

## Web-Based Village Inventory Management Information System

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### ABSTRACT

Computer technology is something that is highly coveted by every organization, because it can facilitate work, speed up the process, and others. The need for a computer as a problem solving tool quickly and can not be denied. With this problem, the author offers the Village Inventory Information System to the Sumbermulyo Village office. In the hope that the application will provide convenience in terms of data collection of village assets contained in the Sumbermulyo Village Office. So, all village asset data will be stored in the system without worrying about the data will be lost.

**Keywords:** Moblie; Web.

### INTRODUCTION

The development of information technology and science is very rapid and very influential in the field of information and management, especially in the field of data processing using computer technology. Computer technology is something that is highly coveted by every organization, because it can facilitate work, speed up the process, and others. The need for a computer as a problem solving tool quickly and can not be denied (Ningrum *et al.*, 2022).

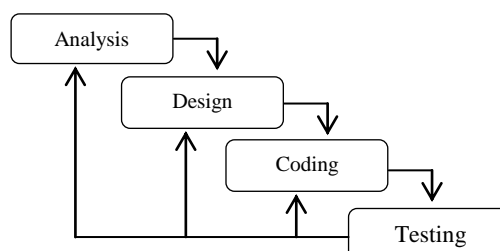
At this time, the collection of inventory items conducted at the Sumbermulyo Village Office still uses conventional means by writing every asset owned (Asma *et al.*, 2018). This will certainly allow the loss of village asset data, if not archived properly (Sufaidah & Al Faqih, 2022).

With this problem, the author offers the Village Inventory Information System to the Sumbermulyo Village office. In the hope that the application will provide convenience in terms of data collection of village assets contained in the Sumbermulyo Village Office. So, all village asset data will be stored in the system without worrying about the data will be lost and so on.

### METHOD

This method uses a research method that includes a literature study, a system based on references that have been further developed. Then an analysis of the needs of the components used in the manufacture of the Arduino-based wrist watch system is carried out. The next stage is system design, then the integration and testing stages are carried out.

The method that has been used is the Waterfall method, this method can be called the method first introduced by Winston Royce around 1970. This method consists of 5 iterative stages, namely the literature study analysis stage, the system design stage, the hardware assembly stage, the coding stage and the testing phase where this method is carried out from the top to the bottom sequentially.



**Figure 1.** Waterfall Method.

- Analysis of hardware requirements  
The process of collecting requirements is intensive to determine hardware requirements.
- Design  
This stage translates hardware requirements from the requirements analysis stage to the design representation so that it can be implemented into the program at a later stage.
- Programming the code  
The design should be translated into a hardened device program. The result of this stage is a computer program according to the design that has been created at the design stage.
- Testing  
Testing focuses on the hardware logically and functionally and ensures that all parts have been tested to minimize errors and output must be appropriate.

- **Approach and Type of Research**

The research approach is based on a description of the selected research approach, namely qualitative research approach. To describe in detail the data to be obtained from this study, researchers use a qualitative research approach. The reason researchers describe clearly and in detail and get in-depth and accurate data from the focus of the research, is a must for researchers in this study, therefore to realize the researcher uses a qualitative approach.

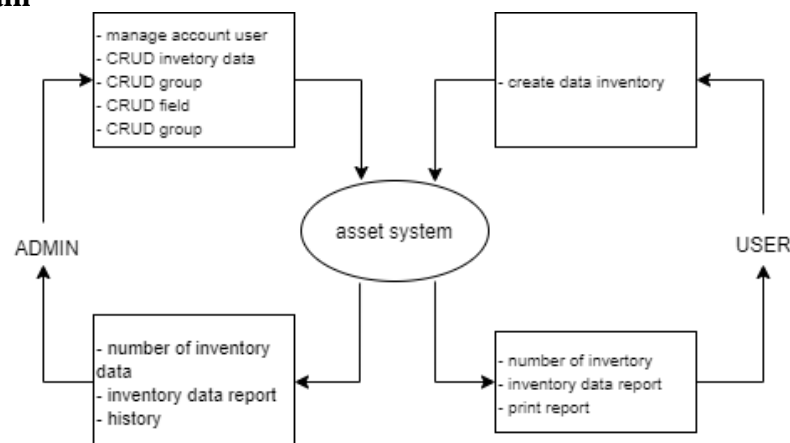
- **Presence of Researchers**

The presence of researchers is also very important in this study, namely as an observer as well as a data collector. Researchers act as observers as well as participants who seek complete information and obtained from various sources in the village. In its application, the status of the presence of researchers is known by all informants in sumbermulyo jombang village.

## RESULT AND DISCUSSION

In building an application first prepare a system design that is in accordance with the application you want to create. So the researchers designed the system as follows:

- **System Desain**

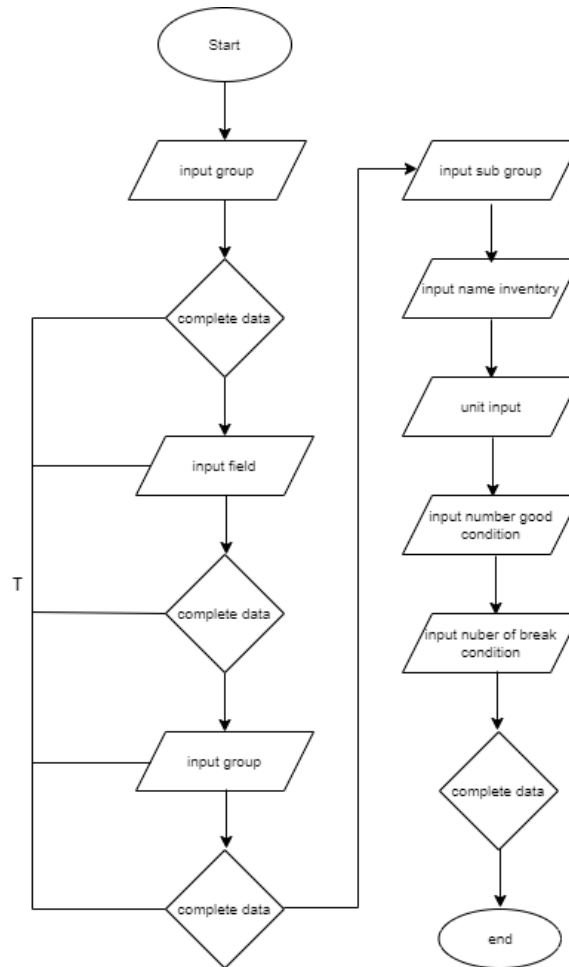


**Figure 2.** System Diagram

From the diagram above it can be seen that in this system there is one admin, namely the master admin who can do CRUD Inventory Data, CRUD group data, CRUD field data and CRUD group data. Users can only create inventory data.

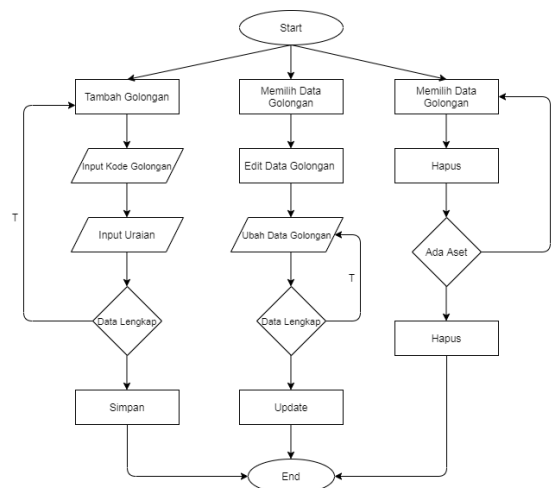
- **Flowchart System**

Flowchart system on this system serves as a system flow and makes it easier to work and understand the flow of the system to be done first is flowchart Input inventory data that explains the process of making reports. Which will be shown in the picture



**Figure 3.** Flowchart Input inventory data.

Next flowchart about Group Input that explains about adding a new group code menu. For more details, you can see in the picture below:



**Figure 4.** Flowchart New Group Code.

- **Data base Planning**

The database design in the design of the village's medium-term development plan information system contains a data dictionary that will explain the table picture and existing column structure will be used in application development.

In this data dictionary consists of 4 tables including: tbl Input inventory data, tbl add new group, tbl add new field, tbl add new group, data dictionary design can be seen in the table below:

- **Table create report**

**Uses :** This table is to input the report data displayed in the report.

**Uses :** This table is used to store admin data used to add new Inventory data.

**Table 1.** Inventory Data Input Structure.

tb_inventaris	
id_inventaris	Int (50)
Gk	Int (50)
Bk	varchar (50)
Kk	varchar(50)
Skk	varchar(50)
name_inv	varchar(100)
Unit	varchar(50)
j_good	Int(11)
j_broken	Int(11)
total_amount	Int(50)

**Uses :** This table is used to store the group data used to add new Group data.

**Table 2.** Group Structure.

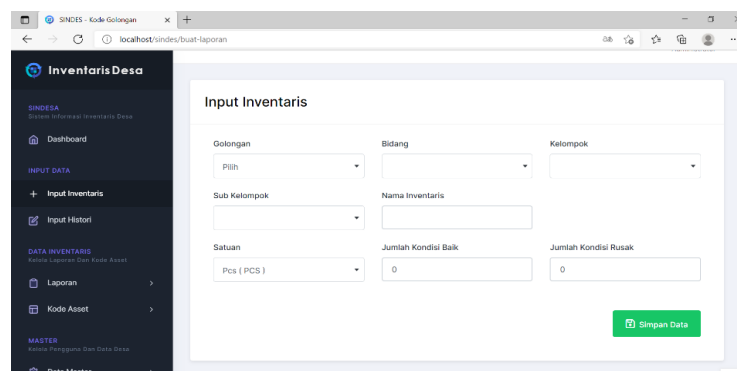
tb_group	
id_group	Int (50)
g_code	Int(50)

- **Result**

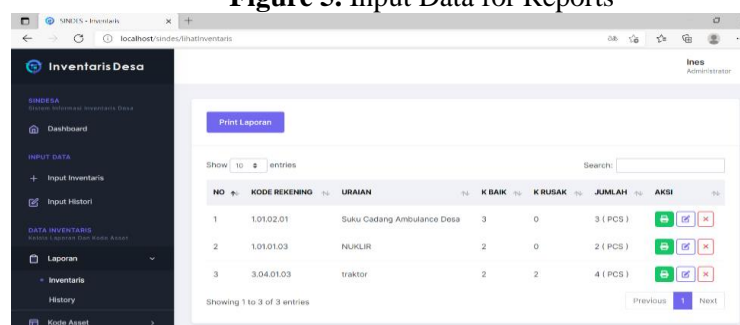
System testing is the final stage in the building of the system, at this stage will be tested both logic and functions to be feasible to be implemented. In testing the village medium-term development plan application, researchers used the Black Box testing method, which aims to ensure the application function has been in accordance with the expected process flow. Here are the results of testing using the Black Box testing method. And testing is done using several testing scenarios in order to produce results that are as expected.

- **Inventory Input Data.**

On this page Inventory input serves to add new Inventory data to the system.



**Figure 5.** Input Data for Reports



**Figure 6.** Inventory Data Report Output

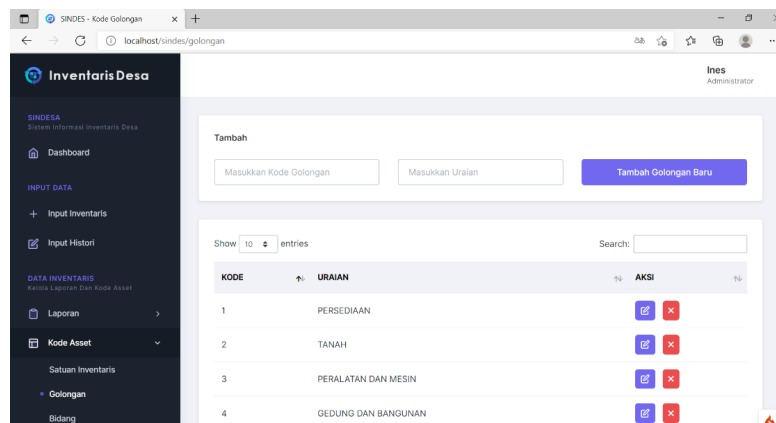
**Table 3.** Testing the New Inventory Input Page.

Identifikasi	
ID	Activity Diagram 2
Name of Activity Diagram	New inventory data input menu on admin
Purpose	CRUD new Inventory data
Description	Actors who have logged in can manage menus – other menus of system pages
Actor	Administrator
Scenario	
Early Conditions	The actor is on the main page
Actor action	System reaction
1. Go to the admin menu page	View the admin menu page
2. Click the new Inventory Input menu	Sign in to the new Inventory Input menu
3. Press the action button to add data if you want to add a menu	Save process
Final conditions	View a page of additional report inventory data

- **Discussion**

- **Group data page**

This page works to add new group codes and delete, edit and print group data.



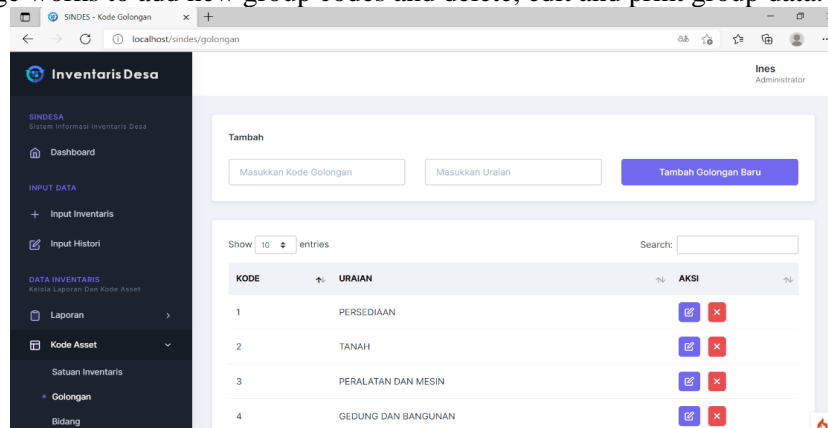
**Figure 7.** Picture added New Group.

**Table 4.** Testing Group Code Page.

Identification	
ID	Activity Diagram 3
Name of Activity Diagram	Add group code menu on admin
Purpose	CRUD group code data
Description	Actors who have logged in can manage the menus in the class code menu
Actor	Administrator
Scenario	
Early Conditions	The actor is on the main page
Actor action	System reaction
1. Go to the admin menu page	View group code add menu page
2. Click the menu for groups	Go on the group code menu
3. Press the action button to edit and press the add data button if you want to add a group code menu	Add process
Final conditions	View a group code data page that has been added

- **Group code data page**

This page works to add new group codes and delete, edit and print group data.



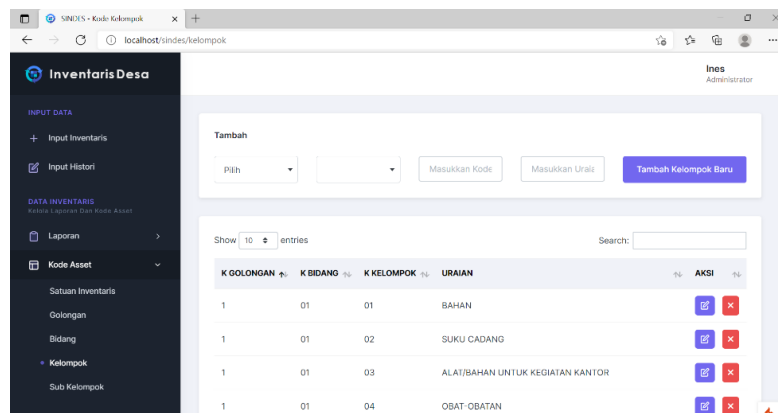
**Figure 8.** New group plus images.

**Table 5.** Testing Group Code Page.

Identification	Activity Diagram 3
ID	Add group code menu on admin
Name of Activity Diagram	CRUD group code data
Purpose	Actors who have logged in can manage the menus in the class code menu
Description	Administrator
Actor	
Scenario	The actor is on the main page
Early Conditions	System reaction
Actor action	View group code add menu page
1. Go to the admin menu page	Go on the group code menu
2. Click the menu for groups	Add process
3. Press the action button to edit and press the add data button if you want to add a group code menu	View a group code data page that has been added

- **Group code data page**

Pada halaman ini berfungsi untuk menambahkan kelompok baru serta menghapus, mengedit dan mencetak data kelompok.



**Figure 9.** Add a new group.

**Table 6.** Testing Group Pages.

Identification	
ID	Activity Diagram 4
Name of Activity Diagram	Add group menu to admin
Purpose	CRUD group data
Description	Actors who have logged in can manage the menus in the group menu
Actor	Administrator
Scenario	
Early Conditions	The actor is on the main page
Actor action	System reaction
1. Go to the admin menu page	View group data add menu pages
2. Click the group menu	Go on the group menu
3. Press the action button to edit and press the add data button if you want to add a group menu	Add process
Final conditions	View a group data page that has been added

## CONCLUSION

From the description described above can be concluded as follows:

- Village Inventory Management Information System at The Web-Based Sumbermulyo Village
- Hall Office can help facilitate the work process in managing village assets owned by.
- The Village Inventory Management Information System at the Web-Based Sumbermulyo Village
- Hall Office can reduce the possibility of loss of village assets so as to produce a report that can be accounted for.

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