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Optimization of Inventory Management with QR Code Integration and Sequential Search Algorithm: A Case Study in a Regional Revenue Office

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ABSTRACT

Inventory management at a government office was previously conducted manually, leading to issues such as data inaccuracies, delays in item searches, and low work efficiency. This study develops a web-based inventory management system integrated with QR Code technology and a sequential search algorithm to address these challenges. The system was developed using the prototyping method, with iterative design based on user feedback until the final version met the office's operational needs. Key features of the system include digital inventory recording, item tracking using QR Codes, and real-time information access through a web-based interface. The system was tested in two stages: simulation and direct implementation in a real-world environment, involving 10 respondents to evaluate effectiveness and usability. The test results showed a 95% improvement in data recording accuracy, a 60% reduction in item search time, and an average user satisfaction score of 77.25 based on the System Usability Scale (SUS). This research successfully improved inventory management efficiency and demonstrated the system's potential for adoption by other similar organizations, with modular adjustments tailored to their needs.

I. INTRODUCTION

The Regional Revenue Unit Region 1 of Palu City is responsible for the management and supervision of regional finances, including the inventory of local government property. Inventory is an activity carried out to record an item out and in and arrange it correctly in accordance with the regulations that have been applied [1], [2]. Efficient and accurate inventory of goods is key in managing local government assets to avoid loss, theft, or waste of public resources. The Regional Revenue Unit Region 1 of Palu City can obtain accurate data on the number, type, condition, and location of each asset through inventory activities. This information is useful for financial reporting and in making decisions about the procurement, maintenance, or disposal of assets. Thus, UPT can optimize the utilization of local government assets and prevent irregularities or misuse.

The application of QR Code technology also provides advantages in identifying and tracking each item uniquely. QR Code technology is used to provide unique identification for each inventory item in the system. QR Code is an evolution of the barcode which was originally one-dimensional to two-dimensional which has the ability to store data in it [3], [4]. The QR Code can be attached to each item or asset which allows The Regional Revenue Unit Region 1 of Palu City staff to easily scan the code and access information related to the item via a mobile device or QR Code scanner. This can speed up the process of recording, updating and monitoring the overall inventory, thus ensuring that all local government assets are properly recorded. Previously, the process of recording and tracking inventory items often took longer because it was done manually, thus affecting efficiency. However, after the implementation of the QR Code, the time needed to verify and search for item information becomes faster, just by scanning the code. In terms of accuracy, the QR Code-based system reduces the possibility of human error in recording or searching data, because item information is directly linked to an integrated inventory management system. In addition, the number of errors in recording inventory items is also drastically reduced, as any changes or updates to the data are immediately recorded in the system, reducing the risk of loss or mismanagement of goods.

QR code is a visual representation of data in a two-

dimensional form that has a greater data storage capacity than one-dimensional bar codes because it is able to encode data horizontally and vertically [5], [6]. Each inventory item will be labeled with a QR Code that contains unique information about the item, such as the item ID. When the QR Code is scanned, information related to the item, such as the item ID, will appear on the user's device. This ID can then be used to search for further item data via the Samsat website or a connected inventory management system, allowing officers to track the status, location, and maintenance history of the item quickly and accurately. This allows the QR Code to store various types of data, including numeric, alphanumeric, and binary data [5]. QR codes serve as a bridge between the physical and digital worlds, allowing users to access information quickly through scanning using a smartphone. Each QR-Code symbol is arranged in a square shape and consists of function patterns and encoding regions. The entire symbol is surrounded by a quiet zone border on all four sides. There are 4 types of function patterns including finder patterns, separators, timing patterns, and alignment patterns. Encoding region contains data, which represents version information, information format, data and error correction [6]. In the optimization of inventory management at the Regional Revenue UPT Office Region I Palu City, the QR Code system does not require advanced security measures because the QR Codes on items are solely used to display basic information, such as the item's name. This ensures simplicity in implementation while maintaining the functionality of quick and accurate data retrieval without the need for complex encryption or security protocols.

Figure 1. QR Code

Until now, the Regional Revenue Unit Region 1 of Palu City still uses a manual method of recording inventory. This manual recording process is carried out by recording data in writing in a book. Although it has been used for a long time, there are several weaknesses that need to be considered. Manual inventory recording is prone to significant errors, according to the head of administration of the Regional Revenue Unit for Region I of Palu City, this is due to human factors such as errors in writing, calculating, or placing data, as well as duplication of recording. As a result, the resulting inventory data is often inaccurate and can lead to financial losses, wrong business decisions, and difficulties in conducting audits. In addition, in general, the time spent searching for inventory items manually tends to be longer with an average search duration of 5 to 10 minutes per item, depending on the amount of data that must be searched compared to using a computer-based system because officers must walk to the storage location to physically search for items, data regarding the location of items may be scattered in various records or books, making it difficult to find the information needed quickly. To overcome these problems, the application of the Sequential Search algorithm to the inventory information system can be an effective solution.The sequential search algorithm is one of the algorithms used to solve data search problems in an array data [7]. The sequential search algorithm works by executing each instruction sequentially. Each instruction will be done one by one on its line from beginning to end, according to the order in which the instructions are written [8]. Although simple, this algorithm can be applied to search for specific inventory data, such as item names, serial numbers, or storage locations. Thus, the data search process becomes more structured and efficient, minimizing errors and speeding up the search time.

Sequential searching algorithm is the process of searching data by checking each data element in a list sequentially from beginning to end until the searched data is found [9]. The process of searching data with this method is quite simple and easy. The way this algorithm works is by comparing existing data with the data to be searched one by one in sequence until it can find the data. The stages in the sequential search approach go through several processes [9], [10], namely identifying the array, determining the data to be searched, matching data starting from the first data to the last data, the searched data is then compared with each data in the array. The search is done by comparing all the data in the array until it is finished. If the data to be searched has been obtained then the process of comparing array elements will be stopped, and if the data searched in the entire array is not found then the process will stop. Sequential search was chosen because the inventory data in the Regional Revenue UPT Office Region I Palu City covers several hundred items, so its use is already quite efficient. With a small dataset size, the search time using sequential search is not much different compared to more complex algorithms such as binary search. In addition, sequential search is easy to implement and is suitable for unordered datasets.

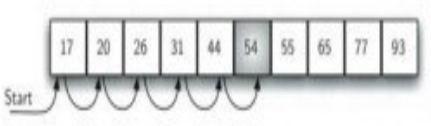

Figure 2. Sequential Search Algorithm

This Website-Based Inventory Information System is designed to support real-time data processing by utilizing API technology, AJAX, QR Code, and Sequential Search algorithms. This technology enables more efficient, responsive, and easily accessible inventory management for users. The use of AJAX (Asynchronous JavaScript and XML) is one of the main components in this system. AJAX allows communication between the browser (client) and server without the need to reload the page. With its asynchronous nature, users can see data updates directly without

interruption, so the workflow remains smooth.The API acts as a real-time data provider. Upon receiving an AJAX request, the API processes the data on the server and returns it in a user-friendly format such as JSON or XML. This ensures that the data presented is always current and accurate.

The Sequential Search algorithm was chosen because of its simplicity, suitable for small unordered datasets such as inventory at the Regional Revenue UPT Office Region I Palu City. It is easy to implement without the need for data sorting or additional structures, thus supporting fast and efficient system development. In addition, its performance is sufficient for current needs, and it is flexible to be upgraded with more complex algorithms if the dataset grows larger in the future.

As a popular scripting language, PHP is used to build interactive websites. PHP allows developers to insert program code directly into HTML pages, thereby generating dynamic content according to user needs. Similar to technologies like ASP and JSP [11]. PHP is an open-source software distributed under a free license. This allows anyone to download, use, modify, and share PHP without restrictions. PHP source code is publicly available at http://www.php.net. MySQL is a relational database management system (RDBMS). As an RDBMS, MySQL allows users to organize and manage data in the form of interconnected tables. These relationships between tables allow users to view data more comprehensively and perform more in-depth analysis [11], [12]. Simply put, MySQL is software that is used to store, organize, and retrieve data in a structured manner, so that the data can be used for various purposes, such as building web applications, data analysis, and more.

Key Features The user interface is the medium of interaction between the user and the system and is designed with key features to ensure an effective and comfortable experience. The layout is organized, with headers, main content, and additional sidebars, making information easy to find. The design is responsive and adaptive, adapting to various screen sizes, so UI elements can change position according to the device. In addition, input and interaction features, such as forms, search boxes, or "submit" buttons, make it easy for users to communicate with the system. The system also provides visual feedback, such as loading animations, error messages, or confirmations, to provide clear responses to user actions.

Previous research in 2020 with the title 'Making a QR Code-Based Plant Inventory Information System for Plant Identification of HM Sabki City Forest Park Jambi City' [13] has shown that HM Sabki City Forest Park has great potential, not only as a place of recreation but also as a learning center about biodiversity. The main objective of this system is to provide complete and easily accessible information for visitors regarding the various types of plants in the park. Each plant is marked with a unique QR Code. By scanning the QR Code using a smartphone, visitors can immediately obtain specific information about the plant. This system is also very useful for park managers in managing plant data and providing the information needed

In 2020, a study entitled 'Inventory Information System Using QR Code with Prototype Method' [14] has shown that a QR Code-based inventory information system with a prototype method is a very effective solution to overcome common problems in inventory management. This system not only improves efficiency and data accuracy, but also provides better information to management for decision making. Each item in the system is assigned a unique QR code that can be scanned easily using a smartphone. System development is done in stages by actively involving users to get feedback and make continuous improvements. The system is also capable of generating various reports needed by management.

A study in 2020 with the title 'Asset and Inventory Management Information System Using QR Code at the Petang Sub-District Office'[15] revealed that the Petang Sub-District Office previously still relied on manual methods to record inventory data. This manual method is prone to errors, takes a long time, and is difficult to access in real-time. Therefore, a QR Code-based asset and inventory management information system was designed to overcome these problems. Each asset in this system is given a unique QR code that functions as an identity and can be scanned easily using a smartphone. Thus, the process of recording, searching, and reporting asset data becomes faster and more accurate. In addition, asset data is always up-to-date and avoids manual recording errors.

The development of the "Website-Based Inventory Information System with QR Code and Sequential Search Algorithm" project at the Regional Revenue UPT office in Region I of Palu City aims to overcome the challenges of managing existing inventory. By combining website technology, QR Code, and Sequential Search Algorithm, this research is expected to produce an effective solution in inventory management.

II. RESEARCH METHOD

A. Type Of Research

This research is included in the type of quantitative research. Qualitative research is a research approach that aims to explore, interpret, and understand in depth the meanings, experiences, and perspectives of individuals or groups in certain social contexts, which are often difficult to measure or quantify with quantitative research methods [16]. In this research, inventory data of local government goods in the form of numbers and other quantitative information will be collected and analyzed to answer the research question

B. Research Type

This research is an exploratory and evaluative type of research.

1) Exploratory Research: Exploratory research type is used for the initial exploration process to find patterns, ideas, or more specific research questions, before the hypothesis testing stage is carried out [17]. In the early stages of this

research, literature studies, interviews, and observations will be conducted to understand the needs, challenges, and inventory management processes at the Regional Revenue Unit of Region I of Palu City. The results of this exploratory research will help design technology solutions that suit the needs and characteristics of the region.

2) Evaluative Research: Evaluative research type is used for a research activity in collecting data, presenting information accurately and objectively about the management of facilities and infrastructure in the Regional Revenue Unit Region 1 Palu City [18]. Evaluation of system performance will be carried out by collecting data regarding response time, search accuracy, process efficiency, and user response to the proposed system. By using this evaluation method, the research will assess the extent to which the inventory information system has achieved the objectives and benefits set out in the research.

C. Data Collection

1) Interview: Interview is a direct question and answer process between an interviewer and someone who has the information needed [19]. In this research, interviews can be conducted with various related parties, such as UPT staff Regional Revenue Region I Palu City, UPT management, and other related parties. The purpose of the interview is to obtain more in-depth information about the ongoing inventory management process, the challenges faced, and the expectations and needs of users for the inventory information system to be implemented. Interviews can also be used to validate and gather input on the system implementation plan.

2) Literature Study: Literature study is a series of activities that involve collecting data from books, journals, or other sources, then reading, recording, and analyzing the data systematically [20]. In this research, a literature study will be conducted to gain a comprehensive understanding of inventory management in the public sector, the use of QR codes and Naive Bayes algorithms in information systems, as well as case study examples of similar technology implementation in other areas. Information from the literature study will become an important theoretical basis and reference in designing an inventory information system that suits the needs of the UPT Pendapatan Daerah Wilayah I Kota Palu. System testing has been conducted both independently and in the SAMSAT operational environment, as a real implementation location. The testing involved hands-on evaluation by users in the field to ensure the system functions properly in real-world scenarios. In addition, respondents were also involved in the testing to provide feedback regarding the ease of use, efficiency, and performance of the system. The test results show that the system is able to meet user needs and improve the efficiency of inventory management according to the research objectives.

D. System Development Method

. The prototype method is a software development approach that begins by gathering information about what users want. Next, an initial model of the software is created to be shown to users. This model is then evaluated and improved iteratively until agreement is reached on the desired features and functionality [21]. The stages of the prototype method are as follows [22].

- This communication stage was carried out by interviewing the staff of the Regional Revenue UPT Region I of Palu City, UPT Management, and other related parties, as well as conducting literature studies. In this stage, user needs and problems are collected so that an overall outline of the system to be created is obtained.
- The Quick Plan and Modeling Quick Design stage focuses on the design of the user interface (UI) and system output in accordance with user needs.
- The Prototype Construction Stage is the implementation stage of the previously designed design.
- In this stage, the prototype will be tested by users to get feedback. The results of this evaluation will be used as the basis for iterating on the prototype until it reaches a final product that meets user needs.

III. RESULT

A. Requirements Analysis

Based on the results of interviews and literature review, the system requirements expected by users are as follows :

1) The system can manage inventory data:
- The system can add inventory data
- The system can change inventory data
- The system can delete inventory data
- The system can print the QR Code of inventory data

2) The system can manage incoming inventory data:
- The system can add incoming inventory data
- The system can delete incoming inventory data

3) The system can manage outgoing inventory data:
- The system can add data on outgoing inventory items
- The system can delete outgoing inventory data

4) *The system can manage inventory item type data:*
- The system can add data on the type of inventory items
- The system can change inventory item type data
- The system can delete inventory item type data

5) The system can manage the Location of Inventory Data:
- The system can add location data for inventory items
- The system can change the location data of inventory items
- The system can delete inventory item location data

B. System Design

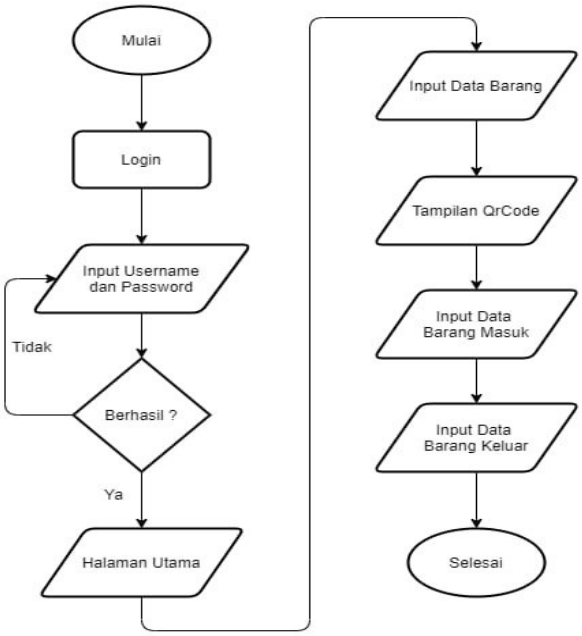

Figure 3. System Flowchart

Figure 3 presents a flowchart that illustrates the steps a user must go through to interact with the system. The first step the user must take is to login. This login process aims to verify the user's identity and provide limited access only to authorized users. After successfully logging in, the user will be directed to the main page of the system. On this main page, users can access various information related to goods management, such as stock data, transaction history, and product details. In addition, users can also perform various activities such as adding new item data, editing existing item data, or performing transactions such as recording incoming and outgoing goods. To simplify the process of identifying goods, the system is also equipped with a QR code scanning feature. By scanning the QR code attached to each item, users can quickly access complete information about the item.

Figure 4 explains the activity diagram where the process starts from the login stage, where the user is asked to enter their identity in the form of username and password. The system will then verify whether the login data entered is correct and in accordance with the data stored in the system. If the verification is successful, the user will be given access to perform various activities in the system. One of the activities that can be done is entering new item data. The entered item data will be stored in the system database. In addition, the system is also equipped with a QR code scanning feature. By scanning the QR code contained in the item, users can easily enter item data into the system automatically. Furthermore, users can also record data on incoming goods and outgoing goods. Every data entered, both new item data, incoming items, and outgoing items, will be stored in the system database for reporting purposes and further data analysis.

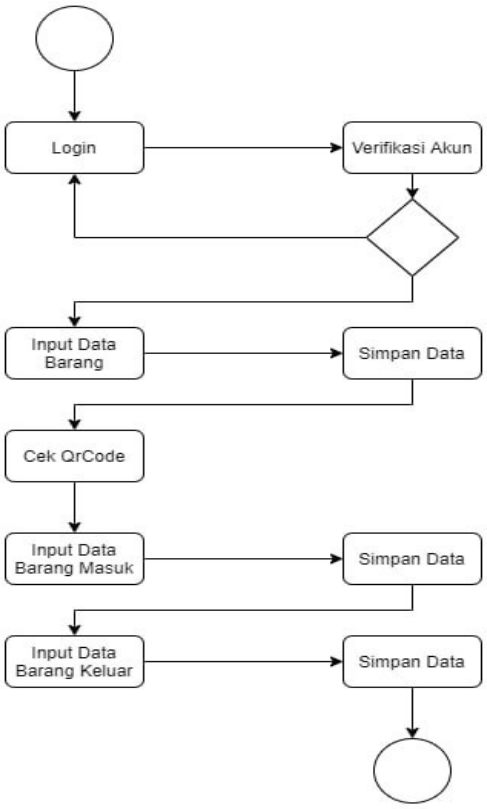

Figure 4. Activity Diagram

C. *Prototype Implementation*

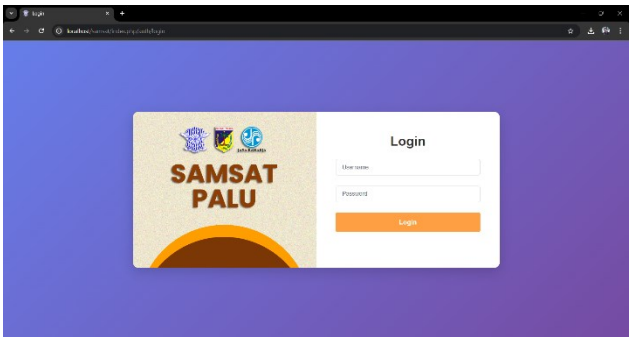

Figure 5. Login Page

Figure 5 login page. This page is the main entrance for users to access various features and data available in the system. With a simple and intuitive design, users can easily understand how to use this login page and access the SAMSAT Palu system. In addition, the use of username and password as an authentication mechanism also ensures the security of user data.

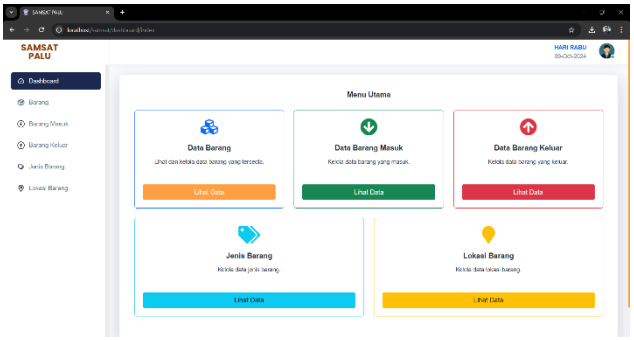

Figure 6. Dashboard Page

Figure 6 shows the dashboard that provides quick access to the various modules of item data management. Features include a complete list of all goods, a history of goods received and released, and information on the type and location of goods stored. The dashboard is designed to provide a comprehensive overview of the condition of the inventory.

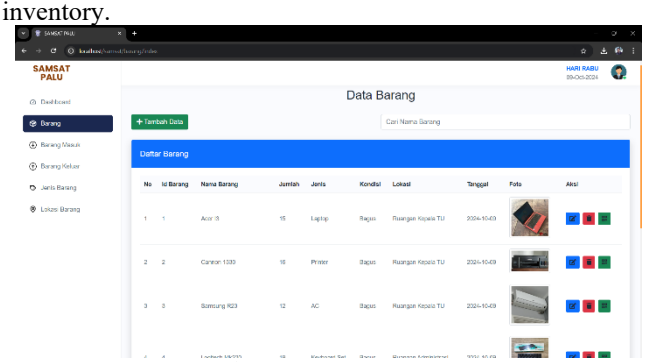

Figure 7. Item Data Page

Figure 7 Item Data View that presents information about stored items. Users can easily view a list of all items, search for specific items, and perform necessary actions on the item data. The simple and intuitive display design allows users to quickly adapt and use the system.

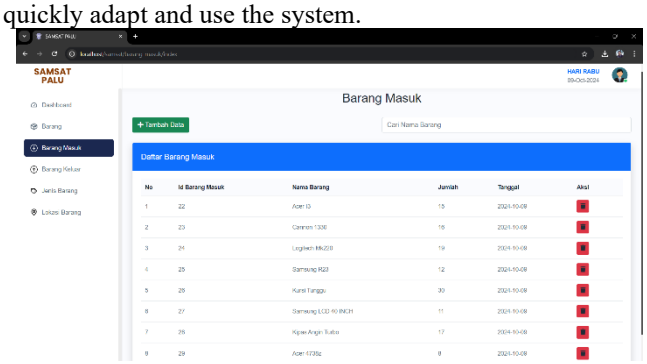

Figure 8. Incoming Goods Data Page

Figure 8 The incoming item data page provides detailed information about each newly received item. Users can easily view the list of incoming items, as well as add new item data through a user-friendly interface.

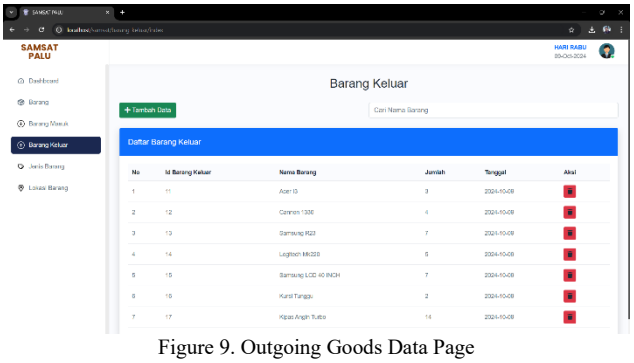

Figure 9. Outgoing Goods Data Page

Figure 9 The outgoing goods data page provides detailed information about each outgoing item. Users can easily view the list of outgoing items, as well as add outgoing item data through a user-friendly interface.

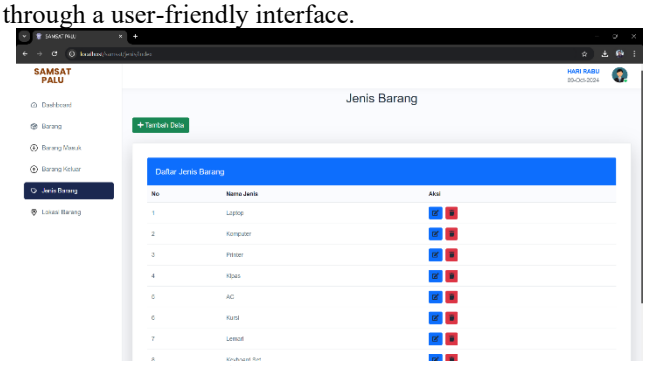

Figure 10. Item Type Data

Figure 10 item type page. In this view, users can clearly see how the system presents information about the various types of goods in the system. Users can easily see a list of all existing types of goods, add new types of goods, changes and deletions to existing types of goods data.

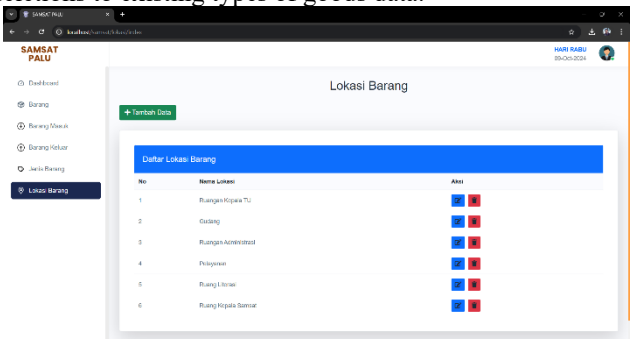

Figure 11. Item Location Page

Figure 11 item location page. In this view, users can clearly see how the system presents information about the various storage locations of goods in the system. Users can easily see a list of all existing storage locations, add new storage locations, and make changes or deletions to existing storage location data.

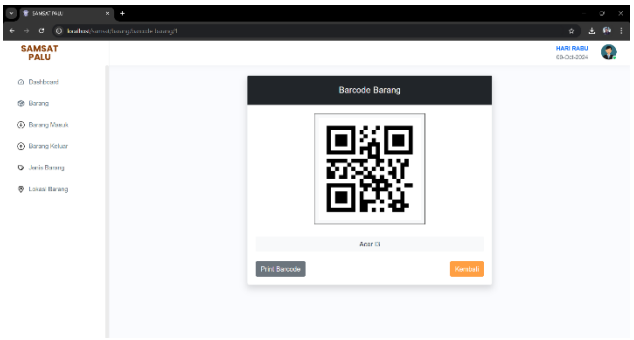

Figure 12. Item QR Code

Figure 12 item barcode. In this view, users can clearly see how the system presents information about the barcode to be printed for a particular item. By printing the barcode and attaching it to the item, users can easily get information about the item by simply scanning the barcode using a barcode scanning device. Each item is affixed with a qr code, then the user scans the qr code using a smartphone to get item information.

D. Prototype Testing

1) Black Box Testing: Black box testing is a software testing method that focuses on verifying the functionality of the system as a whole. The goal is to identify errors such as malfunctions, user interface problems, data errors, performance problems, and errors in system initialization and termination [23].

TABLE 1
BLACK BOX TESTING

No	Function	Description	Status
1	Login	Admin enters username and password if correct it will enter the system dashboard page.	Success
2	Invntory Items	Admin adds and changes inventory item data, if successful, the data will be stored in the database and appear on the item data page. Admin deletes item data, if successful the data will be deleted from the database. Admin can print the QR Code for inventory.	Success
3	Incoming Inventory Items	Admin adds incoming inventory data, if successful, the data will be stored in the database and appear on the item data page. Admin deletes incoming inventory data, if successful the data will be deleted from the database.	Success
4	Outgoing Inventory Items	Admin adds outgoing inventory data, if successful, the data will be stored in the database and appear on the item data page. Admin deletes outgoing inventory data, if successful the data will be deleted from the database.	Success
5	Types of Inventory Items	Admin adds and changes the type of inventory item data, if successful, the data will be stored in the database and appear on the item data page. Admin deletes the type of inventory item data, if successful the data will be deleted from the database.	Success
6	Location of Inventory Items	Admin adds and changes the location of inventory data, if successful, the data will be stored in the database and appear on the item data page. Admin deletes the location of inventory data, if successful the data will be deleted from the database.	Success
7	Logout	Admin successfully exits the system.	Success

TABLE 2
QR CODE TESTING

No	Function	Description	Status
1	Scan the correct QR Code	Display item data details	Success
2	Scanning QR Code in low light environment	Adjusts lighting and successfully reads QR code	Success
3	Scanning QR Code without internet connection	Successfully reads QR code even without internet	Success
4	Scanning QR Code without internet connection	Successfully reads QR code even without internet	Success
5	Scanning QR Code on another device's screen	Successfully reads QR code from another device's screen	Success
6	Scanning QR Code with colored background	Successfully reads QR code even with a colored background	Success

2) System Usability Scale Testing: System Usability Scale is a tool used to measure the level of usability, efficiency, and user satisfaction with a product, with the aim of improving the quality of the user experience [24]. SUS is an effective tool for measuring the ease of use of various products and services. With SUS, researchers can quickly assess whether a product or service is easy for users to use. In addition, the single SUS score (0-100) makes it easy to interpret the results by the development team [25]. System testing will involve ten employees of the Administration of the Regional Revenue Unit of Region I of Palu City as respondents. Respondents will be given tasks to carry out various system functions, such as inputting new inventory data, recording incoming and outgoing goods mutations, changing inventory data, deleting unnecessary inventory data, searching data using keywords, scanning barcodes for quick identification, and determining the location of goods storage. After completing all tasks, respondents will be asked to fill

out a questionnaire to provide an assessment of the ease of use of the system.

TABLE 3
LIST OF QUESTIONS

No	Code	Aspects
1	A	I am thinking of using this system again
2	B	I find this system difficult to use
3	C	I feel that the appearance of this system is good and attractive
4	D	I need help from others to use this system
5	E	I found it easy to scan the QR code
6	F	I feel that there are many inconsistencies in this system
7	G	I find it easy to find inventory items on this system
8	H	I find this system confusing
9	I	I feel that the features of this system work properly.
10	J	I need to learn a lot before using this system

TABLE 4
INDIKATOR OF ASSESSMENT

No	Predicates	Values
1	Totally Agree	5
2	Agree	4
3	Simple	3
4	Disagree	2
5	Strongly Disagree	1

TABLE 5
USER SATISFACTION INDICATOR

No	Categories	Values
1	Highly Satisfactory	80.3 - 100
2	Satisfactory	75 – 80.2
3	Quite Satisfactory	69 - 74
4	Unsatisfactory	52 – 68
5	Highly Unsatisfactory	0 – 51

TABLE 6
USABILITY TESTING

Respondents	Code										Total	Value
	A	B	C	D	E	F	G	H	I	J		
1	2	3	3	3	5	3	3	3	3	4	32	80
2	3	3	3	3	3	3	3	3	3	4	31	77,5
3	3	2	3	3	1	3	4	3	3	3	28	70
4	4	5	2	3	4	4	5	3	3	4	37	92,5
5	3	3	3	3	3	3	3	4	3	2	30	75
6	3	3	3	3	3	3	3	3	3	2	29	72,5
7	4	2	4	2	5	2	5	3	2	4	33	82,5
8	3	3	3	3	3	3	3	3	3	2	29	72,5
9	2	4	2	4	2	2	3	4	2	4	29	72,5
10	3	4	4	3	3	3	2	2	4	3	31	77,5
	Final Results											77,25

Based on the calculations in Table 6, the 'Sum' column is the result of the sum of the values in columns A to J. The final score is then obtained by multiplying the 'Sum' value by a factor of 2.5. The average calculation of all values results in 77.25. This result indicates that the system has a fairly good level of ease of use.

System performance metrics were used to evaluate the impact of the implementation on item search efficiency, inventory error reduction, and staff productivity. The measurement results showed significant improvements in various aspects.

- Item Search Efficiency

  Formula:

  $$Efficiency = \frac{\text{Time Before System} - \text{Time After System}}{\text{Time Before System}} \times 100$$

  Results:

- Decrease in Inventory Error

  Formula:

  $$Decreased = \frac{\text{Error Before The System} - \text{Error After System}}{\text{Error Before The System}} \times 100$$

  Results:

  $$Decreased = \frac{24 - 5}{24} \times 100 \approx 79.17\% \text{ (Rounded 80\%)}$$

- Time Efficiency Staff Productivity

  Formula:

  $$TimeEfficiency = \frac{\text{Time Before The System} - \text{Time After System}}{\text{Time Before The System}} \times 100$$

  Results:

  $$TimeEfficiency = \frac{40\ \text{Hour/Day} - 5\ \text{Hour/Day}}{40\ \text{Hour/Day}} \times 100 = 87.5\%$$

IV. CONCLUSION

By utilizing AJAX-based real-time technology, the process of searching and updating inventory data becomes much more efficient. Simply by scanning the QR Code using a smartphone, staff can immediately access complete information about the item, including the latest stock quantity, condition, and location without the need to wait for the page to reload. If any data changes are made by other staff simultaneously, the system will automatically update the information so that the data displayed is always accurate and up-to-date. This allows staff to complete reports quickly and accurately, even in urgent situations, and minimizes the risk of data errors. The sequential search algorithm was chosen due to its simplicity of implementation, its suitability for small unordered datasets, and the search time that remains efficient in the context of the large inventory at the Regional Revenue Office of Region I of Palu City. The system has significantly improved efficiency. Searching for items that previously took 5-10 minutes can now be done in less than 10 seconds thanks to the QR Code feature and accurate search algorithms. In addition, the chronic problem of inventory management, characterized by an average of 20-25 errors per month, was resolved with an 80% reduction in errors. Prior to the implementation of this system, the UPT Pendapatan Daerah Wilayah I Kota Palu was faced with a number of obstacles, such as slow reporting processes, high data error rates, and low employee productivity. The manual process that still dominates is the root of the problem. However, with this system in place, the company can now enjoy a number of benefits. Real-time access to inventory data allows the office

head to monitor stock in real time and make strategic decisions faster. In addition, automated validation and the elimination of manual processes significantly reduce inventory errors, thereby improving data accuracy. As a consequence, employees can allocate their time to more productive tasks, such as strategy development or innovation. This ultimately improves the work effectiveness of staff and the organization as a whole.

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