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DESIGN OF A WEB-BASED SALES AND STOCK INVENTORY INFORMATION SYSTEM AT BASUA COFFE

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Abstract: Basua Coffee is a culinary business facing challenges in managing sales and inventory, which are still done manually. This results in data discrepancies between recorded stock levels and actual conditions, delays in sales reporting, and potential transaction recording errors. The purpose of this study is to design and build a web-based sales and inventory information system that can improve operational efficiency and data accuracy at Basua Coffee. The research method used is a software engineering method with a waterfall approach, including the stages of needs analysis, system design, implementation, and testing. Data collection techniques were carried out through observation, interviews, and documentation studies. System analysis was carried out using UML (Unified Modeling Language) modeling, while system testing was carried out using the black box testing method. The results of this study indicate that the designed information system is able to automatically record sales transactions, monitor inventory in real-time, and produce accurate sales and stock reports. Thus, this system can assist management in making faster and more accurate decisions.

Keyword: basua coffe; inventory; information system; sales.

Abstract : Basua Coffee merupakan sebuah usaha kuliner yang menghadapi tantangan dalam mengelola penjualan dan inventaris yang masih dilakukan secara manual. Hal ini menyebabkan terjadinya ketidaksesuaian data antara tingkat stok yang tercatat dengan kondisi aktual, keterlambatan pelaporan penjualan, dan potensi kesalahan pencatatan transaksi. Tujuan penelitian ini adalah merancang dan membangun sistem informasi penjualan dan inventaris berbasis web yang dapat meningkatkan efisiensi operasional dan akurasi data di Basua Coffee. Metode penelitian yang digunakan adalah metode rekayasa perangkat lunak dengan pendekatan waterfall, meliputi tahapan analisis kebutuhan, perancangan sistem, implementasi, dan pengujian. Teknik pengumpulan data dilakukan melalui observasi, wawancara, dan studi dokumentasi. Analisis sistem dilakukan dengan pemodelan UML (Unified Modeling Language), sedangkan pengujian sistem dilakukan dengan metode pengujian black box. Hasil penelitian ini menunjukkan bahwa sistem informasi yang dirancang mampu mencatat transaksi penjualan secara otomatis, memantau inventaris secara real-time, dan menghasilkan laporan penjualan dan stok yang akurat. Dengan demikian, sistem ini dapat membantu manajemen dalam mengambil keputusan yang lebih cepat dan akurat.

Keywords: basua coffe; inventaris; penjualan; sistem informasi.

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INTRODUCTION

The development of information technology in the digital era has encouraged various types of businesses, including service sectors like barbershops, to begin adopting digital services. Based on initial observations at a barbershop in Bandung, it was discovered that that the ordering process service Still done manually , either through telephone and in a way directly on the spot . This is cause various obstacles , such as queue that is not controlled , difficulty in arrangement schedules , and uncertainty customer in get service appropriate time.

Unfortunately, not yet Lots business micro and small businesses that utilize system information booking optimally web -based , especially in the sector service trim hair . Research previously tend focus on the system booking For service like restaurant or health . With Thus , there are gap necessary research filled , namely development system appropriate information with needs and characteristics barbershop business .

In a way academic , development system this web- based become important Because support digital transformation of MSMEs and can become solution on challenge operational issues faced perpetrator business services . In addition , data from BPS in 2023 shows that around 74% of MSMEs in Indonesia have not utilise digital technology in maximum , so that innovation this is also in line with government programs in acceleration digitalization of MSMEs.

METHOD

Study This use method development Waterfall system , which is one of the SDLC (System Development Life Cycle) models with channel systematic and sequential stages . Steps in method This explained as following :

Analysis Needs : Identify need users from two side , namely customers and parties manager (admin/barber). Data obtained through interviews and observations direct .

Design System : Create design interface , database structure , and architecture system in a way overall . Tools used includes UML diagrams (Use Case, Activity, and Class), ERD (Entity Relationship Diagram), and flowcharts.

Implementation : Coding process done using PHP with the Laravel framework and MySQL database. Interface users designed using HTML, CSS, and JavaScript.

Testing System : Stages testing use Black Box Testing method for ensure every feature system Work in accordance hope , including testing validation , flow navigation , and ordering process .

Maintenance : Evaluation done in a way periodically For fix bugs and improve system based on bait come back from user .

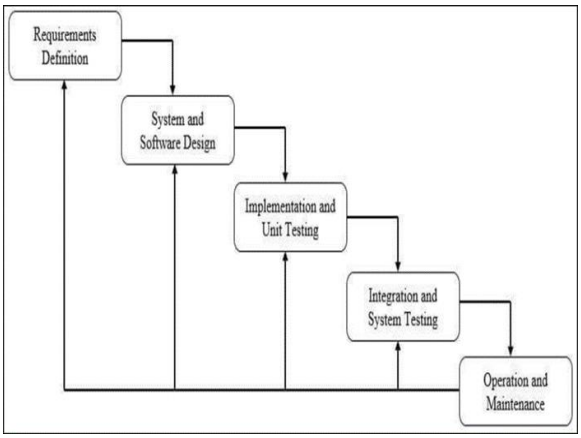

Image 1. Implementation Method Image

References Sources

The research results show that the implementation of a web-based sales and inventory management information system at Basua Coffee significantly impacted operational efficiency and management decision-making. Referring to Laudon & Laudon's (2021) management information systems theory, an integrated information system not only serves as a transaction recording tool but also as an enabler for creating competitive advantage through accurate, real-time data.

Research result This in line with findings of Widodo and Prasetyo (2022) which stated that system information stock very web based effective in increase efficiency management goods in business small medium . In the study Basua Coffee case , system developed information proven capable integrate between sales and management processes supply in a way automatically . This is reduce dependence on manual recording , speeding up the process

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of searching for goods data , and minimize risk error in recording stock in and out .

RESULTS AND DISCUSSION

Result of study This is A system information web -based barbershop booking designed For accessible through desktop and mobile devices . Initial stage development done with designing system models using Data Flow Diagrams (DAD) to describe process flow and requirements functional system.

After the stage design finished, system start implemented to in program code. Implementation results show that system functioning with good, including on the side customer data management, services and schedules booking.Flow System Information

Flow system is a series of processes that describe how data moves , is processed , and transformed become useful information in something system. In the context Design System Information Sales and Stock Inventory of Goods at Basua Coffee Web Based.

Use Case Diagram

This Use Case Diagram describes the interaction flow between users and information systems that are most likely related to sales, inventory, and financial management.

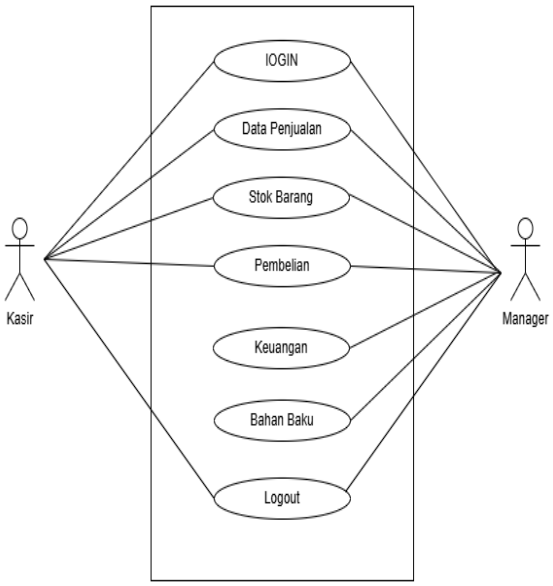

Image 2. Use Case Diagram Image

Diagram Objects

The object diagram of Web-Based Basua Coffee depicts the objects found during analysis and research. Each object is equipped with attributes that are attached to and have a relationship with other objects.

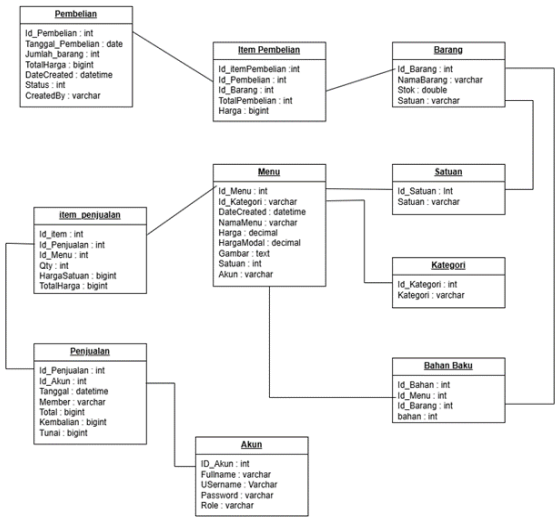

Image 3. Diagram Object Image

Login Page Implementation

The login page contains a login form. Customers are required to create an account to access the ordering feature. This ensures the validity of user data and system security. The form is filled in by the admin to access the system. The login page can be seen in the image below:

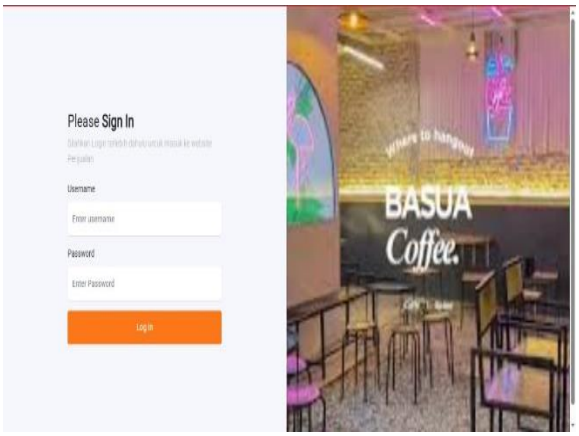

Image 4. Login Page

Dashboard Menu Page

This dashboard menu is a digital sales website interface designed to help businesses, particularly in the food industry, monitor and

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manage daily operations. The dashboard features navigation menus such as Sales Data, Raw Materials, Inventory, Purchasing, Reports, Finance, Master Data, Menus, Categories, and a monthly sales total graph. The dashboard page can be seen in the image below:

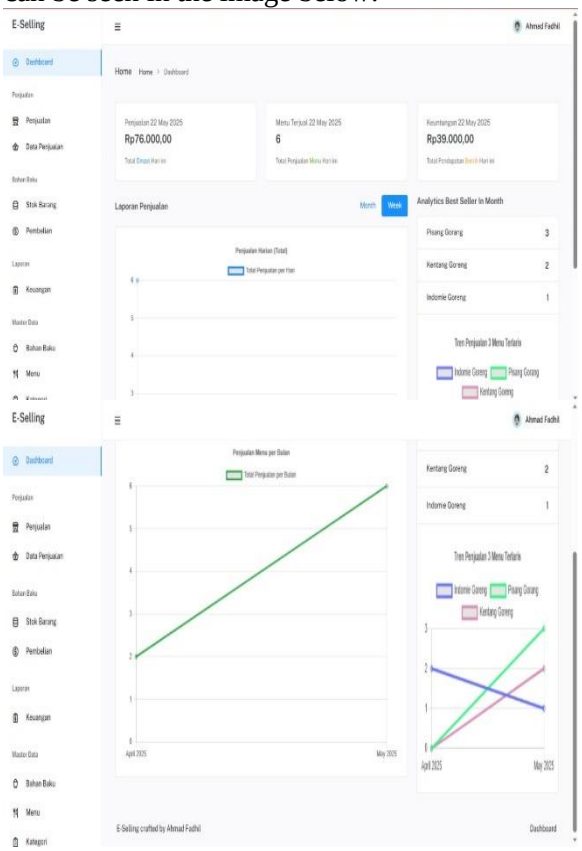

Image 5. Dashboard Page

Sales Menu Page

On this sales menu page, there are several forms containing the sales system menu and daily Basuo Coffee transactions, as well as the accuracy of cash sales calculations. The sales menu page display can be seen in the image below:

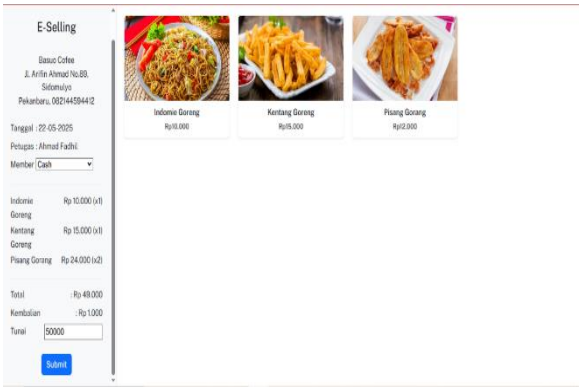

Image 6. Product Page

Sales Data Menu Page

The sales data page contains a table containing today's sales data, which displays the total sales menu items, item quantities, and total sales. The sales data page can be seen in the image below.

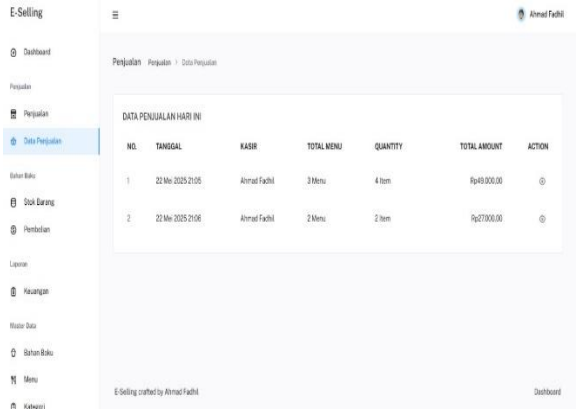

Image 7. Sales Page

Stock Item Menu Page

The stock menu page contains information about the item name, unit price, and stock quantity. This menu allows you to add and delete items. The stock menu page can be seen in the image below:

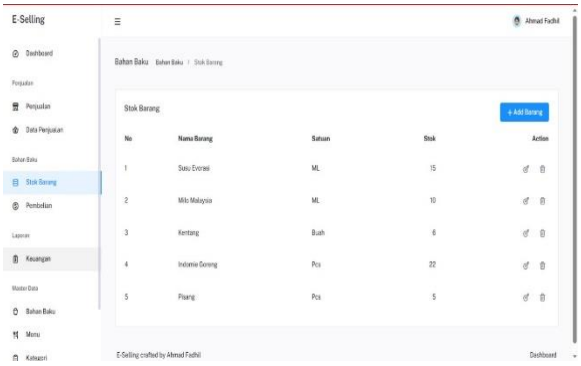

Image 8. Stock Item Menu

Unit Testing

Testing was carried out using the black-box method, namely a test methods to test the system in terms of specifications functionally without paying attention to the design and program code.

This test is carried out to determine whether the functions, The input and output of the system function as expected. The method used in black-box testing is the method equivalence partitioning is a value-oriented method input and output produced

No	Unit Yang Diuji	*Test Case*	Pengujian	Metode
1	Form *Login*	- *Username:* kosong - *Password:* kosong	*blackbox*	*equvalence partitioning*
2	Form *Login*	- *Username*: admin (benar) - *Password*: kosong	*blackbox*	*equvalence partitioning*
3	Form *Login*	- *Username*: admin1 (salah) - *Password*: 123456 (benar)	*blackbox*	*equvalence partitioning*
4	Form *Login*	- *Username*: admin (benar) - *Password*: admin (salah)	*blackbox*	*equvalence partitioning*
5	Form *Login*	- *Username*: admin (benar) - *Password*: 123456 (benar)	*blackbox*	*equvalence partitioning*
6	Dashboard	- Menampilkan *link* menuju halaman lain	*blackbox*	*equvalence partitioning*
7	Halaman profil	- Menampilkan form edit profil dan ubah *password*	*blackbox*	*equvalence partitioning*
8	Halaman	- Menampilkan	*blackbox*	*equvalence*

Image 9. Blackbox Testing

CONCLUSION

This research has successfully produced a reliable web-based barbershop booking information system that can transform the service process from manual to digital methods. This system is designed to address various operational challenges, such as irregular queues, difficult to manage service schedules, and limited information available to customers. With features such as catalog services, an online booking system, schedule management, and automatic notifications, this system can increase the convenience and ease for customers to make reservations anytime and anywhere. For managers, the system provides a convenient dashboard for monitoring reservation status, managing customer data, and compiling reports. Overall, this system not only serves as a tool to improve inventory service efficiency but also supports the digitalization strategy of MSMEs in facing the challenges of the current technological era. With proper implementation, this system can be the foundation for building stronger and more sustainable customer connections.

ACKNOWLEDGEMENT

The present this research to owners and all Basua Coffee staff who have give opportunities and information needed in the research process as well as development system this. Don't forget , greetings accept unrequited love infinite writer convey to both parents and family beloved who always give prayers, moral support and encouragement without stop. In addition, the author also thanks love to friends comrades and all the party that has helpful, good in a way direct and No directly, in finish thesis this. write realize that report This Still own shortcomings. Therefore that, everything form constructive criticism and suggestions very writer hope for improvements in the future come. Hopefully report This can give benefit for readers and interested parties.

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