



DESIGN AND BUILD A WEB-BASED INVENTORY APPLICATION USING THE WATERFALL METHOD ON CV PERDANA BERKAH SEJAHTERA BANDUNG

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Abstract

Web-based inventory applications have become an important role in managing inventory in various companies. The purpose of this research is to design a website-based inventory application that aims to assist companies in managing and monitoring inventory efficiently. This application will utilize website and database technology to provide the features needed by companies in their inventory management. CV Perdana Berkah Sejahtera is a company engaged in general trading in the Bandung area. This company is more likely to be engaged in sales such as Office Stationery, Computers, Laptops, Chemicals, Computer Accessories and others. As for the stock management system, it still uses manual recording through paper media which is carried out by employees, data is easily damaged and lost, and errors often occur in recording inventory. The research method used is the waterfall model software development method, observation, interviews, literature study. The result of this research is the formation of a website-based application that can provide effective and efficient solutions in stock management.

Keywords: Website-Based Inventory Application; inventory; Waterfall method

Abstrak

Aplikasi inventory berbasis web telah menjadi peran penting dalam pengelolaan stok barang di berbagai perusahaan. Tujuan dari penelitian ini adalah merancang sebuah aplikasi inventory berbasis website yang bertujuan untuk membantu perusahaan dalam mengelola dan memantau stok barang secara efisien. Aplikasi ini akan memanfaatkan teknologi website dan database untuk menyediakan fitur-fitur yang dibutuhkan oleh perusahaan dalam manajemen inventory mereka. CV Perdana Berkah Sejahtera adalah perusahaan yang bergerak di bidang perdagangan umum yang berada di wilayah Bandung. Perusahaan ini lebih cenderung bergerak di bidang penjualan seperti Alat Tulis Kantor, Komputer, Laptop, Bahan Kimia, Aksesoris Komputer dan lain-lain. Sedangkan untuk sistem pengelolaan stok barangnya masih menggunakan pencatatan secara manual melalui media kertas yang dilakukan oleh karyawan, data-data mudah rusak dan hilang, dan sering terjadinya kesalahan dalam pencatatan persediaan barang. Metode penelitian yang digunakan yaitu metode pengembangan perangkat lunak model waterfall, observasi, wawancara, studi pustaka. Hasil dari penelitian ini adalah terbentuknya aplikasi berbasis website yang dapat memberikan solusi yang efektif dan efisien dalam manajemen stok barang.

Kata Kunci:: Aplikasi Inventory Berbasis Website; Inventory; Metode Waterfall

I. INTRODUCTION

CV. Perdana Berkah Sejahtera is a small and medium-sized company engaged in general trade, but technically CV Perdana Berkah Sejahtera is more likely to be engaged in sales such as computers, laptops, computer accessories, chemicals, office tuils, and others. CV Perdana Berkah Sejahtera was established in 2018 by Mr. Aditya Firman Ardiansyah whose exact address is at Jln.Bata Merah No.60 Kel.Caringin Kec.Bandung kulon the city of Bandung.

An inventory system or goods inventory system is a system used to manage goods or products in a company or business. Inventory or inventory of goods is one of the important assets because it has significant financial value and can have a big impact on business performance. In inventory management, there are several things that need to be considered, such as the amount of stock of goods, the rotation of stock of goods, the procurement of stock of goods, and the sale of stock of goods.

According to (Ramadhan & Gunawan, 2019) said: Inventory is inventory in Indonesian. Inventory related to the logistics activities of a company, is an activity that provides stock of raw materials or semi-finished goods or finished goods for the smooth production process and/or the fulfillment of customer demand.

II. THEORETICAL STUDIES

2.1. Basic Concepts of Information Systems

Information systems are a combination of information technology and the activities of people who use that technology to support operations and management. An information system is a system in an organization that brings together the needs of transaction processing, supports managerial operations, strategic activities of an organization and provides certain external parties with the necessary reports. To produce quality information, an information system is created. An information system is a collection of any subsystem, both physical and non-physical, that are interconnected with each other and work together harmoniously to achieve one goal, which is to process data into meaningful and useful information. Based on this definition, it can be concluded that an information system is a collection of sub-subs that are interconnected to report information (Muhammad Yusuf ML et al., 2023).

2.2. Website Basics

According to Rohi Abdulloh in his book explained, "a website can be interpreted as a collection of digital data information in the form of text, images, animations, sounds and videos or a combination of all of them that are provided through an internet connection so that

they can be accessed and seen by everyone around the world" (Rohi Abdulloh, 2018). Websites are also divided into several types, which are as follows:

1. Static Website

A static website is a type of website whose content is not updated regularly, so that the content from time to time will always be fixed. This type of website is usually only used to display the profile of the website owner such as the profile of a company or organization (Rohi Abdulloh, 2018).

2. Dynamic Website

A dynamic website is a type of website whose content is constantly updated by the web manager or website owner. This type of website is owned by many companies or individuals whose business activities are indeed related to the internet (Rohi Abdulloh, 2018).

3. Interactive Website

Interactive websites are basically included in the category of dynamic websites where the content of information is always updated from time to time (Rohi Abdulloh, 2018).

2.3. Web Browser

A web browser or also known as a web browser is a software application that is used to browse and display website pages on the internet, both on a smartphone and desktop. Web browsers allow users to access different types of content such as text, images, videos, and voice through internet protocols such as HTTP, HTTPS, and FTP. Web browsers allow users to perform tasks such as searching for information, shopping online, checking emails, interacting with social media, and so on. Some examples of popular and frequently used web browsers are Google Chrome, Mozilla Firefox, Opera Browser, Safari, etc.

2.4. Definition of Inventory

According to (Siyamto, 2019) Inventory is a concept that reflects resources that can be used but are not or have not been used. The definition of inventory can be interpreted in several different ways, including: stock available at the same time, a detailed list of available goods, (for finance and accounting) the number of stock goods owned by an organization at any one time. The main function of inventory is to meet all customer demands with the minimum possible inventory of goods.

2.5. PHP (Hypertext Preprocessor)

PHP stands for "Hypertext Preprocessor", is a serverside programming language used to develop dynamic and interactive web applications. PHP runs on a web server and functions to

process requests from clients (web browsers) and generate responses that are then displayed on the web browser. PHP allows web developers to create dynamic and interactive web pages by connecting to databases, processing forms, generating customized content, and interacting with users. PHP also supports many databases, including MySQL, PostgreSQL, and Oracle (Febriyani & Martanto, 2023).

2.6. Codeigniter

Codeigniter is a framework for building dynamic websites that uses the PHP (Hypertext Preprocessor) programming language. Codeigniter was first released in 2006. The latest and stable version of the last codeigniter is v.4.3.4

III. RESEARCH METHOD

3.1. Data Collection Techniques

The data collection techniques used by the author in conducting data collection are:

1. Observation

The author directly visited CV Perdana Berkah Sejahtera to make direct observations of activities regarding the goods inventory system, and record the problems caused in these activities.

2. Interview

The author also conducted an interview session with the owner of CV Perdana Berkah Sejahtera, namely Mr. Adhitya Firman Ardiansyah to find out more clearly about the activities regarding the current inventory system and the company's history.

3. Literature Study

In addition to writing the above activities, the author also conducts literature studies through literature studies, books and journals related to the inventory system of goods.

3.2. System Development Methods

The method used by the author in the development of the system is the Waterfall method. Supriono & Sewaka argue that "The Waterfall method is a sequential software development process, in which progress is seen as continuously flowing downwards (like a waterfall) through the phases of planning, modeling, implementation, and testing. In its development, the waterfall method has several stages that are in succession: requirements (needs analysis), system design, Coding & Testing, Program Implementation, maintenance" (Nurlelah et al., 2023).

The stages of the waterfall model are as follows:

A. Needs Analysis (Requirement)

At this stage, how to analyze the needs of what devices will be used in the creation of an inventory system.

B. System Planning (*Design*)

At this stage, what is done is to start designing the database using ERD (Entity Relationship Diagram), LRS (Logical Record Structured), then designing an interface (User Interface) consisting of:

1. Login Page

Owners, warehouse admins, and cashier admins must log in first to be able to manage the features available in the application, if successful, then the features available in several user categories will be displayed.

2. Dashboard Page

After the admin logs in, the admin will be directed to the dashboard page, including a menu of incoming goods, outgoing goods data, goods data, supplier data, as well as features such as category data, unit data, goods data, supplier data, incoming goods transactions, outgoing goods transactions, reports, and logouts.

3. Category Data Page

On this page, admins can see category data that has been added, and admins can add category data through the category data input menu.

4. Unit Data Page

On this page, admins can see the unit data that has been added, and admins can add category data through the add unit data button.

5. Item Data Page

On this page, admins can see the data of items that the admin has inputted, and admins can add the data of the items contained in the add data button.

6. Supplier Data Page

On this page, the admin can see the Supplier data that the admin has inputted, and the admin can add the supplier data contained in the add supplier data button.

7. Incoming Goods Transaction Page

On this page, the admin can see the incoming goods transaction data that the admin has inputted, and the admin can add the incoming goods transaction data contained in the transaction input button.

8. Outbound Goods Transaction Page

On this page, the admin can see the transaction data of outbound goods that the admin has inputted, and the admin can add the transaction data of outbound goods contained in the transaction input button.

C. Program Code Generation (Implementation)

At this stage, the author uses structured programming languages such as PHP (Hypertext Preprocessor) supported by using the Codeigniter 4 framework, HTML, CSS, javascript, jQuery, LTE Admin templates from Bootstrap, and databases using MySQL (My Structured Query Language).

D. Testing (Verification)

For testing, the author used the Black Box Testing testing method. The Black Box Testing method is a test to show errors in the application system such as errors in the application system functions, as well as missing application menus. So Black Box testing is a method of testing the functionality of the application system. In conducting the test, random data input is used with the aim of obtaining definite results. It is said that if it is wrong, it is rejected by the information system or the input data cannot be stored in the data base, while if the input data is correct, it can be accepted / entered in the information system database (Uminingsih et al., 2022).

E. Support (Maintenance)

At this stage, it is possible that the software will undergo changes when it has been sent to the user. Changes can occur with errors that appear but are not detected during the testing stage. With the possibility of the above problems, it is necessary to develop software and improve hardware so that the process of using the website is much more effective and efficient.

IV. RESEARCH RESULT AND DISCUSSION

4.1. Needs Analysis

The program that the author created is a website-based online inventory system, where each user has access rights and certain features to manage the inventory system in CV Perdana Berkah Sejahtera, and is accessed through a web browser for all activities, both incoming and outgoing goods transactions. The following are the specifications of the program that the author created:

Warehouse Admin Page :

1. Warehouse admin manages category data
2. Warehouse admin manages unit data

3. Warehouse admin manages goods data
4. Admin manages supplier data
5. Warehouse admin manages incoming goods transaction data
6. Warehouse admin manages outbound transaction data
7. Warehouse admin manages reports

4.2. System Planning

1. Database Design

A. Entity Relationship Diagram (ERD)

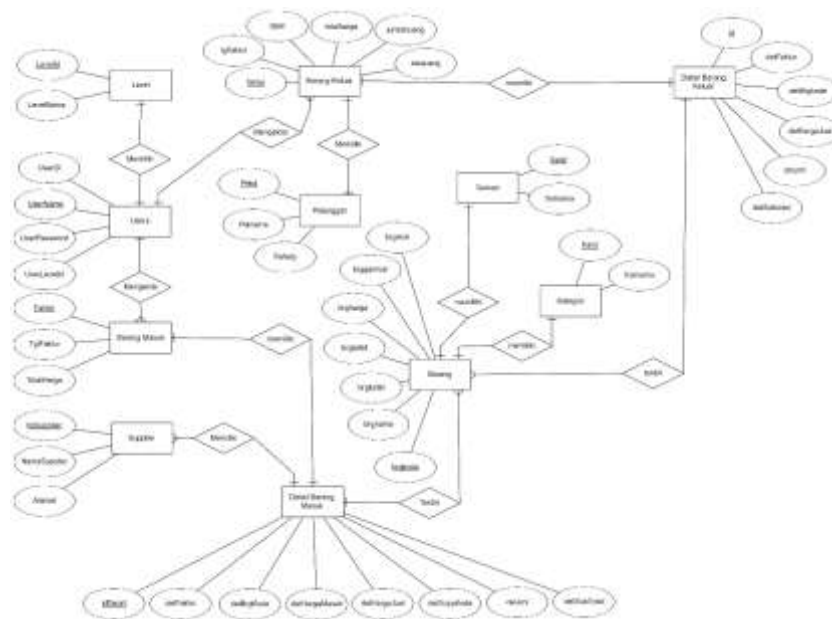


Figure.1.Entity Relationship Diagram (ERD)

B. Logical Record Structured (LRS)

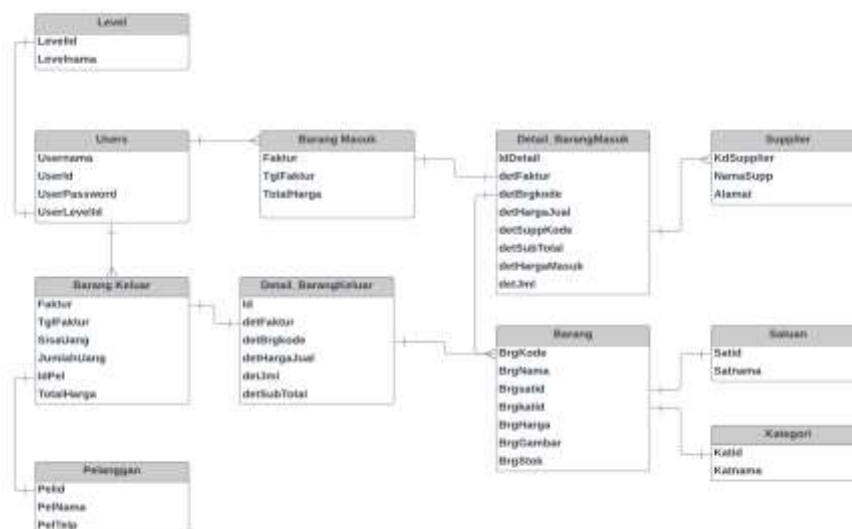


Figure.2.Logical Record Structured (LRS)

4.3. File Specifications

1. User Table File Specifications

File Name: User
 Acronyms: users
 Function: To store user data
 File Type: Master File
 File Organization: Sequential Index
 File Access: Random
 Media: Hard Disk
 Record Length: 261 Bytes
 Key Field: username
 Software: MySQL

Table 4.1. Specifications of User File

No.	Data Elements	Field Name	Type	Size	Information
1.	id useir	userid	Char	50	
2.	username	usernama	varchar	100	<i>Primary key</i>
3.	password user	userpassword	varchar	100	
4.	level user	userlevelid	int	11	

2. Levels Table File Specifications

File Name: Level
 Acronyms: levels
 Function: To store user-level data
 File Type: Master File
 File Organization: Sequential Index
 File Access: Random
 Media: Hard Disk
 Record Length: 61 Bytes
 Key Field: leveled
 Software: MySQL

Table 4.2. File Level Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Id level	levelid	Int	11	<i>Primary key</i>
2.	Level name	levelnama	varchar	50	

3. Specification of Category Table Files

File Name: Kategori
Acronyms: kategori
Function: To store item category data
File Type: Master File
File Organization: Sequential Index
File Access: Random
Media: Harddisk
Record Length: 60 Bytes
Key Field: katid
Software: MySQL

Table 4.3. Category File Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Category id	katid	Int	10	<i>Primary key</i>
2.	Category name	katnama	varchar	50	

4. Unit Table File Specifications

File Name: Satuan
Acronyms: satuan
Function: To store data of unit item
File Type: Master File
File Organization: Sequential Index
File Access: Random
Media: Harddisk
Record Length: 60 Bytes
Key Field: satid
Software: MySQL

Table 4. 4. Unit File Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Unit Id	satid	Int	10	<i>Primary key</i>
2.	Unit Name	satnama	varchar	50	

5. Specification of Item Table File

File Name: Barang
Acronym: barang

Function: To store item data
File Type: Master File
File Organization: Sequential Index
File Access: Random
Media: Hard Disk
Record Length: 341 Byte
Key Field: brgkode
Software: MySQL

Table 4. 5. Item File Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Item code	brgkode	Char	10	<i>Primary key</i>
2.	Item name	brgnama	Varchar	100	
3.	Item categories	brgkatid	Int	10	
4.	Unit of goods	brgsatid	Int	10	
5.	Item price	brgharga	Double		
6.	Item Pictures	brggambar	Varchar	200	
7.	Stock of goods	brgstok	Int	11	

6. Spesifikasi File Tabel Supplier

File Name: Supplier
Acronym: supplier
Function: To store supplier data
File Type: Master File
File Organization: Sequential Index
File Access: Random
Media: Harddisk
Record Length: 210 Byte
Key Field: kdsupplier
Software: MySQL

Table 4. 6. Supplier File Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Supplier code	kdsupplier	Char	10	<i>Primary key</i>
2.	Supplier name	namasupp	Varchar	100	
3.	Address	alamat	Varchar	100	

7. Specifications of Incoming Goods Table File

File Name: Barang Masuk
Acronym: barangmasuk

Function: To store incoming goods data
 File Type: Master File
 File Organization: Sequential Index
 File Access: Random
 Media: Harddisk
 Record Length: 20 Byte
 Key Field: faktur
 Software: MySQL

Table 4.7. Specifications of Incoming Goods File

No.	Data Elements	Field Name	Type	Size	Information
1.	Invoice number	faktur	Char	20	<i>Primary key</i>
2.	Invoice date	tglfaktur	Date		
3.	Total price	totalharga	Double		

8. Specification of Incoming Item Detail Table File

File Name: Detail Barang Masuk
 Acronym: detail_barangmasuk
 Function: To store the details data of incoming goods
 File Type: Master File
 File Organization: Sequential Index
 File Access: Random
 Media: Harddisk
 Record Length: 71 Byte
 Key Field: faktur
 Software: MySQL

Table 4.8. Specification of Incoming Goods Detail File

No.	Data Elements	Field Name	Type	Size	Information
1.	Detail id	iddetail	Bigint	20	<i>Primary key</i>
2.	Invoice details	detfaktur	Char	20	
3.	Item code details	detbrgkode	Char	10	
4.	Entry price details	dethargamasuk	Double		
5.	Sale price details	dethargajual	Double		
6.	Supplier code details	detsuppkode	Char	10	
7.	Quantity details	detjml	Int	11	
8.	Subtotal details	detsubtotal	Double		

9. Specification of Outbound Goods Table File

File Name: Barang Keluar

Acronym: barangkeluar
 Function: To save the data of the outgoing goods
 File Type: Master File
 File Organization: Sequential Index
 File Access: Random
 Media: Harddisk
 Record Length: 31 Byte
 Key Field: faktur
 Software: MySQL

Table 4.9. Specification of Outgoing Goods File

No.	Data Elements	Field Name	Type	Size	Information
1.	Invoice	faktur	Char	20	<i>Primary key</i>
2.	Invoice date	tglfaktur	Date		
3.	Customer ID	pelid	Int	11	
4.	Total price	totalharga	Double		
5.	Amount of money	jumlahuang	Double		
6.	Rest of the money	sisauang	Double		

10. Specification of Outgoing Goods Detail Table File

File Name: Detail Barang Keluar
 Acronym: detail_barangkeluar
 Function: To store the details data of the outgoing goods
 File Type: File Master
 File Organization: Index Sequential
 File Access: Random
 Media: Harddisk
 Record Length: 61 Byte
 Key Field: id
 Software: MySQL

Table 4. 10. Specification of Outgoing Goods Detail File

No.	Data Elements	Field Name	Type	Size	Information
1.	Id	id	Bigint	20	<i>Primary key</i>
2.	Invoice details	detfaktur	Char	20	
3.	Item code details	detbrgkode	Cahr	10	
4.	Sale price details	dethargajual	Double		
5.	Quantity details	detjml	Int	11	
6.	Subtotal details	detsubtotal	Double		

11. Customer Table File Specifications

File Name: Pelanggan
Acronym: pelanggan
Function: To store customer data
File Type: File Master
File Organization: Index Sequential
File Access: Random
Media: Harddisk
Record Length: 131 Byte
Key Field: peli
Software: MySQL

Table 4. 11. Customer File Specifications

No.	Data Elements	Field Name	Type	Size	Information
1.	Customer ID	pelid	Int	11	<i>Primary key</i>
2.	Customer name	pelnama	Varchar	100	
3.	Customer phone	peltelp	Char	20	

4.4. Implementation and Testing

A. Implementation

1. Login Page



Figure.3. Login Page

2. Dashboard Page



Figure.4. Dashboard Page

3. Category Data Page



Figure.5. Category Data Page

4. Unit Data Page



Figure.6. Unit Data Page

5. Item Data Page



Figure.7. Item Data Page

6. Supplier Data Page



Figure.8. Supplier Data Page

7. Incoming Goods Transaction Form



Figure.9. Incoming Goods Transaction Form

8. Incoming Goods Transaction Form

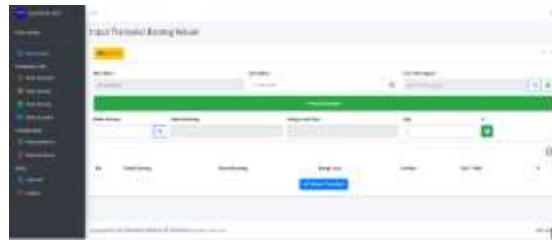


Figure.10. Outgoing Goods Transaction Form

9. Report Page



Figure.11. Report Page

B. Testing

Unit testing of programs created using the blackbox testing method to get results from the program input and output process

Table 4.12 Black Box Testing Results on the Login Page

No	Testing Scenarios	Test Case	Expected results	Test Results	conclusion
1.	User Name and Password are blanked then click the login button	Username: (empty) Password: (empty)	The system will reject and display an error notification: 1.Username Must Not Be Blank 2.Password Must Not Be Blank And will display Login page again	As expected	Valid
2.	The username is filled in incorrectly and the password is filled in incorrectly then click the login button	Username: (Algi123) Password: (145)	The system will reject and display an error notification: 1. Sorry the user is not registered and returned to the login page	As expected	Valid
3.	Username is filled in correctly and Password is filled in incorrectly then click the login button	Username: (aditya) Password: (111)	The system will refuse by displaying an error notification: 1. Your password is wrong and returned to the login page	As expected	Valid
4.	The username is filled in incorrectly and the password is filled in correctly then click the login button	Username: aditya123 Password: (123)	The system will reject and display an error notification: 1. Sorry the user is not registered and returned to the login page	As expected	Valid
5.	Username and Password are filled in with the correct data then click the login button	Username: (aditya) Password: (123)	The system will receive and be directly redirected to the admin page	As expected	Valid

Table 4.13 Results of Black Box Testing on the Addition of Incoming Goods Transaction Data

No	Testing Scenarios	Test Case	Expected results	Test Results	conclusion
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1.	Column no invoice, item code, supplier code, purchase price, amount blanked Then click the add item button	No. Faktur: (empty) Kode Barang: (empty) Kode Supplier: (empty) Harga Beli: (empty) Jumlah: (empty)	The system will reject and display an error notification: Sorry, Please fill in the invoice number:	As Expected	Valid
2.	Column no invoice filled, item code, supplier code, purchase price, amount blanked Then click the add item button	No. Faktur: (PEM-001) Kode Barang: (empty) Kode Supplier: (empty) Harga Beli: (empty) Jumlah: (empty)	The system will reject and display an error notification: Sorry, Please fill in the item code	As Expected	Valid
3.	Column no invoice filled, item code filled, supplier code, purchase price, quantity blanked Then click the add item button	No. Faktur: (PEM-001) Kode Barang: (123) Kode Supplier: (empty) Harga Beli: (empty) Jumlah: (empty)	The system will reject and display an error notification: Sorry, Please fill in the supplier code	As Expected	Valid
4.	Column no invoice filled, item code filled, supplier code filled, purchase price, quantity blanked Then click the add item button	No. Faktur: (PEM-001) Kode Barang: (123) Kode Supplier: (SP001) Harga Beli: (empty) Jumlah: (empty)	The system will reject and display an error notification: Sorry, Please fill in the purchase price	As Expected	Valid
5.	The invoice number column is filled in, the item code is filled, the supplier code is filled, the purchase price is filled, the amount is emptied Then click the add item button	No. Faktur: (PEM-001) Kode Barang: (123) Kode Supplier: (SP001) Harga Beli: (4.000.000) Jumlah: (empty)	The system will reject and display an error notification: Sorry, Please fill in the price amount	As Expected	Valid
6.	All columns contained in the incoming goods transaction form are filled Then click the add item button	No. Faktur: (PEM-001) Kode Barang: (123) Kode Supplier: (SP001) Harga Beli: (4.000.000) Jumlah: (2)	The system will receive and display a notification: Item successfully added Then the data will be entered into the temporary data table	As Expected	Valid
7.	When the transaction has not been completed, the user fills in the invoice number field correctly Then the user clicks the reload data button	No. Faktur: (PEM-001)	The system will receive Then the data will appear on the temporary data table	As Expected	Valid
8.	When the transaction has not been completed, the user fills in the invoice number field incorrectly. Then click the transaction completion button	No. Faktur: (PEM-002)	The system will reject and display an error notification: Sorry, The item data for this invoice is not yet available		
9.	When the addition of the transaction item is complete and the temporary data table of the item has appeared, click Finish the transaction	Nama Barang: (Printer Epson L320) Supplier: (Surya Komputer) Harga Jual: (5.000.000) Harga Beli: (4.000.000) Jumlah: (2) Subtotal: (8.000.000)	The system will display a notification: Are you sure you want to complete this transaction, with a YES or Cancel option?	As Expected	Valid
10.	When the addition of	User selects the	The system will return to	As	Valid

	transaction items is complete and the temporary data table of the item has appeared, then click complete transaction then a notification appears to select whether to save the transaction or not	cancel button	the input form of the incoming goods transaction	Expected	
11	When the addition of transaction items is complete and the temporary data table of the item has appeared, then click complete transaction then a notification appears to select whether to save the transaction or not	User selects the Yes button	The system will display a notification: Successful. The transaction is successfully saved, then the browser will automatically reload	As Expected	Valid
12.	When the user fills in the item code field incorrectly, then the user presses the enter key on the keyboard	Kode Barang: (970)	The system will reject and display an error notification: Item Data Not Found	As Expected	Valid
13.	When the user fills in the supplier code field incorrectly, then the user presses the enter key on the keyboard	Kode Supplier: (970)	The system will reject and display an error notification: Supplier Data Not Found	As Expected	Valid

Table 4.14 Results of Black Box Testing on the Addition of Goods Transaction Data r

No	Testing Scenarios	Test Case	Expected results	Test Results	conclusion
1.	The item code field is blank then click the save item button	Kode barang: (empty)	The system will reject and display an error notification: Item code must be filled in	As expected	Valid
2.	The item code field is filled in incorrectly then click enter on the keyboard	Kode barang: (957)	The system will reject and display an error notification: Sorry the item data was not found	As expected	valid
3.	The item code field is filled in correctly then click enter on the keyboard	Kode Barang: (456)	The system will receive and display the name of the item and the price of the item	As expected	Valid
4.	The number of items inputted exceeds the existing stock, then click the save item button	Kode barang: (456) Nama Barang: (Ballpoint Joyko) Harga Jual: (2.500) Stok: (10) Jumlah yang diinputkan: (20)	The system will reject and display an error notification: Insufficient stock	As expected	Valid
5.	All columns are sorted correctly and the number of items entered does not exceed the existing stock, then click the save item button	Kode barang: (456) Nama Barang: (Ballpoint Joyko) Harga Jual: (2.500) Stok: (10) Jumlah yang diinputkan: (5)	The system will receive and display a notification: Item successfully added. Then the data will be entered in the temporary data table	As expected	Valid

V. CONCLUSSIONS

Based on some of the descriptions that have been discussed, the author can draw the following conclusions:

1. Providing convenience for admins in managing incoming and outgoing goods transactions, making it easier to check the stock of goods when consumers order goods, and being able to find out the data and reports.
2. Speed up the time to input incoming goods transactions and minimize the occurrence of input errors, and data storage can be safer so that there is no need to worry about lost or damaged transaction data.
3. Provide fast and accurate report information, with programs that have been created, the admin does not need to recap the report manually so that the performance produced will be more optimal.

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