

UI/UX Design Using Design Thinking Method Based on Website Unload Repair

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Abstract – Unload Repair is a PC repair service that can solve problems with computers or laptops. However, the current problem is that marketing through social media tends to be a little bit about information about service services, making it difficult for customers to receive the information. This study aims to create a User Interface (UI) and User Experience (UX) design that can make it easier for customers to see what services are provided by Unload Repair and help customers in ordering repair services using the Design Thinking method. Design Thinking is a method that involves users in every stage of design, starting from a deep understanding of their needs, to producing a prototype that can be tested to measure the effectiveness of the design. Design thinking includes the Empathize, Define, Ideate, Prototype and Testing stages. The Design Thinking method used is to create solutions based on problems in order to create designs that are easy to use and understand for users. The design was tested using Usability testing on 50 respondents, thus it was concluded that the UI/UX design on the Unload Repair website in the city of Jakarta can be used easily by users and has a positive experience based on the results of the respondents obtained and gets good satisfaction from Unload Repair website users.

Keywords – User Interface, User Experience, Website, Design Thinking.

I. INTRODUCTION

Technological progress continues to grow rapidly, with more and more tools available to people in the era of globalization. Businesses and industries related to personal and social welfare are growing due to technological progress. One of the most effective components of new development is information technology, which allows individuals to access various services provided by technology. With technological progress and the increasing need for information, the internet has experienced significant growth [1], [2].

Website ownership has become a necessity for business people and companies in this digital era. Websites function as internet technology that can be used to promote product and service sales and convey information online[3],[4],[5]. The importance of building a strong identity that can support the existence of the company to ensure its continuity. Therefore, a media profile is needed as an identification and a way to introduce the company itself. A company profile is one type of media profile that most businesses have [6],[7], without a company profile website, Unload Repair will face several significant challenges. The company's ability to contact potential customers and build trust may be hampered by a lack of web visibility. Important information such as types of services, prices, client testimonials, and contact information will be difficult to obtain, hindering the decision-making process of potential customers. In addition, the difficulty of building business networks with potential partners and the lack of brand recognition may be significant obstacles. Unload

Repair may have difficulty reaching target consumers such as students and office workers who are digitally active if they do not have a strong web presence. All of this can stimulate the growth of the company and reduce the company's capacity to operate in a competitive market.

Design Thinking is an approach that can solve various difficulties, such as making it easier for consumers to use prototypes or creating a positive user experience[8],[9],[10],[11]. Based on the problems identified in Unload Repair, it can be concluded that it is necessary to design the UI/UX of the Unload Repair Company Profile Website to make it easier for clients to find out more about the services and information offered by Unload Repair..

II. RESEARCH METHODOLOGY

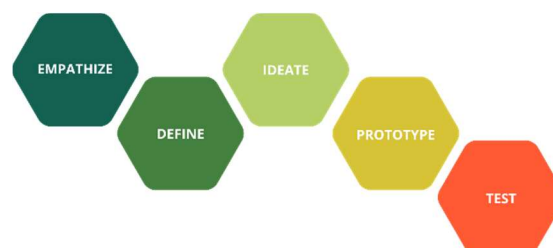


Fig 1 Design Thinking Process

Design thinking is a creative approach used to solve problems and create innovative solutions. This method focuses on deeply understanding the end user, creating new ideas, and testing those ideas to produce solutions that meet the user's needs[12],[13],[14].

The Design Thinking method is very suitable for use in the development stage of the Company Profile Unload Repair website because design thinking is very flexible to use in the design stage of this website. This stage will determine what is needed by the Company Profile Unload Repair website and adjust user needs well so as to minimize errors that occur during prototyping.

The Design Thinking approach method consists of five stages, namely Empathize, Define, Ideate, Prototype, and Test.[15]

A. Empathize

The design thinking method emphasizes human values as users as its focus. The Empathize stage, which is the foundation of design thinking, aims to identify problems and understand the needs of users and related target audiences. Empathize means understanding and sharing the feelings of the people involved to uncover the core of the problem and the needs they desire. The results of the Empathize process are data that is then used as a basis for formulating problem statements obtained through direct surveys to related parties.

B. Define

After understanding user needs, the define stage is the next step where designers develop ideas that form the basis of the product. This stage includes writing a list of user needs. Here, data from interviews is processed into statements using the HMW (How Might We) method. The HMW approach is used to formulate the core of the problem into a clear statement. The results of this define process will be a guide in building a system according to user needs.

C. Ideate

In this phase, the designer conducts an evaluation through a brainstorming process that will form the basic framework of the system. Collaboration of ideas with the team will produce solutions. The ideas collected will be represented in the form of user flow and site map to visualize the application usage pattern.

D. Prototype

Prototype is a stage in the development process that produces a visualization of the product and allows developers and consumers to be involved before the product becomes a final system. This is a prototype of the design that will be used to test the product. This prototype is then transformed into a visual representation for use in the testing phase.

E. Test

This step is a test of the prototype to determine the level of user satisfaction.

Testing provides a greater opportunity to understand user needs, thereby accelerating the improvement process according to their needs.

III. RESULT AND DISCUSSION

This research is conducted in accordance with the stages of Design Thinking, applying the method to produce appropriate results from the Company Profile Unload Repair website research for Laptop or Computer Service. The following are the stages carried out in the design thinking method in the Company Profile Unload Repair Website research:

1. Proses Empathize

The first step in designing a company profile website for Unload Repair laptop service is to understand the needs and expectations of customers regarding the services offered. The author conducted an analysis involving concerns encountered by students, school children, and office workers regarding prices and offers that are not in line with laptop service services, as well as their difficulties in finding websites about laptop services. As an adjustment, Unload Repair realizes that laptop service customers also want clarity regarding repair prices, as well as ease in viewing complete information through an attractive website so that customers can easily find out what services are provided, and also customers can easily contact Customer Service from the Unload Repair Team.

Therefore, Unload Repair is committed to understanding and meeting customer needs. Through the company profile website, Unload Repair will provide transparent information regarding what services are provided, contact customer service, and provide service offers that suit the needs of users, such as fast repair services or affordable repair service options, and users can also contact the unload repair admin easily.

Table 1. Information Collection on Concerns

No	List of Concerns
1	Limited Access to Information.
2	The Difficulty of Building a Business Network
3	Lack of trust in relatively expensive laptop service.

2. Define

After "empathize", the next step is "define". At this stage, the main goal is to determine more specific problems and determine user needs. Based on the concerns found at the empathize stage, several user needs can be identified as follows:

Table 2. User Requirement List

No.	User Requirements List
1.	The Need for Easy Access to Information



2.	The Need to Build Trust and Brand Recognition
3.	The Need to Reach Digital Consumers
4.	The Need to Build a Business Network
5.	The Need for Online Visibility

3. Ideate

In this study, the Ideate stage, where solution ideas are presented through the design team's assessment and the creativity of each application designer, is realized in images using a low-fidelity design framework as an initial step to facilitate the layout creation process for Android-based mobile applications. To avoid significant changes, this design mockup was tested with partners before the final layout design stage.

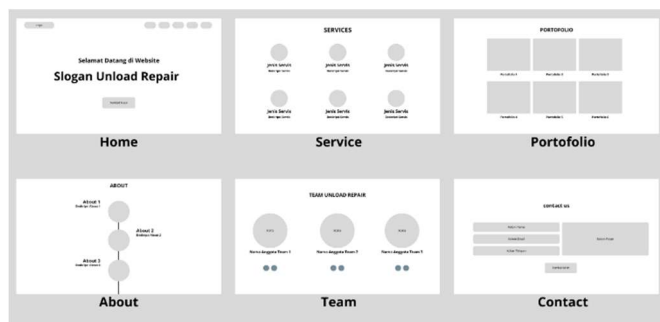


Fig 2. Design Low Fidelity Website Unload Repair

Figure 1 shows a low fidelity design or early prototype of an Unload Repair company profile website. This design consists of several pages that can be accessed by application users. Here is an explanation of each page in the design:

1. Home: is the initial display on the Unload Repair website that will appear when users access the website for the first time. On this page, the slogan of an Unload Repair website will appear.
2. Service: is a display where Unload Repair provides what services it does. In this display, it will display an explanation of services such as Thermal Paste replacement, Operating System Installation, etc.
3. Portfolio: is a display where what services have been done by the service provider, namely Unload Repair. In this display, the services that have been done will be displayed in the form of documentation and explanations of the images.
4. About: is a display that contains explanations about Unload Repair. What is Unload Repair, when was it formed, and what services does it provide.
5. Team: is a display that contains the team members working on the Unload Repair, as well as the job descriptions of its members.
6. Contact: is a display that contains a message form. This display functions if there are customers who want to require Unload Repair services.

Before proceeding with development, a low-fidelity design or early prototype is usually used to assess and test the basic features of the application. In the next stage of development, this design can be changed or adjusted according to user feedback and needs.

4. Prototype

Prototype process is the process of implementing previously created idea into an application that can be tested. This stage produces a scenario of how the application is used. The image below is the result of the prototype design that was created in the previous idea.

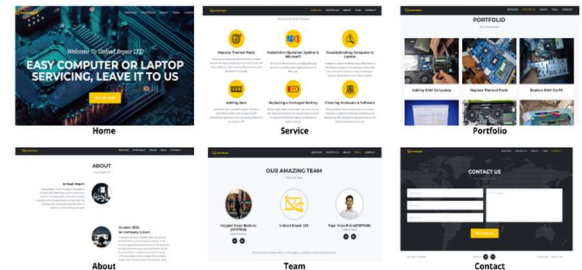


Fig 3. High Fidelity UI/UX Design Results for Unload Repair Website

The process of the Company Profile Unload Repair Website is as follows:

1. The "Home" display is the "initial" display that will first appear when a user opens the Unload Repair website.
2. The "Service" display is a display that shows what services are provided by Unload Repair, so that customers can immediately find out what services can be done by the Unload Repair Team.
3. The "Portfolio" display is a display that shows the results of work that has been done by the Unload Repair team, so that in this display customers can be confident when they want to order services from the Unload Repair Company.
4. The "About" display is a display that tells the history of the establishment of the Unload Repair company, so that prospective customers can find out the background of the Unload Repair Company.
5. The "Team" view is a view that provides team information from Unload Repair.
6. The "Contact" display is a display that is intended for prospective customers if they are sure to order services from the Company Unload Repair. There is a text field that they can fill in to make an order, after they have made an order, the admin from Unload repair will reconfirm to the Customer.

5. Testing

The testing component is part of the system testing process, which focuses on testing the application interface components. The results show that each element and menu button function according to its purpose. The SUS (System Usability Scale) method is used to test the Unload Repair

Website to assess the level of user satisfaction and ease of use. The score from the questionnaire is used to assess the ease of use of the website according to user perception. The results of the questionnaire are used to determine how easy it is to use the system or application. The SUS method can be used to assess the design thinking of the Unload Repair website and find out how users rate its ease of use. The following table contains details of the SUS method questions:

Table 3. SUS Questions

No.	Question
1.	Do you know what this website is for?
2.	Do you like the design of the main page?

The next system testing process in Unload Repair is carried out through the use of the UEQ (User Experience Questionnaire) method in gform. The main focus of testing is on Component testing, which aims to examine the components in the system, especially in terms of the interface.

Testing using the UEQ method aims to assess the overall user experience related to the functionality of the interface that has been created. From the results of this test, it can be concluded that all menu components and buttons in the application successfully direct users to the right page and operate according to their functions. For EUQ method questions can be seen in the table below:

Table 4. UEQ Method Questionnaire

No.	Question
1.	Bagaimana pendapat anda mengenai tata letak dari desain website kami? 1 2 3 4 5 Sangat Suka ○ ○ ○ ○ ○ Sangat Tidak Suka
2.	Apakah Desainnya membuat anda tertarik untuk menjelajahi lebih banyak? 1 2 3 4 5 Sangat Suka ○ ○ ○ ○ ○ Sangat Tidak Suka
3.	Seberapa mudah menavigasi website kami? 1 2 3 4 5 Sangat Suka ○ ○ ○ ○ ○ Sangat Tidak Suka
4.	Bagaimana pendaat anda mengenai desain visual pada halaman utama dan halaman service? 1 2 3 4 5 Sangat Suka ○ ○ ○ ○ ○ Sangat Tidak Suka

Table 2 List of UEQ Questions

The questionnaire consisted of 20 respondents with 30% aged 19 years, 35% aged 20 years, 15% aged 21 years, and 20% aged over 21 years. So the results for each aspect of UEQ are Attraction 1.375 clarity 1.552, efficiency 1.354, accuracy 1.377, stimulation 1.346, and authenticity 0.8555.

IV. CONCLUSION

This study found that the Unload Repair website, which was

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created using the Design Thinking method and evaluated using the SUS and UEQ methods, successfully passed the trial stage with positive results. By using an online questionnaire, satisfactory results were found. From these results, it is recommended to continue the development to improve the UEQ score on the novelty aspect and pay further attention to security and different appearances in website creation. In addition, it is necessary to expand the scope of the test to include more diverse respondents such as from more specific groups and from various ages.

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