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STMKu Application Design for Financial Management Transparency in STM Organizations

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ABSTRACT

The STM organization is a social organization that aims to establish friendship, help each other in joy or sorrow among Muslims. another goal is to maintain neighborhood harmony and social relations between villagers in general, especially those who are Muslim. in supporting the implementation of its activities the STM organization collects and manages funds originating from several sources including mandatory contributions from members, member registration fees and other donations. in managing these funds, all expenses or income are recorded manually. This makes it difficult for the treasurer to report. Under these conditions, the process of financial reporting to members is considered not transparent. This of course can raise suspicions which will cause the harmony of neighbors to be disrupted. Therefore, the STMKu website was created which can be a medium of information for members and the public about financial management information and activities carried out by STM. STM management is also assisted in recording and reporting activities and financial processes. This application is made based on the website using the waterfall system development method.

Keyword : STMKu Application; **Financial Management**; **Waterfall Model**.

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1. INTRODUCTION

STM or Union for Help is an organization that aims to build harmony and an attitude of mutual help among residents at the village level. Klambir Lima Kebon Village is in the Hamparan Perak District, Deli Serdang Regency, North Sumatra Province (Luta et al., 2022).

Currently, the management of financial information at STM Kelambir Lima Kebun Village is still done manually, namely by recording income and expenses as well as activities in the books. Then financial reports were made sober because of a lack of knowledge about how to make good and correct financial reports according to accounting rules. As well as reports on the use of funds in activities that cannot be carried out in an up to date and more transparent manner, sometimes causing prejudice among the residents of the village of Kelambir Lima Kebun, this can further disrupt the harmony of neighbors.

Financial management is all activities or organizations related to efforts to obtain funds and efforts to use these funds efficiently (Riyanto, 2008). There are three main components in financial management: (1) questions about liquidity management and cash flow management. (2) The problem of acquiring long-term assets—which leads to a long-term business direction. (3) Funding questions, capital structure and funding costs (Jindrichovska, 2014). In every management or financial management activity, we need to keep records of all activities, both when funds come in and when funds go out. Then a financial management information system emerged where financial data can be managed efficiently and financial information in the form of financial reports can be generated more quickly when needed. Financial reports are briefly interpreted as a description of the real or actual financial condition of a company (Hermanto et al., 2019).

in a study conducted by Firas Hashem aimed to examine the role of AIS (Accounting Information Systems) applications in maintaining organizational financial performance during the COVID19 pandemic. This study used a questionnaire made with a Likert scale distributed in Jordanian organizations. The results of the study show that the accounting information system has a contribution

to the financial performance of the organization which then supports the decision-making principles that prevent the organization from bankruptcy and social problems (Hashem, 2021).

2. RESEARCH METHOD

The software development process provides for interaction between users and software developers, between users and technology, and between software developers and technology. In this sense, software development is an interactive learning process, and the result is the embodiment of knowledge that is collected, transformed, and organized as the process is carried out (Almeida et al., 2022).

System development in this study uses the waterfall model approach. The waterfall method is a system development model systematic and sequential information (Pressman, 2001). The Waterfall method is the earliest SDLC approach used for software development. The sequence in the Waterfall Method is serial, starting from the process of planning, analysis, design, and implementation of the system (Satriawan, 2022). the stages of system development in this study can be seen in the Fig 1.

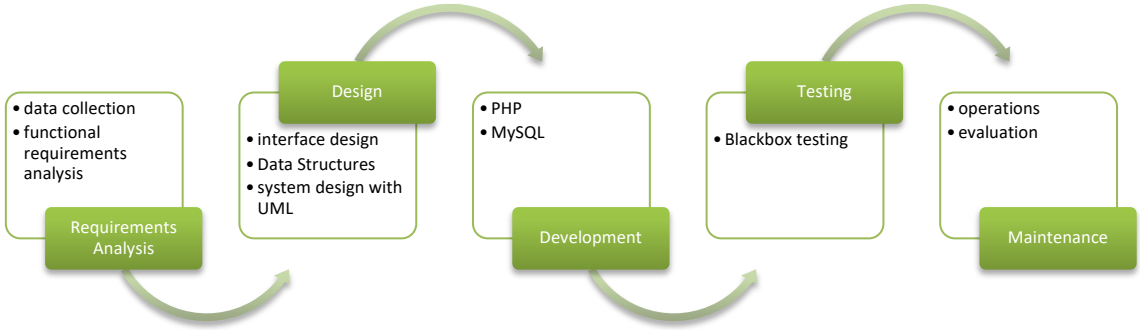

Fig 1. The Stage of Waterfall Model

Requirements Analysis or needs analysis is the first step in developing a system with a waterfall model. an analysis of existing problems is carried out and analyzes all needs so that solutions are obtained in solving these problems (Purba et al., 2022). At this stage it is necessary to communicate to find out the needs of the user which will be the basis of system development. At this stage data collection was carried out in several ways such as interviews, surveys, and literature studies.

System design or design is the next stage. At the system design stage, visual modeling is used as a design tool. This visual modeling using the Unified Modeling Language (UML) (Rachmad et al., 2022). In UML there are various diagrams that can be used to design systems such as Use Case diagrams, Activity diagrams, Sequence Diagrams, and Class diagrams. These diagrams are tools that can be used to translate the needs analysis results into the form of a design model that can be used for the coding process. At this stage, system interface design is also carried out using wireframing tools, one of which is Figma. At this design stage the focus is on software architecture, interface design, data structures and detailed procedural algorithms (Dimas Rizky, 2019).

Development is the stage of building a system by translating the results of the design or design into a language that is understandable by machines using code or programming language. The STMKu website was built using the PHP and MySQL programming languages as the Database Management System.

Testing, at this stage testing is carried out on the system that has been built to look functionally to find errors. Testing the STMKu website system is done by Blackbox Testing and Usability Testing.

Maintenance is the final stage. Perform maintenance on the system that has been built and integrated. Including maintenance in correcting errors found in the future.

3. RESULTS AND DISCUSSION

A. Functional Requirements Analysis

Functional requirements analysis describes the features that need to be in the system to be built. The functional requirements of the STMKu system include the process of adding data, making changes to data, deleting data, displaying data and searching data from the following data:

1. Income data
2. Expenditure data

3. STM member data
4. STM activity data
5. Data on income and expenditure categories
6. User data
7. STM organizational profile data

B. System Design

Information systems are a field of computer science that technically refers to business processes and management of an application for the continuity of the business processes of an organization, institution or industry (Nasution et al., 2021). The design of the STMKu website system uses a design tool, namely UML (Unified Modeling Language). UML is a modeling language that can be used to design systems in the system development life cycle (Veitaite & Lopata, 2022). The Unified Modeling Language (UML) is a systems modeling language based on the object-oriented programming paradigm (Osiievskyi et al., 2022). In the design process we use several main diagrams, namely Use case Diagrams and Class Diagrams.

Use case diagram describes the interaction between the user and the system. Use Case Diagrams offer a systematic and intuitive way to capture requirements specifications with focus (Rachmad et al., 2022). The STMKu website was built to be used by the STM treasurer as the administrator who manages finances and the administrator of the system. Besides that, it can also be accessed by general users or villagers. Can be seen in the fig 2 and fig 3.

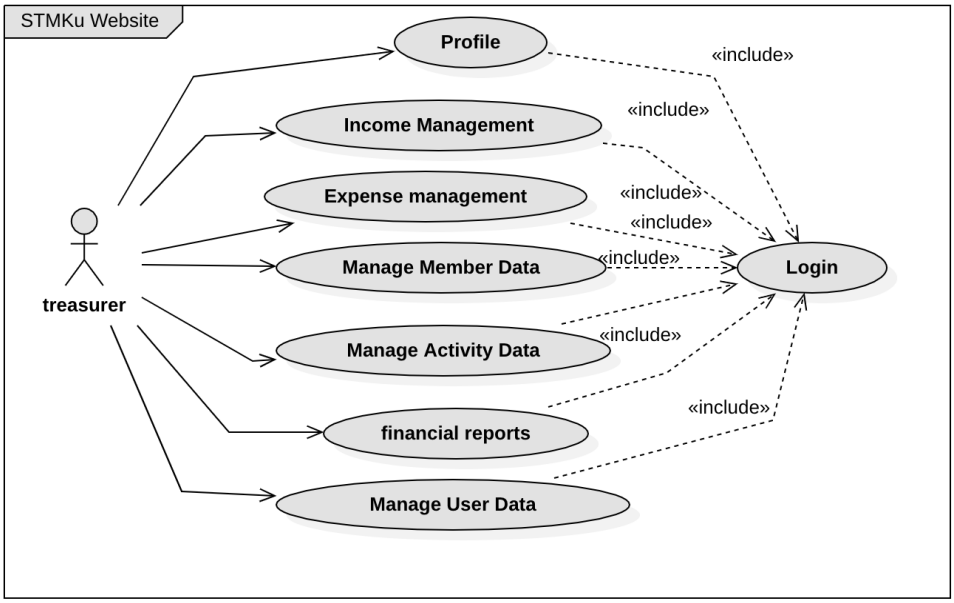

Fig 2. Use Case Treasurer Diagram

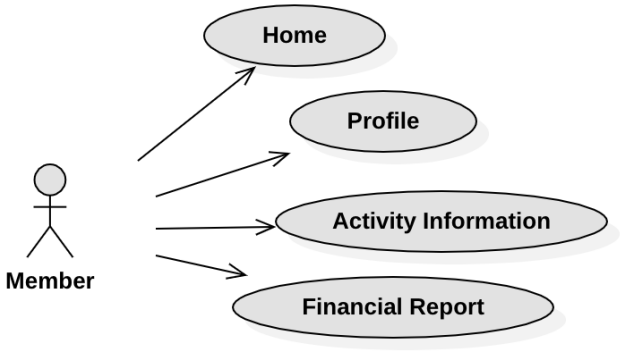

Fig 3. Use Case Member Diagram

The class diagram describes the structure of the system including the class/program module/data class, its attributes, and the operations or methods that can be performed by the program module or object. Class diagrams describe the relationships or relationships between objects in the system. Class diagrams are used to demonstrate information system models (Vo & Hoang, 2020).

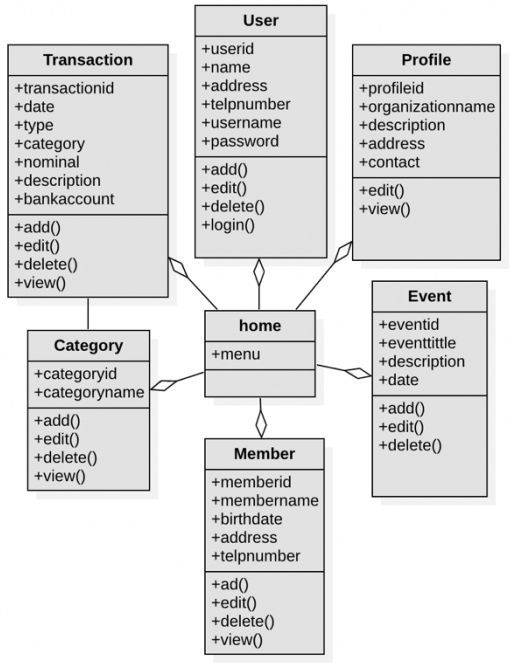

Fig 4. Class Diagram

C. System Testing and Implementation

After the development process is complete the system is integrated and tested. System implementation is carried out to test the designed program (Rahmah & Syahputra, 2022). This system was built using the PHP (Hypertext Preprocessor) programming language (Rosnita et al., 2021). Based on the results, the system can be used and run properly. The dashboard page (Fig 5) displays concise information such as total income for one month and one year, total expenses, as well as overall income and expenses. This information is displayed in the form of numbers and graphs.

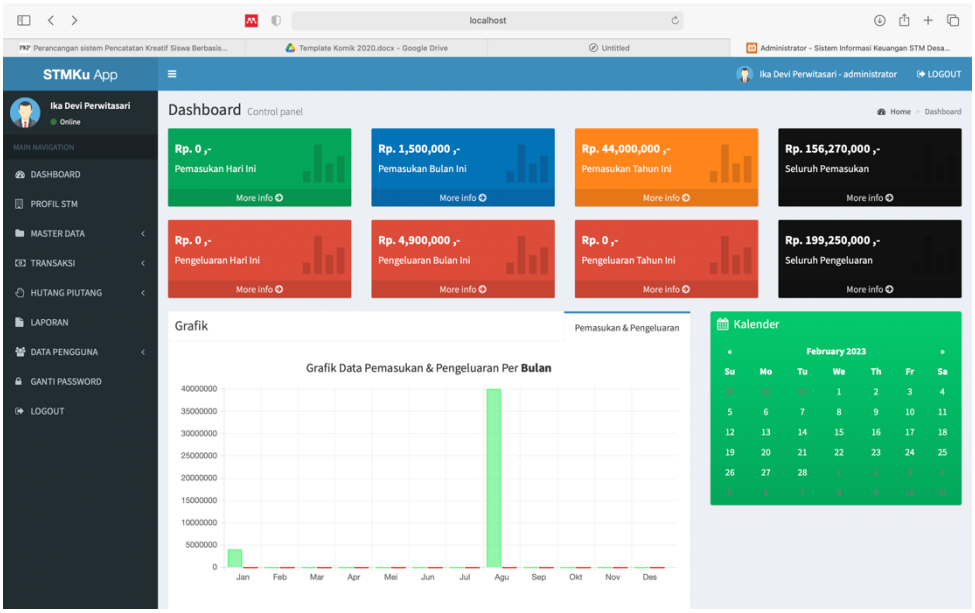

Fig 5. Dashboard Page

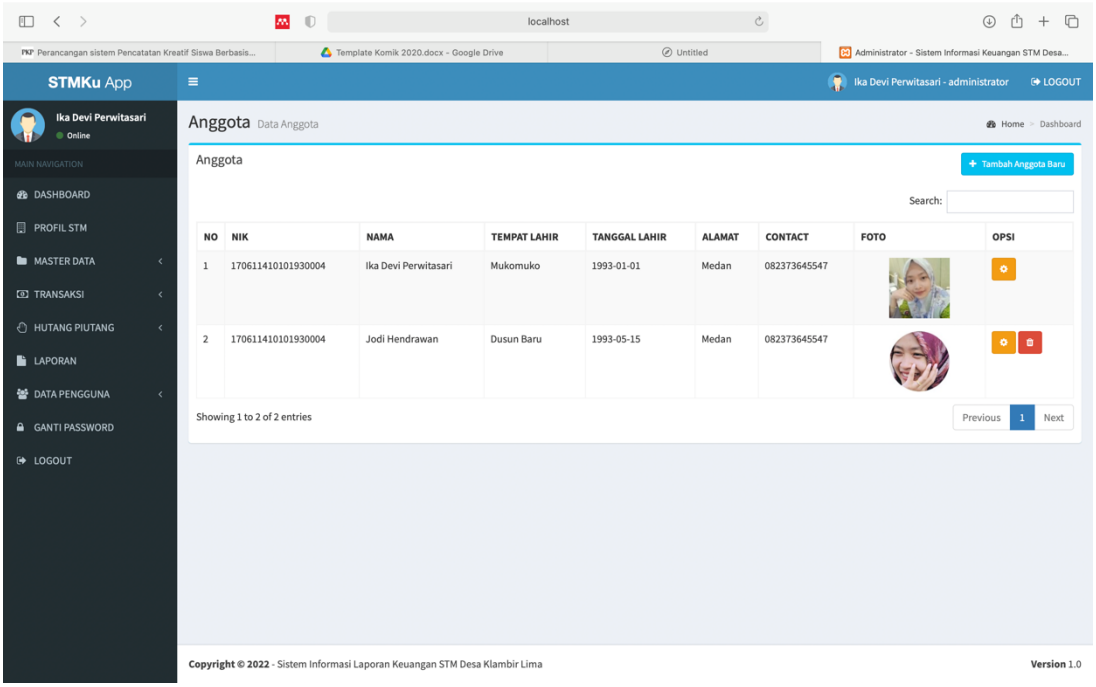

Fig 6. Member Data

Figure 6 is a member data page. On this page the admin can add member data, change data and delete data. In addition, there is also a data search feature.

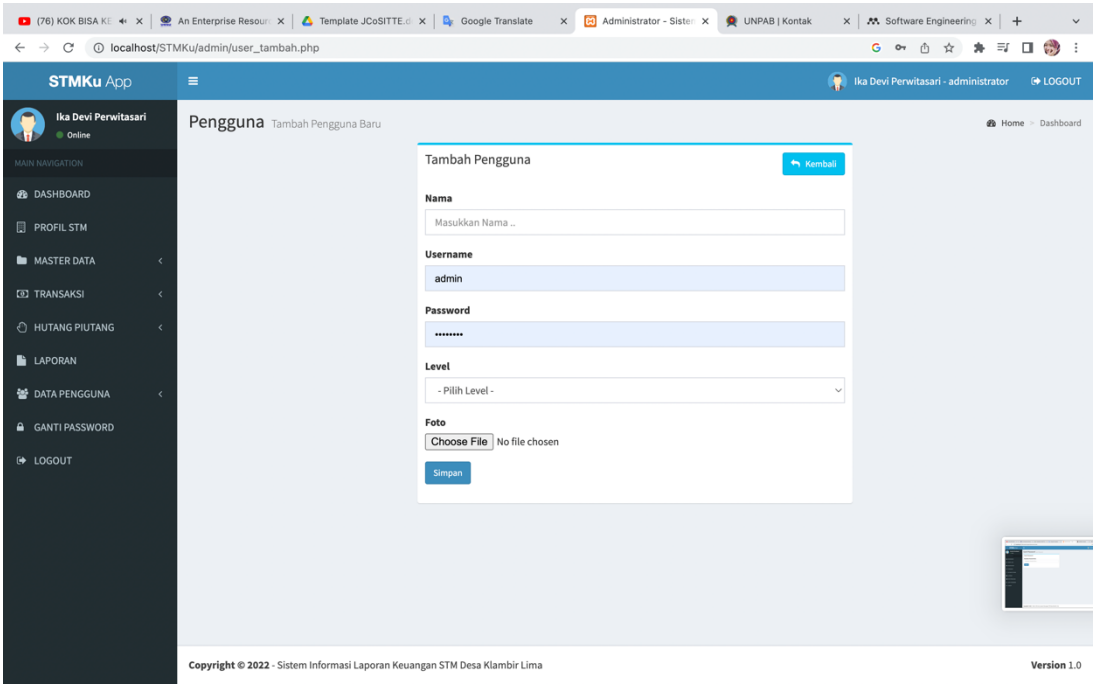

Fig 7. Input User Data

Admin can add user data (Fig. 7) and also change the password (Fig. 8). Admin user of this system is the treasurer of STM. Admin can add user data for STM Secretary so that the secretary has access rights to the system to add data on activities carried out by STM.

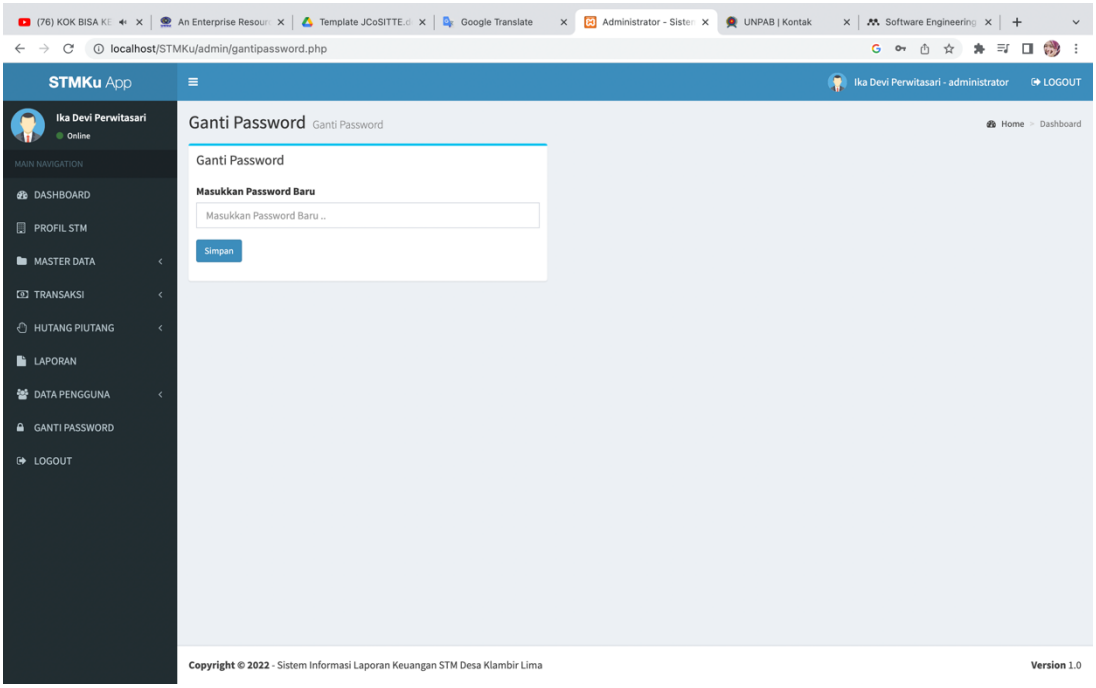

Fig 8. Update Password

The transaction menu is used to manage transaction data for cash in and cash out. The Fig. 9 is a display of transaction data pages.

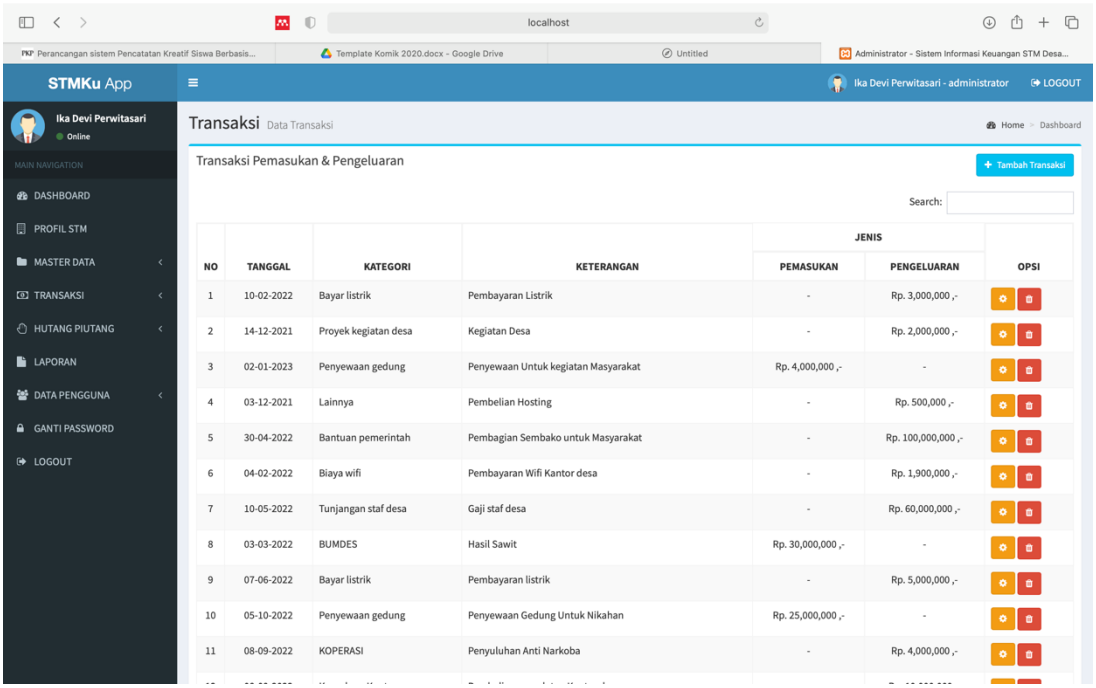

Fig. 9 Transaction Data

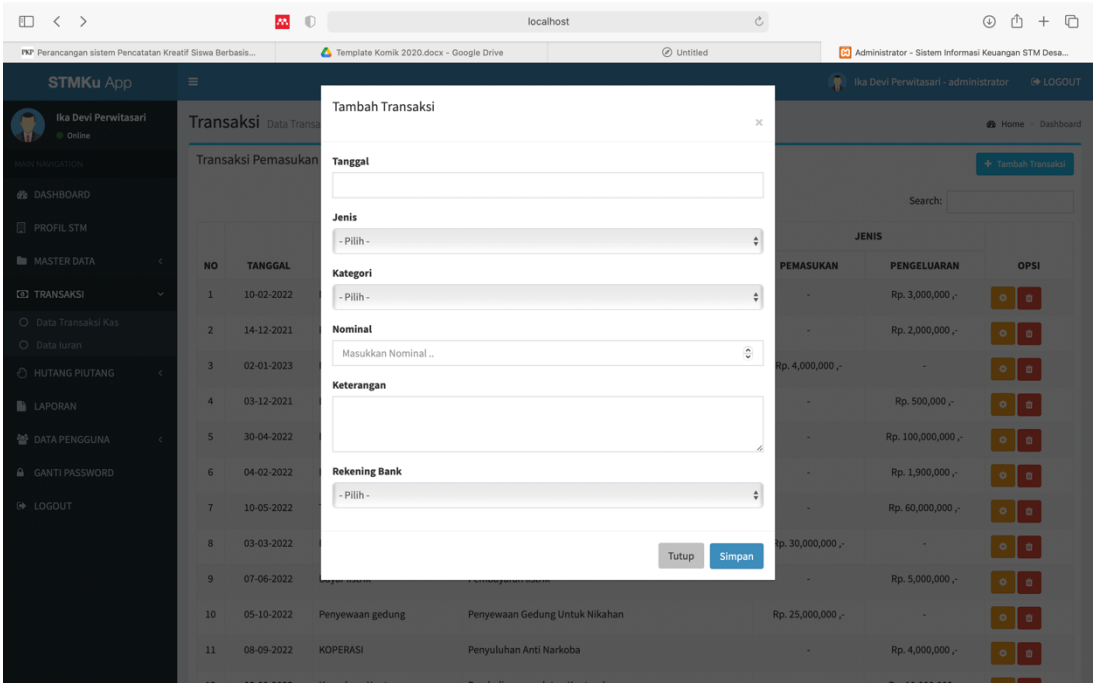

Fig 10. Page of Input Transaction Data

Financial reports can be generated automatically. Admin can print financial reports according to the required time interval by using data filters. Financial reports can be printed for all categories or only certain categories as shown in figure 11.

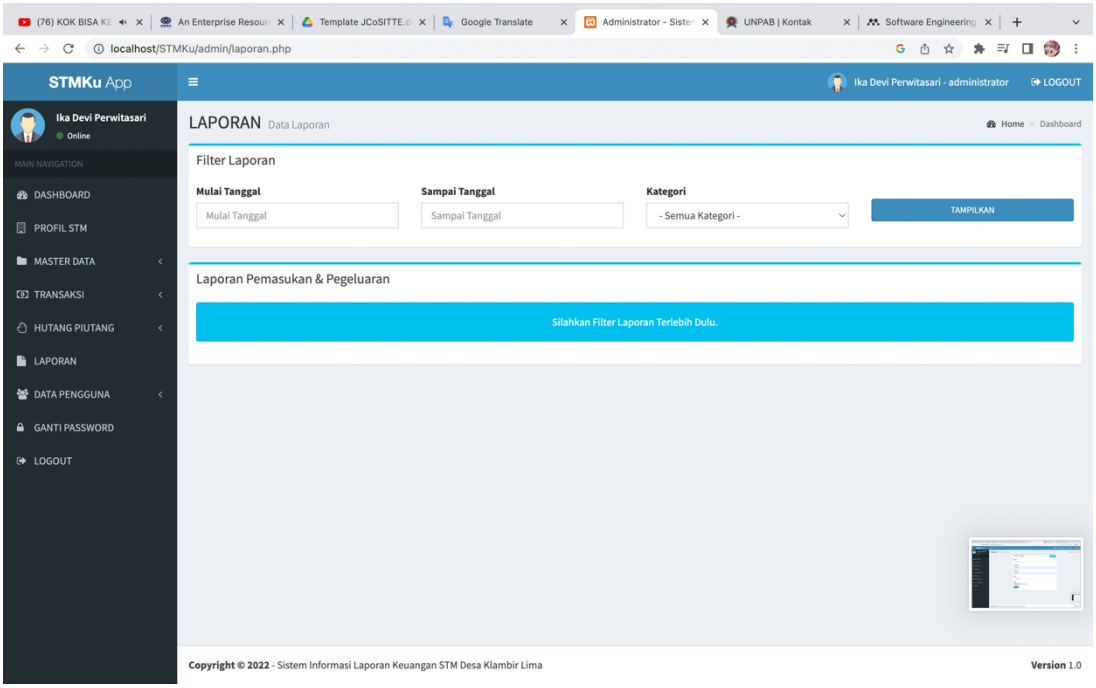

Fig 11. Financial Report Filter

Financial report data will be displayed according to the filter entered. Then the admin can print the report in PDF form or print it directly via a printer. This feature will make it easier for treasurers to make financial information easily to be reported to members as needed.

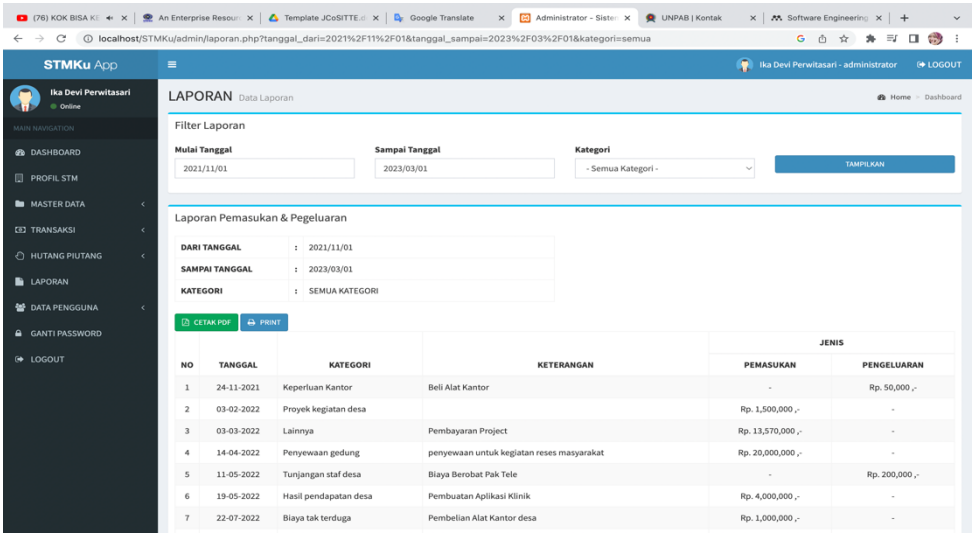

Fig 12. Transaction Reports

4. CONCLUSION

The financial management system website at Kelambir Lima Kebun STM Village is designed to have features to handle cash in and out cash issues so that later the financial reports of Kelambir Lima Kebun STM Village can be generated more easily. The design of financial reports provides information that can be easily read and understood by readers. This system is designed in such a way as to increase the transparency of financial management at STM because general users or villagers can see for themselves the income and expenses received by STM.

The system built has one-way communication, namely presenting information from the organization side to the general public. It would be even better in the future if the system was also equipped with a two-way communication function between the general public and the organization, for example by adding an announcement feature that not only the treasurer or system admin can update but also residents can post announcements on the system.

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