Effect of UI/UX Designer on Front End

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Abstract. In this digital era, product quality cannot be separated from aesthetics, those who are responsible for the beauty of product appearance are UI/UX Design and FrontEnd. Therefore, this study aims to find out what distinguishes UI/UX from FrontEnd and the correlation between UI/UX to FrontEnd. The method that this research uses is descriptive by presenting a complete picture of a particular situation based on facts, theories, and accurate reference sources with previous research. The results show that the presence of a UI/UX Designer can affect FrontEnd in the design/development of information systems. The main influence it has is in terms of appearance being more interactive as well as attractive. Even so, the position of FrontEnd cannot be replaced by a UI/UX Designer, because it is FrontEnd here who will implement the design and ensure that the aesthetics and functionality of the system run well.

Keywords: Front end, UI/UX, User Interface and User Experience

1. Introduction

In developing a technology, of course, many things must be prepared so that the developed technology can be used as it should [1]. When someone uses the internet, the first thing they see is the user interface (UI). User Interface (UI) is an interface design for machines and software, such as computers, mobile phones, and other electronic devices, with the main function of connecting or translating information on the operating system to maximize user experience [2,3]. User Experience (UX) is about how a person feels when he interacts with the system. The system in question can be a website, software, or other computer application and program in a modern context generally denoted by some form of human-computer interaction. [4]. In short, UI/UX is the appearance of a website or application that is made as attractive as possible for user satisfaction.

A study on the interface design of a website or application states that implementing the display and interaction intelligence requires a FrontEnd who understands the design of a UI/UX Design [5]. This means that in the development of a website or application, the UI/UX is only in charge of designing the appearance. The rest is explained that FrontEnd does not

fully design the design of a web, because it is the task of the UI Designer. A FrontEnd has the task of implementing a UI Designer's design into a more interactive form and bringing the design to life. Besides online or desktop-based, they all do the same: generate mockups, with or without behavior. In other words, they assist us in creating low- or high-fidelity software prototypes [6]. To implement the design, FrontEnd needs to have the capability of three programming languages, namely HTML, CSS, and Javascript [7]. In addition to these three programming languages, there are many programming languages that can be used for FrontEnd development, the popularity of the most sought-after programming languages on Stactoverflow are JavaScript and React [8]. The alternative programming languages for FrontEnd development are TypeScript, Elm, and ClojureScript [9].

The purpose of writing this paper is to find out how much influence the UI/UX Designer has on FrontEnd in the design/development of information systems. The method used in this paper is descriptive method by presenting an overview or analyzing a complete situation regarding a particular situation based on facts, theories, and accurate reference sources with previous research.

2. Method

The method used in this paper is a descriptive method that presents a complete picture of the related situation based on facts, theories, and accurate reference sources with previous research related to the role of UI/UX Designer and FrontEnd. So that it can describe how much influence the UI/UX Designer has on FrontEnd in product design or development, in this case the information system.

3. Results and Discussion

The success factor of an information system is having a clear and attractive interface design. Thus, many companies are devoting efforts to hiring UI/UX specialists to improve the aesthetic quality, and improve the quality in terms of the functionality of the company's information systems [9]. Designing a UI/UX requires a systematic process to get a design that fits the purpose, the process can be seen in Figure 1.
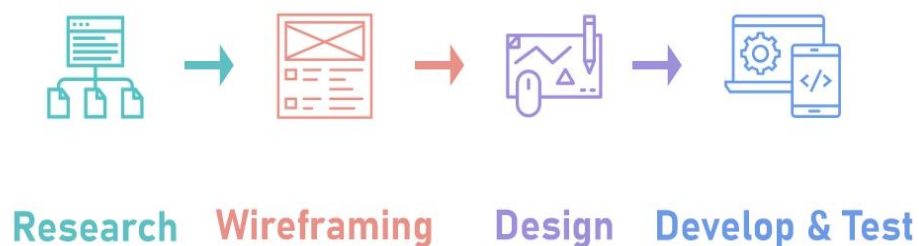

Research   Wireframing   Design   Develop & Test

Figure 1. UI/UX Design Process Flow

In the first stage, the UI/UX Designer will dig a lot of information about the user data that will become the user of the product to be built, as well as dig up information on competitor products. The second stage is followed by drawing a sketch/prototype as a flow of information for the user to be able to operate a system. Prototyping is carried out as needed to verify the UX design intent [10]. The third stage is a further stage than wireframing, the sketch/protory

design of a product is then emphasized through a more detailed display. The last stage is the process of demonstrating the results of the design from start to finish before being implemented by the programmer. The process flow of implementation or development can be seen in Figure 2.
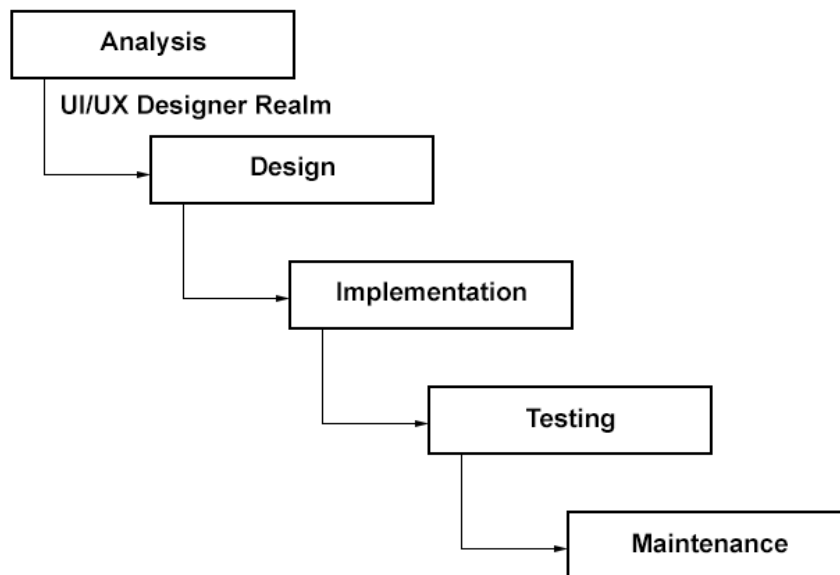

Figure 2. Systems Development Life Cycle.

At this stage, the programmers, namely FrontEnd and BackEnd, will build a product based on the interface that has been designed by the UI/UX Designer. Especially for FrontEnd, the focus will be on the appearance, which is to create a display that is in accordance with the UI/UX Designer design. After being successfully built, all modules will be merged and tested whether they are in accordance with the purpose and there are still errors. Then the product that is already running will be carried out maintenance.

In Figure 2 it can be seen that Designers and Programmers need to work well together, so that the product can be created according to the purpose. In addition to simplifying FrontEnd tasks, having a UI/UX Designer in product design can also improve the aesthetic quality and usability of the product because UI/UX is actually a display specialist. However, user satisfaction is a relative factor depending on the user, for example, users do not like websites that tend to be dark [11]. Here are also the tools most used by UI/UX Designers, Figure 3.
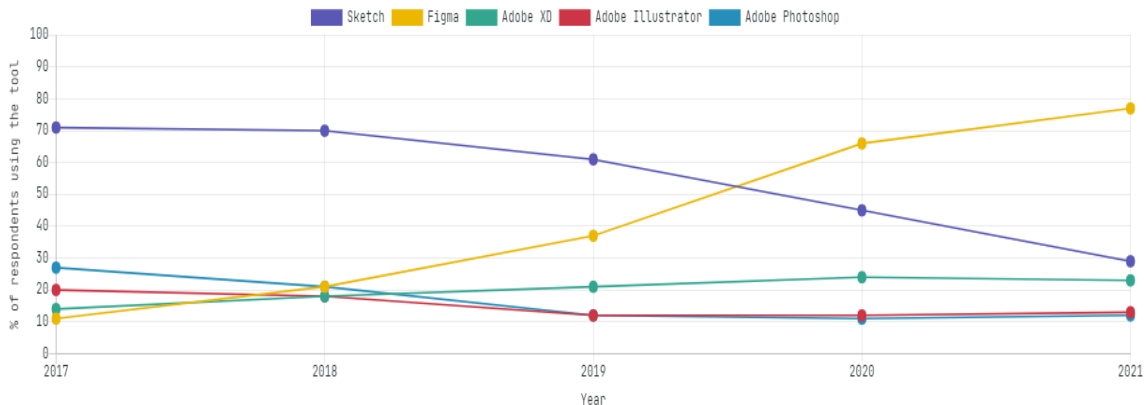
Figure 3. *The most widely used UI/UX Design tools.*
(Source: https://uxtools.co/)

From the data obtained, it shows that 95% choose to design interfaces with digital-based tools, with this users do not need to install applications that can increase computer storage capacity. Of the total respondents, 77% chose Figma as a tool for designing interfaces. The top two are Sketch getting 29%. The third is occupied by Adobe XD with 23%. Fourth there is Adobe Illustrator with 13%. And the fifth is Adobe Photoshop with 12%. The following is also shown in Figure 4 the most popular programming languages.
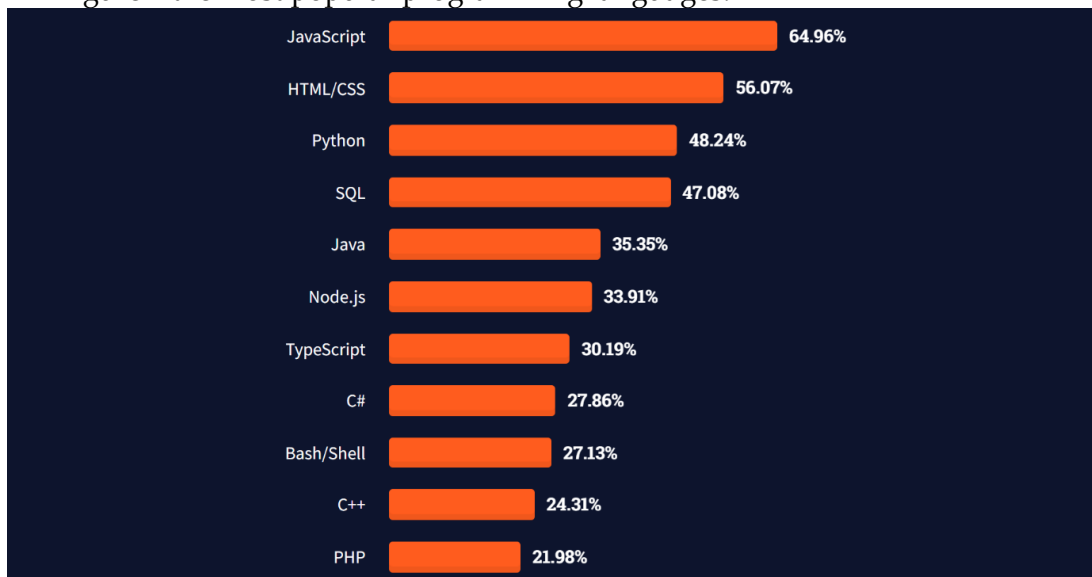

Figure 4. 11 Most Popular Programming Languages.
(Source: https://insights.stackoverflow.com/)

From the data obtained, it shows that the most popular programming language is JavaScript which gets 64.96%. Both HTML/CSS got 56.07%. Third Python got 48.24% Fourth SQL got 47.08%. The five Javas got 35.35%. The six Node.js get 33.91%. The seven TypeScripts earned 30.19%. The eight C#s gained 27.86%. The ninth Bash/Cell gained 27.13%. The tenth C++ got 24.31%. The eleventh PHP gained 21.98%. JavaScript is one of the most frequently used programming languages by FrontEnd, and has managed to survive for nine years in a row as

the most popular programming language. Likewise, it can be seen that the role of FrontEnd is more in demand than UI/UX Designer, it can be seen in Figure 5.

Figure 5. The most sought after developer role.

This shows that FrontEnd ranks second out of ten developer roles, and UI/UX Designer is below FrontEnd with sixth out of ten developer roles. This means that all roles have their own duties, and UI/UX Designer cannot replace the role of FrontEnd. A role for designing and developing a website or web application requires in-depth skills and extensive experience in the areas of visual design, UI/interaction design, FrontEnd development, and BackEnd development. Anyone who can fill one or more of these 4 roles at a professional level is a very rare commodity. Pragmatically, you should seek to become, or seek to hire, an expert in one of these roles (i.e. Visual Design, Interaction Design/IA, Front-end Dev, Back-end Dev). Those claiming to operate at an expert level in one or more of these roles are extremely rare [5].

It would be better if the UI/UX Designer and FrontEnd worked together in product design. Often FrontEnd takes on the task of UI/UX in the absence of a specialist. This is a challenge for FrontEnd, it can be seen in Figure 6.
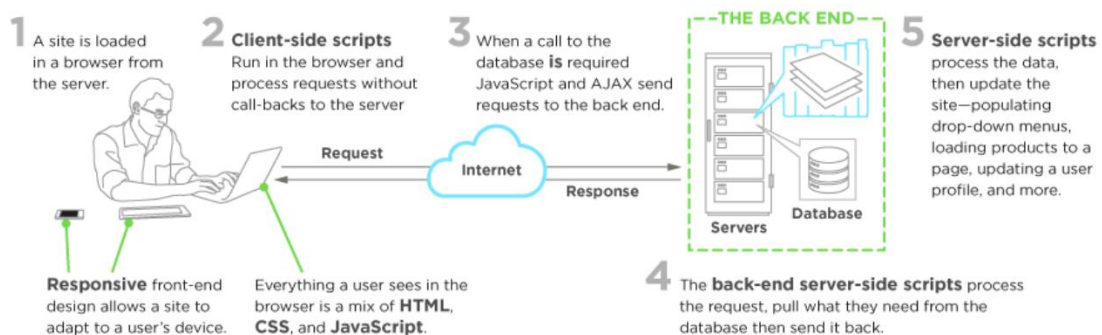

Figure 6. FrontEnd Developer [5].

4. Conclusion

It can be said that it is appropriate to choose online media as a medium for promotion and marketing of travel packages because it has been proven with SWOT analysis and it showed many internal factors that have a positive impact on the company. The advantages of each strategy that comes from within the company must be improved to reduce the weaknesses and threats of competitors.

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