

Bumdes Loan And Payment Application At The Bandar Telu Plantation Village Office Is Website-Based

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ABSTRACT

The aim of this research is to obtain a lending and payment application that can be applied to the Bandar Telu Plantation BUMDes. This research uses the RnD research method and the Waterfall development method. Data collection was carried out by means of observation, interviews and literature study. This results of this research show that BUMDes was established to help the community meet their needs by borrowing from the community. The website-based application for borrowing and payment for the BUMDes Plantation Village in Bandar Telu produces an application that can be accessed by administrators or members. Where the management uses a website based system, and members use a mobile-based system that can be accessed via the internet and applications. With this application, it can make it easier for administrators and members to obtain information about ongoing loans and payments, so that there is no longer a need for general ledger recapitulation which is at risk of errors in calculating interest or accumulating the amount of members bills.

Keywords: Applications, Village Owned Enterprises, Website.

1. INTRODUCTION

The use of information technology in agencies today is very important because it can make it easier to process the agency's information into information that can be used by users. Technology enables access to information available to agencies to be fast, effective and precise. The easier it is for consumers to access information about BUMDes, the easier it will be for BUMDes to move in a better direction.

BUMDes is village-owned business entity engaged in lending and payments that has been running from year to year. BUMDes is an economic institution whose capital ownership is fully or mostly owned by the village through direct participation in village resources (Al Iqbal Bin Salim, Lillyan Hadjaratie, 2021). The current system in BUMDes still uses a manual system or sheets of paper to register and then make loans and payments are still recorded in the loan and payment recapitulation book. With this manual system, the BUMDes administrators are slow in searching for member data and prospective members have to come to the office or visit the BUMDes administrators directly, which will affect the efficiency of the time and energy. The security and accuracy of data processing is also questionable because it is prone to intentional and unintentional errors and fraud.

The establishment of village-owned business entities is based on Law No.6 of 2014 in Article 87 paragraph (1) which states that "Villages can establish village-owned business entities called BUMDesa". PP Number 71 of 2005 concerning village funds sourced from the APBN (Ardiyansyah & Kurniawan, 2019). The business entity owned by the Bandar Telu plantation village receives funds from the APBN, which is handed over in the form of savings and is managed by the village-owned business entity. Given to small and medium communities who need capital.

Apart from the economic function, the function of BUMDes also has a social function. The financial function is an activity related to the development and management of BUMDes, which is a village business entity that must bring benefits to the village and village community. While the social functions of BUMDes are: (1) indirectly, through providing financial transfers to the village treasury through additional village income, which is then used for village development activities through regular village development management mechanism, and (2) implementing coaching and business assistance carried out directly by village communities, in addition to managing public (not privat) goods/services.

BUMDes management really needs support, this has the potential to provide loan opportunities to the community, with the number of borrowers using completely manual system, especially savings services and credit

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services increasing from year to rear, so that calculation errors often occur between income and balance used. However, the system currently used by the BUMDes in the Bandar Telu plantation village is still a system for storing data archives recorded in summary books, which is expensive and troublesome, and this condition certainly affects the performance of administrators involved in disbursing member names and making reports, which requires a system that facilitates administrator performance in administration and reporting processes.

2. LITERATURE REVIEW

Currently, websites play an important role because they are the fastest source of information that can be accessed anytime, anywhere. Website are part of technological developments. A website is an information space where usefull resource are identified by a global identifier called a Uniform Resource Identifier (URI) (Suendri, 2021). A website is a document in the form of a page that contains text in HTML (Hypertext Markup Language) format. The website is stored on the hosting server and can be accessed through an Internet browser as a URL (Uniform Resource Locator). Web-bassed applications are designed to meet specific need. This website is designed using the PHP programming language and the Laravel framework.

Developing web applications requires a framework. The framework contains a collections of program code that is collected and organized into well-structured folders for ease of use. Laravel is an open-source PHP framework developed by taylor otwell that began in 2011. This laravel framework in built with the concept of MVC (Model View Controller)which distinguishes between views and process logic, so that system processing can be divided into more specific processes (Suendri, 2020). Laravel focuses on clarity and simplicity in writing and display, as well as producing functional we applications that work.

PHP (Hypertext Preprocessor) which is used as a server-side scripting language in developing Web embedded in HTML documents. The use of PHP allows the web in to be made dynamic so that Web site maintenance becomes easier and more efficient. MySQL (My Structure Query Language) is a database management system software SQL (Database Management System) of DBMS of many database system such as Oracle, MySQL, Postgre SQL and others (Widia & Asriningtias, 2021).

The system development method used is the Waterfall method, and each state and sequence of the method is carried out sequentially and continuously like a waterfall (Abdul Wahid, 2020). This development model takes a systematic and sequential approach. It is called a waterfall because each stage passes through stages which must wait for the previous stae to finish before continuing sequentially (Sutinah et al., 2018). This development model is linear starting from the early stages of system development, the planning stage, to the final stage, namely the maintenance stage.

3. METHOD

Research Stages

Research stages are used as a reference in conducting research. Where this stage is the most important thing in conducting research, there are several stages used for research, namely:

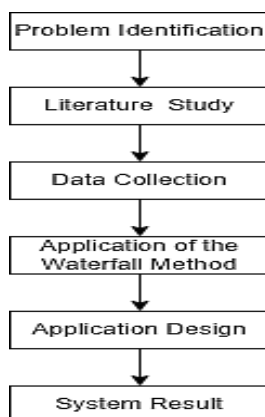


Fig 1. Research Stage (Ikhwan & Aslami, 2022)

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Identification of Problem

Identifying Problems that can be identified in this research are the borrowing process and payments which are made manually, and errors often occur in the process of calculating the loan interest percentage.

Literature Study

In literature studies, it is carried out by searching for various written sources in the form of journal archives and relevant document according to the topic of discussion to be discussed.

Data Collection Techniques

Several data collection techniques:

Observation

Observation is making direct observations in order to obtain information about the target matter. At this stages the researcher made observations at the Bandar Telu Plantation Village Office, Langkat Regency in order to see firsthand the process of borrowing from BUMDes. The researcher collects the required data according to the main points of discussion that will be discussed by directly visiting the BUMDes administrators and related parties.

Interview

An interview is a direct communication process between two or more people with the aim of obtain information. At this stage the researcher conducted questions and answers to BUMDes administrators and residents who had or had borrowed funds through the BUMDes, such as Mr. Ilham, Mr. Junaidi and Mrs. Fuji Astuti. This stage aims to obtain accurate information so that there is no distorted information.

System Development Techniques

The systematic development method used in this research is the Waterfall development method. The sequential and systematic waterfall development method for information system is known as the waterfall method. This method called is called waterfall because the steps completed for each step wait for the previous step to complete and must be continued sequentially. This development method is linier from the initial stage of system development, namely the planning stage, to the final stage, namely the maintenance phase. The Waterfall method has the following stages:

Requirements Analysis

This stage is a phase of intensive interaction between system analysis and the user community, the system development team community, the system development team will demonstrate its expertise in order to gain feedback and user trust.

Design

After completing the system requirements analysis stage, the research carried out system design by applying a use case diagram.

Implementation

At this stage after completing the design, the program is translated into a programming language. The programming language used are PHP, Laravel, MySQL, Visual Studio Code and Framework 7. Then the implementation stage results from the design of a pre-design system that will be used as a web program.

Testing

In this stage, the system will be integrated and tested as a complete program to ensure the program meets the existing requirements (Rahmawati et al., 2021).

Maintenance

This stage is the last process, if the previous stage of the system is worth testing for use than the installation of the system is carried out. This stage is also interpreted as a form of responsibility to ensure whether the system can run by the actor as the user from point of view of the object as the user of the system (Usla & Ikhwan, 2023).

4. RESULT

Analysis System

After data collection is complete, the next step is systematic analysis. System analysis is the process of understanding existing systems as a basis for designing or improving old systems. This step was taken to analyze the system currently running at the Bandar Telu plantation BUMDes. The running system can be seen in the following picture:

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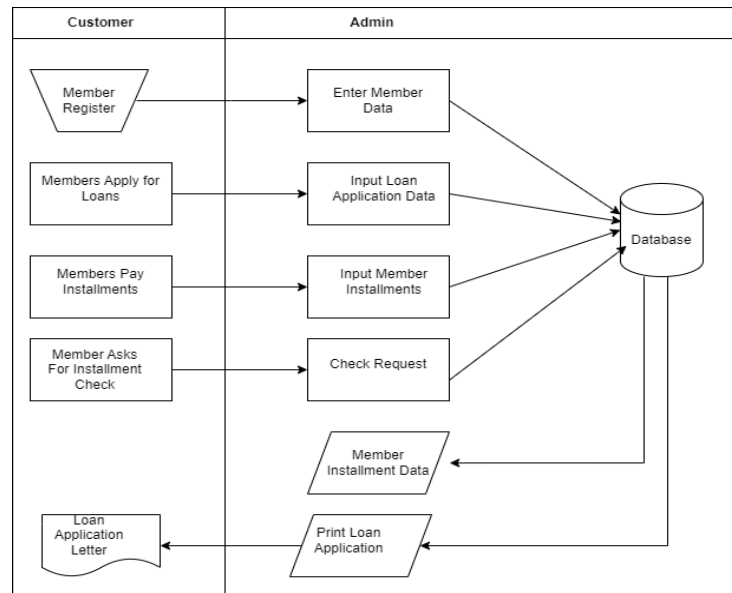


Fig 2. System Running

A running system is a process of steps that shows the journey of data or documents in a system or the process of files coming in and out that occurs in an ongoing system. The aim is to get a clear picture of the system currently running in a company or related agency or institution.

Use Case Diagram

Use case diagram is a diagram that explains the structure of the system to be designed and the activities of the actors who are users of the system from the perspective of the object that is the user of the system.

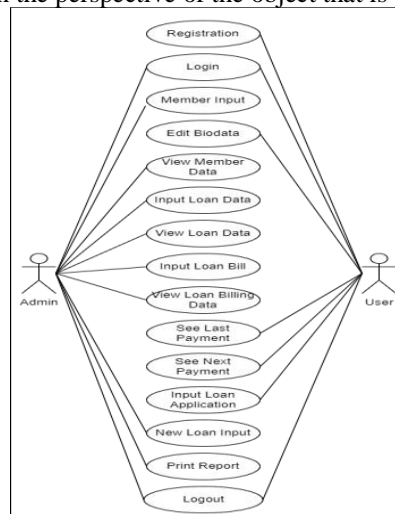


Fig 4. Use Case Diagram

In the system designed, the system uses two factors, namely the BUMDes administrators as admin with a website-based system and members as users with a mobile-based system. The system used by the admin has login features, dashboard display, member page, new loans, loan data, member loan collection, settings, and logout. Meanwhile, for users, the features used are login, home, profile and loan history.

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Activity Diagram

Activity diagram are diagrams that reflect the workflow or operation of system and business processes. Activity diagram reflect system operations not what I do but the operations that the system can perform (Suhimarita & Susianto, 2019).

The activity diagram in this system is found in the login and loan data input sections.

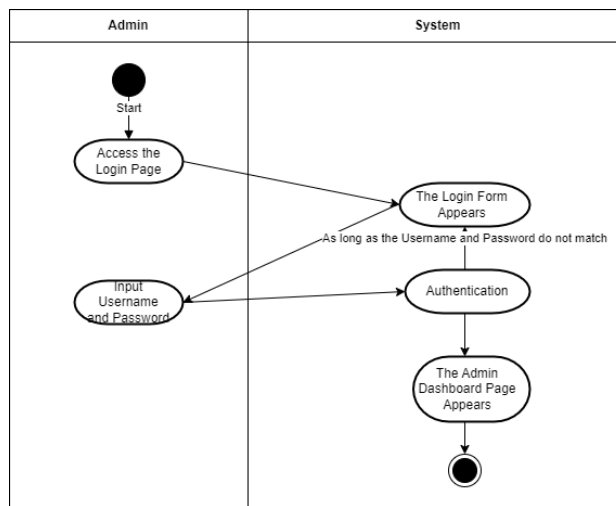


Fig 4. Activity Diagram Login

In the login activity diagram the admin can log in using the username and password that have been saved by the system, then the system will display the admin dashboard page if the username and password that the admin entered are correct.

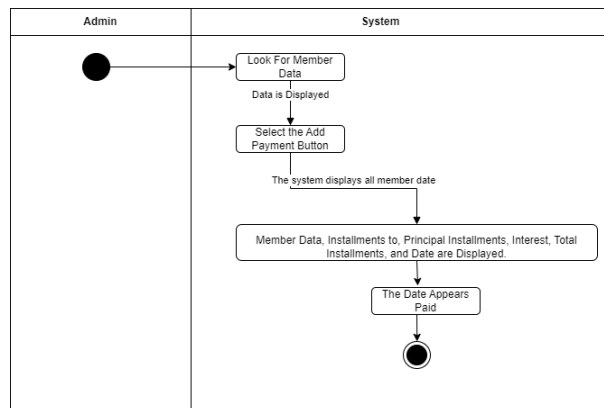


Fig 5. Activity Diagram Input Loan Data

Meanwhile, in the loan data input activity diagram, the admin can input or search for member data in the system, then the admin can input additional member payments and the system will display all member loan data, after that the admin can input paid data and system will save the data.

System Implementation

This application is used to make it easier for BUMDes administrators to inout BUMDes member data. Provides information regarding loan and payment schedules, making it easier for members to obtain information.

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Admin Login Display



Fig 6. Admin Login Display

On the login page, the admin will enter the username and password as stored, then the admin will go to the main page to view BUMDes member data.

Add Member Page

Tambah Anggota

Nama Anggota *

Jenis Kelamin

Laki-laki Perempuan

Alamat

Kota

Telpon

Kepengurusan

Bukan Pengurus Pengurus

Username

Password

Status

Aktif

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Fig 7. Add Member Page

From the member page the admin can add a list of additional members who will become new BUMDes members, the admin will also input the address of the prospective member and also the username and password of the prospective member's account.

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Add Loan Page

Tambah Pinjaman

Tanggal
11/21/2023

Anggota *
--Pilih anggota--

Jumlah *
[]

Bunga (%) *
3

Jangka Waktu (bulan) *
10

Perbulan
0

Keterangan
[]

Fig 8. Add Loan Page

Next, there is a page to add a new member's loan, on that page the admin will select the name of the members who borrow, the interest and time period listed.

Installment Payment Page

Pembayaran Angsuran

ID Pinjam	: 14
Nama Anggota	: Ilham Illahiyah
Jumlah Pinjaman	: 5,000,000
Pokok	: 500,000
Jangka Waktu	: 10 bln
Bunga	: 3 % (150,000)
Perbulan	: 650,000
Total	: 6,500,000

Tanggal Pembayaran
11/21/2023

Keterangan
[]

Simpan Pembayaran Kembali

Fig 9. Input Installment Payment

Admin can save member payments on this page.

Member Login Menu Display on Cellphone



Fig 10. Member Login Display

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Members can log in using their saved username and password. If they don't have an account, members will register first.

Home Menu Display

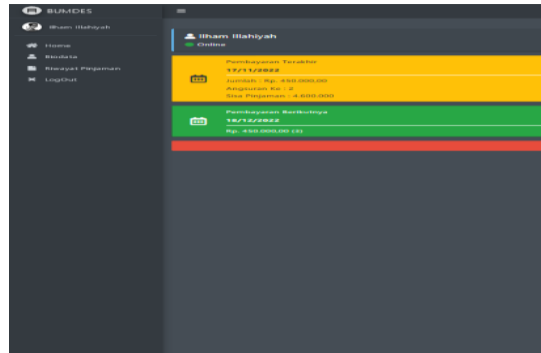


Fig 11. Member Home Display

The home page will display data on the last installment and the next payment schedule. The report will update automatically when the admin inputs the payment data result.

Loan History Page Display

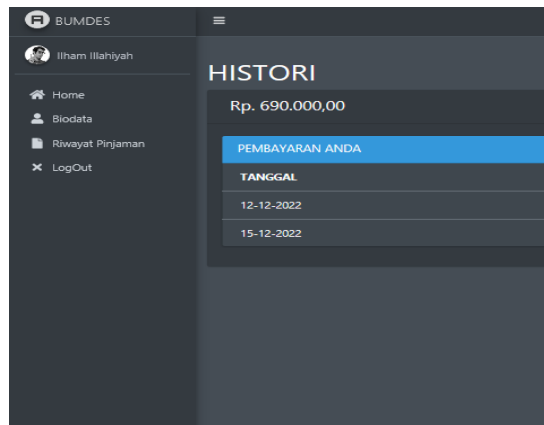


Fig 12. Loan History

Loan history will display payment data. Where the last payment date and the next payment date will be displayed as well as the number of installments that must be paid for both.

DISCUSSIONS

BUMDes is a village-owned business entity that operates in the field of lending and payments. On the Bandar Telu BUMDes plantation, it is one solution for middle class people to get funds to open a business. This BUMDes loan has an installment period of 10 months with interest of 3 percent per month. The public can borrow BUMDes funds through the BUMDes administrator. The maximum amount of funds that can be borrowed is 5 million Rupiah.

To collect data on BUMDes members, a fairly large recap book was used, because there are quite a lot of BUMDes members in the Bandar Telu plantation village. This often occurs in data errors in adding up interest percentages. Therefore, researchers provide a solution in the form of an application system that can be used by administrators and members. This system can make it easier to record member data and installment data, thereby reducing errors in data input or interest calculations.

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5. CONCLUSION

The results of the research above show that this BUMDes loan and payment application can help the BUMDes administrators and members. With this system, the BUMDes can process loan result data more efficiently, can search for loan history easily and members can view data via Android and can find out the next installment payment. From the system built, the author realizes that there are still many shortcomings in this BUMDes lending and payment application. The author hopes that this system can be further developed by adding new features that can make it easier for users and adding the implementation of other methods related to the discussion.

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