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Kretek Village Office Goods Inventory Information System Based on Website

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Abstract

Managing inventory data is an important factor to think about. The amount and state of data might fluctuate due to routine data gathering activities. Consequently, the volume and complexity of these operations are beyond the capabilities of existing standard recording systems. To provide error-free access to inventory data, it is critical to record and maintain the data accurately. Computerisation has given effective online system-based solutions to these difficulties, thanks to technical breakthroughs. Even though they still used old-fashioned recording techniques, the Kretek village office was one of the first to use this technology. Efforts to handle inventories, outbound items, and loans have been greatly simplified by the new web-based information system. The system was built using PHPMyAdmin and the development technique was Prototype. Testing is conducted using Blackbox Testing and User Acceptance Test (UAT) to guarantee system performance and dependability, which is the goal of this study. This study employs a qualitative approach, drawing on information gathered via in-depth interviews and careful observation. Then, observation, interviews, and a review of the relevant literature were used as methods of data gathering. Comparing the two testing methods for this system, we find that Blackbox testing confirms that the application is functioning as expected and that all features and functions are functioning properly. On the other hand, UAT testing assigns values to each feature, so we see that the menu and features are good and acceptable, with 80% for display, 70% for application menu, 80% for operation process, 80% for convenience level, and 70% for percentage value.

INTRODUCTION

In today's technological age, the existence of information systems has become vital for agencies, both government and private, to meet demands for fast and accurate access to information (Laugi, 2018; Sani et al., 2020; Iswandari, 2021; Sibuea & Tampubolon, 2022). Through sophisticated information systems, an agency's performance can be improved, and data processing can be carried out efficiently and accurately. This system plays an important role in reducing errors and increasing work efficiency (Mandiri, 2016).

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Kretek Village in Paguyangan District, Brebes Regency, is now starting to switch to a computer-based information system. However, there are still certain aspects that are managed manually, such as managing and storing goods inventory data. Currently, recording inventory of goods is done in the traditional way using a ledger. Some data from previous years was even lost due to the simple management method. This creates challenges when specific information is required.

Inventory management is a critical aspect of management, especially when dealing with large volumes of data. All types of businesses, from small to large scale, require effective inventory management (Mufidah, 2017; Kustiwi et al., 2024). The core of this concept is the analysis of process behavior and transaction data in an inventory system, with an object-oriented modeling approach. Another challenge is that conventional data recording can cause repetitive data, which creates inefficiencies. Storing documents in physical format also increases difficulties in accessing data (Endra et al., 2017; Siregar, 2019; Sari et al., 2022; Anggraini & Nurbaiti, 2023; Ningsih, 2023). Therefore, online-based management is a more efficient, faster and cost-effective solution (Sugiyantari et al., 2018).

The importance of inventory in a company cannot be ignored. The presence of good and organized inventory ensures smooth company operations (Prastike & Probowulan, 2022; Yoganata et al., 2023). Office inventory, according to Herawan, (2020); Cahyaningrum & Violita, (2023), is an essential part of agency sustainability. Adopting a computerized information system for inventory management is very important (Ali & Ambarita, 2016; Witama, 2019; Al Amin & Devitra, 2021). Systems like this make it easier to collect, process and report inventory data, and reduce the potential for human error (Zulfikar et al., 2023).

METHODS

This investigation was carried out by collecting data at the University of Peradaban which is located on Jalan Raya No. Km 3, Pagojengan, Paguyangan District, Brebes Regency with coordinates Latitude -7.28140 and Longitude 109.02537. The data collection technique used in the investigation uses three methods. Data collection is carried out so that the data can be processed before the system creation process, namely observation, interviews and literature study.

The approach that will be used to construct the system by this researcher is using the Prototyping method. According to B. R. Pressman, Roger S. & Maxim in their book, Prototyping is a software development method used with techniques to collect, design and build a system based on needs. the need for information quickly (Maulana & Arivianti, 2019; Pricillia, 2021). The stages of the Prototyping method can be seen in the picture.

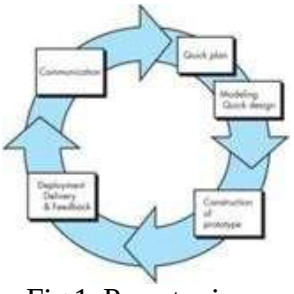

Fig 1. Prorotypin

Based on the prototyping model described above, then the discussion of each stage in the model can be explained as follows as follows: communication, quick plan/quick planning, modeling quick design/quick design model, construction of prototype/pembuatan prototype, deployment delivery & feedback/delivery and providing feedback back to development.

RESULT AND DISCUSSION

Communication

Communication is the first step in the data collection process, which involves meetings with the goods inventory management, namely the kretek village secretary and collecting additional data from sources such as journals and the internet. The author carries out two stages of communication, namely:

First, data collection. At this requirements data collection stage, the author searched and collected information regarding all the requirements needed to build this prototype. This need is related to the development of a system that can manage office goods inventory data. This data was obtained through an interview process and direct observation. After undergoing the interview and direct observation stages, data was obtained as listed appearing in the first table:

Table 1. Data Requirements

No.	Data	Objective
1	Inventory	To find out data on goods at the kretek village office
2	Incoming Goods Data	To find out data on incoming goods at the kretek village office
3	Outgoing Goods Data	To find out data on outgoing goods at the kretek village office
4	Borrowing Goods	To find out data on borrowed goods at the kretek village office
5	Item Report	To find out data reports on goods at the Kretek Village Office

Second, Prototype analysis. At this stage, the author carries out an analysis of the prototype obtained from the results of collecting requirements data. This prototype analysis is based on the data that has been collected and analysis of the system to be built. The following are the results of prototype analysis of system design, which can be found appearing in the second table:

Table 2. Prototype Analysis

No.	Module	Expected exterior
1	Inventory	Can manage input of goods data at the Kretek village office
2	Incoming goods	Can process data input for incoming goods at the Kretek village office
3	Goods Out	Can manage outgoing goods data at the Kretek village office
4	Borrowing Goods	Can manage goods loan data at the Kretek village office
5	Report	Can manage goods data at the Kretek village office

Quick Plan/Quick Planning

This stage requires several requirements analyzes to build a system, namely first, functional requirements analysis. Functional Requirements refer to statements about the services that the system should provide, how the system responds to certain inputs, and the behavior of the system in certain situations. This analysis includes identifying the needs required by officers in the information system.

Second, analysis of non-functional requirements. Non-functional requirements refer to restrictions related to the services or functions provided by the system, including restrictions such as development time and process.

Modeling Quick Design/Quick Design Model

Use Case Diagram

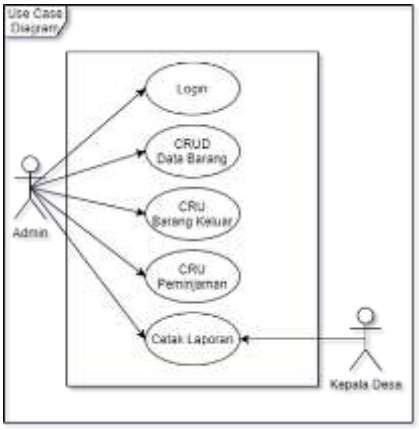

Fig 2. Use Case Diagram

Entity Relationship Diagram

Fig 3. Entity Relationship Office Goods Inventory Information System

Construction of Prototyp

The prototyping process involves developing program source code and system testing. In this process, Desain sistem yang dikembangkan sebelumnya menyediakan dasar untuk proses pengkodean. Programming is carried out using the PHP programming language, and MySQL is used as a database management system. In addition, system testing was carried out using methods that had been used by previous researchers.

Database Implementation

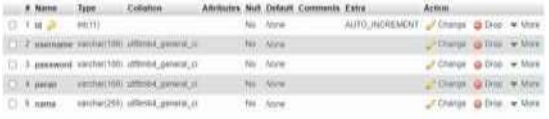

Fig 4. User Database Implementation

Fig 5. Implementation of the Goods Loan Database

System Interface Implementation

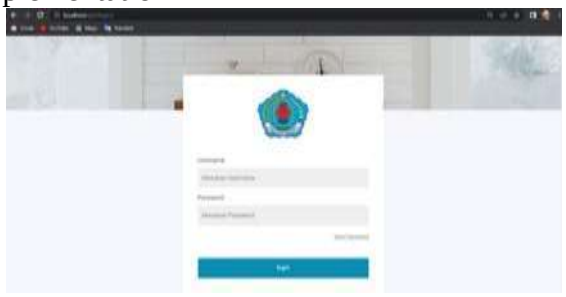

Fig 6. Login Interface Implementation

Fig 7. Implementation of the Admin Dashboard Interface

Fig 8. Implementation of the Item Data Interface

Deployment Delivery & Feedback/handing over and providing feedback back to development

The final stage is when the system is handed over to staff working at the Peradaban University Quality Assurance Agency. Through a series of stages that have been carried out previously, such as communication or interviews with several staff and administrators of the Civilization University Quality Assurance Agency, data collection, and the testing stage, the system is finally ready for use.

CONCLUSION

The conclusion that is capable of being shown by the author in this investigation is that an Office Goods Inventory Information System has been successfully built which can manage and make it easier for admins to manage goods data collection, outgoing goods data collection and goods loan data collection in Kretek Village. The Kretek Village Office Goods Inventory Information System was created using PHPMyAdmin and Prototype as the system development method. The system has been tested using two testing methods, namely Blackbox Testing and User Acceptance Test (UAT). Based on the two testing methods for this system, it can be concluded that when Blackbox testing results show that this application is running according to its functions and features, whereas in UAT testing each feature has a value (80% Display, 80% Application Menu, 70% Operation Process %, Convenience Level 80%, and percentage value 70%) so that a value is obtained which shows that the menu and features in this application are quite good and acceptable.

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