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## UI/UX-ORIENTED DESIGN OF ONLINE MALL APPLICATION INTERFACES

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### ABSTRACT

*The rapid growth of online shopping, particularly in the fashion industry, has highlighted the need for intuitive and user-friendly application interfaces. This study focuses on designing a UI/UX-oriented online mall application for Batik Solo Laweyan, an Indonesian batik product renowned for its unique quality and motifs. Despite the increasing demand for such products, many online shopping applications still struggle to provide an optimal user experience, with issues such as difficult navigation, insufficient product information, and complex payment processes. The research utilizes the Design Thinking approach, which includes the stages of Empathize, Define, Ideate, Prototype, and Test. This method ensures that the design process remains user-centered, with a clear focus on understanding user needs and addressing the challenges they face. Through interviews, surveys, and direct observation, the study identifies key issues such as poor navigation and lack of detailed product information. The design solutions developed focus on creating an intuitive interface, improving product visualization, enhancing the search functionality, and streamlining the payment process. The final prototype is tested for user feedback, allowing for continuous improvement to achieve a seamless and enjoyable online shopping experience for Batik Solo Laweyan products.*

### KEYWORDS

UI/UX Design, Online Mall, Batik Solo, User-Centered Design, Design Thinking

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## INTRODUCTION

Online shopping applications have become an integral part of daily life, especially in today's digital era (Sazali & Rozi, 2020). One of the sectors that continue to grow rapidly is the fashion industry, including batik products, which are part of Indonesia's cultural

heritage. Batik Solo, particularly from the Laweyan area, is known for its unique quality and motifs (Asfuri et al., 2025). However, despite the increasing demand for batik products, there are still significant challenges in providing an optimal online shopping experience for consumers (Sanbella et al., 2024). One of the issues that often arises is the inability of applications to provide an intuitive, user-friendly interface that presents product information clearly and accurately. The main problem in many online shopping applications is the inadequate user interface (UI) and user experience (UX) design (Hanafi et al., 2025). Previous studies have shown that many applications fail to provide easy navigation and efficient product search systems. Users often feel confused when searching for the products they want, and the information provided about product quality, especially in the context of batik, is often limited or unconvincing (Suyanto et al., 2025). This becomes a major barrier for applications focusing on local products like Batik Solo to compete in the larger online market.

Additionally, poor user experience (UX) often makes consumers reluctant to make transactions, even if the products offered are of high quality (Puspita & Malik, 2025). Complex payment processes, lack of transparency in shipping, and inadequate visual representation of products are obstacles that need to be addressed. On the other hand, many applications have attractive designs but fail to pay enough attention to ease of navigation and user-friendliness (Raju et al., 2020). Therefore, this study aims to design an online mall application for Batik Solo Laweyan, focusing on a UI/UX design that prioritizes user experience. The approach used is Design Thinking, which includes five stages: Empathize, Define, Ideate, Prototype, and Test (Mayer & Schwemmler, 2025). With this approach, it is expected that designers can better understand user needs, define existing problems, generate creative ideas for design solutions, and test prototypes to create an application that is not only functional but also enjoyable and easy to use.

## RESEARCH METHOD

The method used in this research for the design process of the online mall application interface is based on the Design Thinking approach, which consists of five main stages: Empathize, Define, Ideate, Prototype, and Test. This approach was chosen because it is user-centered and encourages the design team to deeply understand the users' needs before generating optimal design solutions.

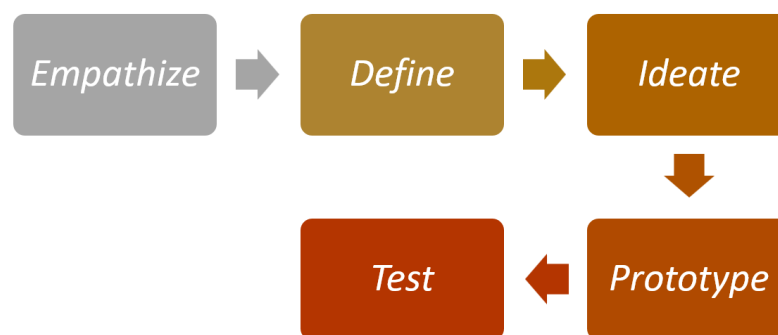


Figure 1. Research Method Design Thinking

The Design Thinking process consists of five key stages: Empathize, Define, Ideate, Prototype, and Test (Ergin & Diker Coskun, 2024). In the Empathize stage, the focus is on understanding the users' needs, desires, and challenges through research methods like interviews, surveys, and observations. The Define stage involves analyzing

the gathered data to identify the core problems that need solving, establishing a clear problem statement. During Ideate, the design team brainstorms and generates creative ideas and potential solutions to address the defined problems. In the Prototype phase, the best ideas are turned into low-fidelity prototypes that represent the potential solutions, allowing for early testing and feedback (Mitomi et al., 2024). Finally, in the Test stage, these prototypes are tested with real users to gather insights and identify areas for improvement, refining the design until it meets the users' needs effectively (Srirahayu & Dwi Radita, 2024). Each stage is iterative, allowing for continuous refinement based on user feedback.

## RESULT AND DISCUSSION

### 1. Empathize

The first stage in Design Thinking is Empathize, where the team deeply understands the needs, desires, and problems faced by the users. The main goal of this stage is to gather as much information as possible from the target users of the application, specifically consumers interested in buying Batik Solo online. To achieve this, interviews and surveys are conducted with potential consumers who are already familiar with Batik Solo Laweyan products, as well as users who frequently shop online. Additionally, direct observation of users' online shopping habits is carried out to understand the processes they go through, the obstacles they encounter, and the elements they expect to see in the shopping application. Through this stage, researchers can identify the main issues often faced by users, such as difficult navigation, lack of detailed product information, and challenges in finding the desired batik products. Moreover, the researchers also seek to understand what users want from the online shopping experience, such as an attractive design and ease of use in the application.

### 2. Define

After gaining insights from users during the Empathize stage, the next stage is Define, where the researcher identifies the main problems that need to be solved in the design of the application. Based on the insights obtained from users, the researcher formulates a clear and focused problem statement. In this stage, the researcher collects and analyzes the gathered data to synthesize insights, identify patterns, and determine the key problems that need to be addressed. For example, users struggle to find the batik products they want because the application they are using has complex navigation and an unintuitive interface. Additionally, unclear product information and the lack of features to showcase the quality of batik products become major obstacles that hinder purchase decisions. From this analysis, the researcher defines the problem to be solved: "Users have difficulty searching for and purchasing batik products because the application does not provide easy navigation and clear product information." By defining this problem, the researcher can design solutions that are more focused on the users' needs.

### 3. Ideate

After the problem has been successfully defined, the next stage is Ideate, where the researcher begins to generate various ideas and creative solutions that can address the defined problem. In this stage, creative processes are crucial to generate innovative and effective ideas. Some techniques used in this stage include brainstorming and sketching ideas. The design team will gather various ideas regarding the desired features, such as:

- a. responsive and intuitive interface design, so users can easily navigate the application.
- b. better product visualization, by adding high-quality images and detailed descriptions of the materials, manufacturing process, and unique motifs.
- c. more effective product search system, with filtering based on category, price, or product popularity.

- d. review and rating feature to build user trust in the product's quality.
- e. ease in the payment and shipping process, which are essential elements in the online shopping experience.

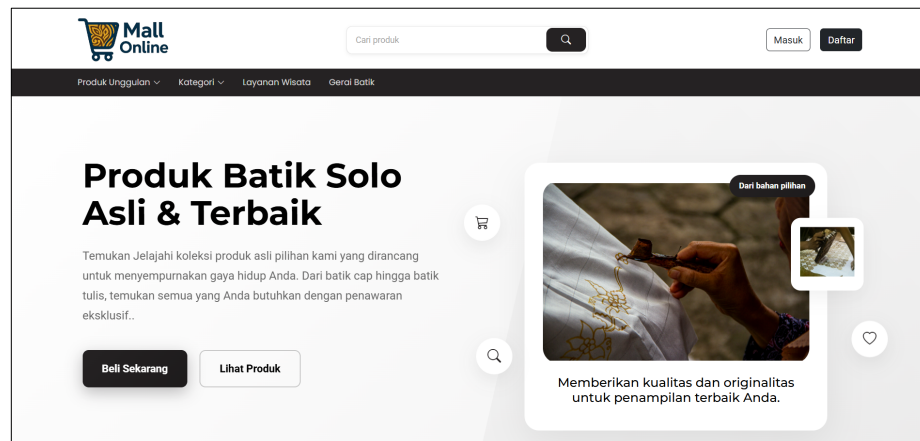
After collecting creative ideas, the researcher will filter and select the most suitable solutions that align with user needs and can be realized in the form of a prototype.

#### 4. Prototype

In the Prototype stage, the selected ideas are realized in the form of an application interface prototype that can be tested. This prototype is created to depict an initial visualization of the designed application, with the goal of testing and evaluating its functionality and user experience directly. The application prototype will include:

- a. clear navigation structure, with an easily accessible main menu and a fast product search system.
- b. visual design that reflects the cultural essence of Batik Solo Laweyan, with color and motif elements that strengthen the product's identity.
- c. key features, including batik product selection by category, complete product information, and a secure and easy payment system.
- d. interface testing to see how the design elements work overall and whether users can easily find and purchase products.

At this stage, the prototype does not need to be perfect, but it should be sufficiently representative to illustrate how the application will function and be received by users.



#### 5. Test

Based on the document, the testing results are gathered through user feedback, focusing on the following key aspects. The final stage is Test, where the prototype that has been created is tested by users to gather feedback regarding the interface and user experience. The purpose of this testing is to determine whether the solutions developed can address the defined problems and provide a better user experience. The testing is conducted by inviting several users to try the application prototype and record their experiences while using it. Some of the aspects tested include:

- a. ease of navigation: Can users easily find the products they want? Whether users can easily find the products they want.
- b. Usefulness of features: Do the features, such as search filters or product information, help users in selecting and purchasing batik? Whether features like product search filters and detailed product information help users select and purchase batik.

- c. Transaction process: Do users feel comfortable with the payment and product shipping process? Whether users feel comfortable with the payment and product shipping processes.
- d. Product visualization: Are the images and product descriptions sufficiently informative to build user trust? Whether product images and descriptions are detailed enough to build trust with users.

Feedback from this testing will be analyzed and used to refine and improve the prototype. The goal is to make the application more user-friendly, efficient, and aligned with user needs, ensuring an enjoyable online shopping experience for Batik Solo Laweyan products. The result of this stage is feedback that will be used to make improvements and refinements to the prototype, so that the application can become more optimal in providing an enjoyable experience for users.

## CONCLUSION

Through the five stages of Design Thinking – Empathize, Define, Ideate, Prototype, and Test – this research aims to create an online mall application for Batik Solo Laweyan that prioritizes an optimal user interface and user experience. With an approach focused on understanding user needs, defining the challenges faced, developing creative ideas, and testing prototypes directly, it is hoped that the resulting application will meet user expectations and provide a comfortable, efficient, and satisfying online shopping experience.

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