**Jurnal Informatika (JURI)**
Vol. 2, No. 1, 2025, hlm. 6-10
DOI: 10.12345/juri...
ISSN: 3047-4256

# PENERAPAN PEMROSESAN DATA BARANG MASUK DAN BARANG KELUAR PADA GUDANG PT PLN (PERSERO) UP2D S2JB BERBASIS SITUS WEB

**Solihin Aprani[1], Muhammad Sobri[2]**

[1, 2]Informatics Management, Vocational Faculty, Bina Darma University.
Email: [1]211210021@student.binadarma.ac.id
[*]Penulis Korespondensi

**Abstrak**

PT PLN (Persero) UP2D S2JB merupakan salah satu unit pengelola distribusi yang memiliki gudang untuk menyimpan barang operasional. Dalam pengelolaan gudang tersebut, pencatatan data barang masuk dan keluar masih dilakukan secara manual, yang sering kali menyebabkan kesalahan pencatatan serta kesulitan dalam memantau stok barang. Oleh karena itu, diperlukan suatu sistem yang dapat mempermudah pemrosesan data barang masuk dan keluar secara efektif dan efisien. Penelitian ini bertujuan untuk merancang dan membangun sebuah aplikasi berbasis situs web yang dapat mengelola data barang masuk dan keluar di gudang PT PLN (Persero) UP2D S2JB. Aplikasi ini dikembangkan dengan menggunakan metode pengembangan perangkat lunak Waterfall, yang terdiri atas tahapan analisis, perancangan, implementasi, pengujian, dan pemeliharaan. Teknologi yang digunakan dalam pengembangan aplikasi ini meliputi bahasa pemrograman PHP, CSS, basis data MySQL, dan kerangka kerja Bootstrap 4. Hasil dari penelitian ini adalah sebuah aplikasi berbasis web yang dapat mencatat dan memantau data barang masuk dan keluar dengan lebih akurat dan efisien.

**Kata kunci**: *Aplikasi, Situs Web, Pemrosesan Data, PT PLN, PHP*

# *APPLICATION OF DATA PROCESSING OF GOODS IN AND GOODS OUT OF THE WAREHOUSE AT PT. PLN (PERSERO) UP2D S2JB BASED ON THE WEBSITE*

***Abstract***

*PT PLN (Persero) UP2D S2JB is one of the distribution management units that has a warehouse to store operational goods. In the management of the warehouse,the recording of incoming and outgoing goods data is still done manually, whichresults in frequent recording errors and difficulties in monitoring the stock of goods. Therefore, a system is needed that can facilitate the processing ofincoming and outgoing goods data effectively and efficiently. This research aimsto design and build a website-based application that can manage data on incoming and outgoing goods in the warehouse of PT PLN (Persero) UP2D S2JB. The application is built using the Waterfall software development method,which consists of the stages of analysis, design, implementation, testing, and maintenance. The technologies used in the development of this application include the PHP programming language, CSS, MySQL database, and the Bootstrap 4 framework. The result of this research is a website-based applicationthat can record and monitor data on incoming and outgoing goods more accurately and efficiently.*

**Keywords**: *Application,Website, Processing data, PT PLN, PHP*

## 1. INTRODUCTION

PT PLN (persero) UP2D S2JB is a state-owned company that has a function as a national electricity system provider that is distributed throughout Indonesia. PT PLN (Persero) UP2D S2JB is a public company engaged in services, so it has a big responsibility to be able to provide the best service to the community.

At PT PLN (Persero) UP2D S2JB, the warehouse data processing process, both data collection of goods including incoming stock and outgoing goods, is carried out using Microsoft Excel. After all the data collection and transaction processes have been completed, then the warehouse section reports all incoming and outgoing goods stock data transactions to the leadership to be checked again. This can be said to be less effective and efficient, whereas in the system there are still some weaknesses in processing stock data transactions, as well as making a recapitulation of reports on incoming and outgoing goods transactions and stock items that are still copying from archive books.

With this the author provides a view of the accuracy in the process of submitting data by using a

website bad system. With this website-based system, it will facilitate the process of searching and updating data for information that is more accurate and timelier in accordance with what is expected and desired by the user or user.

## 2. LITERATURE REVIEW

### 2.1 Application

According to Adiwijaya *et al* (2024), an application is a program that contains commands to process data by creating a system or program so that data is processed, for example, *Microsoft office word* and *Microsoft office excel*. Meanwhile, according to Nurhanifah *att al* (2023) an application is a program that is finished and ready to use so that it can be useful in the data processing process by the user according to his needs

From the above understanding, it can be concluded that applications are ready-made programs to meet user needs in carrying out various kinds of data processing activities.

### 2.2 Data

According to Nawassyarif *et al* (2020), data is a fact that describes an event and is a raw form that cannot be told much so it needs to be processed further through a model to produce information. This data can take various forms, including numbers, text, images, or other symbols.

From the above understanding, it can be concluded that data is a reality that is still raw and needs to be processed further to produce information.

### 2.3 Item

According to Riyono and Budiharja in Nurhayati (2019), item are everything that consumers can offer, both tangible and intangible, which are accepted by buyers in order to satisfy consumer wants or needs.

### 2.4 *UML*

*UML* is used to initially design the system to be built in a *visual* way. *UML* has various types of modeling. The following is the definition of *Unified Modeling Language (UML*)

According to Khairunnisa *et al* (2024), *Unified Modeling Language* (*UML*) is a graphical language for documenting, specifying, and building systems. *UML* pays attention to things like programming language sentences, database schemas, and reusable software components.

### 2.5 *Use Case Dinagran*

According to Maulana and Ahmadin (2024), *Use Case Diagram* is a graphical representation of some or all actors, *use cases*, and interactions to introduce a system. *Use Case Diagrams* do not explain in detail about the use of the system but only provide a brief description of the relationship between *use cases*, actors, and the system.

Use Case Diagram is a description of the interaction scenario between users and the system. Use case diagrams describe the relationship between actors and activities that can be performed on the application. Figure 1 shows Use Case Diagram.

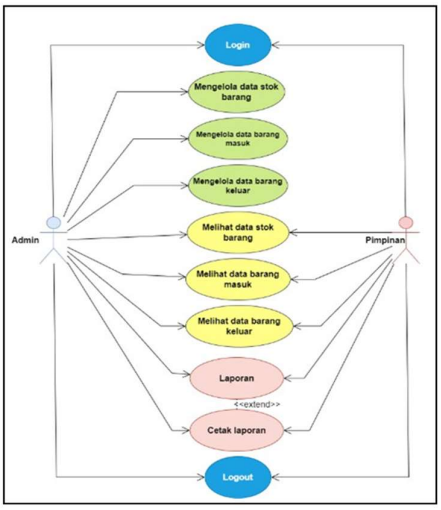


**Figure 1.** ***Use Case Diagram***

### 2.6 *Activity Diagram*

According to Kusnadi and Rahmawati (2024), an *activity diagram* is a diagram that describes the functional flow of the system. At the system modeling stage, activity diagrams can be used to show the flow of system work. It can also be used to describe the flow of events.

#### 2.6.1 *Activity Diagram Admin*

The design of *activity* diagrams for admins is a process in making designs that describe the workflow or process that must be passed by admins in carrying out their responsibilities in managing item data. This includes various activities such as inputting, editing, deleting, and exporting data into reports. Figure 2 shows *Activity Diagram Admin.*

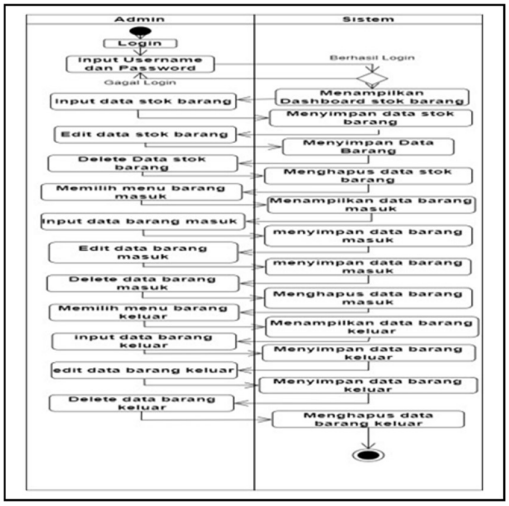


**Figure 2.*Activity Diagram Admin***

### 2.6.2 *Activity Diagram OfLeader*

The design of the leader *activity diagram* system describes in detail the workflow or process carriedout by the leader. Leaders include activities such as being able to view data on available stock items andget notifications when stock items run out, view data on incoming goods and outgoing goods, and can convert data into pdf reports. Figure 3 shows *Activity Diagram User.*


**Figure 3. *Activity Diagram User***

### 2.6.3 Class Diagram

According to P. Yunita and D. M. Sari in Kusnadi and Rahmawati (2020), Class diagram is a static model that shows classes and relationships between classes that remain constant in the system over time. Figure 4 shows Class Diagram.

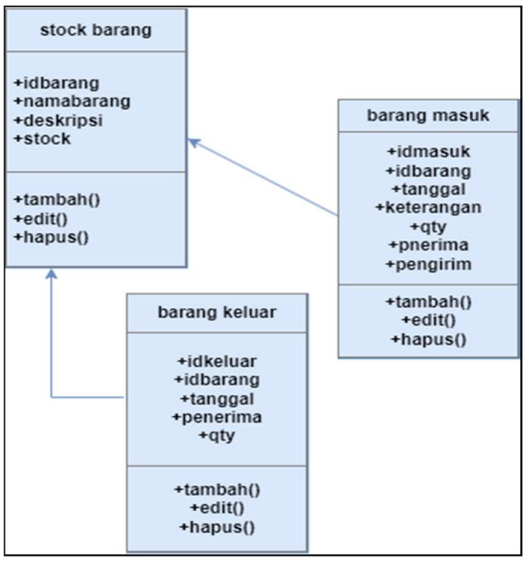


**Figure 4. *Class Diagram***

### 2.*7 PHP*

According to Maulana Tarmizi et al (2024), PHP stands for Personal Home Page which is a standard language used in the world of websites. PHP is a script-shaped programming language that is placed on a web server. PHP can be interpreted as Hypertext Preeprocessor.

It is a language that can only run on a server whose results can be displayed on the client. The PHP interpreter in executing PHP code on the server side is called server side, in contrast to the virtual java engine that executes programs on the client side.

### 2.8 MySQL

According to Soleh and Perdana (2024), *MySQL* is a relational database management system (RDBMS) that is popular, *open source*, and often used in web application development. *MySQL* was developed by *Oracle Corporation* and provides an efficient environment for storing, managing, and accessing data in a structured manner.

## 3 RESULTS AND DISCUSSION

This section presents the results and discussion of application of data processing of goods in and goodsout of the warehouse at pt. pln (persero) up2d s2jb based on the website.

### 3.1 Login Page

The login page is a page used by admins and leaders to enter the dashboard page on the application of data processing of incoming goods and warehouse goods at PT PLN (Persero) UP2D S2JB based on the website. Before entering the dashboard page, admins and leaders must first enter their username and password. After that, you can press the login button, if the username and password are wrong, the display will remain on the login page and if the username and password entered are correct, it will enter the dashboard page. Figure 5 shows Login.

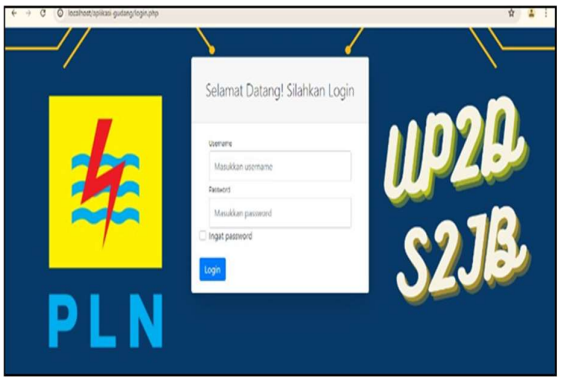


**Figure 5. Login**

### 3.1 Admin Dashboard Page

The admin dashboard is the main page after the admin has successfully logged in. The admin dashboard displays stock item data, on this page the admin can input or add stock items by pressing the add item button, the admin can edit and delete item data in stock items. And there is a notification when the stock of goods runs out. Admins can also export stock item data into pdf. Figure 6 shows Admin Dashboard Page.

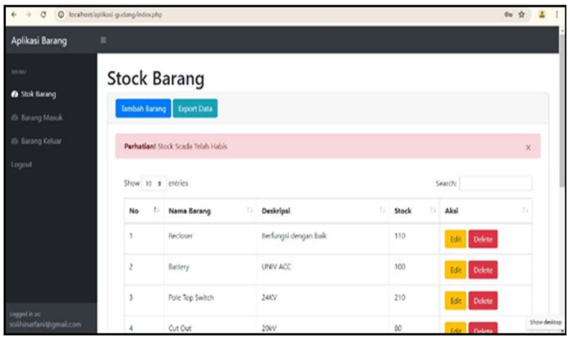


**Figure 6. Admin Dashboard Page**

### 3.2 Leader Dashboard Page

The leader dashboard is the main display after the leader has successfully logged in. The leader dashboard displays stock data that has been inputted or managed by the admin. On this page, leaders can make stock data into pdf reports. And the leader will get a notification when the stock of goods runsout. Figure 7 shows Leader Dashboard Page.

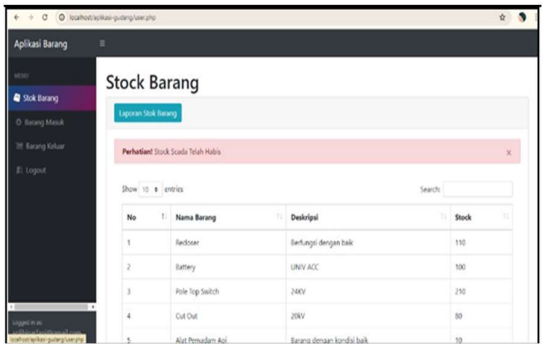


**Figure 7. Leader Dashboard Page**

## 3. CONCLUSIONS

This research has successfully built a website-based application to manage stock of goods, data on incoming goods, and goods out of the warehouse of PT PLN (Persero) UP2D S2JB. This application is designed to simplify data processing and improve the efficiency of stock management in the warehouse, here are some conclusions that can be drawn from the results of implementation and testing:

1. Achievement of objectives: This application has fulfilled the main objective set, which was to provide an efficient system to record and track the movement of incoming and outgoing goods. The application makes it easier for admins and leaders to access real-time stock information, which greatly assists in operational decision-making.
2. Benefits: The app provides several significant benefits, including:
   a. Increased Efficiency: The process of recording and tracking goods becomes faster and more accurate.
   b. Data Transparency: Admins and leaders can view item movement history, which increases transparency in stock management.
   c. Reduction of Human Error: Automation of the recording process helps reduce errors that may occur in manual recording.

3. Key Features: Some of the key features available in this app include:
   a. Provides a view of the stock status of items.
   b. Entry and exit recording system.
   c. Features to generate reports required for audit and evaluation.

## 4. DAFTAR PUSTAKA

FITRIANI, KHAIRUNNISA., VOUTAMA, APRIADE. 2024. Uml Design Of Patient Registration System At Web-Based Bekasi Hospital. Vol. 8 No. 3. JATI (Journal of Informatics Engineering Students).

HANIFAH, D. N., IBRAHIM, I., & SRIYENI, Y. (2023, April). Designing Salon Services Application Using Prototype Model. In MDP Student Conference (Vol. 2, No. 1, pp. 558-567).

KUSNADI, DWI YULIANSYAH, RIKA, RAHMAWATI. 2024. Design of Information System for Reporting Goods in and Out of Atk at FPIPS UPI. Vol. 5 No. 4. P-ISSN: 2620-295. E-ISSN: 2747-0490. Journal of Islamic Economics and Business Studies.

MARUWU, MARINU. 2023. Educational Research Approaches: Qualitative Research Methods, Quantitative Research Methods and Mixed Methods. Volume 7. Number 1. ISSN: 2614-3097. Tambusai Education Journal.

MAULANA, TARMIZI, FIRDAUS, GUSLENDRA. 2024. Design Of A Web-Based Financing And Financial Information System At Pict Story Wedding Photographer Using Php Programming Language And Mysql Database. Volume: 3. Issue: 1. E-ISSN: 2828-1659. Journal of Applied Informatics Science (JSIT).

MAULANA, YONO, AHMADIN, MUHAMMAD. 2024. EARLY DETECTION SYSTEM FOR DISASTER DISTRIBUTION MAPPING USING A WEB PLATFORM. Volume 3. Number 1. P-ISSN: 2810-093X e-ISSN: 2810-0166. Widyaloka Journal of Science and Technology.ALIF, A., 2013. Komputasi cerdas untuk pemula. Malang: ABC Press.

NAWASSYARIF, JULKARNAIN, MUHAMMAD, ANANDA, KIKI RIZKI. 2020. Web-Based Livestock Data Processing Information System For Production And Animal Health Technical Implementation Units. Vol. 2 No. 1. Jinteks Journal.

PRATAMA, WARDHANA SETIAWAN, AMALIA, RESTI. 2023. Design of a Web-Based Printing Order Service Information System Using the Waterfall Method (Case Study: Gema Niaga Printing). Volume 1. No. 1. ISSN 2985-4172. LOGIC: Journal of Computer Science and Education.

PURNIA, DINI SILVI, MUHAJIR, HIDAYATUL, ADIWISASTRA, MIFTAH FARID, SUPRIADI, D. 2020. Digital Divide Measurement Using Website-Based Descriptive Methods. Vol 8. No. 2. ISSN: 2338-8161 E- ISSN: 2657-0793. Evolution: Journal of Science and Management.