versions, which causes some inconvenience to customers. It is hard for them to go back to the category from the product page, and they have to use the back button on their browser.</p>
Is it easy for users to find customer service contact?	 <p>■ No ■ Yes</p> <p>The phone contact number is displayed on both the website's footer and the contact page as the primary rule for every website design. So the participants can find it easily.</p>
Is it easy for users to locate the restaurant's addresses through the website's map?	 <p>■ No ■ Yes</p> <p>Some participants believe that it is unuseful to display a map for each restaurant on the website because it is hard for them to use that map. They think an address by text provided is enough because they can copy and paste it to the phone's google map.</p>
Is it easy for you to order or reserve a table?	 <p>■ No ■ Yes</p> <p>Although the “order button” is displayed on the front page and on the menu page, it is still inconvenient for customers to click on the order link</p>

	<p>and bring them to the other delivery website. They admit that “cart” or directly order from the website will bring more convenience to them than do more several steps on the other website before ordering.</p> <p>However, table booking via email on the website is great because they do not need to go to other booking websites.</p>
<p>Do food images on the front page, or menu page attract your eyes?</p>	 <p>Some participants think that food images on the desktop version's menu page are acceptable because the desktop version has much space for displaying both image and food information. But the pictures on the mobile version's menu page are unuseful because it takes much space for showing in small devices.</p>

The usability test is used as the final check for the website to meet customers' requirements and expectations. Although there are still some unsatisfied issues for participants when testing the website such as the direct order system or “back button.” Some matters are caused by the business owner’s budget, some by the designer's lack of experience. The participant’s feedback has been added to an improvement list for the website to update and fix in the future.

Finally, every information including all feedbacks and results from the customer journey, usability test, and heuristic evaluation was transferred to the business owner for checking and monitoring. Although the business owner recognized the website's lack of usability by missing the delivery system and other issues collected by customer feedback. The website is still under control, and the update will be implemented soon.

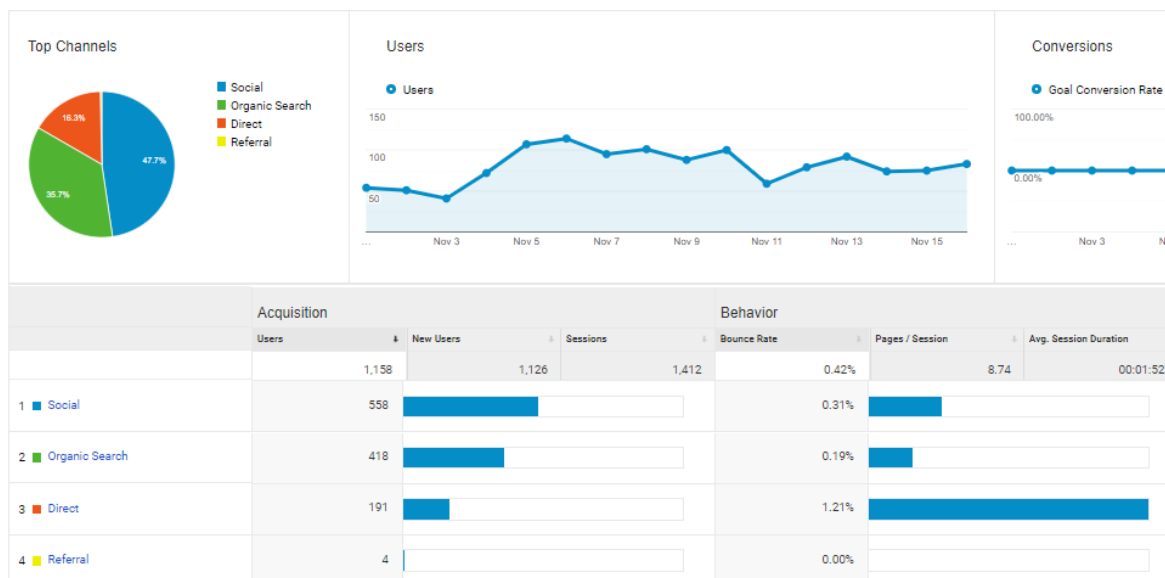


Figure 11. Google Analytics

On the other hand, there are still things which have to be improved:

- Lacking a direct delivery system with a cart in which customers can order food from the website.
- Creating a “back button” for the mobile version

The design process will continue to update more functions and bring more value to the website and restaurant business. To meet the customers' expectations and demands, Bumi must raise the budget to bring more value to customers through the website and optimize it as a better marketing tool.

8 SUMMARY

Several factors building a successful website include user experience design, user interface design, human behavior, and so on. It requires a whole process of researching, understanding, planning, designing, and testing. Every step plays an essential role in keeping the website development in the right way.

User experience brings good customer flow through the optimization of the interaction between Bumi's website and users. Although each type of website has different requirement function, the interaction is necessary as it brings the user-centered design to customers and enhances the value of the business. The combination of user interface and user experience brings the interaction of visual images and helps to keep customers use the website without any interruption. It does not only bring convenience to customers but also build trust in customers' mind. Therefore, it helps to build customer loyalty.

With the purpose of building a website for Bumi as a marketing tool, this thesis carefully explains every step to do customer research with the persona, customer journey, usability testing, feedback, and customer interaction. The whole research brought desktop and mobile website version to Bumi. According to the research, most of them do not reach the perfect performance, and there are still things to fix. Furthermore, the study points out the missing parts based on usability testing and user interviews. Hence, the user-centered design is indispensable as it delivers higher value to Bumi.

With the application of theory into practice, the author gets the idea of how to build the website design for the business.

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APPENDICES

Appendix 1: Interview questions for Bumi Asian Kitchen & Cafe owner

INTERVIEW QUESTION

Basic questions:

1. Can you introduce yourself and your business?
2. What is your company's brand?
3. What is your brand's guideline?
4. What is the type of your restaurant?
5. What do the products and services you serve in your restaurant?
6. Who are your target customers?
7. What is your business's long-term vision?
8. Does your restaurant have the delivery option?
9. Does your restaurant have the booking system?
10. What are the marketing channels you have already had?

Questions related to website

1. What do you think about a website?
2. How important a website is?
3. What do you expect from a website?
4. What is the value that you want to get from the website?
5. How much do you have for your website development budget?

UX UI Website development questions

1. What do you think about user experience design?
2. What value do you think user experience brings to your website?
3. What value do you think user experience brings to your business?
4. What do you think about user interface design?
5. What value do you think user interface design brings to your website?

Appendix 2: The first interview questionnaire for participants

INTERVIEW QUESTION

Questionnaire

1. What is your name? _____
2. How old are you? _____
3. What is your nationality? _____
4. What is your occupation?
 - a) Student
 - b) White-collar worker
 - c) Blue-collar worker
 - d) Self-employed
 - e) Retired
 - f) Unemployed
 - g) Other, _____
5. Do you often eat out?
 - a) Yes
 - b) No
6. Do you like Asian cuisine?
 - a) Yes
 - b) No
7. What do you expect from an Asian restaurant?
 - a) Food quality
 - b) Asian cuisine with herb and spicy flavours
 - c) Good service
 - d) A crowded environment

8. What are the factors helping you to choose a restaurant for eating?
- a) Food quality
 - b) Good service
 - c) Convenience
 - d) Saving money
 - e) Other, _____
9. Do you often do research on a restaurant's website?
- a) Yes
 - b) No
10. What is the function that you often use on a restaurant's website?
- a) Booking system
 - b) Delivery from restaurant
 - c) Searching food information (menu)
 - d) Other services? _____

Appendix 3: The second interview questionnaire for participants (Usability testing)

INTERVIEW QUESTION

1. Is the website slow to access?
 - a. Yes
 - b. No
2. Does the website look complex?
 - a. Yes
 - b. No
3. Is the navigation useful to you?
 - a. Yes
 - b. No
4. Does the website provide enough information you need from a restaurant website?
 - a. Yes
 - b. No
5. Is it slow to travel between pages?
 - a. Yes
 - b. No
6. Is it easy for users to interact with products on the website?
 - a. Yes
 - b. No
7. Is it easy for users to find customer service contact?
 - a. Yes
 - b. No
8. Is it easy for users to locate the restaurant's addresses through the website's map?
 - a. Yes

b. No

9. Is it easy for you to order or reserve a table?

a. Yes

b. No

10. Do food images on the front page, or menu page attract your eyes?

a. Yes

b. No