

GOODS INVENTORY APPLICATION SYSTEM of "MEKAR JAYA" VILLAGE- OWNED ENTERPRISES (BUMDes)

Ari Bowo¹, Maharani Panggestu², Muhamad
Muslihudin³

^{1,2,3}Departement of Information System, STMIK Pringsewu
^{1,2,3}Wisma Rini Steet, No.09 Pringsewu, Lampung, Indonesia

*Corresponding author

E-Mail:

Aribowo0405@gmail.com¹

maharanipanggestu22@gmail.com²

mmuslihudin415@gmail.com³

Article history:

Received June 15, 2022

Revised Augusts 26, 2022

Accepted August 29, 2022

Keywords:

Village-Owned Enterprises
(BUMDes);
Information;
Application;
Mekar Jaya;
SDLC method;
Black box.

Abstract

Village-Owned Enterprises are known to the public as BUMDes according to Government Regulation Number 4 of 2015 concerning the Establishment, Management and Management of Village-Owned Enterprises to manage assets, services and other businesses for the welfare of the village community. BUMDes is one of the agencies working in the economic and social fields as a provider of agents to the community, especially in the village business sector. The problem in this study is that the recording of goods sold often results in errors in the details of the number of goods sold and the stock of goods which are still available at BUMDes Mekar Jaya. As a result, it interferes with the business marketing process because the available goods data is less accurate. The research method used in this research is data collection method, information system development method of System Development Life Cycle (SDLC) and fishbone diagram research flow. The analysis result of this study is that the web-based inventory application system at BUMDes Mekar Jaya in Panjerejo Village, Gadingrejo District, Pringsewu Regency has explained that by making a web-based inventory application system at BUMDes Mekar Jaya can improve work performance more, precisely and accurately. So, it can make it easier to work on reports of incoming goods or outgoing goods. For the manufacture of the application system, the researcher uses the PHP programming language and the MySQL database and is supported by several related applications. In this study, researchers also conducted testing using black box testing. Black box is a way to perform tests such as the functions which exist in the application to make it easier for general users. With the application system, this inventory can be used simultaneously with the old system so that within a certain time the old system can be abandoned and the new system can be fully used effectively.

1.0 INTRODUCTION

Village-Owned Enterprises or BUMDes are village economic institutions with legal entities formed by the Village Government and managed independently and professionally using village assets entirely. In order to achieve national development targets, villages create government agencies, especially those which can reach target groups who will be prosperous, by establishing a Village-Owned Enterprise in accordance with the Minister of Home Affairs

Regulation No. 39 of 2010 concerning village-owned enterprises, which states that: "To improve financial capacity village government in administering government and increasing community income through various economic business activities of rural communities, village-owned enterprises are established in accordance with village needs and potentials. Then in Law No. 6 of 2014 concerning Villages explained in Chapter I General Provisions Article 1 Paragraph 6 that "Village-Owned Enterprises, hereinafter referred to as BUMDes are business entities where entire or most of the capital is owned by the Village through direct participation originating from wealth separated villages to manage assets, services, and other businesses for the greatest welfare of the village community".

Previous research conducted by Annisa Ridha Ramadhani, Bunyamin, Leni Fitriani (2016) explained that the inventory application system and sales transactions were made to minimize discrepancies in inventory reports and sales reports, making it easier for shop owners to manage data and assist cashiers during transactions [1]. Research conducted by Gita Ayu Syafarina (2016) explained the inventory system used to control inventory for buying and selling transactions and ordering goods so as to prevent the occurrence of vacancies. With this system, we can classify fast-selling goods and the performance of a business entity. With a computerized system, it helps each related division in presenting inventory information accurately and quickly so that no face-to-face control is needed [2]. Research conducted by Agus Junaidi, Candra Sumirat (2018) explained that the process of inventory activities and inventory data collection is assisted by the application of a web-based information system. This system makes activities in the company efficient and effective because this system is web-based which runs on the intranet network so as to minimize inaccurate reports when inputting goods [3]. Research conducted by Asef Afandi, Sigit Mintoro, Yesi Indah Sari (2020) described the mobile web-based BUMDes information system using the XP (Extreme Programming) development method, MVP and MySQL as the database. This information system aims to make it easier to access information and business marketing [4].

The management of BUMDes Mekar Jaya has shortcomings in the process of recording and storing available stock of goods because it is still using a manual system, causing a mismatch between the amount of inventory in the manual record. This results in a lack of transparency in the availability of stock of goods, therefore BUMDes cannot know the stock of goods in real terms. With this application system, it is expected to save time, make it easier to access inventory, and minimize errors in inventory reports.

BUMDes Mekar Jaya is an agency working in the social and economic fields as a provider of agents to rural communities, especially in the business sector. During that time, the process of selling goods is still manual so that the recording of goods sold often results in errors in calculating the number of goods sold and the stock of goods that are still available. As a result, it interferes with the business marketing process because the available goods data is less accurate.

Based on the above problems, researchers are interested in making an inventory application system at BUMDes Mekar Jaya to solve existing problems easily through internet access, can overcome problems in the data collection process in and out of goods, and save time because it can be accessed anytime by anyone. This makes BUMDes performance better and more efficient by implementing an internet-based application system.

2.0 THEORETICAL

Basic Concepts of Information Systems

According to (Elisabet, Y.A and Rita I. 2017:12), Information System is a system which connects the needs of daily transaction processing as an operation role in administrative processes in the activities of a system to store information needed to make decisions [5]. According to (Muhdar Abdurrohman 2016), Information Systems have several components including:

1. **Input Block** Input consists of data which enters the input information system, including methods and media. To get the input data, the data is in the form of basic documents.
2. **Model Block** This block makes a combination which abuses input data and recorded data to get the desired output.
3. **Output Block** This block creates information and documentation systems which are useful for all management categories as well as some system users.
4. **Technology Block** This block creates a toolbox in the technology information system which is used to obtain input for running the model, documenting and accessing information.

5. **Database Block** The database is a collection of information which is related to each other, documented in computer hardware media and requires certain software to access it.
6. **Control Block** This block is used to prevent errors which may arise in the system or fix errors if they occur [6].

Application

According to (Achmad Solichin, Goenawan Brotosaputro 2016), applications or software are an inseparable part of a computer system, apart from the presence of users (brainware), hardware (hardware), and networks (networking). Judging from the expansion, the application is divided into 3 (three), desktop-based applications, web-based applications, and mobile-based applications. In this era of development, web-based applications are very fast because they have several advantages compared to other based applications [7].

Inventory

According to Assauri (2016), inventory is a supply of resources used in an institution, to carry out the inventory function. Inventory is divided into 4 (four) types: raw materials, inventory of work in progress, maintenance/ repair/ operating supplier (MROs) inventory, finished goods inventory [8].

BUMDes (Village-Owned Enterprises)

According to Kertha Patrika (2017) BUMDes is legally regulated in Law Number 6 of 2014 concerning Villages. The formation of BUMDes is carried out based on the results of village deliberations. The results of the village deliberations are stipulated in a Village Regulation concerning the establishment of BUMDes. BUMDes management is carried out competently so that it produces profits which can become a source of Village Original Income. BUMDes has its own characteristics compared to other business entities. Besides being able to generate profits, BUMDes also plays a role in improving the welfare of the community [9].

Definition of Website

According to Rohi Abdulloh (2016), a website is a collection consisting of a number of pages containing information in the form of text, images, video, audio and other animations provided via an internet connection. Website is a homepage which contains information, can be accessed by a browser, and can provide useful information for its accessors [10].

Hyper Text Markup Language

According to (Rosidin Karo-Karo Sitepu, Atika Mayang Sari, 2018), HTML or Hyper Text Markup Language is a markup language on the web in the form of codes and symbols. These codes and symbols function to bring up a website. The use of HTML is to create websites. If a website does not have HTML, the website builder cannot use markup languages such as CSS, javascript, jQuery, or PHP [11].

My Structured Query Language

According to MADCOMS (2016) MySQL is an Open Source SQL Database system. The MySQL database system supports a number of features such as multithreaded, multi-user and SQL Database management system (DBMS) [12]. According to wikipedia (2018), MySQL is an application of the relational database management structure (RDBMS) which is distributed free of charge under the GPL (General Public License). Every user can freely use MySQL. By using the limitations of the software, it cannot be made a profitable copy product [13].

Profile of BUMDes Mekar Jaya Panjerejo

BUMDes Mekar Jaya was established in October 2019 and is located in Panjerejo village, Gadingrejo District, Pringsewu Regency. The legal basis for the establishment of BUMDes Mekar Jaya is based on Law No. 32 of 2004 concerning Regional Government, Law No. 33 of 2004 concerning financial balance between the Central Government and Regional Government, PP No. 58 of 2005 concerning Regional Financial Management, PP No. 72 of 2005 concerning Villages, and Panjerejo Village Regulation No. 2 of 2016 concerning procedures for the Establishment and Management of Village-Owned Enterprises (BUMDes). BUMDes Mekar Jaya has several business units. There are the electricity business unit, the STBM & MSME business unit, the Mineral Water Unit, Rice, and the Brick Business Unit [14].

3.0 METHODOLOGY

System Development Life Cycle (SDLC)

According to Muhamad Muslihudin and Oktafianto (2016), the System Development Life Cycle (SDLC) in system application and software application is a method of compiling and changing systems as well as the models and methodologies used to describe these systems. The concept of SDLC usually refers to a computer or information system. SDLC makes a design which is taken to describe a software system which consists of planning, analysis, design, implementation, testing and maintenance [15]. The steps used in this method are:



Figure 1. SDLC Method Chart

1. Planning

Planning is the initial step for the expansion of the system which aims to identify and prioritize the information system to be expanded, the targets to be achieved, the period of use and considering the available funds and who is doing it. The process carried out makes the inventory web at BUMDes Mekar Jaya can be recorded properly and neatly in terms of reports on its books.

2. System planning

The first stage, the researcher analyzes and identifies the information system developed based on the website. Other parts of planning are project allocation, capacity planning, cost estimation and determination. The process in designing this system uses database design, process design and interface design. This design aims to be able to meet the needs of system users

3. Design

In this step, the researcher makes the shape or design of the building as a framework in making the website. The design made is implemented in accordance with the needs which have been mentioned in the previous stage, then documented as a configuration of the software.

4. System Development

System development (software development methodology) is the stage where a framework is used to structure, design and operate the expansion process of an information system.

5. Testing

In this step, the researcher conducts a trial or testing of the website which has been created. All functions are tested so that they are free from errors and the final result is in accordance with the needs of the researcher.

6. Implementation

Implementation is the final step in creating the SDLC. In this step the system has been created, tested, and confirmed to work optimally. Implementation is carried out after the manufacturing stage is complete. Maintenance is very important to ensure the system runs optimally.

7. Maintenance

Maintenance is very important for reference libraries in the future. Maintenance is the final step to be the introduction to a new phase (implementation). Gaps and damage in the production process must be resolved and reported. Researchers monitor web operations and continue to make improvements to anticipate disturbances or viruses.

4.0 RESULTANTS

4.1. Application Implementation

To improve Panjerejo Village, researcher designs an application which aims to facilitate the improvement of business resources in the village, especially in the substance of the village's potential in the economy with the aim of prospering the community. So that the destination can be easily accessed via the internet and can overcome problems in the process of data collection in and out of goods and save time.

Display of Login Page

This page is used for users who log into the system using an email and password which is entered correctly into the system automatically. Here's what the login page looks like:

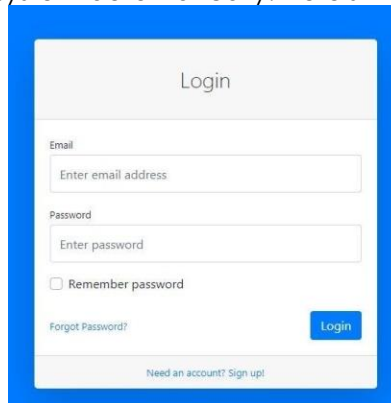


Figure 2 Login Page

Display of Home Page

This display is the first page which appears when successfully logged into the system. This page displays the menu icon and information needed by the admin. Here is what the home page looks like:

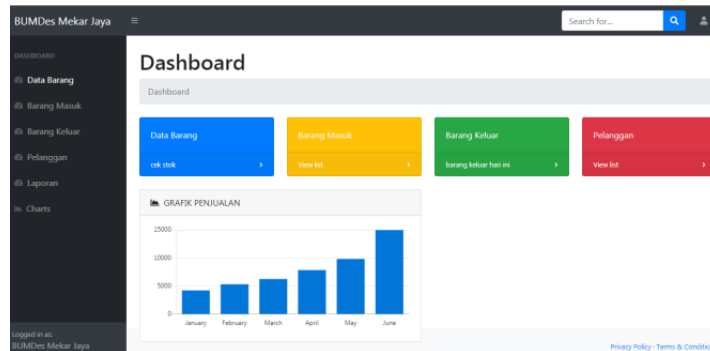
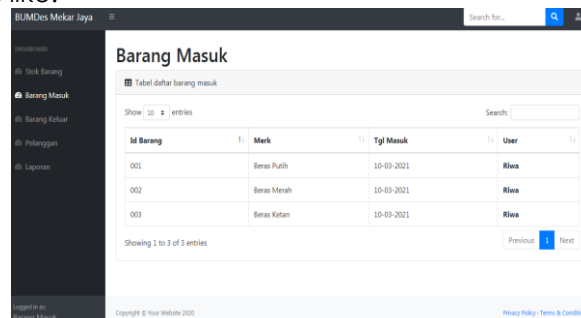


Figure 3 Home Display

Page Display of Incoming Items

This display serves to display incoming goods to BUMDes Mekar Jaya. Here is what the login page looks like:



Id Barang	Merk	Tgl Masuk	User
001	Beras Putih	10-03-2021	Riwa
002	Beras Merah	10-03-2021	Riwa
003	Beras Kitan	10-03-2021	Riwa

Figure 4. Display incoming

Display of Outgoing Item Page

This display serves to display goods out to BUMDes Mekar Jaya. Here is what the outgoing goods page looks like:

Id Barang	Tgl Keluar	Keterangan keluar	User
001	10-03-2021	Terjual	Riwa
002	10-03-2021	Terjual	Riwa
003	10-03-2021	Terjual	Riwa

Figure 5 Page Display of Outgoing Items

Page Display of Item Data

This display is used to display item data on BUMDes Mekar Jaya. The following is the item data page:

Id Barang	Nama Barang	Stok
001	Beras Putih	60 kg
002	Beras Merah	15 kg
003	Beras Kacang	45 kg

Figure 6 Page Display of Stock Items

Views of Customer Page

This display serves to display customers on BUMDes Mekar Jaya. Here is what the customer page looks like:

Id Pelanggan	Nama Pelanggan	Alamat Pelanggan
PLGN-01	Nur Ainun	Panjerjo
PLGN-02	Mentari	Panjerjo
PLGN-03	Widyono S.	Panjerjo


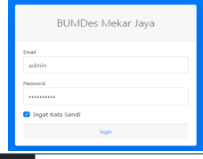

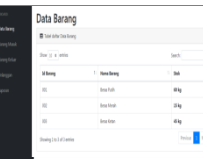
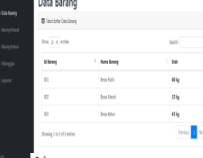
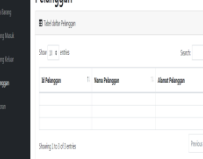


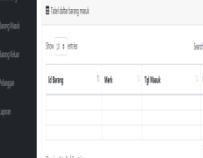
Figure 7 Display of Customer Page


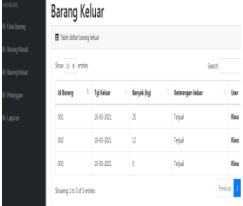
4.2. System Result Analysis

This research is about the inventory application system at the web-based BUMDes Mekar Jaya in Panjerejo Village, Gadingrejo District, Pringsewu Regency. From several studies which have been described by making a web-based inventory application system at BUMDes Mekar Jaya, that it can improve performance more accurately and practically, so that it can make it easier to make reports of incoming and outgoing goods. Making the application system uses the PHP programming language, MySQL database, and supported by a number of related applications. This test uses black box testing. Black box is a method used to test applications such as functions which exist in applications so that they can be easily used by general users

Table 1. Black Box Test Results on the BUMDes Application System

Number	Picture	Test	Test Case	Expected results	Test result	Conclusion
--------	---------	------	-----------	------------------	-------------	------------

1		Email and Password left blank then click the login button	Email: (blank) Password: (blank)	The system will reject and display "Please fill in your email and password"	According to expectation	Valid
2		Type your email and password then click the login button	Email: (admin) Password: (admin12345)	The system will respond to login access and display the main page	According to expectation	Valid
3		All form data fields are emptied, add item data, click save	Item id (blank), item name (blank), stock (empty)	The system cannot process and the empty column does not display data	According to expectation	Valid
4		Just enter the item id, item name, and stock item, click save	Item id (001), item name (white rice), item stock (60kg)	The system can process and store data	According to expectation	Valid
5		Fill in all from, add item data in an empty column, click save	Item id (001), item name (white rice), item stock (60kg)	The system can process and store data	According to expectation	Valid
6		All data fields on the form are emptied, add customer data, click save	Customer Id (blank), Customer Name (blank), Customer Address (blank)	The system cannot process and the empty column does not display data	According to expectation	Valid
7.		Fill in all from, add customer data in an empty column, click save	Customer ID (PLGN-01), Customer Name (Nur Ainun), customer address (Panjerejo)	The system can process and store data	According to expectation	Valid
8.		All data fields on the form are emptied, add incoming goods data, click save	Item id (empty), brand (empty), date of entry (empty), user (empty)	The system cannot process and the empty column does not display data	Sesuai harapan	Valid
9.		Fill in all from, add incoming goods in an empty column, click save	Item ID (001), brand (White Rice), Check-in date (10-03-2021), user (Riwa)	The system can process and store data	According to expectation	Valid

<p>10.</p> 	<p>All data fields in the form are emptied, add data for outgoing goods, click save</p>	<p>Item id (empty), Exit date (blank), Many (kg) (empty), Exit description (empty), User (empty)</p>	<p>The system cannot process and the empty column does not display data</p>	<p>According to expectation</p>	<p>Valid</p>
<p>11.</p> 	<p>Fill in all from, add items out in an empty column, click save</p>	<p>Item ID (001), Exit date (10-03-2021), Exit statement (sold), user (Riwa)</p>	<p>The system can process and store data</p>	<p>According to expectation</p>	<p>Valid</p>

From the results of trials using black box testing in research on the inventory application system at Mekar Jaya BUMDes on application functions starting from the login page, goods data page, customer page, incoming goods page, and outgoing goods page, it can be concluded that the application Mekar Jaya's BUMDes inventory is feasible to be implemented and developed.

5.0 CONCLUSION

With this inventory application system, it can simplify the process of requesting supplies to inventory users at BUMDes Mekar Jaya Panjerejo Village, so that this can support better and more accurate inventory management. The inventory application system can make it easier to make inventory reports at BUMDes Mekar Jaya, Panjerejo Village, and can access inventory using certain application systems via the internet. In addition to saving time, this application system can be accessed anytime and anywhere. The inventory application system can be used simultaneously with the old system so that within a certain time the old system can be abandoned and the new system can be fully used effectively.

REFERENCES

- [1] Annisa Ridha Ramadhani, Bunyamin, Leni Fitriani. 2016. Perancangan Aplikasi Persediaan Barang Di Alya Store. Vol.13. No. 2.
- [2]. Gita Ayu Syafarin. 2016. Perancangan Aplikasi Inventory Barang Materials dan Product. Vol. 7. No. 1.
- [3]. Agus Junaidi, Candra Sumirat. 2020. Aplikasi Persediaan Barang PT. CAD Solusindo Menggunakan Metode Waterfall Vol.07. No. 01.
- [4]. Asep Afandi, SigitMintoro, Yesi Indah Sari .2020. Rancang Bangun Sistem Infromasi Badan Milik Desa (BumDes) Berbasis Web Mobile. Vol .3 . No.1 . 23-31.SIMADA.
- [5]. Elisabet, Y.A dan Rita I. 2017:12. Pengantar Sistem Informasi.
- [6]. Muhdar Abdurohman.2016. Sistem Informasi Jadwal Perkuliahan Berbasis Web Mobile. Vol5 No. 2. Hal 49-56. IJNS.
- [7] Achmad Solichin, Goenawan Brotosaputro. 2016. Pemrograman Web dengan PHP dan MySQL
- [8]. Assauri. 2016. Manajemen Operasi Produksi Pencapaian Sasaran Organisasi Berkesinambungan. Jakarta : PT Raja Grafindo Persada.
- [9]. Kertha Pratika. 2017. Keberadaan Badan Usaha Milik Desa Dalam Meningkatkan Pendapatan Asli Desa. 39(01):16
- [10] Rohi Abdulloh. 2016. Easy & Simple Web Programming. Jakarta : PT Elex Media Komputindo, 227.
- [11]. Rosidin Karo - Karo Sitepu, Atika Mayang Sari. 2018. Aplikasi Akuntansi Berbasis Web
- [12]. MADCOMS. 2016. Pemrograman PHP dan MySQL Untuk Pemula. Yogyakarta : C.V Andi
- [13]. Wikipedia. 2018. MSQl. Wikipedia Bahasa Indonesia ensiklopedia bebas.
- [14]. Profil BUMDes Mekar Jaya Kecamatan Gadingrejo Kabupaten Pringsewu tahun 2019.
- [15]. Muhamad Muslihudin, Oktafianto, "Analisis dan Perancangan Sistem Informasi Menggunakan Model Terstruktur dan UML", Andi Offset, I Yogyakarta, 2016

