International Journal of Economic Literature (INJOLE) e-ISSN: 3026-0221
Vol. 2 No. 3 March 2024, page., 841-847

INFORMATION SYSTEM FOR SALES OF CAKES USING THE WATERFALL METHOD IN THE RATIH SHOP

Muhammad Naufal Rifqi
Universitas Nasional, Indonesia

Rima Tamara Aldisa *
Universitas Nasional, Indonesia
Correspondence author email : rimatamaraa@gmail.com

Abstract

This research is to design and develop an information system for selling cookies at Ratih shop using the Waterfall method. The Waterfall method was chosen because of its systematic and gradual structure, starting from requirements analysis, system design, implementation, testing, to maintenance, enabling efficient and structured system development. Ratih shop, which operates in the field of selling pastries, faces challenges in managing its sales and product inventory. By implementing a specially designed information system, stores are expected to improve operational efficiency, accuracy of sales and inventory data, as well as increase customer satisfaction through faster and more accurate service. This system integrates various sales functions, from ordering, sales, to stock management, and provides reports that help in making strategic decisions. It is hoped that the results of this research can be used as a reference for similar stores that want to improve their business processes through implementing an effective sales information system.

Keywords: Sales Information System, Pastries, Waterfall Method, Ratih shop, Inventory Management.

Introduction

In the current digital era, the need to digitize business operations has become very important, including in the pastry sales industry. Ratih shop, as one of the business actors in this industry, faces challenges to increase the efficiency and effectiveness of its operations, especially in terms of sales and inventory management. The manual management that has been carried out has caused several problems, such as recording errors, difficulties in tracking stock, and slow response times to customer orders. The Waterfall method, with its linear and sequential approach, provides a clear framework for the development of sales information systems that can overcome these problems. By adopting this method, it is hoped that the system developed can systematically meet the needs of Ratih shop, starting from needs analysis, design, implementation, testing, to system maintenance. The development of a pastry sales information system at Ratih shop aims to automate and improve the sales process and inventory management. It is hoped that this will not only increase data accuracy and operational efficiency, but also increase customer satisfaction through faster and more personalized service.

It was found by comparison journals [1] that Waroeng D'Bro Restaurant already has a system to be able to convey information by accessing it via the website so that visitors can more easily find out information about the restaurant. [2] With this application, customers can carry out the process of ordering food without having to queue and it is easier to see the food menu, food details and food prices. [3] Websites can help provide information to customers so that wider customers can get updated information. [4]. Built to be a solution for increasing efficiency, effectiveness and accuracy in recording transactions and collecting restaurant business data. [5] Is an effective solution in increasing efficiency and speed in the food ordering process in restaurants. In addition, with an integrated information system, Ratih shop can have a consistent and centralized database, which allows for more in-depth data analysis. This analysis will help Ratih shop identify sales trends, make better business decisions, and plan more effective marketing strategies. Overall, the need for an effective and efficient sales information system is very crucial for Ratih shop to be able to survive and develop in increasingly tight market competition. The development of system will not only help Ratih shop in managing daily operations, but also achieving long term business growth.

Research Methods

Research methodology is a group of activities, a group of processes, a group of flows, rules and procedures that will be used by researchers [6]. The research stages are the initial process, method or flow in designing or creating an information system [7]. At this stage, namely the beginning, you must first know what is behind it, study the literature by means of observation or direct interviews. Waterfall method for the initial method steps for creating a system, system analysis, system design, whether the system meets user needs. The image below is the system stages :

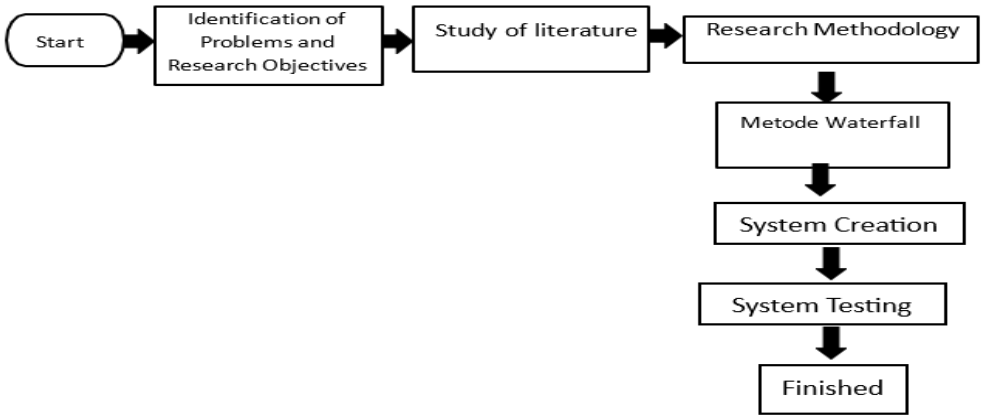


Figure 1 Design techniques or system creation flow

In figure 1 there is a system creation flow where initially we determine the background, look for problems, look for journal comparisons, research methodology using the waterfall method. Then proceed with creating or designing a system, testing

must be carried out first so that it becomes a system with maximum results and is easy to use.

Method (Rapid Application Development)

The waterfall method is a systematic and sequential research method model that is suitable to be applied in conducting this research because this method presents step by step which is very appropriate to the conditions in the field [8]. The waterfall method is a systematic and sequential information system development model. According to the author, the waterfall method is a software development process model that is linear and sequential. This model is a method in software development and is often used as a basic approach in developing information systems. The main characteristic of the Waterfall method is that each phase in the development process must be completely completed before the next phase can begin. This means that no phase can be started if the previous phase has not been fully completed and approved.

The stages in the Method (Waterfall)

- Needs Analysis: This stage focuses on collecting the business, technical and operational needs of Ratih shop to identify what is needed from a pastry sales information system. This analysis can involve interviews, surveys, or direct observation of existing business processes.
- System Design: Based on the needs that have been identified, this stage involves designing the system architecture, including database design, user interface design, and business process design. The goal is to create a blueprint for the system that will be built.
- Testing: Once a system is developed, it is tested to ensure that all functions work as expected. This testing includes unit testing, integration testing, and system testing. The goal is to identify and fix bugs or problems before the system is put into real use.
- Implementation: After the system has been successfully tested, the next stage is implementing the system into the daily operations of Ratih shop. This can involve user training, data migration, and system configuration.

- Maintenance: Once a system is implemented, ongoing maintenance is required to ensure the system continues to operate effectively. This can include regular updates, bug handling, and feature adjustments based on user feedback.

Figure 2 Waterfall Method

System Implementation

1. Home Page

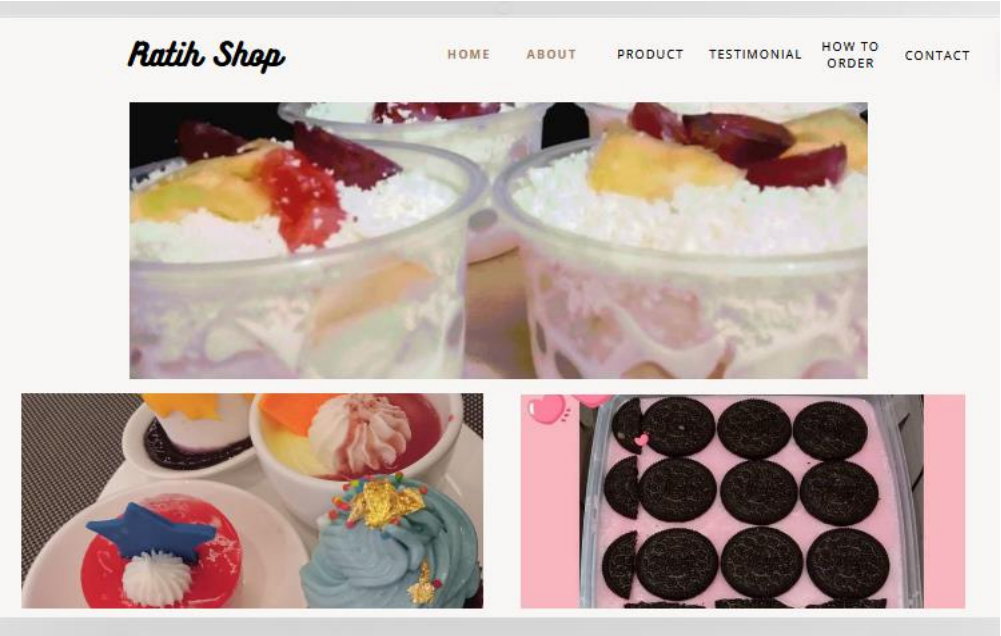
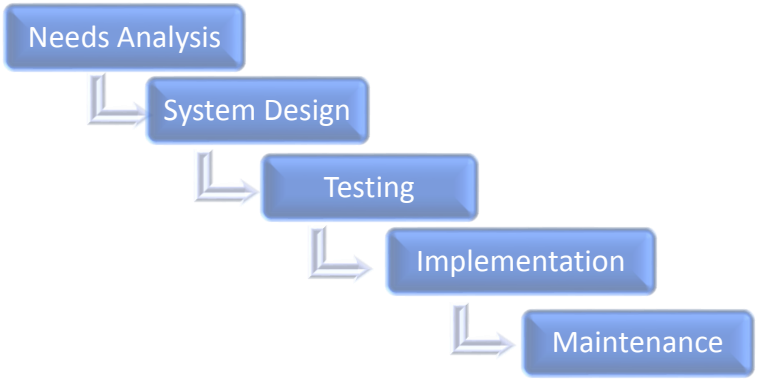


Figure 3 Main page

In Figure 3 there is the main system page where there are other menus such as about, product, testimonials, how to order and contact

2. Menu About



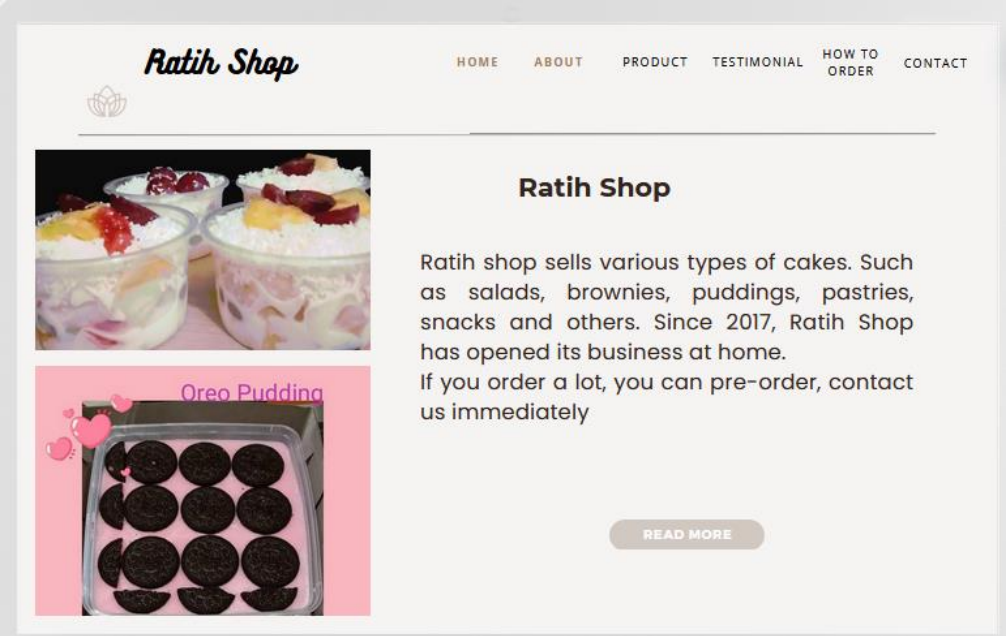


Figure 4 About

In figure 4 there is an about menu which is a brief description of the Ratih shop sells various types of cakes. Such as salads, brownies, puddings, pastries, snacks and others.

3. Menu Product

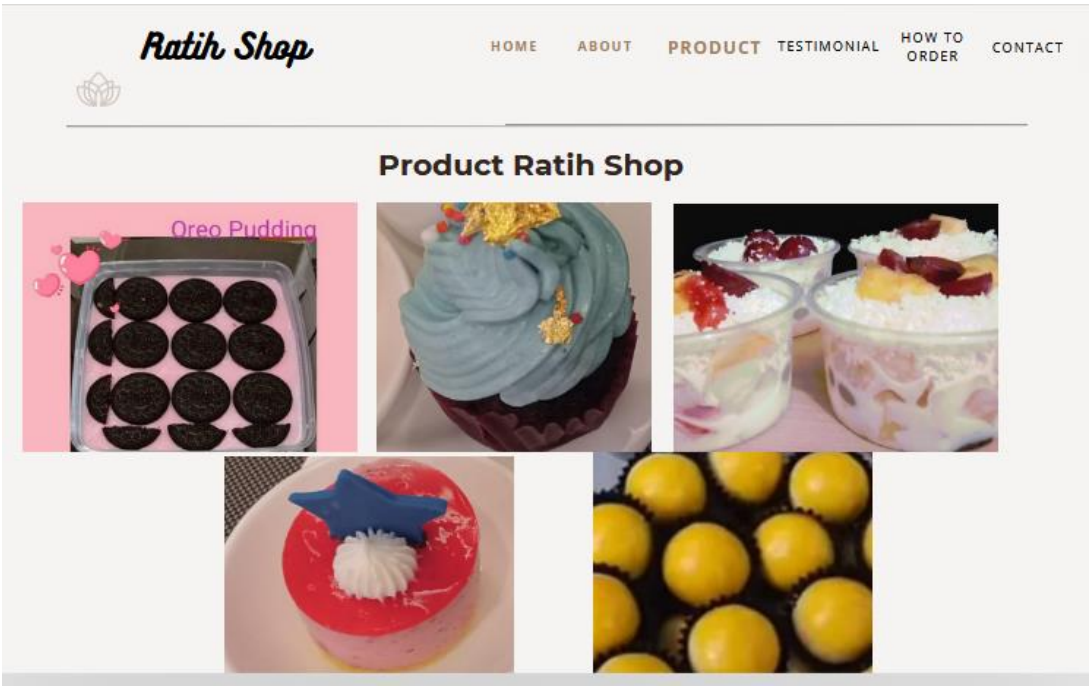


Figure 5 Product

In Figure 5 there is a product menu which is a brief overview of the Ratih shop which sells various types of cakes. Such as salads, brownies, sponge cake, pudding, pastries, snacks and others.

CONCLUSION

The development of a sales information system using the Waterfall method for the Ratih Shop has been successfully carried out and has had a positive impact on store operations. Implementation of this system significantly increases efficiency in the sales process and cookie inventory management. With an integrated information system, Ratih shop can record transactions automatically, which reduces the possibility of manual errors and speeds up the sales process to customers. In addition, this information system allows Ratih shop to have better control over stock, makes it easier to track product availability, and minimizes the risk of shortages or excess stock. This indirectly contributes to increased customer satisfaction due to more guaranteed product availability and faster service. In terms of business decision making, this information system also provides sales reports and data analysis that can be accessed easily. This information is very valuable for Ratih shop in planning more effective marketing and sales strategies, as well as in making other strategic decisions for business growth.

Overall, the implementation of the pastry sales information system using the Waterfall method at Ratih shop has proven its effectiveness in improving business operations. It is hoped that this system can continue to be developed and adapted to changing business needs so that it can continue to support the growth and expansion of Ratih shop in the future.

Reference

1. Yudi, Y. (2023). Perancangan Website Company Profile Pada Restoran Waroeng D'Bro. Puribersama: Jurnal Publikasi Riset Bersama Dosen dan Mahasiswa, 2(6), 22-29.
2. Marbun, D. R. (2021). Perancangan Sistem Informasi Pemesanan Menu Makanan di Twin Seafood & Resto Rantauprapat Berbasis Web. Informatika, 9(2), 71-76.
3. Handayani, T., Gunawan, I., & Taufiq, R. (2020). Rancang Bangun Sistem Informasi Pemesanan Menu Makanan Berbasis Web (Studi Kasus: Restoran Bukit Randu Bandara). Jurnal SITECH: Sistem Informasi dan Teknologi, 3(1), 21-28.
4. Juventauricula, P., Hanggara, B. T., & Pramono, D. (2024). Pengembangan Sistem Informasi Point of Sale (POS) berbasis Web menggunakan Pendekatan Metode Waterfall (Studi Kasus: Restoran Altari). Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, 8(1), 97-106.
5. Gulo, V. B., Triayudi, A., & Iskandar, A. (2023). Sistem Informasi Aplikasi Pemesanan Makanan Restoran Berbasis Web Menggunakan Metode Agile Development. JURIKOM (Jurnal Riset Komputer), 10(1), 154-164.

6. Syafnidawaty. (2020, October 26). Perbedaan Metodologi Penelitian Dan Metode Penelitian. Universitas Raharja https://raharja.ac.id/2020/10/26/perbedaan-metodologi-penelitian-dan-metode-penelitian/.
7. Harys. (2020, August 9). Tahapan Penelitian. Jopglass https://www.jopglass.com/tahapan-penelitian/.
8. Listiyan, E., & Subhiyakto, E. R. (2021). Rancang Bangun Sistem Inventory Gudang Menggunakan Metode Waterfall Studi Kasus Di Cv. Aqualux Duspha Abadi Kudus Jawa Tengah. KONSTELASI: Konvergensi Teknologi dan Sistem Informasi, 1(1), 74-82.
9. Sasmito, G. W. (2017). Penerapan metode Waterfall pada desain sistem informasi geografis industri kabupaten Tegal. Jurnal Informatika: Jurnal Pengembangan IT, 2(1), 6-12.
10. Aldisa, R. T. (2021). Penerapan Metode RAD (Rapid Application Development) Pada Sistem Informasi Promosi dan Pemesanan Makanan Berbasis Website Studi Kasus Restoran Waroenk Anak Kuliahan. Building of Informatics, Technology and Science (BITS), 3(3), 446-452.