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IMPLEMENTATION OF A WEB-BASED APPLICATION FOR THE RECORDING OF GOODS IN THE STORAGE COMPARTMENT OF TOOLS AND CONSUMABLES IN KABUPATEN PATI

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ABSTRACT

BPBD Pati Regency in recording goods in the warehouse uses goods control cards and miscosoft excel as a medium for recording goods. The recording process already has its own procedures so that incoming and outgoing goods can be recorded accurately. However, despite using technology in recording goods in the warehouse, the recording of goods is still not optimal because the lack of coordination between logistics staff makes the recording of goods slow. This results in a mismatch between the stock in the system and the stock in the warehouse. The purpose of this study is to assist logistics staff in recording incoming and outgoing goods so that the recording process can run efficiently and can increase warehouse productivity using web-based applications. This type of research is a case study using qualitative methods. The result of this research is a web-based application for recording goods in the tools and food ingredients warehouse at BPBD Pati Regency. The design of this application uses context diagram, data flow diagram level 0 (DFD Level 0), data flow diagaram level 1 (DFD Level 1) and entity relationship diagram (ERD). The programming language used is PHP and the database uses MySQ.

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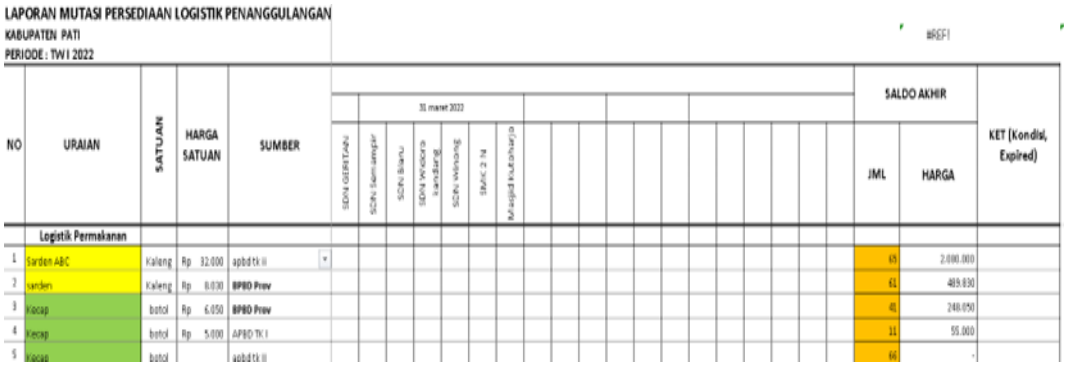
INTRODUCTION

BPBD is an agency established by each local government, and the Pati Regency BPBD is proposed by the Regent. The basis for the formation of BPBDs is contained in a policy issued by BNPB, that every region throughout Indonesia is encouraged to have a regional-level disaster management agency. BPBDs play a large role in social activities related to poverty and disaster, and they have a lot of equipment and supplies of usable food for distribution. In order to maintain the quality of food to meet the needs of disaster-affected communities, it is necessary to maintain and record the warehouse regularly. Warehouses have an important role in running the supply chain of both distribution and food. This very important role makes the warehouse must have an adequate management

system to be able to review all activities that occur in it. All forms of activities such as checking the receipt of goods. That way, the goods that enter the warehouse are ensured to be in accordance with the standards and have a usable quality.

BPBD Pati Regency has a type of consolidated warehouse, because it is used to store from various sources, both from the APBN, APBD, and donors. Therefore, a good goods recording system is needed to increase warehouse productivity. Sutarman (2020) states that warehouses can be used as a physical supply and distribution system, and can support manufacturing activities, spare parts, and other goods.

Figure 1 : Recording Goods in Microsoft Excel


LAPORAN MUTASI PERSEDIAAN LOGISTIK PENANGGULANGAN
KABUPATEN PATI
PERIODE : TW I 2022

NO	URAIAN	SATUAN	HARGA SATUAN	SUMBER	SALDO AKHIR		KET (Kondisi, Expired)
					JML	HARGA	
	Logistik Permakanan						
1	Sarden ABC	Kaleng	Rp 32.000	apbd tk II	65	2.080.000	
2	sarden	Kaleng	Rp 8.030	BPBD Prov	61	489.830	
3	Kecap	botol	Rp 6.050	BPBD Prov	41	248.050	
4	Kecap	botol	Rp 5.000	APBD TK I	11	55.000	
5	Kecap	botol		apbd tk II	66	-	

Source : BPBD Pati Regency

BPBD Pati Regency still uses a recording system using Microsoft Excel but when goods enter and exit the logistics field only records on the goods control card.

Item Type : Soy Sauce
Unit of Goods : Bottle
Origin : BPBD Prov

Table 1 : Recording of goods on the goods control card

No	Date	In	Out	Remaining	Description
1.	7/2/2022	144	-	-	
2.	8/2/2022		46	98	Sugihrejo Gabus
3.	26/3/2022		57	41	Bringinwareng
4.	2/4/2022		41	-	Baleadi Sukolilo

Source : BPBD Pati Regency

It can be seen from the table that there was no recording of goods in the quarter, even though the goods control card recorded several items coming out. The mismatch between the stock of goods in the warehouse and in the system will result in the loss of

goods in the warehouse. From this problem, the researcher conceptualizes a web-based inventory recording application, which can later become an alternative solution to be used as a medium for controlling the flow of goods in and out. The existence of this application is to facilitate inventory management and facilitate management in monitoring inventory in the warehouse (Pribachtiar & Utomo, 2021).

METHODS

This research uses a qualitative method with a type of case study research, because the researcher considers the problem under study to be quite complex and dynamic so that the data obtained from the sources is collected using a more natural method, namely direct interviews with the sources so that natural answers are obtained. In addition, researchers intend to understand the situation in depth, find patterns, and theories that are in accordance with the data obtained in the field. The problem studied is relatively complex because it is directly related to the implementation of the website concept in the warehouse. So that in order to support the efficiency of recording stock-taking, a practical and computerized tool is needed. This research uses data collection techniques in the form of interviews, observation, and documentation. As for the data analysis technique, researchers used the Miles and Huberman model, namely:

1. Data collection
   In qualitative research, data is collected using observation, in-depth interviews and documentation. Data collection is carried out in sequence and takes a short time. In the early stages, researchers made observations by joining directly to feel the situation that was happening in the object of research. Then the researcher conducted interviews to dig deeper information about the objects and problems experienced.
2. Data reduction
   The data obtained in the field is quite a lot, so it needs to be recorded in detail. Reducing data means summarizing, selecting and focusing on the main things, thus the reduced data will provide a clear picture, and make it easier for researchers to carry out further data collection (Sugiyono, 2018). Data reduction can be assisted by using laptop and computer electronic equipment to record data that has been collected by providing codes on certain aspects.
3. Conclusion drawing
   Conclusions in qualitative research are new findings that have not previously existed. The findings can be in the form of a description of objects that were previously vague so that after being examined it becomes clear. This conclusion is the result of a previously unsolved problem, the problem becomes the root and slows down the performance of the research object process.

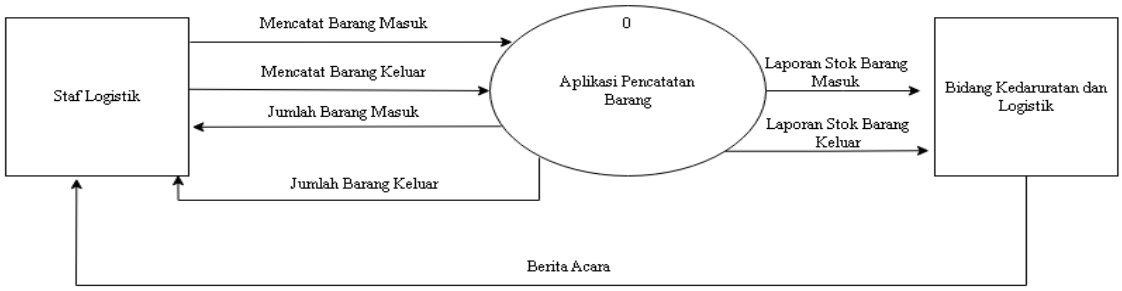
RESULT AND DISCUSSION

Research result

But the process is not running properly. In addition, the Pati Regency BPBD warehouse has several advantages, namely a warehouse that is large enough to store the needs of daily goods, has a First In First Out (FIFO) method of storing goods and has implemented standard operating procedures. However, there are also shortcomings that cause the recording process to be less than optimal. First, the condition of the warehouse which still has many rat pests, then there are several facilities that do not meet the standards and the lack of coordination between logistics staff or warehouse officers to immediately record goods.

For this reason, researchers implemented a web-based application to be used as a medium for recording goods in the BPBD warehouse in Pati Regency.

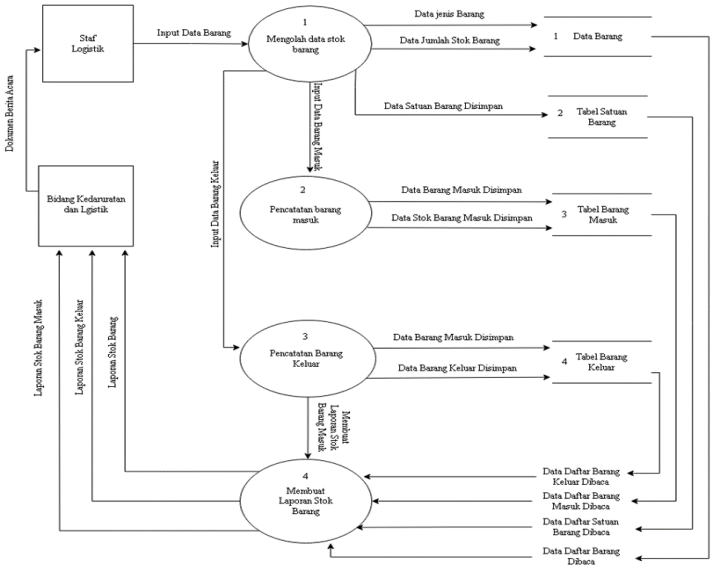
Figure 2 : Context Diagram



Source: Data processed by the author, 2024

In this application, the context diagram consists of two entities, namely logistics staff and the Emergency and Logistics Division.

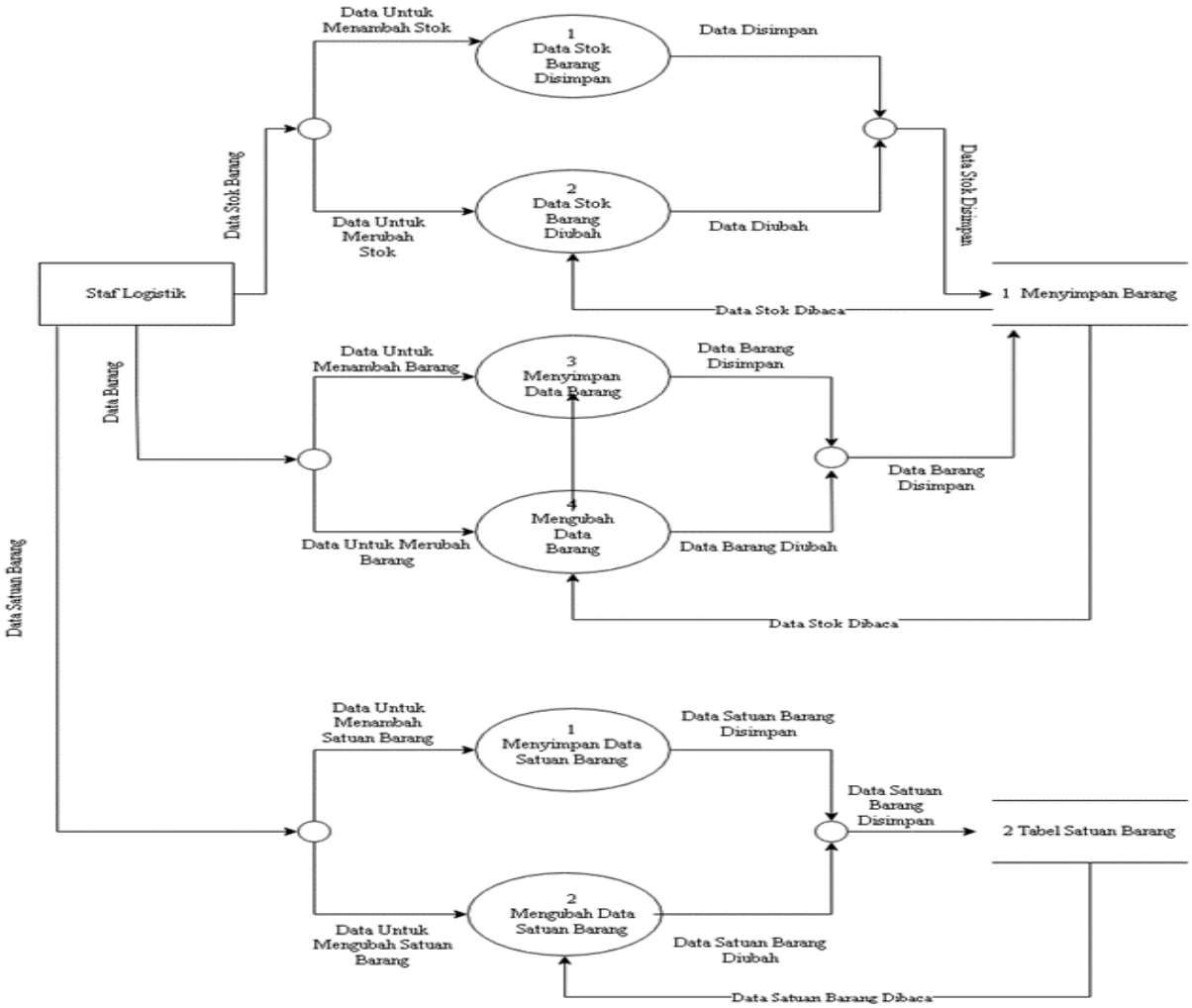
Figure 3 : Data Flow Diagram Level 0 of Goods Recording Application



Source: Data processed by the author, 2024

DFD Level 0 is a decomposition of the overall process. Consists of four sub-processes, namely processing stock data, recording incoming goods, recording outgoing goods and making stock reports.

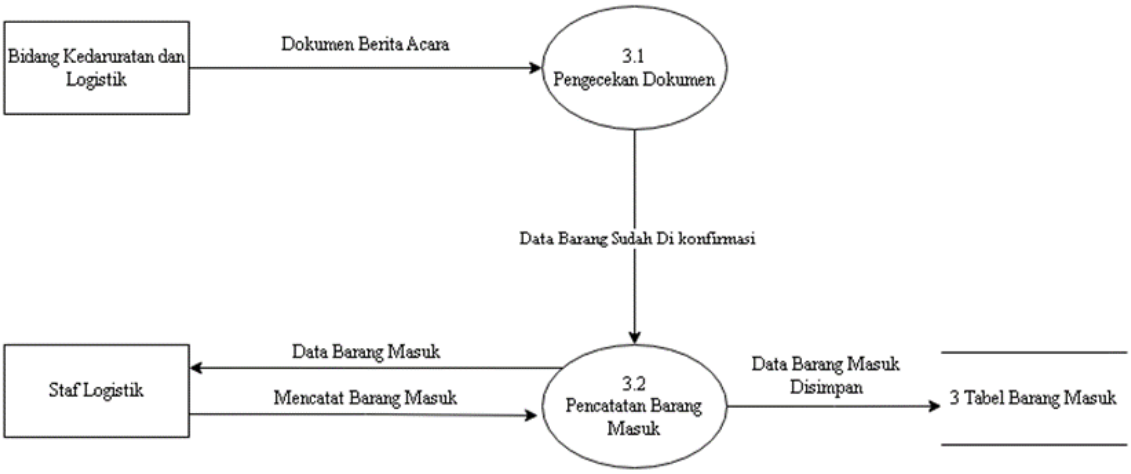
Figure 4 : Data Flow Diagram Level 1 Managing Master Data on recording goods



Source: Data processed by the author, 2024

There are six processes that are decompositions of DFD Level 0, namely the process of stock item data being stored, stock item data being changed, storing item data, changing item data, storing item unit data, and changing item unit data.

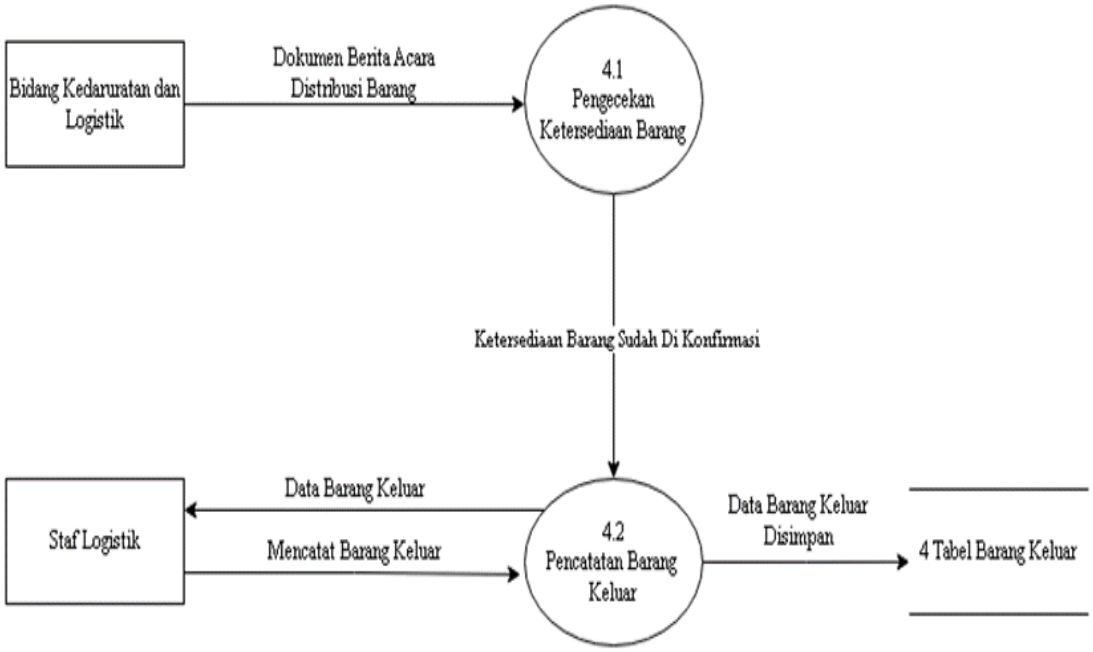
Figure 5 : Data Flow Diagram Level 1 of the Incoming Goods Recording Process



Source: Data processed by the author, 2024

This DFD level 1 is a decomposition of the DFD level 0 process which consists of two sub-processes, namely checking documents and checking incoming goods.

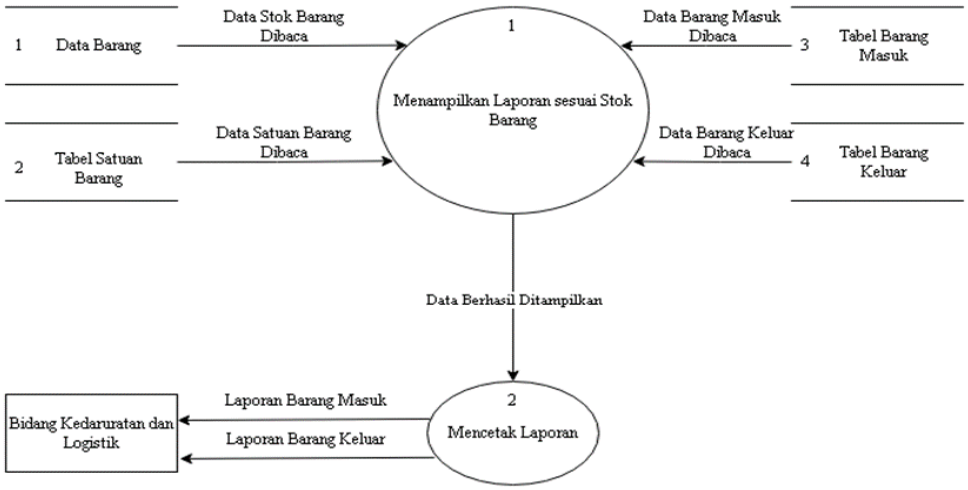
Figure 6 : Data Flow Diagram Level 1 Outgoing Goods Recording Process



Source: Data processed by the author, 2024

This DFD level 1 is a decomposition of the DFD level 0 process which consists of two sub-processes, namely checking the availability of goods and recording outgoing goods.

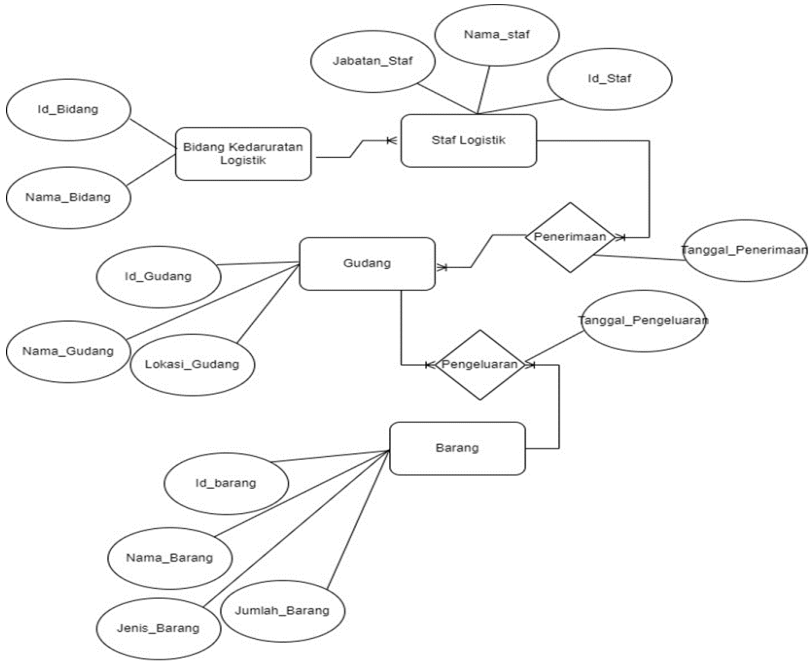
Figure 7 : Data Flow Diagram Level 1 Creating Reports



Source: Data processed by the author, 2024

In this DFD level 1 there are two sub-processes in making reports, the first is displaying reports according to stock items and then printing reports.

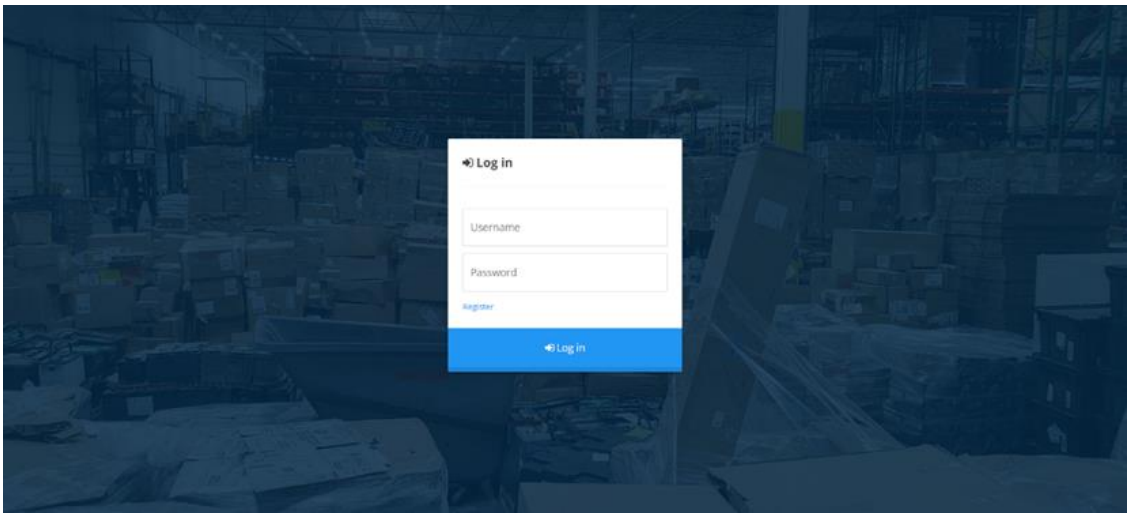
Figure 8 : Entitiy Relationship Diagram



Source: Data processed by the author, 2024

The final result of the concept above is a web-based application to be used as an application for recording goods.

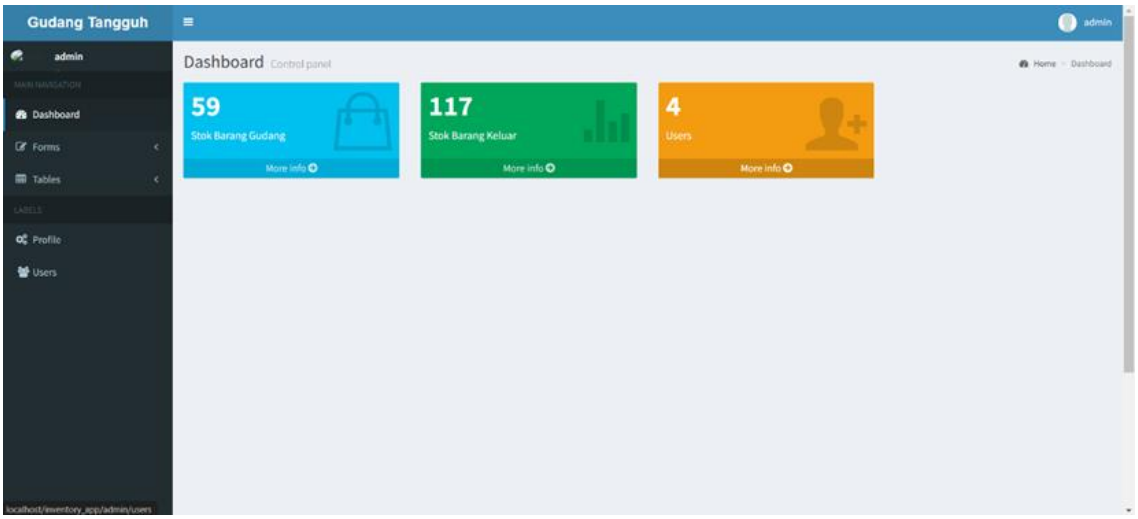
Figure 9 : Web-based Goods Recording Application



Source: Data processed by the author, 2024

Log in menu on the application named gudang tangguh.

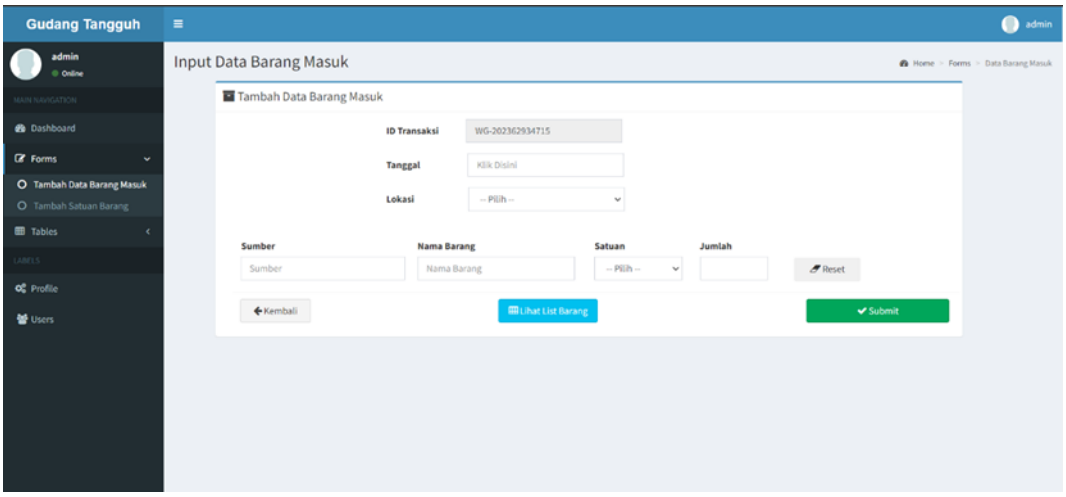
Figure 10 : Application Dashboard View



Source: Data processed by the author, 2024

The dashboard display contains three types of features, namely shortcuts for warehouse stock, outgoing stock and users or the number of registered users.

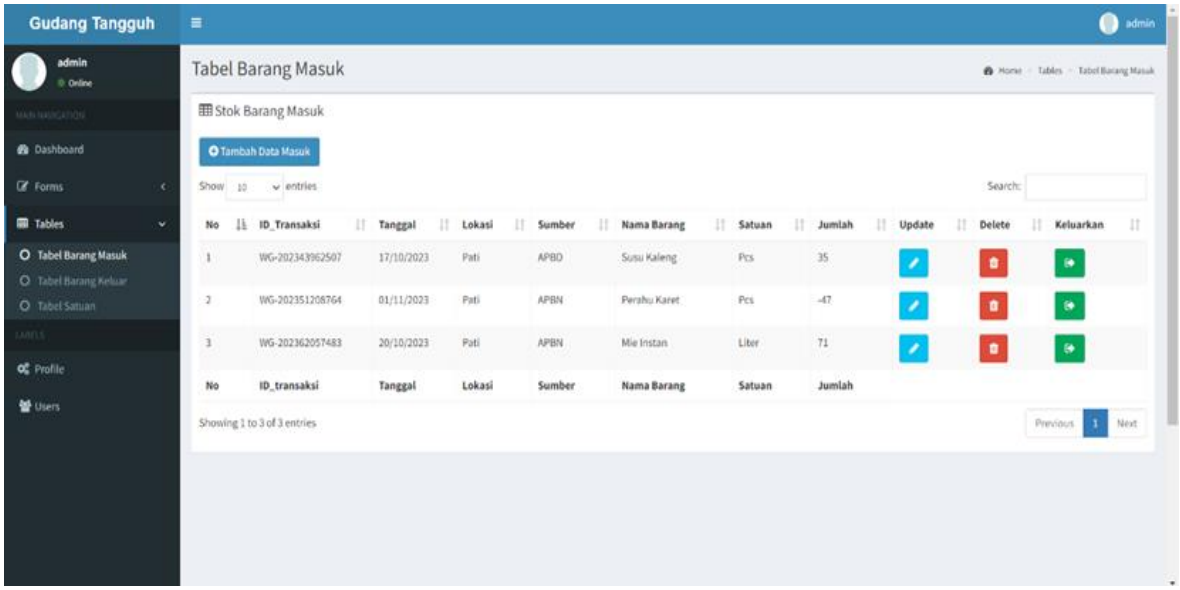
Figure 11 : Item Input Menu



Source: Data processed by the author, 2024

In the incoming goods data input menu, there are several information that must be filled in, namely date, location, source, item name, unit and quantity, then after that submit the item to register the item to the system.

Figure 12 : Stock items in the warehouse



Source: Data processed by the author, 2024

After inputting the item data, it will be registered into the system. In this table there are features to add incoming data, update data, delete and remove. For the exit feature, it is used if there are items that will be removed from the warehouse either distributed or written off. on this menu is specifically for warehouse admin only.

Figure 13 : Ordinary User Incoming Goods Table

Source: Data processed by the author, 2024

Preview of the incoming goods table menu is only accessed by people other than logistics staff. This is differentiated with the aim of maintaining the accuracy of warehouse stock so that all types of records go through one channel, namely the warehouse admin or logistics staff.

Discussion

The process of recording goods in warehouse the BPBD Pati Regency

BPBD Pati Regency has a process of recording goods when goods arrive at the warehouse, checking the minutes of the event document to ensure the correctness of the number of goods. after that the goods are removed from the truck to be categorized based on the source or origin of the goods, for example from the APBD, APBN or donors. Then the logistics staff records the goods using a paper table which serves to control the number of goods in the warehouse. Then recording is done using Microsoft Excel by looking at the goods control card as a writing reference and then the data that has been input is checked again to ensure that the data on the number of items is correct.

Implementation of the concept of recording goods in warehouse the BPBD Pati Regency using a web-based application

To simplify the work of logistics staff in the warehouse, researchers present the concept of a web-based digital goods recording application, the name is Gudang Tangguh. This application makes it easier for logistics staff to record goods in the warehouse. The input process can be done anywhere and easily so there is no longer any reason to delay. This application can also be used for tracking goods from where the goods come from. As research has been done by Norlita and Alim Muin (2020) that the concept of recording goods application will simplify the operator's task with a minimalist work system and facilitate his duties in operating the warehouse.

Strengths and weaknesses of the inventory storage process at the BPBD warehouse in Pati Regency.

From the analysis, it is found that BPBD Pati Regency has a warehouse area that is sufficient to store goods for daily needs, has a First In First Out (FIFO) storage method and applies Standard Operating Procedures.

Although they already have good storage processes and procedures, they also apply the FIFO system to manage the flow of goods. The system of recording goods is still somewhat ineffective. There are shortcomings in the form of obstacles when storing these goods, the condition of the Pati Regency BPBD warehouse has many rat pests that can cause damage to goods. The condition of the warehouse does not meet the standards because there are several facilities that have been damaged and the lack of coordination between warehouse officers to immediately record goods

CONCLUSION

The conclusion of this study is that the process of recording goods in the BPBD warehouse in Pati Regency is structured. Recording starts with the logistics staff checking the minutes document whether the number of goods received is correct or not, then proceeds with categorizing the goods according to their origin, then recorded in a paper table called the goods control card. After that, it is arranged into storage shelves and recorded in Microsoft Excel by paying attention to the goods control card and the last process is to double-check the data and the number of items that have been input so that there are no stock mismatches. Even though it has been done, sometimes there is a miss match between the stock system and the stock in the warehouse, therefore the author carries out a web-based application for recording goods to facilitate the performance of logistics staff in the warehouse. The advantages of BPBD Pati Regency are that they have a large enough warehouse that can be used to store daily goods, use the first in first out method and already have their own procedures. However, in realistic conditions in the field, the BPBD Pati Regency warehouse has many rat pests, warehouse conditions are not up to standard and there is a lack of coordination between warehouse staff to immediately record goods.

Suggestions that the authors can give from the results of this study are to continue to carry out the recording process by paying attention to procedures and coordinating with each other. Then

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