Design of Information Systems for Supplies on A Web-Based Company

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Abstract— With the development of the times, many companies now use technological assistance to help with a job. But there are not many who still use manual methods such as in recording inventory which takes a lot of time and is ineffective, therefore the role of information systems is needed to deal with this problem. Building an information system in a company requires a good understanding of the system that will be used in the company both in the process of inputting goods, outputting goods, therefore by designing a Web-based inventory application that is easy to develop and user-friendly and pays attention to the User Interface (UI) and User Experience (UX) according to user needs, then making the right application can help improve company performance, up to the application implementation stage whether the application is running properly. The system implementation method uses the Waterfall method, which is done in stages to reduce the risk of revisions at the past stages and data collection by conducting interviews in order to get the user's needs precisely and get valid data. In the E-Stock application, there is a history for incoming and outgoing goods and there are access rights which make it possible for fraud in business to be smaller, because all transactions in and out of goods are recorded by parties who have their own authority.

Keywords— information system, application, web, user friendly, user interface, user experience, questionnaire, e-stock, waterfall, fraud.

I. INTRODUCTION

In this growing and advanced era, a lot of human work is already supported by technology in any field. The technology is continuously evolving to meet the needs of people that are increasingly needed and to save time. Also in the processing of data fast, accurate and efficient is essential for any company or agency. Like the inventory of goods that is the most important thing in a company, many cases where many companies are still using the method of recording manually so it is time-consuming and inefficient, then the information system activity is very necessary to facilitate in the inspection of inventory goods, with such information system then it is necessary system design to process good inventory data. In the control of inventory of goods also has the presence of a database that is able to store the goods data in it correctly and can regulate the relationship between the data goods so that the information obtained is useful and useful in the work process of a company. Building an information system in a company requires a good understanding of the system that will be used in the company both in the process of input goods, output goods. This requires an information system that can improve the performance of the system in order to provide maximum results and can increase the efficiency and efficiency of work.

II. METHOD

Based on the title of the proposal on the Design of Information Systems for Supply

of Goods with a Web Base then it is necessary to explain about Web Base Applications, UI Design, UX Design, PHP Programming Language. This information system will be created in the form of a Web Base application that is systemized on Windows.

Primary Data Source

Primary data sources taken from interviews with several store owners and employees as well as people outside the store.

Secondary Data Source

Secondary data sources are taken and obtained from various journals and various references with topics related to making applications.

Data collection technique

The interview technique is used for store owners and employees who will use this application and already understand the use of the inventory application with a computer or laptop.

Library Studies

In this technique by collecting data through written information, such as scientific journals, online journals, and scientific papers.

III. RESULTS AND DISCUSSION

Business process

The use of technology really helps lighten the work of the user so that it can increase productivity at work. There are several users in this E-Stock application, namely Super Admin/Owner, Warehouse Admin, Cashier Admin, and Distributor Admin. The Warehouse Admin can only add goods and request requests for goods to the Super Admin, then the Super Admin has authority such as adding stock, adding users, validating requests for goods from the Warehouse Admin, etc. The Distributor Admin can only accept requests for goods and approve them from the Super Admin, and the Cashier Admin can only make outgoing goods transactions. With the increasing needs of consumers, companies increase work productivity at companies by creating systems that can speed up work such as making this E-Stock application.

Application Design

This E-Stock application is not only used in one company but can be used in various companies and does not only sell one type of goods but can be of various types of goods. In designing this application, the User Experience is made easier so that it can be used by users in various circles and the User Interface is not too complicated. Use Case Diagram is made to find out what functions are in the E-Stock application and which users can access the application.

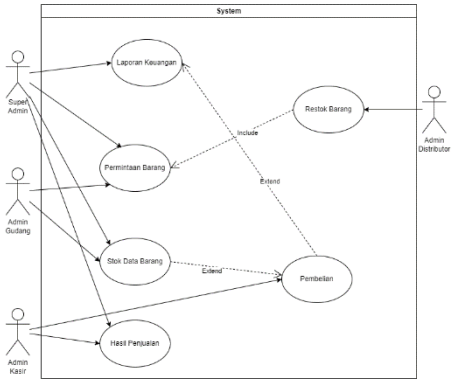

Figure 1 Use Case Diagram

With this Use Case diagram, all the objectives of each Admin can be clearly described so as to reduce errors when making applications.

Entity Relationship Diagram

Entity Relationship Diagram is designed to explain the relationship of each entity or database table in the business system or in this E-Stock application.

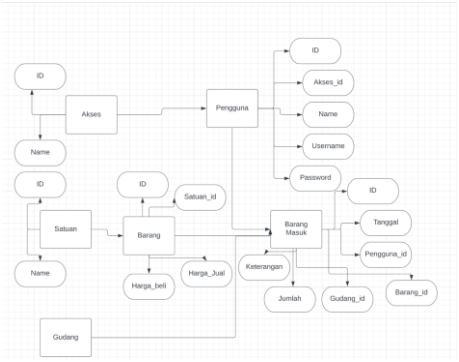

Figure 2 Entity Relationship Diagram

There are core / master tables that are used for the basis of creating an E-Stock application, namely Access, User, Unit, Warehouse, and Goods. The table will be the

relation of several tables such as Goods In, Goods Out, Goods Out Detail, and Request. Starting from the creation of the Access table which aims to provide access for each user. Then the User table is created for the login account to enter the application. The Unit table is used to define the count of each item. the Warehouse table becomes the location of incoming goods. And the Goods table is used to define each item, which consists of name, unit, purchase price and selling price. After determining the core/master table, each user can perform actions such as creating, viewing, editing, deleting and performing transactions.

Database

The following will describe some of the tables in the E-Stock application database, such as the Access, User, Unit, Warehouse, Goods, Goods In, Goods Out, Goods Out Detail and Request tables.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
2	nama	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	username	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	password	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	akses_id	int(10)		UNSIGNED	Yes	NULL			Change Drop More

Figure 3 User Table Database

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
2	nama	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	satuan_id	int(10)		UNSIGNED	Yes	NULL			Change Drop More
4	harga_beli	int(10)		UNSIGNED	Yes	NULL			Change Drop More
5	harga_jual	int(10)		UNSIGNED	Yes	NULL			Change Drop More

Figure 4 Item Table Database

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
2	kode	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	tanggal	date			Yes	NULL			Change Drop More
4	pengguna_id	int(10)		UNSIGNED	Yes	NULL			Change Drop More
5	barang_id	int(10)		UNSIGNED	Yes	NULL			Change Drop More
6	jumlah	int(10)		UNSIGNED	Yes	NULL			Change Drop More
7	status	tinyint(1)		UNSIGNED	Yes	NULL			Change Drop More
8	keterangan	text	utf8mb4_general_ci		Yes				Change Drop More

Figure 5 Request Table Database

Interface Concepts

The purpose of UI is to make users or users can interact with each other through commands and also design so that users or users are easy to use and efficient in using.

Figure 6 Login Page

The picture above is a view of the login, this is the initial stage before entering the application, which is useful for keeping data accessible and managed by a predetermined user.

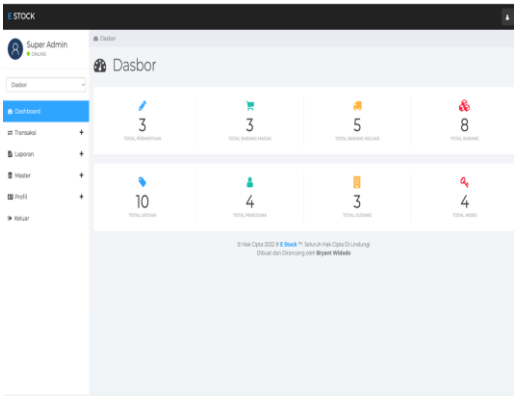

Figure 7 Dashboard Page

On the Transaction menu there are 3 sections, namely Requests, Incoming Goods, and Outgoing Goods. In Figure 8 is a view of the Request page and in Figure 9 is a view of the creation for Request and in Figure 10 is a view to confirm whether the request is approved or rejected.

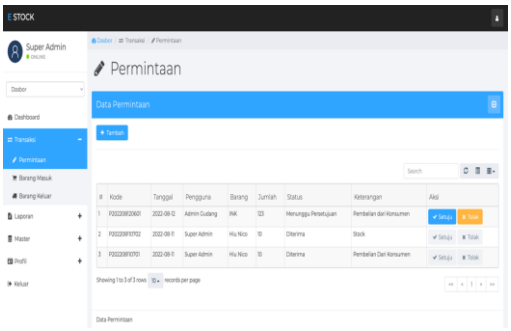

Figure 8 Request Page View

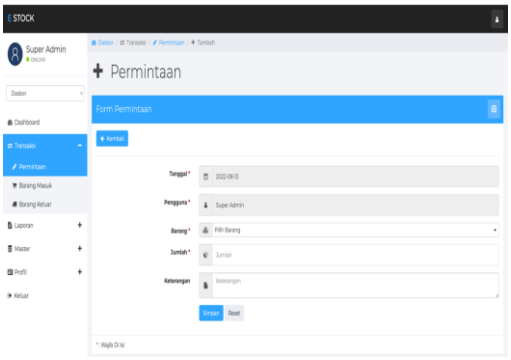

Figure 9 Creation View for Request

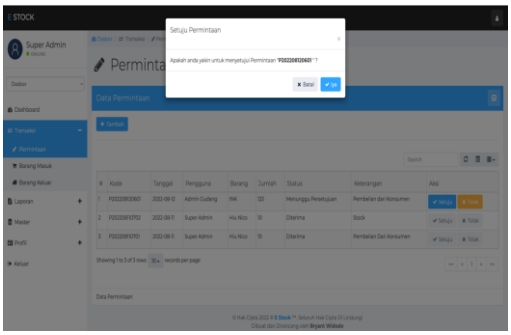

Figure 10 Confirmation View for Request

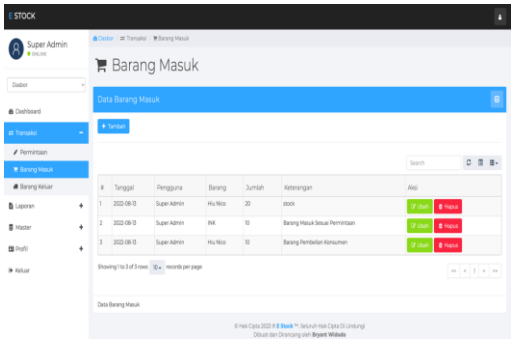

Figure 11 Display of Incoming Goods Page

In Figure 11 is a display of the Transaction menu in the Incoming Goods section. which contains a list of incoming goods, and there is a button to create and there are actions to change and delete.

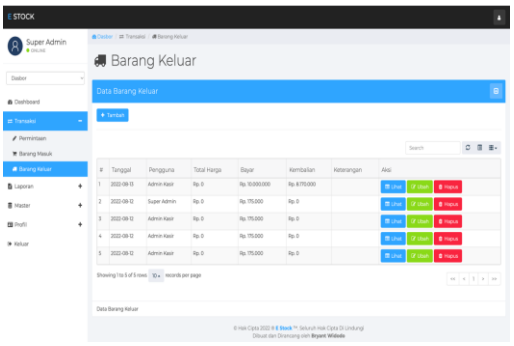

Figure 12 Outgoing Goods Display

In Figure 12 is a display of the transaction menu in the Outgoing goods section. On this page contains a list of outgoing goods, and there is a button to create and there are actions to change, delete, and view seconds.

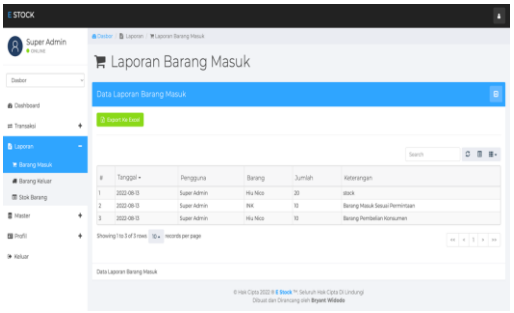

Figure 13 Report Display on Incoming Goods

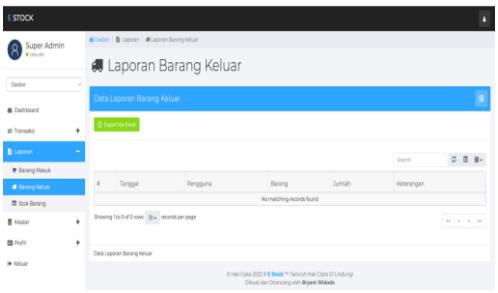

Figure 14 Report Display on Outgoing Goods

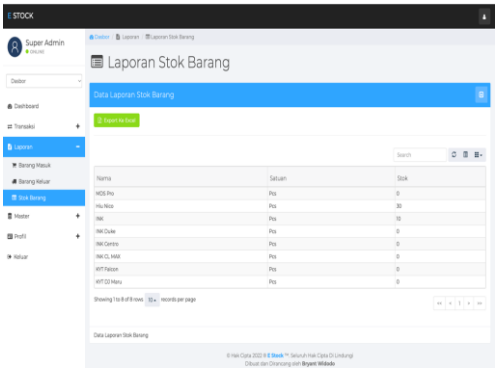

Figure 15 Display Report on Stock Items

The report menu contains a list of incoming goods, outgoing goods and stock items. In this menu Super Admin can see the list and can export. In Figure 13 contains a list of incoming goods, in Figure 14 contains a list of outgoing goods and 15 contains a list of stock items.

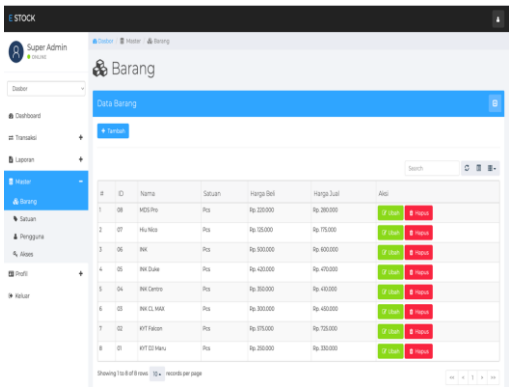

Figure 16 Item Page View

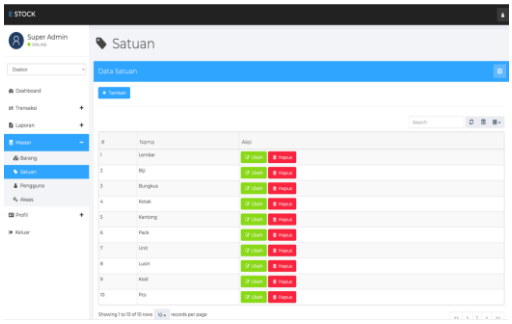

Figure 17 Unit Page Display

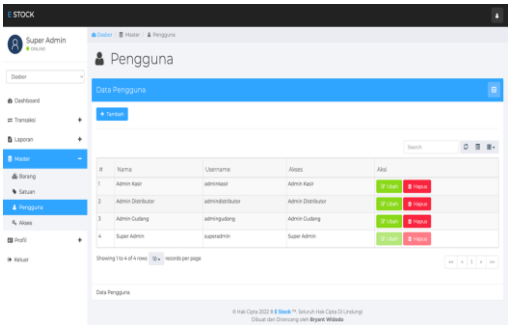

Figure 18 User Page View

In the Master menu there are several sections, namely Goods, Units, Users and Access. Each section has the features of creating, editing and deleting. Figure 16 is a view of the goods page, in the Master Menu in the unit section is used to determine the unit of goods. Figure 17 displays a list of units, the Master Menu in the User section is used for login and access sharing. Figure 18 displays a list of users.

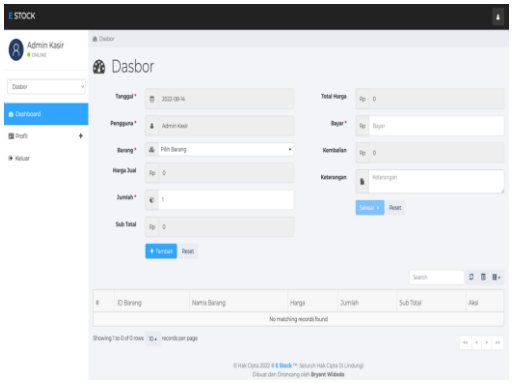

Figure 19 Cashier Admin Dashboard View

Admin Cashier to serve payments made by customers and report sales results to store owners.

Interview Result

Business testing is done using the interview method. By asking retail owners to be interviewed regarding the use of the E-Stock application and what are the impacts after system implementation. In addition to interviews, direct observation of the reactions of system users is part of the data taken in this research process. After using the E-Stock application, this system can make it easier to use and monitor goods / products in detail and realtime. In the next stage, retail owners ask their employees to use the E-Stock application according to their respective sections.

IV. CONCLUSION

Implementation of the E-Stock system into a retail business can help business processes become better, faster and can see the goods / products that are often sought after by consumers. This can be achieved because the E-Stock system provides a structured means of recording and recording the date of entry of goods, outgoing goods and transactions. Without the E-Stock application, workers must do it manually by recording it in the book. With such actions the time used is very long, if there is a request for the number of items available then the worker must

search for his records and the owner cannot receive the latest data in real time, and the owner does not have a reference for products that are often sought after by consumers.

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