



# Computerization of The BUMDes Financial Reporting System

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**Abstract.** BUMDes (Village-Owned Enterprises) are village businesses managed by the Village Government. In its operations, BUMDes can run various business units, which are aimed at increasing the welfare and income of village communities. Therefore, BUMDes are required to have ideal governance, both in terms of administration and accountability, especially concerning their business activities in the form of financial reports. In its operations, including in preparing financial reports, BUMDes already utilizes computer equipment. Unfortunately, this computer is still positioned as a typewriter and recording medium only. All processes related to the preparation of financial reports are still carried out manually. The technicalities for preparing BUMDes financial reports are regulated in the Decree of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia number 136 of 2022. This Ministerial Decree regulates in detail and completely the procedures (guidelines) for preparing financial reports for a BUMDes. This research aims to help BUMDes by producing a computerized financial reporting system. The system was built using an object-based system development method, referring to this Ministerial Decree, so that it can guarantee its correctness and make it easier for further development in the future. This system focuses on handling the financial reporting system which includes Balance Sheet, Profit and Loss, and Cash Flow, which is prepared automatically based on financial transaction data input by assigned officers. Furthermore, the system can be developed in stages, according to the needs of the business unit.

**Keywords:** BUMDes, Financial Statements, Automation, Computerization

## 1 Introduction

BUMDes (Village-Owned Enterprises) are village businesses managed by the Village Government and are legal entities. The capital owned by BUMDes comes from village wealth which is recognized as capital participation. These funds are separated to manage assets, services, and other businesses for the greatest welfare of the village community (Hamzah, 2021). The establishment of this BUMDes has 4 (four) main objectives, namely improving the economy of village communities, increasing village community income, optimizing the potential of natural resources for community needs,

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and becoming a tool for equal distribution and growth of the village economy (Arindhawati & Utami, 2020; Sari & Arisena, 2023; Wulandari & Erlina, 2022).

As a business entity, BUMDes is required to have ideal governance, both in terms of administration and accountability and even reporting on their respective businesses (Sofyani et al., 2020). One form of ideal BUMDes management is the existence of financial reports that can provide information for interested parties to make decisions in managing the BUMDes. The financial reports made by BUMDes management periodically include Balance Sheet, Profit and Loss, and Cash Flow reports (Munandar, 2023).

Based on the report on the ranking of BUMDes issued by the Ministry of Villages, Development of Disadvantaged Regions and Transmigration in 2023, in Bali Province there are 528 BUMDes with the ratio of advanced, developing, beginner, and pioneer categories being 213, 242, 45 and 28. BUMDes face various obstacles making themselves in the advanced category. These obstacles include the limited capacity of managers, the absence of good management standards, and the absence of good supervision and control (Aprillia et al., 2021; Risalah & Eriswanto, 2023). The impact of this obstacle is felt greatly in the smoothness of the service process, errors in recording and preparing financial reports, and has the potential to cause losses due to embezzlement/fraud. Therefore, it is necessary to find a way to overcome existing obstacles (Tambunan & Sihotang, 2023).

Various efforts have been made to anticipate the obstacles faced, especially related to BUMDes management capabilities, such as participating in training and assistance in preparing financial reports, including using computers to assist the process of recording and preparing financial reports (Firnanda, 2023). However, unfortunately, this step is still felt to be insufficient because it again depends on the capabilities of the human resources themselves. Even though it has the help of a computer, it is only used as a typewriter and for note-taking. The process of preparing reports and searching for related information is still done manually with the help of computers.

This research aims to help overcome the problems faced by BUMDes by developing an application to help manage and prepare financial reports automatically. The application will be able to be operated by authorized parties following their respective fields and work units. The application will be integrated so that it will be able to produce integrated reports. The application was developed based on the needs of each work/business unit of BUMDes.

## **2 Methodology**

In developing this system, the approach used is a structured method with the Waterfall development method (Booch et al., 2007; Pressman, 2001), namely a system development method that divides work activities into gradual and continuous processes, as shown in Figure 1.

In general, the development stages of this system are carried out starting with the Communication stage, which aims to get a general idea of the system to be built by collecting various information from related parties, including understanding various

existing rules/regulations. The following stage is Planning, namely preparing an activity plan which includes estimating and preparing an activity schedule. Regarding the system to be built, modeling is carried out. This modeling stage is based on the results of an analysis of the needs of the system to be built, which then creates a design for the system to be built. Based on this design, the Construction stage is then carried out, namely creating the system followed by testing the correctness of the system being built. The final stage, after the system has been proven correct, is the Deployment stage, namely installation, training, and assistance in operating the system for its users.

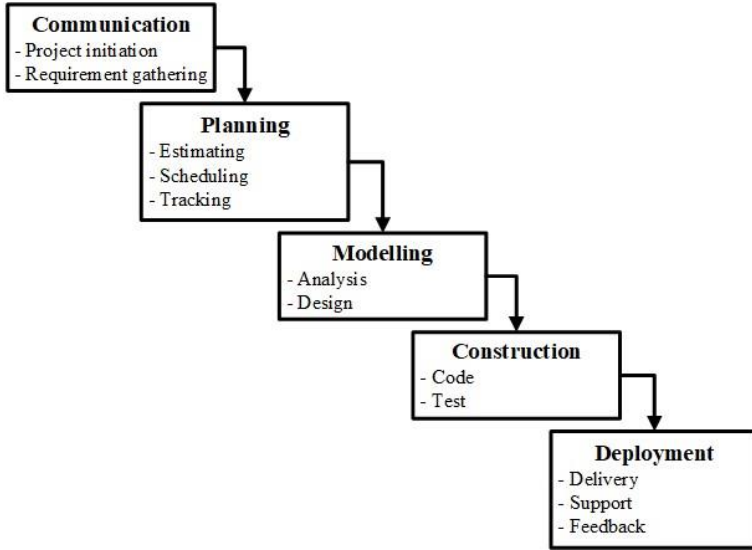


Figure 1. System development methodology

This BUMDes financial reporting system was built using an OO (Object Oriented) Modeling approach with UML (Larman, 2001; Larman, 2012). The models created include Use Case Diagrams, Class and Object Diagrams, and Activity Diagrams (Booch et al., 2007). This system was built using MS programming language. Visual Basic.Net version 2012 and MySQL as the database system.

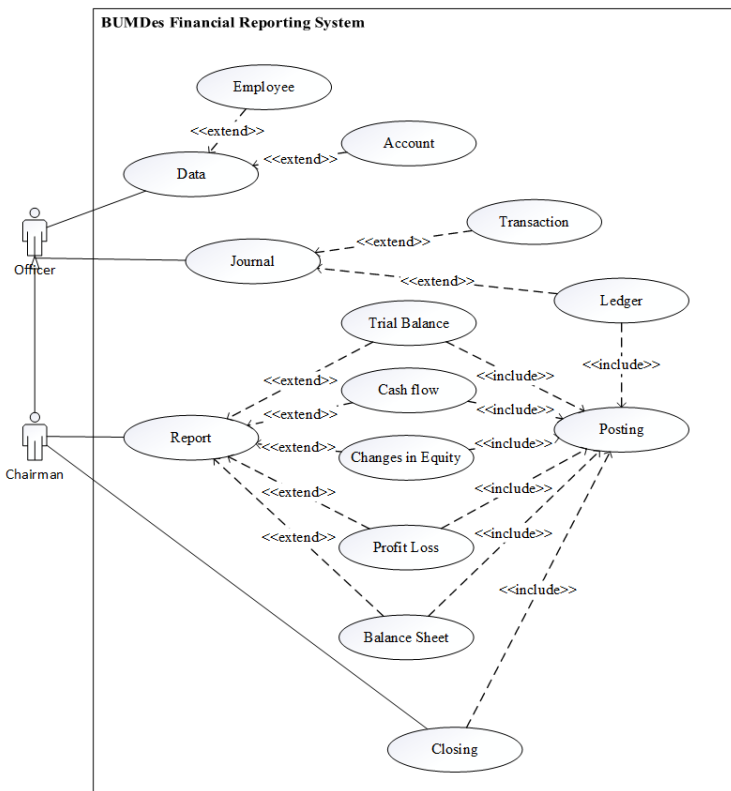
### 3 Result and Discussion

#### 3.1 Result

**Analysis Stages.** BUMDes prepare financial reports on an accrual basis, except for cash flow reports. Transactions or business events are recognized when they occur (not when cash or cash equivalents are received) and recorded and presented in the financial statements in the period in which they occur. The accrual basis aims to link directly and simultaneously between income and expenses incurred to obtain income.

The financial reports that must be prepared include the financial position report (balance sheet), profit and loss report, change in equity report, and cash flow report. The balance sheet is prepared at the end of the period, while the others are during the accounting period. The accounting period starts from January 1 to December 31 for the year in question. Apart from preparing the balance sheet, at the end of the accounting period, the books will be closed, as a sign of the end of the accounting period and the start of the next accounting period.

**Modeling.** Based on the results of the analysis carried out, functionally the system to be built can be modeled in a Use Case diagram as presented in Figure 2. The system will be operated by 2 (two) categories of users, namely Officer and Chairman of BUMDes, with different facilities. As an officer, you can only manage data record journals and create ledger books. Meanwhile, as Chairman, apart from being able to carry out activities like an officer, he can also make reports and close books.



**Figure 2.** Use case diagram of the system

The system to be built has a process sequence as depicted in Figure 3. As can be seen in the figure, the user will start using the system by logging in first. If successful, the system will display the Main Menu which can be selected according to the designation

and facilities provided. As an officer, you will only be able to access the Data and Journal menus, while as Chairman, you can also select the Report and Closing menus. Each menu option will provide a display according to its purpose and is equipped with related submenu facilities.

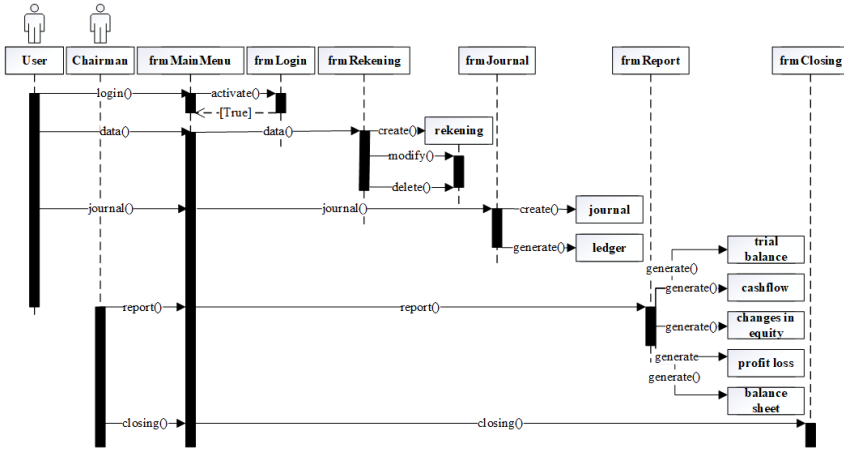


Figure 3. Sequence diagram of the system

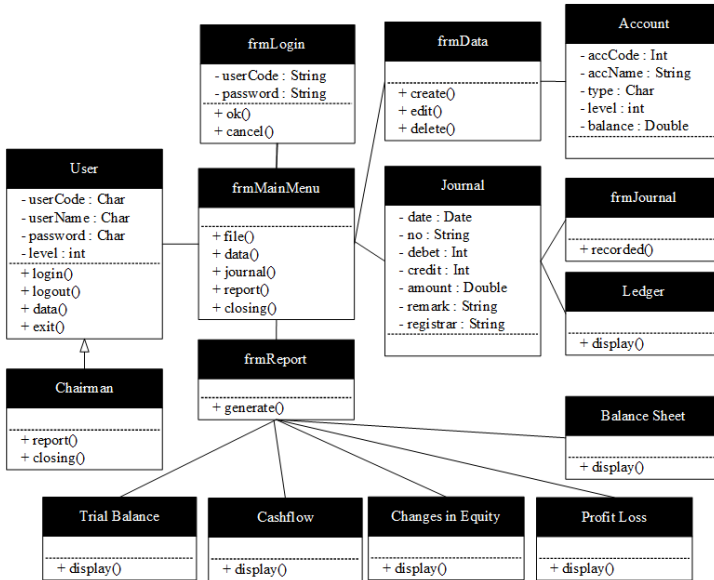
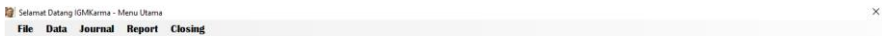


Figure 4. Class diagram of the system

As previously stated, the system was built with an object-oriented approach. Therefore, the system will work on the interaction of objects with each other. A collection of the

same objects is called a Class and the classes that build a system and their interactions can be seen in the Class Diagram presented in Figure 4.

**System Operation and Display.** When activated, the system will display the Main Menu which contains various menus according to their purpose. To be able to operate it, the user must log in first by entering the appropriate username and password. If successful, the user can choose a menu according to the user category, whether as employee or chairman. As seen in Figure 5, the system will have several menus, namely the File, Data, Journal, Report, and Closing menus.



## **FINANCIAL REPORTING SYSTEM VILLAGE OWNED ENTERPRISES (BUMDES)**

**Figure 5.** Main menu display of the system

The File menu is intended to perform basic system operations such as LogIn when starting the operation, LogOut to end the operation, Change Password to change the user password and Exit to end the operation and simultaneously close the system. The Data Menu is used to manage User and Account data related to financial reports. Things you can do regarding adding, editing, and deleting data. The Journal menu is used to record journals that are formed as a result of financial transactions that occur. Recording is carried out according to the date the transaction occurs, following the provisions of the accrual basis used. Based on the journal entered a General Ledger can then be created. This ledger creation facility is also available on the Journal menu. The screen display of the journal recording process can be seen in Figure 6. The Reports menu is used to publish financial reports. As mentioned previously, financial reports that can be prepared include trial balance, cash flow, change in equity report, profit and loss statement, and statement of financial position (balance sheet). The type of report created can be selected in this menu. The Closing menu is prepared to close the financial report book. This process is usually carried out at the end of the accounting period.

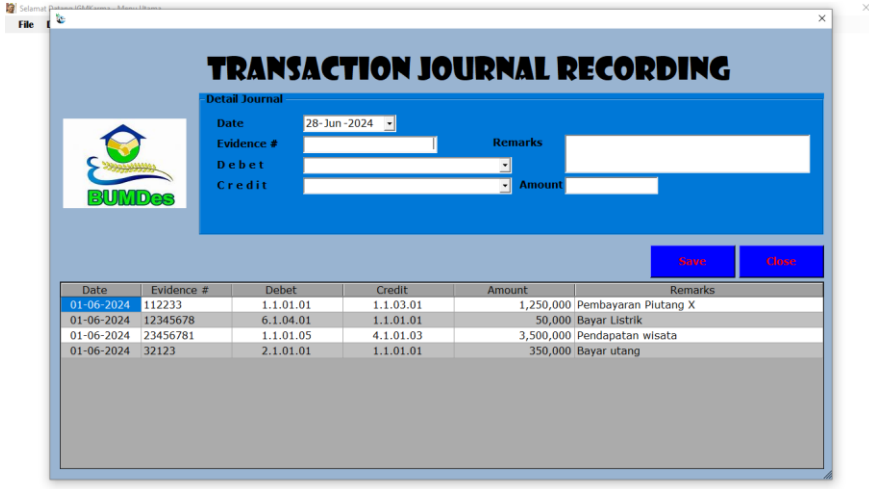


Figure 6. Transaction journal recording

### 3.2 Discussion

After passing a series of tests, the system built can be declared suitable for use to assist BUMDes in preparing their financial reports. The system is relatively easy to operate because it is designed to be user-friendly.

The key to the success and correctness of the financial reports published by this system lies in the correct recording of transactions in the form of journals into this system. If the journal record is wrong, then the financial report will also be wrong. Data that has been recorded cannot be changed, corrected, or deleted. One way to correct these recording errors is to make a correction/adjustment journal manually according to the accounting process/cycle.

To reduce the possibility of errors occurring, this system must be operated or involve officers who understand the provisions for creating transaction journals. This system only functions to simplify and speed up the preparation of required financial reports. The system only provides facilities for cross-correcting records with the reports it produces.

## 4 Conclusion

Overall, this system is believed to help and make it easier for BUMDes to prepare their financial reports. Apart from being complete according to demands and needs, all types of financial reports can be prepared at any time, according to your needs.

One thing that may be a little confusing in the operation of this system is the person behind the scenes, regarding the journaling of the financial transactions that occur. This system receives input in the form of journals from transactions. If the journal is

incorrect, the resulting report will automatically be incorrect. This can indeed be overcome by making a journal of improvements or adjustments.

Based on existing regulations and policies, a BUMDes can have more than one business unit. Even though financial reporting can be handled by this system, it cannot be handled in detail and completely according to the operational activities of the business unit. Therefore, as a follow-up, further system development must be carried out following the business units owned by BUMDes, which can be of various types.

## Conflict of interest statement

The author(s) declared that (s)he/they have no competing interests.

## Statement of authorship

The author(s) have a responsibility for the conception and design of the study. The author(s) have approved the final article.

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