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School Administration Services Information System At Muhammadiyah DIKDASMEN TEGAL SARI II WEB-BASE

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ABSTRACT

At the time of the current era of technological globalization, the need for the Basic Education Council at the branch level is to be able to manage school business charities for more than 2 schools, with hundreds of teachers and students, so that the implementation of data collection is quite complicated and complex. Data collection that is done manually is considered inefficient considering the large number of teaching staff and schools managed by the head of education and education. One of them is at the Tegal Sari II branch which has 8 schools consisting of Kindergarten, Elementary School, and Junior High School. Online administrative services are considered sufficient to be a solution in the implementation of administration, one of the systems that has been widely developed is a website-based information system. One of the programming languages that can be used in website development is PHP and MySQL. This research uses the R&D (Research and Development) method. Researchers conduct research in advance to collect the required amount of data with interviews, then carry out system development and conduct testing and evaluation of the system created.

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1. INTRODUCTION

The world of information technology is currently experiencing very rapid development, all forms of activity are packaged online and computerized[1]. Muhammadiyah is composed of several assemblies that oversee the business fields of the elementary and secondary education assembly (DIKDASMEN), and several other assemblies[2]. As assistant to the leadership of the DIKDSMEN Council, he has duties in the development of education, starting from school management, fostering school autonomous organizations, administrative services for teachers and school principals, and managing school financial bookkeeping [3].

Using the system manually causes a lot of obstacles that arise because the document is still in the form of sheets of paper so that data redundancy often occurs, the lack of effectiveness in data processing because the data needed still have to interact directly with the parties concerned, and the slowness of making reports [4]. Based on this, it is necessary to innovate in improving the system in education, so that a system is needed that can support administrative activities to be more effective and efficient. Online administrative services are considered sufficient to be a solution in the implementation of administration, one of the systems that have been widely developed is a website-based information system. One of the programming languages that can be used in website development is PHP and MySQL[5]. Both of these programming languages have advantages in web development, one of which is a program made with PHP that can be run by all Operating Systems (OS) because PHP runs on a Web Base, which means that all operating systems, even mobile phones that have a Web Browser, can use the PHP program. In addition, for the MySQL programming language, database access can be done easily [6].

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2. RESEARCH METHOD

This research was carried out at the leadership of the Muhammadiyah Elementary and Secondary Education Council, Tegal Sari II Branch. This research uses the R&D (Research and Development) method. According to [7] Research & Development (R&D) is a research method used to produce certain products, and test the effectiveness of these products. In this research, the writer collects data by interview, observation, questionnaire and literature study. For system development, this research uses the SDLC (Software Development Life Cycle) model. The System Development Life Cycle (SDLC) method is a development that functions as a mechanism to identify software [8]. The SDLC model used in this study is the Waterfall model.

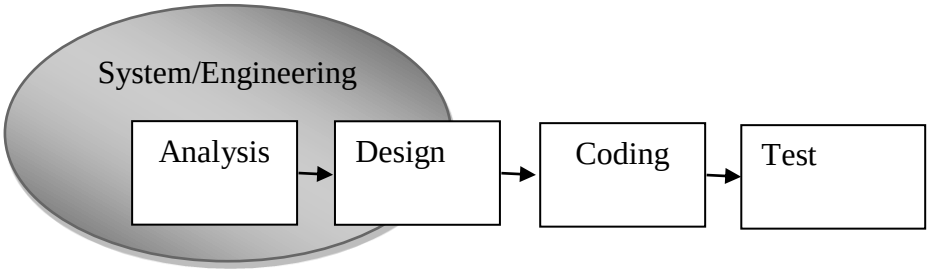

Figure 1 Waterfall

In this model there are several stages, namely [9]:

1) System Requirements Analysis; In designing this administrative service information system web, Admin needs to be able to manage teacher and employee data, make recommendations, financial reports, and others.
2) Design; Using MYSQL in designing databases and tables. Using the laravel framework for the administration service information system web interface display.
3) Coding; The author uses the PHP programming language in making script coding programs.
4) Testing; The author uses Black Box Testing to find out whether the administrative service information system that has been made is appropriate or not, so that errors do not occur when run.

3. RESULTS AND DISCUSSION

The Dikdasmen Council or Elementary and Secondary Education is a leadership element that helps turn Muhammadiyah organizations that are engaged in the management and development of education at the primary to secondary level[10]. The management applied by Muhammadiyah is very unique, the Central Leadership of Muhammadiyah in managing educational institutions in Muhammadiyah conducts general supervision and guidance[11]. Considering that the leadership element that manages only consists of a chairman and a secretary, it does not allow the management to be carried out optimally, it requires administrative services that are practical and effective to use to assist the performance of the leadership. The required system is easily accessible via the internet and school administrators or operators can submit financial reports, request correspondence requests, and access teacher data directly through the system.

From the results of the analysis, the leadership of the Muhammadiyah DIKDASMEN assembly at the Tegal Sari II branch initially used a manual bookkeeping system, with data that lacked detail and was constrained by time for the supervision process. So we need a system that can simplify the monitoring process, reporting is easier, and doesn't take too much time and doesn't need to be face-to-face. The following is an overview of the current system diagram analysis with system planning that will be made by the Educational Service Administration Information System of Muhammadiyah Tegal Sari II as follows:

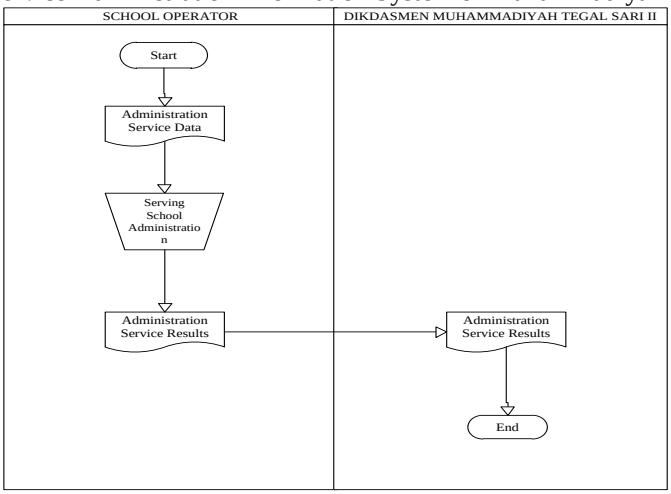

Figure 2 Current System Diagram Analysis

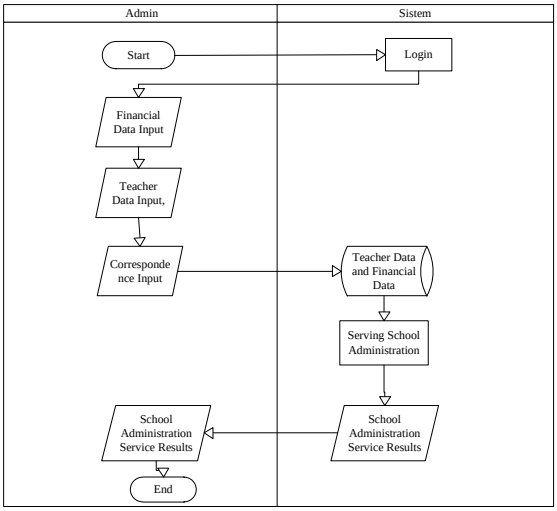

Figure 3 Proposed System Analysis Diagram

3.1. System planning

a. Use Case Diagram

Image Use Case Diagram on this system can be seen in the image below:

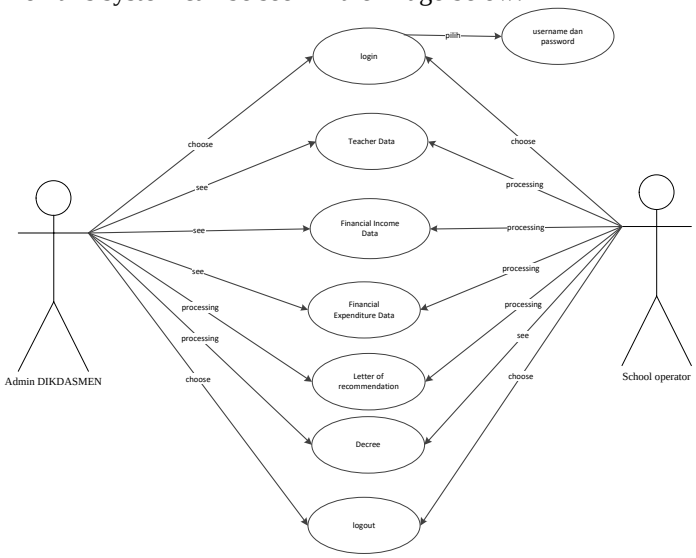

Figure 4 Use Case Diagram of Educational Administration Services

b. Activity Diagram

Before entering the system, the admin and operator must first login with the username and password that the admin has registered in the previous database system. Then the username and password will be verified by the system. If correct, you will be directed to the main menu or dashboard menu.

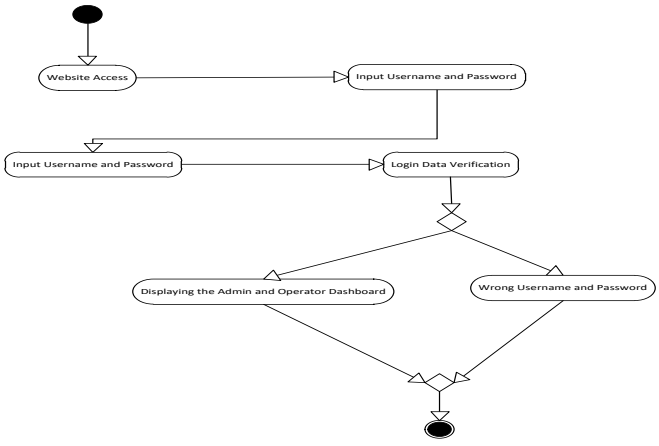

Figure 5 Activity Diagram Login Admin dan Operator

Admin teacher data menu After logging in, the admin can only view teacher data. Meanwhile, the operator teacher data menu can add teacher data, edit print, or delete teacher data.

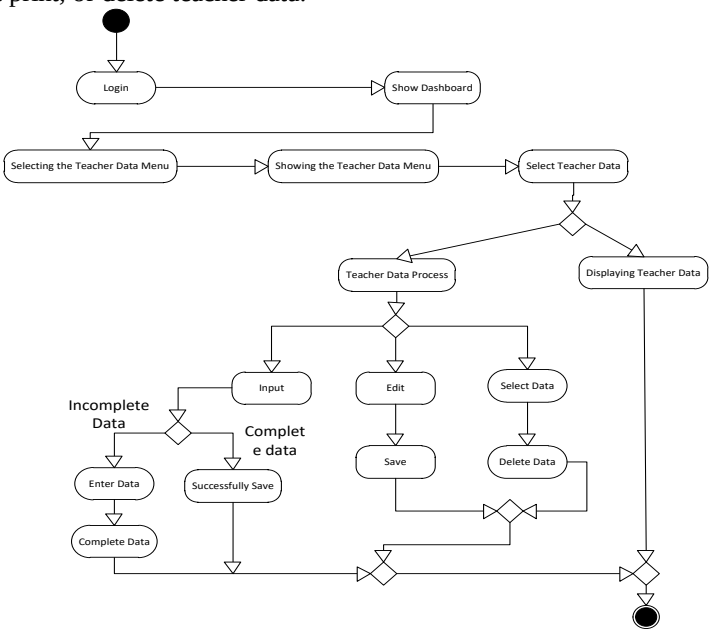

Figure 6 Teacher Data Activity Diagram

The data entry menu can be accessed by the admin. After logging in, the admin can see the financial data display. Operators can display income data, add financial data, change, print and delete financial data. Then the system will process the data to be stored in the database and displayed in the system.

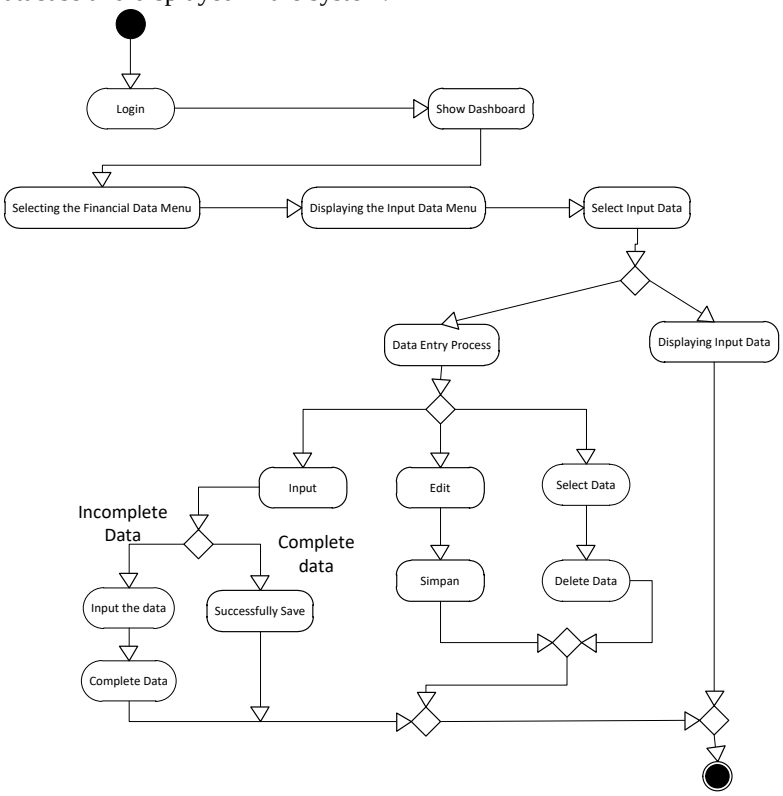

Figure 7 Activity Diagram Data Input Operator

The expense data menu can be accessed by the admin. After logging in, the admin can see the financial data display. Operators can display income data, add financial data, change, print and delete financial data. Then the system will process the data to be stored in the database and displayed in the system.

The correspondence menu can be accessed by operators and admins. After logging in, the admin can process approval after logging in, then it is stored in the database and can be displayed on the system. Operators can display a menu of recommendation letters and change profiles such as changing user names, usernames and passwords. The system will process the data.

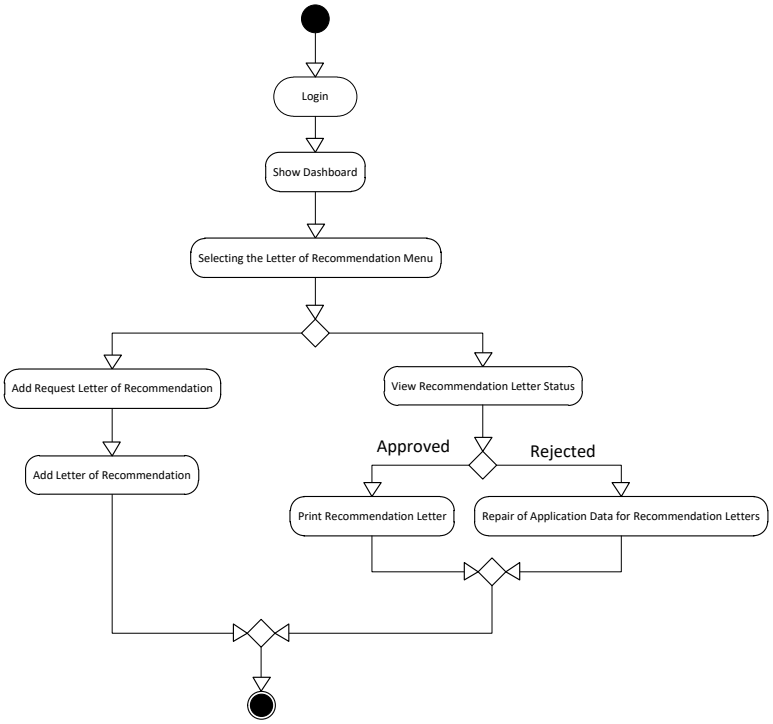

Figure 8 Activity Diagram Correspondence

The operator requests directly to DIKDASMEN Muhammadiyah to be able to provide a letter of application to facilitate DIKDASMEN Muhammadiyah Tegal Sari II to make teacher and principal decisions. The Admin System serves to add letters and print letters so that teachers and principals don't have to come to the office again to wait for the print out of the decision letter.

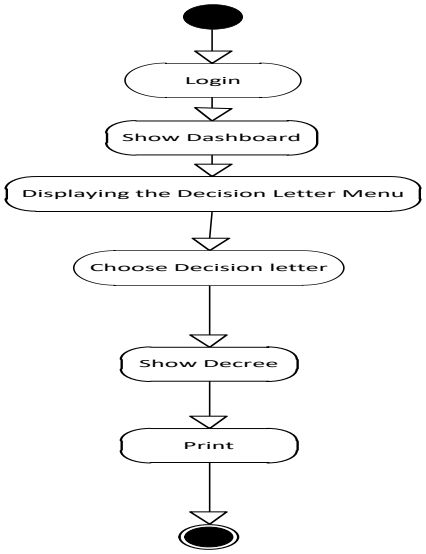

Figure 9 Activity Diagram Decision Letter

c. Sequnce Diagram

Sequence diagrams describe the flow of messages that occur between classes by interacting between objects that are arranged in time sequence and show what stages should occur in the management

information system to be built[12]. In this system there is a sequence diagram which is a description of each use case in the use case diagram.

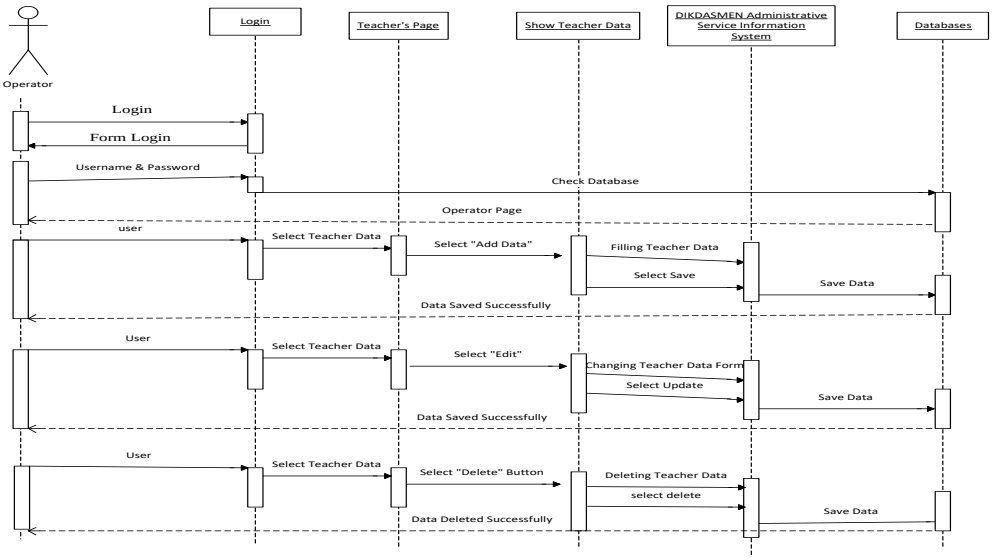

Figure 10 Master Data Sequnce Diagram

c. Class Diagram

Class diagram shows an explanation of the database process on the system[13]. The following is a class diagram of the school administration service information system at DIKDASMEN Muhammadiyah Tegal Sari II

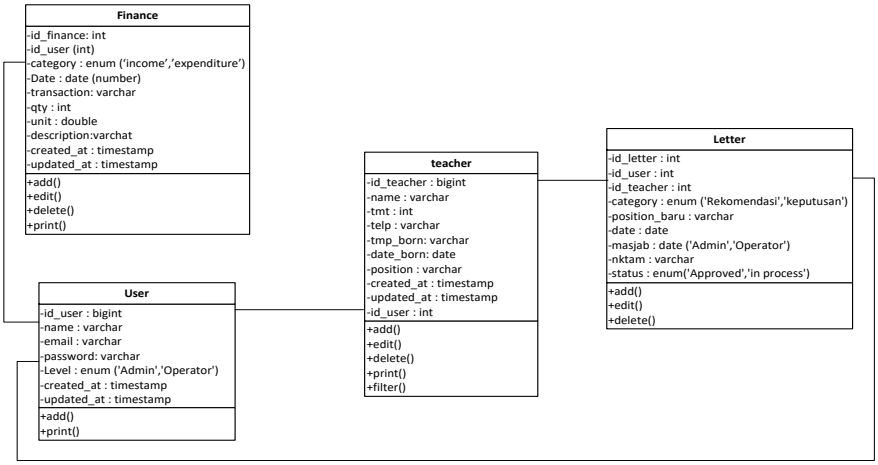

Figure 11 Class Diagram

3.2. System Implementation

This Home Page is the first login page that admins and operators see when opening the website. Admin and operator must enter the registered username and password, if entered incorrectly, the admin and operator will not be able to enter the next page.

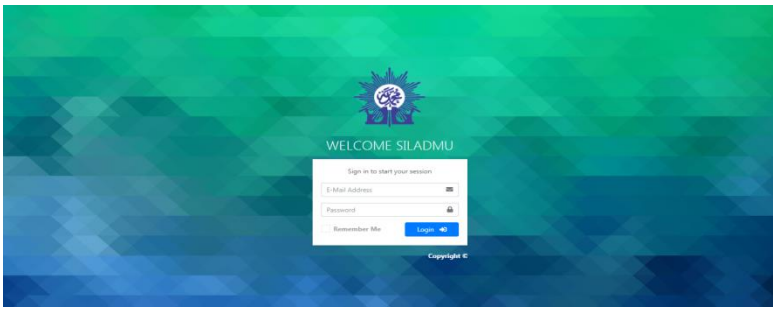

Figure 12 login page

This dashboard page display is the initial page view that is found after the admin successfully logs in.

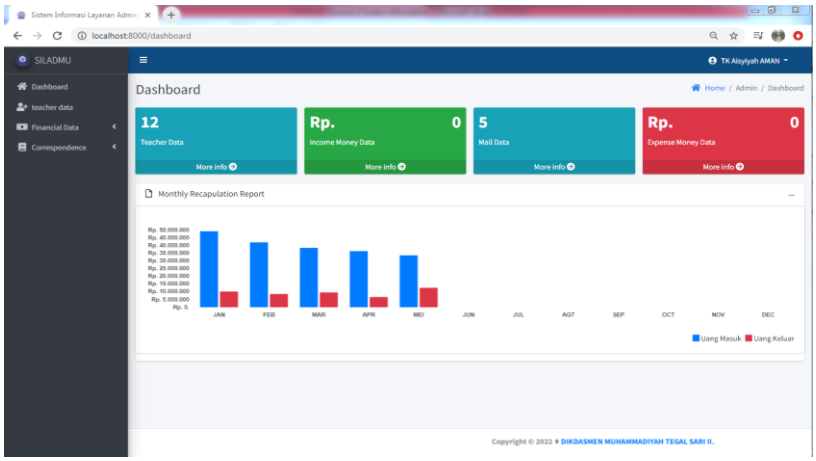

Figure 13 dashboard page

On the teacher data menu page, the admin can see 8 teacher data schools under the auspices of the DIKDASMEN Muhammadiyah Tegal Sari II school. operators can perform search, add (input), edit (update), print (print) and delete (delete) teacher data functions.

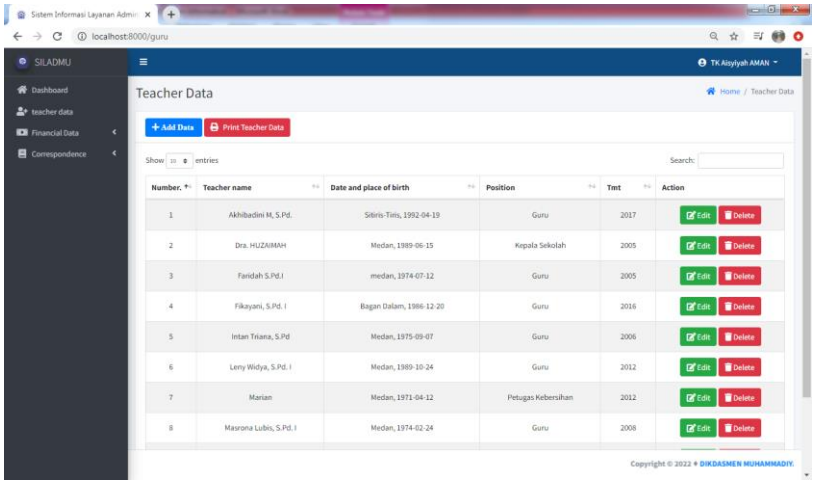

Figure 14 Teacher Data Menu Display

On the entry data menu page, the admin can see 8 schools of income data under the auspices of the DIKDASMEN Muhammadiyah Tegal Sari II school. operators can perform search, add (input), edit (update), print (print) and delete (delete) input data functions. The same implementation also applies to the financial expenditure menu

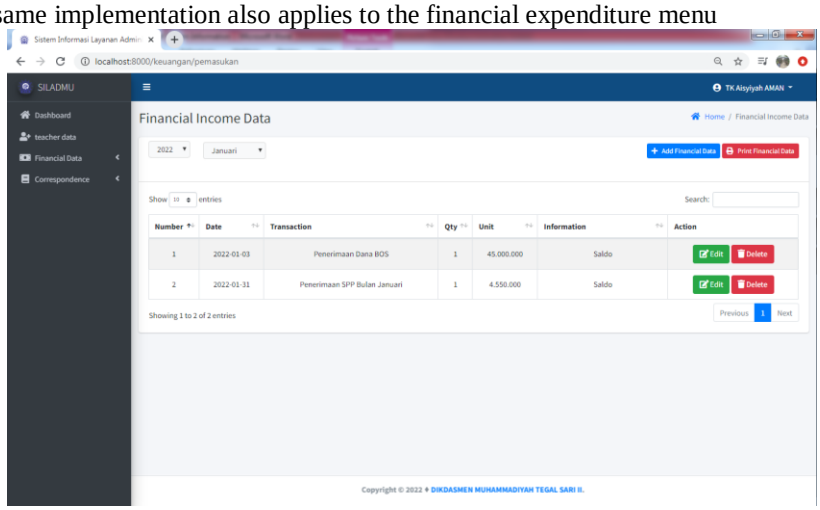

Figure 15 Financial Income Display

On the recommendation letter menu page, the admin can carry out the process function, when clicked on the process icon it will appear as an "approved" and "in progress" message. the operator can perform the add (input) and print (print) functions, if the application has been approved by the admin.

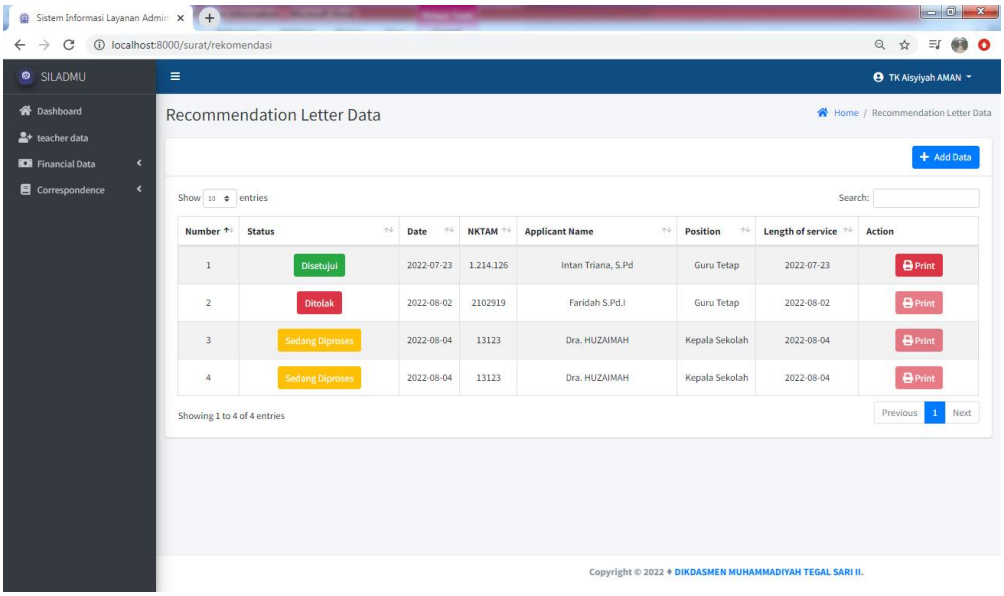

Figure 16 Recommendation Letter Data Display

On the decision letter menu page, admins can perform search, add (input) and print (print) functions.

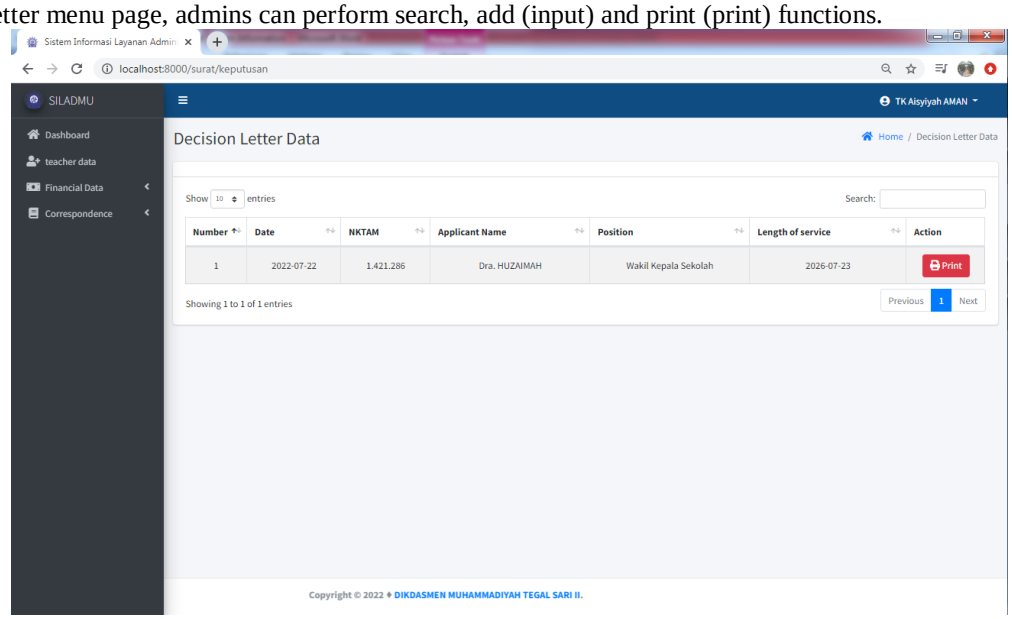

Figure 17 Decision Letter Display

3.3. System Test

System testing consists of several tests including Blackbox testing and User Responses on web-based academic information system service applications.

a. Blackbox testing

Testing on this system uses the Blackbox test with the aim of knowing that the parts in the information system are running as expected and provide a message if an error occurs. This test is done by running all the functions and features in the application and seeing whether all the existing features are appropriate [14]. based on the test results obtained results :

No.	Indicator	Result
1.	Form Login	succeed
2.	Teacher Data Form	succeed
3.	Entry Data Form	succeed
4.	Expenditure Data Form	succeed
5.	Recommendation Letter Data Form	succeed
6.	Decision Letter Data Form	succeed

b. User Responses in Information System Service Applications

Information system testing conducted on users (operators) by each school used a Likert scale measurement with a score of 4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree[15]. This test was conducted to determine the feasibility response of users of the school administration service information system leadership of Muhammadiyah Tegal Sari II Elementary School.

Based on the results of the feasibility of the system being tested by 8 respondents who served as school operators, the percentage result was 88.3%. This shows that the system is feasible to be used and applied by the Dikdasmen to make it easier for schools to connect with those in charge, and to make supervision of schools more effective and efficient. Thus, the application of the educational service information system for Muhammadiyah Tegal Sari II education services is in accordance with the expected needs.

4. CONCLUSION

The design and manufacture of an administrative service information system for Muhammadiyah Educational Service Tegal Sari II Branch is carried out by going through a series of processes starting from analysis, design, to implementation using PHP scripts. Based on the results of blackbox testing conducted by experts, it was found that the program was running according to predetermined specifications. Based on the respondent's test of the feasibility of using the system, it shows that 88.3% of the system is declared very suitable to be used and applied to the administrative services of Dikdasmen Muhammadiyah Branch Tegal Sari II according to user needs. The School Administration Service Information System uses the SDLC (Software Development Life Cycle) method. System Development Life Cycle (SDLC) method. The SDLC method used in this study is the Waterfall model, so this method produces a system using the SDLC method with the stages of analysis, design, coding and testing so that the author produces an information system that suits the needs of the user.

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