



Design and Development of a Website for Rumah Jahit Dini Using the Prototyping Method

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ABSTRACT

This study aims to design and develop a service website for Rumah Jahit Dini to improve service effectiveness and efficiency for customers. The system was developed using the iterative prototyping method, where development is carried out incrementally based on direct user feedback. The website includes features such as service ordering, product information, catalog browsing, and administrative data management. A qualitative descriptive approach was applied, supported by UML-based system modeling tools. To validate system functionality, black box testing was conducted. The results indicate that the developed web-based information system successfully addresses the limitations of the previous manual service process and enhances both accessibility and customer satisfaction with the services provided by Rumah Jahit Dini.

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INTRODUCTION

Humans have three primary needs: clothing, food, and shelter. Clothing is a fundamental necessity that must be fulfilled. Biologically, clothing functions to protect the body from weather conditions, sunlight, dust, and insect disturbances, as well as from other objects that may harm the skin. It also serves to cover or conceal the wearer's physical imperfections (Ernawati, 2018). According to Abdul Aziz Amr (1403 H, in Maknuna, 2018), clothing provides protection from environmental factors that may negatively impact the human body, and therefore, it must be appropriate for the surrounding conditions to ensure optimal protection.

In today's digital era, the internet has become a global communication and information tool, playing a significant role in promotion. Both small and large-scale businesses can utilize digital platforms to increase their competitiveness through broader reach.

Rumah Jahit Dini, known for its high-quality tailoring and personalized service, recognizes the need to expand its reach through digital media. By using a website as an online platform, customers can access service information, view product portfolios, place orders, and communicate with the tailoring house anytime and anywhere. This website is expected to enhance customer satisfaction and improve business efficiency.

The prototyping method is chosen for its iterative and flexible nature. In this method, the system prototype is developed and continuously improved based on user feedback. This approach facilitates easier identification and refinement of system requirements, making it suitable for website development.

By combining a qualitative approach with the prototyping method, this study aims to design an effective and user-friendly website tailored to the needs of Rumah Jahit Dini's customers. The resulting website is expected to improve the business's competitiveness and offer a better digital experience for users.

METHODS

This study focuses on designing a website for Rumah Jahit Dini with the main objective of enhancing service quality and expanding business reach through digital media. The website is expected to serve as a platform for promotion, communication, and online ordering, making it easier for customers to access product and service information.

The system development method used in this research is prototyping, which supports an iterative development process involving the creation of an initial model, user evaluation, and continuous refinement. This approach is intended to produce a more user-responsive system and to support the digital transformation of small and medium enterprises (SMEs) like Rumah Jahit Dini.

According to Hiriansyah (2019:2), research is a scientific method that focuses on solving specific

problems. The research type used is qualitative descriptive, which aims to describe and analyze phenomena in a detailed and systematic manner.

Jane Ritchie defines qualitative research as an attempt to present the social world and its perspectives from the point of view of the individuals being studied. It focuses on understanding human concepts, behaviors, perceptions, and experiences.

This research uses qualitative data, which includes descriptive information that is not expressed numerically (Mustafa et al., 2020:27). The data sources are:

- a. Primary data: Collected directly from the field through observation and interviews.
- b. Secondary data: Obtained from journals, books, and other literature relevant to the research (Ali, 2019:10).

Several techniques are used to collect data, including:

1. Observation
Direct field observation to record important information related to the research topic.
2. Questionnaires and Interviews
Engaging in direct communication with customers to gather feedback on the services.
3. Literature Study
Reviewing related literature such as journals, books, and articles relevant to the system design.
4. Documentation
Collecting supporting data such as photos or written documents from field activities.

The system development follows the Prototyping method, a part of the Software Development Life Cycle (SDLC) that involves creating, testing, and refining an initial system prototype until the final version is achieved based on user requirements.

According to Sri Mulyani (2016:26), prototyping is a system development technique that visualizes the system through a prototype, enabling both users and developers to understand the intended design. The prototyping process includes:

1. Requirements Gathering
Developers and users collaborate to define general objectives and requirements.
2. Prototype Design
An initial prototype is designed based on the gathered requirements.
3. Testing and Evaluation
The prototype is tested by users, and feedback is used to improve the system iteratively until it meets expectations.
4. System Construction
The approved prototype is then translated into a functional system using appropriate programming languages.
5. System Implementation and Evaluation
The finalized system is deployed and re-evaluated to ensure it functions according to the intended requirements.

RESULTS AND DISCUSSION

The results of the study indicate that the Rumah Jahit Dini website has been successfully implemented with several key features to support business operations, including a product gallery, online order form, service information, and customer contact page. The website is designed with a user-friendly interface to ensure visitors can easily access information and place orders online.

By using the prototyping method, the system was developed iteratively based on user feedback, which allowed for continuous improvements in both design and functionality to meet user needs. Additionally, customer data security was considered to ensure the confidentiality of information and enhance user trust. Supporting tables and images are presented centrally and referenced systematically within the manuscript to reinforce the explanation of the design outcomes.

Website Design Output

The final design of the Rumah Jahit Dini website features a simple, attractive, and easy-to-use interface accessible by a wide range of users. The website includes several main sections: homepage, business profile, product and service catalog, online order form, customer testimonials, and contact page. The responsive design ensures compatibility across desktop and mobile devices, enhancing the overall user experience.

The online ordering feature plays a key role by allowing customers to place orders without needing to visit the physical location. Meanwhile, the product catalog and business profile provide structured and concise information about available services. Developed through a prototyping approach, the design was refined based on user feedback, resulting in an interface and functionality that align closely with customer needs. This design supports service digitization and expands the marketing reach of Rumah Jahit Dini.



Figure 1. Home Page

The homepage of the Rumah Jahit Dini website serves as the main entry point, providing an overview of the business and the services offered. Upon visiting, users are greeted with a prominent image, typically showcasing the store or finished garments, designed to convey professionalism and service quality. This visual aims to create a strong first impression for potential customers.

Additionally, the homepage displays updates such as service promotions, customer testimonials, and short articles on fashion trends or clothing care tips. The content is presented in a concise and appealing layout, with intuitive navigation to help users easily access other key features like the product catalog or online ordering. The homepage design was gradually refined through the prototyping process to ensure it met user preferences and expectations.

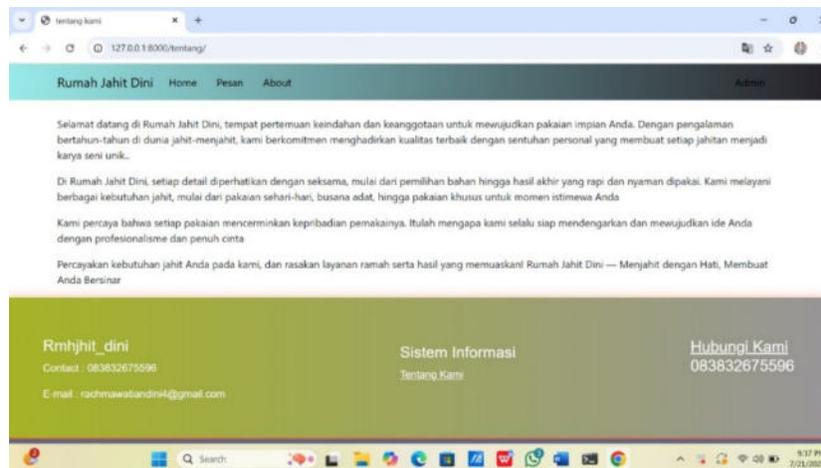


Figure 2. Information Page

The information page is designed as a hub for announcements and the latest updates regarding tailoring services, promotions, business activities, and customer feedback. This page aims to maintain active communication with customers and build trust in the offered services.

Each piece of content is presented with a clean layout and engaging visuals, such as garment photos, promotional events, or tailoring processes. Articles are labeled with informative titles, brief summaries, and links for further reading. The latest content is automatically displayed at the top, making it easy for visitors to find the newest information. Category filters—such as "Promotions", "Tailoring Tips", "Business Activities", or "Testimonials"—allow users to navigate content by topic. This approach transforms the information page into both a communication tool and a digital marketing medium that supports the business development of Rumah Jahit Dini.

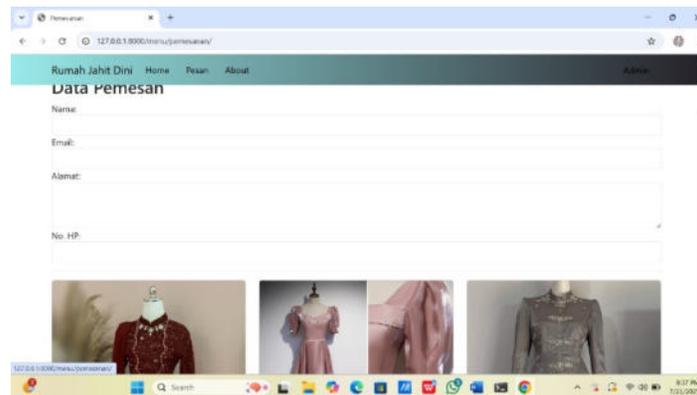


Figure 3. Order Form

The order form page enables customers to place service requests conveniently online. Users are required to fill in their name, email, address, and phone number. The form is interactive and designed with a clean, minimalistic interface to ensure ease of use across different user groups.

Below the form, a **photo gallery of completed garments** is displayed, offering visual inspiration and examples of previous tailoring work—such as modern kebayas, evening gowns, and formal wear. This gallery enhances the visual appeal of the website and assists customers in selecting preferred clothing styles.

This feature streamlines the ordering process, making it more practical and efficient while reducing the need for in-person visits. As part of the system's prototyping-based development, the form was continually refined using user feedback to ensure a seamless digital service experience for *Rumah Jahit Dini* customers.

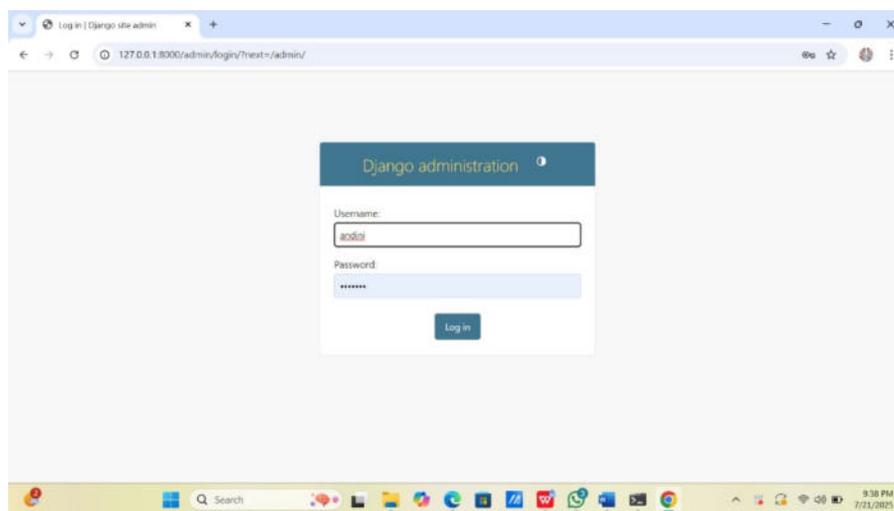


Figure 4. Login Form

The administrator login form uses Django's built-in authentication system (Django Admin Interface). This page is exclusively accessible to authorized website administrators, allowing them to manage orders, upload new products, edit site content, and monitor user activity.

Administrators must enter a valid username and password. Input validation is automatically performed to ensure that only authorized users can access the backend system. The login form is kept simple and professional, with a focus on security and usability. Errors such as incorrect credentials are clearly flagged for correction.

This login system ensures secure and controlled website management, aligning with the prototyping method that emphasizes user needs and internal data protection.

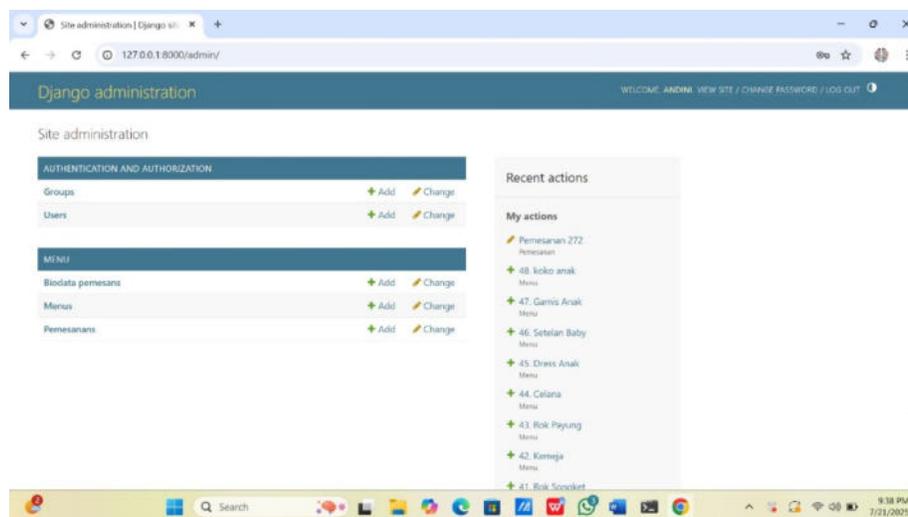


Figure 5. Admin Dashboard

This figure illustrates the admin dashboard of the Rumah Jahit Dini website's backend system, built using the Django framework. This dashboard is only accessible to authenticated admin users.

Within the Site Administration section, the system is divided into two main areas:

1. **Authentication and Authorization**, consisting of:
 - a. **Groups**: To organize users into specific groups with different access levels.
 - b. **Users**: To manage user accounts, including creation, editing, and deletion of admin users.
2. **Menu**, consisting of:
 - a. **Customer Biodata**: Contains complete information about customers who placed orders through the website.
 - b. **Menus**: Represents product data displayed on the catalog page (e.g., children's dresses, songket skirts, shirts).
 - c. **Orders**: Displays a list of incoming orders, including product types, quantities, and customer names.

On the right panel, the Recent Actions section logs the latest administrative activities—such as product updates, new order entries, and data changes—allowing real-time tracking.

The dashboard interface is designed to be simple and intuitive to facilitate efficient data management. It supports system development based on the prototyping method, which prioritizes flexibility and iterative improvement.

CONCLUSION

Based on the results of the research and system implementation, it can be concluded that the application of the prototyping method in the design of the Rumah Jahit Dini website has proven effective in iteratively identifying user needs, enabling a more structured and user-responsive development process. The developed website successfully replaces manual service methods by offering a digital solution that simplifies the ordering

process, improves service speed, and provides easily accessible information for customers. The web-based system enhances operational efficiency and customer satisfaction by allowing users to place orders, browse the fashion catalog, and interact with the business without time and location constraints. Additionally, the use of technologies such as Python and MySQL facilitates efficient, organized, and professional management of customer data and service operations. Black box testing results indicate that all core features of the website function as intended for both customers and administrators.

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