

Web-Based Food Sales Information System Using Agile Methods at Ampera Sari Minang Restaurant

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ABSTRACT

Objective: This study aims to develop a *web-based food sales information system* designed to enhance operational efficiency and customer satisfaction in the culinary business sector. **Method:** The system was developed using a structured software engineering approach, employing modern web technologies such as HTML, CSS, and JavaScript for the frontend, PHP or Python for the backend, and MySQL as the database management system. The development process included stages of system design, implementation, and testing to ensure functionality and usability. **Results:** The implementation results indicate that the system effectively streamlines business operations by reducing transaction processing time, improving data accuracy, enabling real-time stock monitoring, and facilitating easier access to information for both sellers and customers. Additionally, the integration of digital payment features enhances transaction convenience and minimizes manual errors. **Novelty:** The novelty of this research lies in the integration of a comprehensive management system – covering menu, orders, stock, and payments – into a single platform tailored for small and medium-sized culinary enterprises, thereby promoting digital transformation within the food service industry.

INTRODUCTION

A sales information system is a system consisting of various procedures for managing, recording, and documenting sales data in a business. Information regarding this sales data plays a crucial role for business owners [1]. In today's competitive restaurant industry, nearly every restaurant utilizes an information system to address various operational challenges. This system is used to advertise the main menu through online platforms such as websites or social media, manage reservations, manage inventory and ingredient purchases, as well as manage finances and set menu prices [2].

Padang SariMinang Restaurant is a privately owned medium-sized business located in Sidoarjo, East Java. This restaurant offers a variety of menus. Previously, the sales system at Padang SariMinang Restaurant still used traditional methods, namely recording sales notes on paper [3]. Therefore, this information system was designed to reduce the potential for customer dissatisfaction with the services provided, save time, and attract customer interest through the implementation of a new system. The Agile method was used in the development of this system to meet user needs and business processes sustainably [4].

RESEARCH METHOD

The Agile method is an approach to software development that adopts a repetitive work cycle with predetermined rules and solutions [5]. The Agile method was chosen

because of its ability to accommodate rapid changes and improve collaboration between the development team and stakeholders [6]. The Agile method is very suitable for short-duration projects because it is able to quickly adapt to changes that occur during the development process [7].

1) Plan

The planning stage in the Agile methodology is a crucial step in which the team understands the project's objectives, identifies requirements, and develops a strategy to achieve the desired results [8].

2) Design

In the design stage, the team designs the product to be built in detail, including visual elements, user interfaces, and the overall structure of the product [9].

3) Develop

The Agile software development method is a software development concept that emphasizes rapid response to changes requested by the client and active client involvement in the process [10].

4) Test

This is a primary prerequisite for a system. In this stage, the developer develops the system into coding, then tests the software. The newly implemented system is then tested [11].

5) Deploy

The Deployment stage is the final stage in the system design and development process, namely the deployment stage. In the deployment stage, the system is implemented into the cloud, in the form of hosting and domains [12].

RESULTS AND DISCUSSION

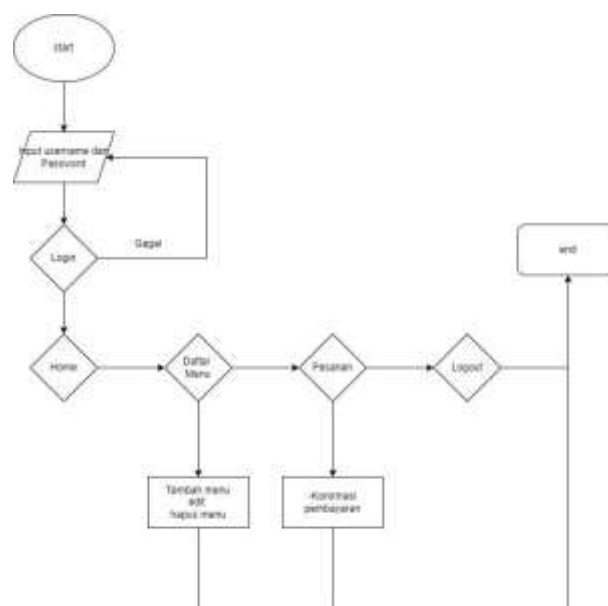


Figure 1. Admin Flowchart

Figure 1 shows the flowchart for the admin, which begins with the "Start" terminator as the initial step in an application. After that, the admin can log in by entering

their username and password. If the entered data is valid, the admin will be directed to the dashboard page. However, if the username or password entered is invalid, the admin will be prompted to repeat the login process until successful.

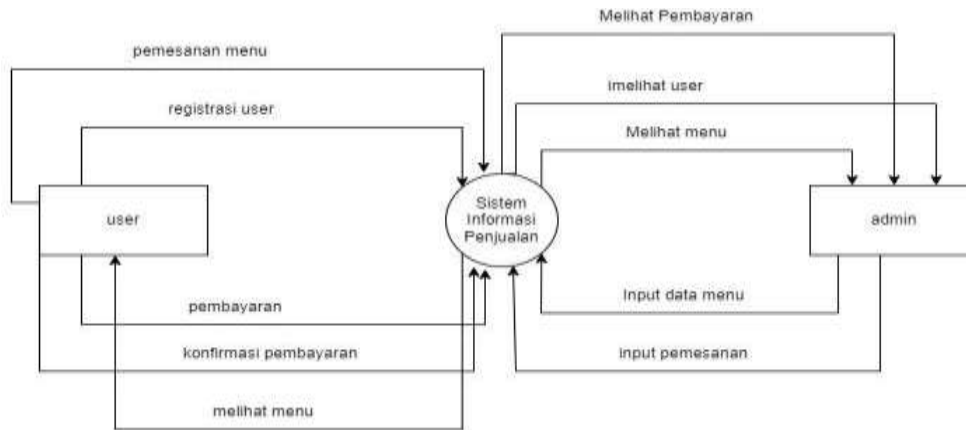


Figure 2. DFD Level 0

Figure 2 represents the core system diagram (fundamental system model), often referred to as a context diagram.

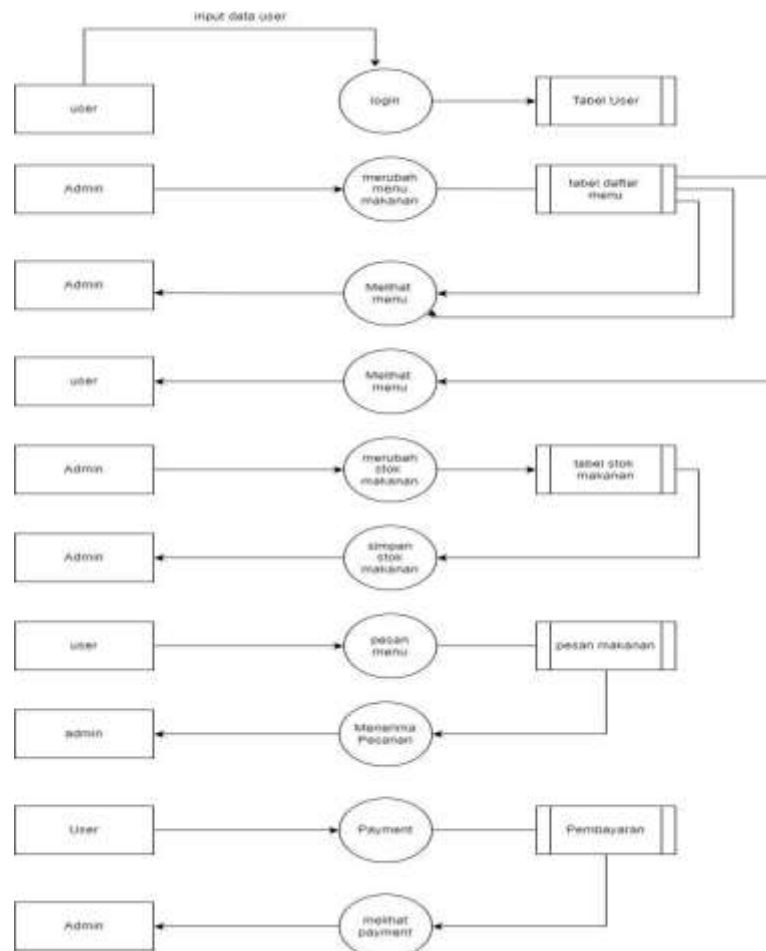


Figure 3. DFD Level 1

Figure 3 above depicts in detail the structured workflow of the RM Padang Sari Minang ordering website.

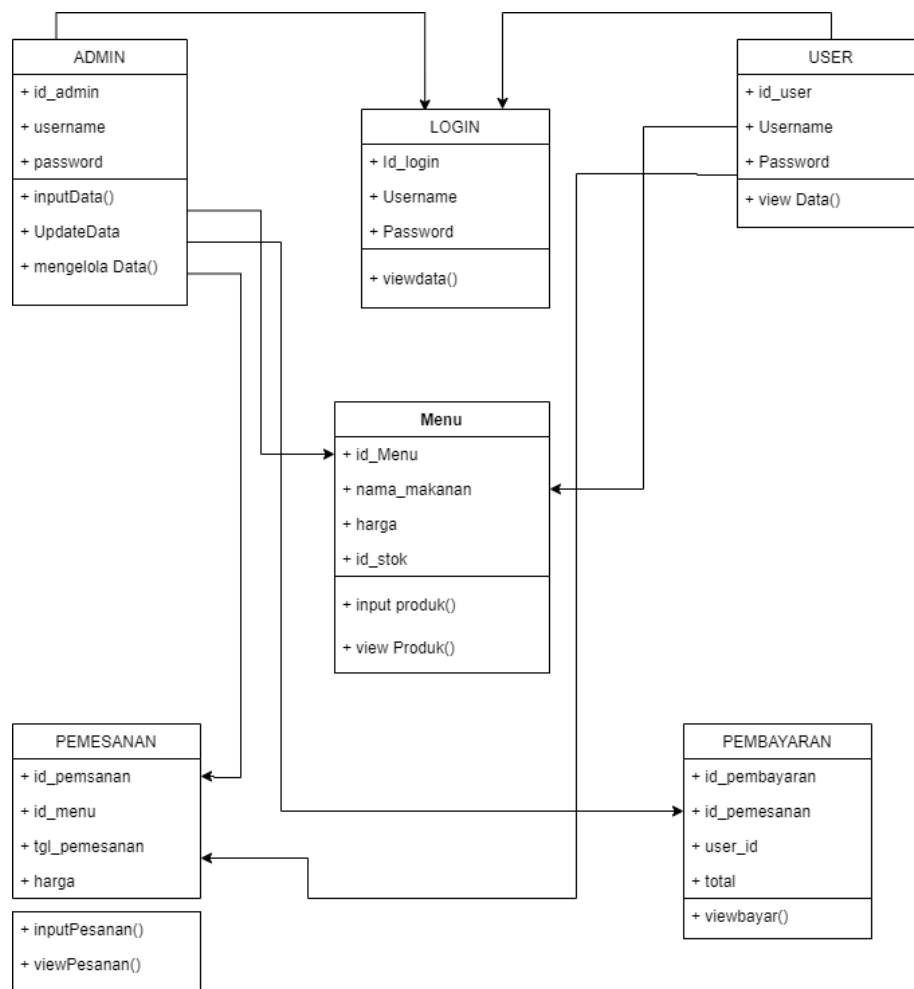


Figure 4. Table Relationship

This relationship refers to the relationship formed between one table and another, reflecting the interactions of objects in the real world and playing a role in regulating operations within a database.

The screenshot shows a login form titled "FORM LOGIN MASAKAN PADANG". It includes two input fields: "Username" with a user icon and "Password" with a lock icon. Below the password field is a link that says "Belum Punya Akun? Klik Disini". At the bottom, there are two buttons: a blue "LOGIN" button and a red "RESET" button. There is also a checkbox for "Remember Me" next to the LOGIN button.

Figure 5. Login Page

Figure 5 shows a login page, which serves as the first step for users to access further content or services, with a design that typically prioritizes security and ease of use.



Figure 6. Home Page

Figure 6 shows the Home Page, often used to provide quick and easy access to various functions or content within an application, with a focus on clarity and ease of use.



Figure 7. Order Page

The order page serves as a central control center for users to monitor, manage, and review their orders, with a focus on providing comprehensive information and easily accessible management options.

Black Box Testing is used to detect defects and deficiencies such as incorrect or missing functionality, interface errors, errors in data structures or access to databases and others [15].

CONCLUSION

Fundamental Finding : The development of the Web-Based Food Sales Information System for Ampera Sari Minang Restaurant using the **Agile method** has proven effective in optimizing sales processes, accelerating customer service, and enhancing operational efficiency. The iterative and adaptive nature of Agile enabled continuous refinement based on user feedback, ensuring that the final system aligns with real-world needs and expectations. **Implication :** This study demonstrates that the integration of Agile methodology in system development can significantly improve responsiveness to dynamic business environments, offering a sustainable digital solution for small and medium-sized enterprises in the culinary industry. **Limitation :** However, this research was limited to one restaurant as a case study, and the evaluation focused primarily on operational aspects without measuring broader financial or customer satisfaction impacts over time. **Future Research :** Subsequent studies are recommended to expand system implementation across multiple restaurants, integrate advanced features such as predictive analytics and AI-based recommendations, and conduct longitudinal evaluations to assess the long-term effects on business performance and customer engagement.

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