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Design of a Website-Based Project Management Information System at Warung Nasi Kak Jum Saridah

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ABSTRACT

Concept, testing, and service are the main priorities in the Warung Nasi Kak Jum Saridah business. Considering the use of paper media in order recording, table monitoring, and product data systems, problems often arise such as data duplication, misplaced documents, and errors in orders. Therefore, to overcome this problem, Warung Nasi Kak Jum Saridah needs a cashier management information system. This system will help business owners manage product data, monitor the dining table, and manage transactions more efficiently. Prototype analysis using the waterfall method in developing the cashier management information system at Warung Nasi Kak Jum Saridah. The hope is that this system will facilitate the overall cashier supervision and management process, increase efficiency in daily operations, and reduce errors that often occur in recording and monitoring data. Thus, the implementation of the cashier management information system will have a positive impact on the productivity and quality of Warung Nasi Kak Jum Saridah services to customers.

Keywords: Information Systems, Cashier Management, Waterfall Method, Warung Nasi Kak Jum Saridah.

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INTRODUCTION

The need for information is increasing in this era of globalization so technology and information develop faster than in that era itself [1]. This rapid development has caused humans to determine high levels of efficiency in all fields because information is now more important than ever [2]. All industries, including businesses, organizations, and even education, need this knowledge. A stall called Warung Nasi Kak Jum Saridah serves various kinds of food and drinks. However, cashier service is still done by hand, with every customer order recorded. As a result, service speed is not optimal [3]. Additionally, calculators and other similar instruments are still used in calculations. Therefore, when the store is busy with consumers, sellers often have difficulty assisting [4].

project monitoring Information systems are a collection of instruments and methods used to collect, combine, and distribute the output of project management processes. Information systems project management is becoming increasingly important in the ever-evolving digital world to ensure the successful completion of information technology initiatives. Information systems project management concepts, phases, success factors, real-world implementation, difficulties, and conclusions will all be discussed in this article.

After determining the aims and objectives of this research, the problem resulted in the conclusion that the transaction process can be stored properly in a database and calculated automatically from a web-based system, making transaction processing easier, minimizing the performance of shop owners

when carrying out customer transactions to avoid long queues, and making it easier the stall owner sees the sales report in detail [5],[6].

LITERATURE REVIEW

Systems analysis is a process that involves breaking down an entire information system into its parts. The purpose of this process is to carry out an in-depth evaluation of the system and identify various existing problems, opportunities that may be available, potential obstacles that can be faced and needs that need to be anticipated. Apart from that, system analysis also aims to provide recommendations for improvements that can increase the performance and effectiveness of the information system. Thus, system analysis is a crucial step in efforts to increase the success and efficiency of information systems in an organization or business entity.

An information system is a series of parts that are interconnected and collaborate to perform various functions, such as collecting, processing, storing, and distributing data needed to support internal operations and decision-making in a company or other institution. In this context, these parts interact with each other to create an adequate information environment for business activities or institutional activities. Thus, information systems become the main foundation in facilitating important processes, from daily operations to strategic decision-making.

The discipline of project management involves organizing, planning, monitoring, and managing the resources necessary to achieve specific goals within the budget and time frame established for a project. In this context, project management refers to a series of processes and practices used to direct available resources effectively and efficiently, so that projects can be completed according to specified specifications, within established budget limits, and within a predetermined period. determined.

METHODOLOGY

Pressman (2015) claims that the traditional (old) approach to software development is methodical and sequential. Because the stages are completed sequentially, this approach is often called the "waterfall method" [7][8]. The following is a list of stages of the Waterfall Method according to Pressman:

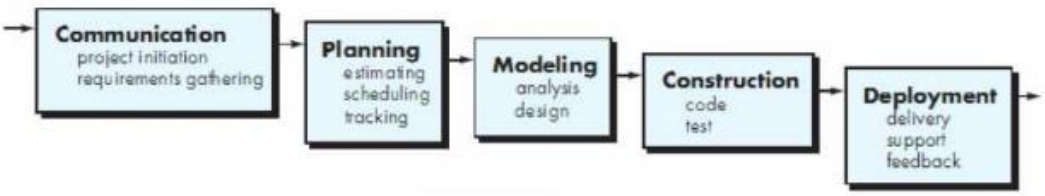

Figure 1. Waterfall Stages

Effective communication between users and programmers is essential to ensure that problems are examined, information is gathered properly, and appropriate computer solutions are created. The work plan is an important initial stage in the system development process which includes task estimates, methods to be used, expected results, tools and software needed, as well as initial work charts and work process monitoring.

The system prototyping process focuses on various aspects such as interface appearance, software, data systems, and program completion methods. Once the system design is translated into code that can be understood by a computer, the coding stage is carried out. This stage is followed by software testing to identify potential bugs/errors and ensure the system functions properly.

Apart from that, the program implementation stage also involves users, where regular maintenance, repair, review, and development are carried out as needed. This research uses a descriptive and qualitative approach involving direct observation of the data collected as well as a literature study as the main source of information[9],[10]. The steps in this research include:

1) Observation. Conduct direct checks on data collected from the field to ensure the reliability and relevance of the information obtained.
2) Literature Study. Collecting information through reading books and web exploration as the main data source that supports this research.

RESULTS AND DISCUSSION

Based on the data obtained from the research object, several problems faced by Warung Nasi Kak Jum Saridah were identified. Firstly, this shop does not yet have a structured cashier system, so the payment transaction process is still done manually. This can result in congestion and confusion when customers want to pay, especially if they want to pay simultaneously. Second, the lack of structure in the payment system makes the payment process ineffective, with customers often wanting to get ahead of each other when paying, creating confusion and difficulty in organizing an efficient payment process. Apart from that, the absence of sales transaction data is also a serious problem, resulting in the loss of important information needed to manage the business well. Without transaction data, it is difficult to conduct financial performance analysis, identify sales trends, or accurately measure profitability. Lastly, without sales transaction data, it is difficult for shop owners to know exactly how much income they have earned, which can hinder the shop's ability to make the right strategic decisions in managing its business. By understanding these problems, the next step is to analyze the current system and propose appropriate solutions to overcome the challenges faced by Warung Nasi Kak Jum Saridah.

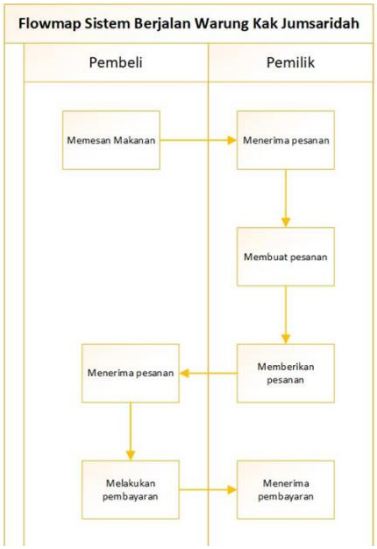

Figure 2. Running System Flowmap

Based on the results of the research that has been carried out, the researcher recommends an information system design that aims to increase the operational effectiveness and efficiency of Warung Nasi Kak Jum Saridah after reviewing the current system. The findings from the analysis of the proposed system refer to several aspects that are the main focus to improve and optimize the performance of the shop. First of all, implementing a structured cashier system is a priority. Designing and implementing a structured and automated cashier system is expected to help improve the payment transaction process which is currently still done manually in stalls. With a structured cashier system, it is hoped that it can reduce congestion and confusion in the payment process, and ensure that customers can pay more efficiently and smoothly.

Furthermore, developing a sales transaction database is the next important step. Building a database that can record each sales transaction in detail will provide important information for financial performance analysis. With accurate and structured data, shop owners can identify sales trends, measure profitability more accurately, and make better decisions regarding future business strategies. Information system integration is no less important. Integrating various information systems in the

shop, such as the cashier system, stock management system, and sales monitoring system, will help optimize overall operations. This integration will provide better visibility of overall business performance, facilitate strategic decision-making, and increase efficiency in business management.

Apart from that, training for users is also a part that should not be missed. Training shop owners and employees regarding the use of the new information system will help ensure smooth adoption and optimal use of the system. With a good understanding of the new system, it is hoped that there will be increased productivity and effectiveness in carrying out daily operations. Finally, establishing regular monitoring and evaluation procedures is an important step to ensure the performance of the implemented information system. By carrying out regular monitoring and evaluation, shop owners can identify potential improvements, ensure that the system runs well as expected, and adapt the system according to developments and changing business needs. By designing and implementing the information system suggested above, it is hoped that Warung Nasi Kak Jum Saridah can increase its effectiveness and efficiency, overcome the problems that have been identified, and be able to compete better in an increasingly competitive market.

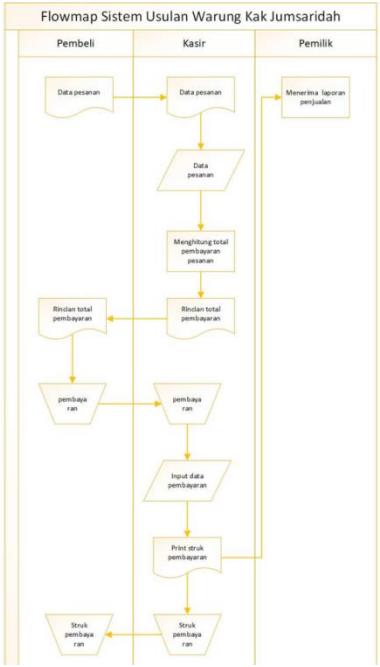

Figure 3. Proposed System Flowmap

After conducting a requirements study, the next step is to design the system according to the description that has been understood. System design aims to produce process designs, database designs, and system interface designs that suit the needs and business objectives of Warung Nasi Kak Jum Saridah. First of all, in process design, it is necessary to use tools such as designing Use Case Diagrams. Use Case Diagrams are a very useful tool in the information system design process. This diagram helps in visually understanding the interaction between actors (system users) and the system itself and provides a clear picture of the features and functions needed in the system. By using a Use Case Diagram, researchers can more easily design the processes that must be implemented in the Warung Nasi Kak Jum Saridah information system, so that it can facilitate use and ensure the system can run efficiently.

Apart from that, process design also involves determining the optimal workflow for each process in the system, starting from the food ordering process, the payment process, to the stock management process. This involves identifying activities, dependencies between activities, and appropriate allocation of resources to each process. Thus, process design is an important initial stage in information system development, because it will form the basic foundation for database design and system interface design which will be carried out at the next stage.

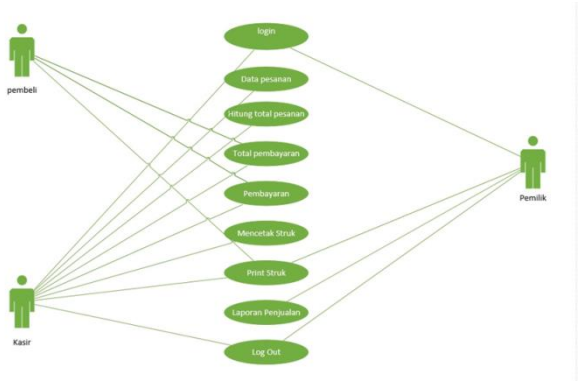

Figure 4. Use Case Diagram

Prototype design using the SIGMA application allows designers to develop interactive click-through prototypes. In this context, the SIGMA application provides designers with the flexibility to design interfaces or interface pages more easily and efficiently. Additionally, designers can also utilize the Figma program to develop more interactive and realistic click-through prototypes. With Figma, designers can create click simulations that allow users to see the design flow process more clearly. Users can click on interfaces or interface pages that have been designed to see how the design flow process works. Thus, the use of the SIGMA application and Figma program makes it easier for designers to develop prototype designs that are interactive and can be better understood by users. This helps ensure that the design created can reflect the optimal user experience in using the information system to be developed.

Figure 5. Login Page

The design of the login page for the Warung Nasi Kak Jum Saridah cashier information system must consider several important aspects so that users can access the system easily and safely. Here are some elements to consider in the design of the login page:

1) Login Form. The login page should include a clear and easy-to-understand login form. This form usually consists of a column for entering the user's username or email and password. Make sure the form is designed with a clean and intuitive layout.
2) Error Message. Include an informative error message if the user enters the username or password incorrectly. This message should provide clear instructions about what error occurred and how to resolve the issue.
3) Login Button. Provide a clearly visible and easily accessible "Login" button. Make sure these buttons have a prominent layout so users can easily find them.
4) Forgot Password Link: Add a link or button to help users who forget their password. This can make it easier for users to reset passwords quickly and easily.

By paying attention to the elements above, the login page design for the Warung Nasi Kak Jum Saridah cashier information system can be designed well to ensure users can access the system smoothly and safely. If you don't have an account yet, this is the screen for registering a new account.

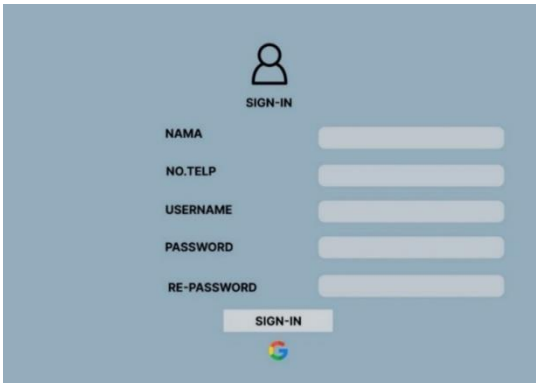

Figure 6. Sign-up Page

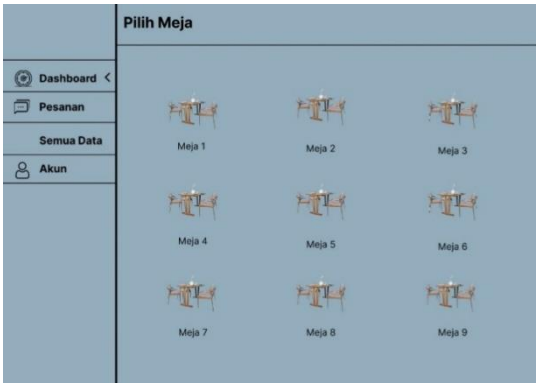

Figure 7. Dashboard Page

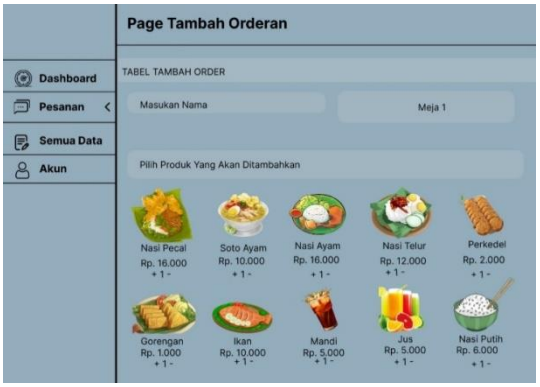

Figure 8. Order Pages

Figure 9. Order Detail Page


WARUNG MAKAN
KAK JUM SARIDAH
Jl. Sudirman No. 18 Pematang Raya
Telp. 0822-5558-1133

Nama Pelanggan : Doni
Nomor Meja : 1

Menu	Qty	Harga
Nasi Ayam	2	Rp. 32.000
Perkedel	3	Rp. 6.000
Mandi	2	Rp. 10.000
	Total	**Rp. 48.000**
	Bayar	**Rp. 100.000**
	Kembalian	**Rp. 52.000**

Kasir : Raimah / 12-07-2023,12:30

****TERIMA KASIH****

Figure 10. Print Invoice Page

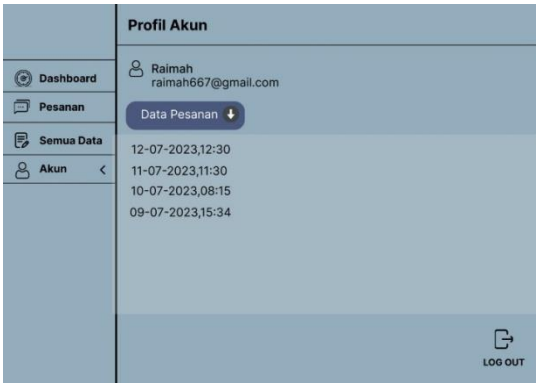

Figure 11. Cashier Account Page

CONCLUSION

Based on the comprehensive analysis and research findings, it can be concluded that the design and implementation of this information system are anticipated to significantly enhance the operational efficiency of the cashier system at Warung Nasi Kak Jum Saridah. This development aims to address and mitigate various challenges and issues currently faced by the eatery. To ensure the system's optimal usability and effectiveness, a detailed and comprehensive prototype of the information system has been meticulously developed. This prototype has been specifically designed for a desktop interface to provide a robust and user-friendly experience. The creation of this prototype involved rigorous testing and validation to ensure that it meets the specific needs and requirements of Warung Nasi Kak Jum Saridah. By incorporating user feedback and adhering to best practices in system design, we have developed an information system architecture that not only streamlines the cashier operations but also enhances the overall management and monitoring capabilities of the business. We anticipate that the shop owner will experience substantial benefits from this new cashier information system, including more accurate transaction processing, improved data management, and enhanced reporting capabilities. The system is expected to facilitate smoother operations, reduce manual errors, and provide valuable insights into sales and inventory trends. Consequently, this will enable more informed decision-making and contribute to the overall success and growth of Warung Nasi Kak Jum Saridah.

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