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# Information system for monitoring supervision and reporting the performance of religious subject teachers

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**ABSTRACT**
In the field of education, effective teacher supervision and evaluation plays an important role in ensuring the quality of teaching. This abstract introduces an innovative Information System specifically designed to monitor, supervise and report the performance of specialist teachers in religious subjects. The proposed system leverages modern technology to simplify the supervision process, providing real-time insights into teaching methodology, student engagement, and overall religious subjects teacher performance. In this research, the waterfall method was used in developing the system and the implementation of the proposed Information System has the potential to revolutionize the process of supervision and evaluation of religious subject teachers, thereby ultimately improving the overall quality of religious education.



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## INTRODUCTION

Technological developments do not matter whether it is in the world of education, business, etc. The very rapid development of technology requires every individual, business entity or educational entity to keep up with the times (Khairiyati, Nasution and Ikhwan, 2020). The South Labuhanbatu Regency Ministry of Religion Office, a government agency that oversees religious teachers, plays an active role in supervising the performance of religious teachers so that they are able to carry out their duties well, by monitoring/supervising the teaching and learning process at the elementary school level, especially in South Labuhan Batu Regency.

Every PAI teacher is required to prepare all learning device documents according to PAI material, and submit learning devices to be validated first before carrying out the process in class. Apart from that, teaching materials are also an administrative requirement in filings related to Teacher Professional Allowances (TPG)(Bahar and Soegiarto, 2020; Chan and Luo, 2020). Apart from monitoring administration and learning tools, the Ministry of Religion must also monitor teacher absences and attendance, provide information on the latest regulations regarding teacher performance assessment. Supervision of religious teachers as the party who has the task and function of monitoring religious teachers

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directly has full authority over the performance of religious subject teachers(Kurniawan, Sihwi and Gunarhadi, 2018; Purba, Asnerlius Ginting and Simamora, 2022; Takhir, Fakhriza and Alda, 2022).

Apart from that, the Office of the Ministry of Religion of South Labuhanbatu Regency, one of whose activities is managing data for Teachers of Religious Subjects in South Labuhanbatu Regency, is still using an existing system, where validating learning tools takes a long time, apart from that there are several weaknesses, including that it is difficult to use. Simultaneously, there could be overlapping data and the possibility of other things that could happen. Data storage at the South Labuhanbatu Regency Ministry of Religion Office still uses archives, which for such storage media can easily result in loss and accumulation of archives.

Research according to (Gbenga, Shani and Adekunle, 2017) Monitoring information systems can only provide information that is in accordance with the data being measured or monitored. If the measured data is incomplete or inaccurate, the monitoring results can also be inaccurate.

According to (Melani, 2021), research on management information systems is to facilitate the process of monitoring facilities and infrastructure for teaching and learning activities, because the system built is a one-stop system where the monitoring process, recording process and reporting results are in the system.

To overcome the obstacles currently faced, it is necessary to build an information system for teacher data collection and monitoring of religious subject teachers. It is hoped that this web-based information system can be implemented so that the teacher data collection and reporting process by religious subject teachers can run well and save more time.

## METHODS

The method used in developing this software uses the waterfall model. The Waterfall method is often also called the Linear Sequential model(Mukai, Sunaoshi and Chang, 2019; Halbersberg, Halevi and Salhov, 2022). The stages contained in the waterfall model can be explained as follows:

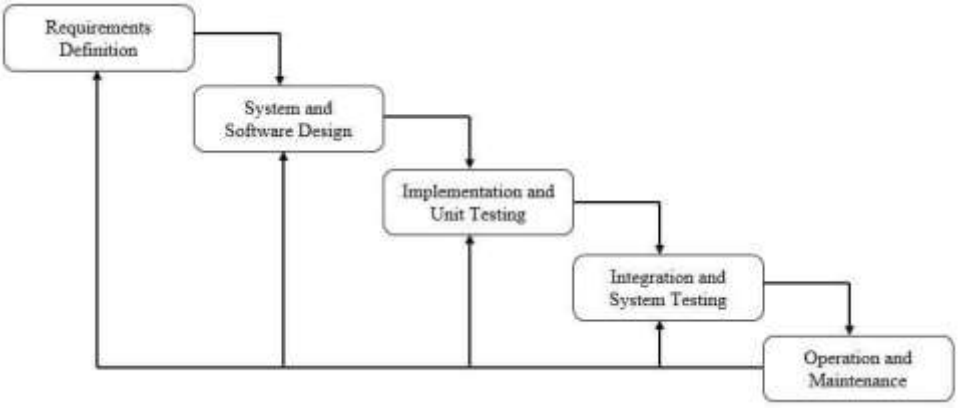


**Figure 1.** Process Waterfall Model

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a. Requirements analysis and definition: collect complete requirements then analyze and define the needs that must be met by the program to be built. This stage must be carried out completely to produce a complete design.
b. System and Software Design: design is carried out after the requirements have been completely collected.
c. Implementation and unit testing: the program design is translated into code using a predefined programming language. The program that is built is immediately tested both in units.
d. System integration and testing: combining program units and then testing them as a whole (system testing).
e. Maintenance: operating the program in its environment and carrying out maintenance, such as adjustments or changes due to adaptation to the actual situation.
f. The system design carried out is software analysis, program analysis and the model to be created. Therefore, all data is packaged in a database, then described into use case diagrams and class diagrams(Cassandra and Sari, 2018; Casro *et al.*, 2020; Nalendra, 2021).

## RESULTS AND DISCUSSION

### Flowchart Design

In designing a system for monitoring data collection on elementary school religious teachers in Labuhan Batu district, I used the flowchart diagram method.

1) The Admin Flowchart diagram here describes the process in a web system when the Admin processes data in the admin Dashboard.
2) The way it works is that the admin can log in first so he can enter the Dashboard. When the admin successfully logs in, the admin can carry out data processing for several menus such as delete, add and edit.
3) The User Flowchart Diagram here describes the process in a web system when the user carries out activities in the user dashboard.

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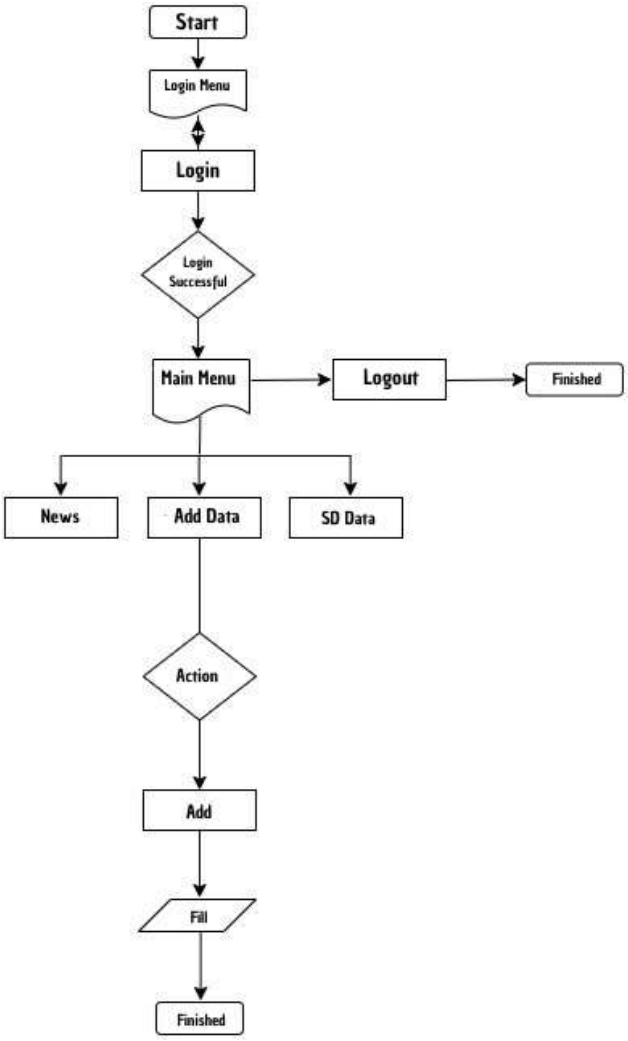


**Figure 2.** Flowchart Diagram

The way it works is that users can log in first so they can enter the Dashboard. When the user successfully logs in, the user can carry out activities such as adding data and viewing news about ministries in Labuhan Batu Regency.

**System Design Stage**

a. Use case diagram

The Use Case Diagram in Figure 3 is a data collection monitoring system for elementary school teachers in Labuhan Regency which has two roles, namely admin and user. Use Case Diagram is used as a description of the entity's roles and access rights.

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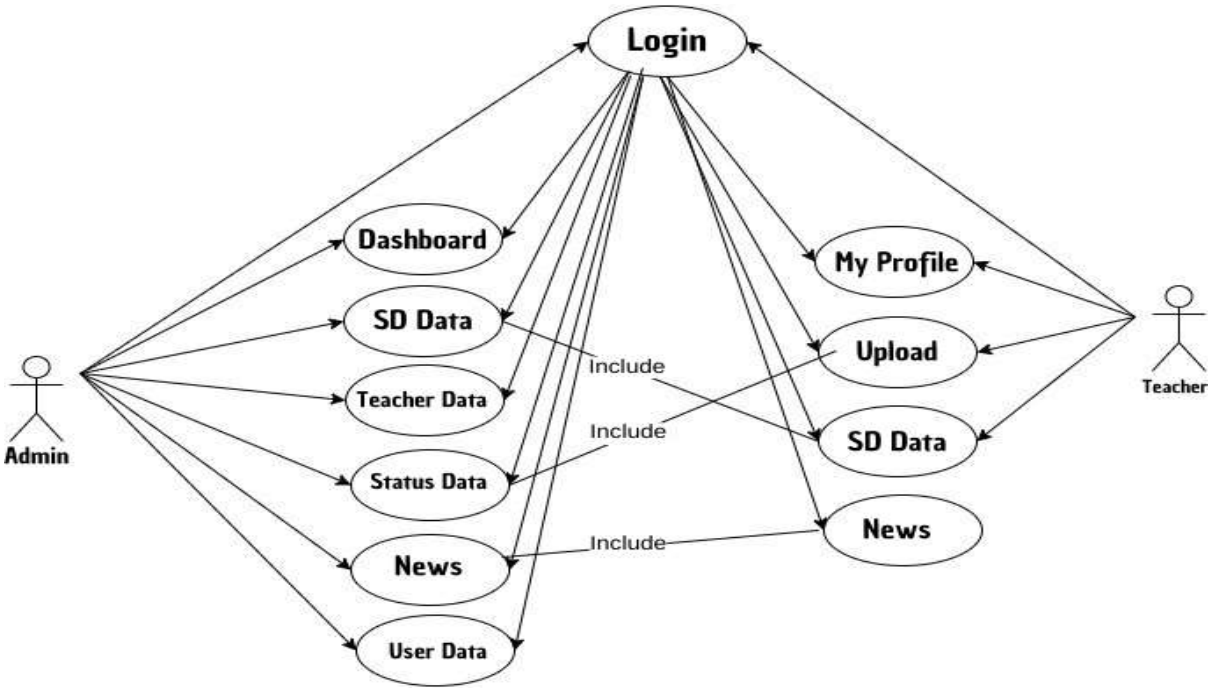


**Figure 3.** Usecase Diagram

b. Activity Diagram

This Activity Diagram is the Activity of the admin and user. Where in picture 4 the admin and user log in by entering their username and password.

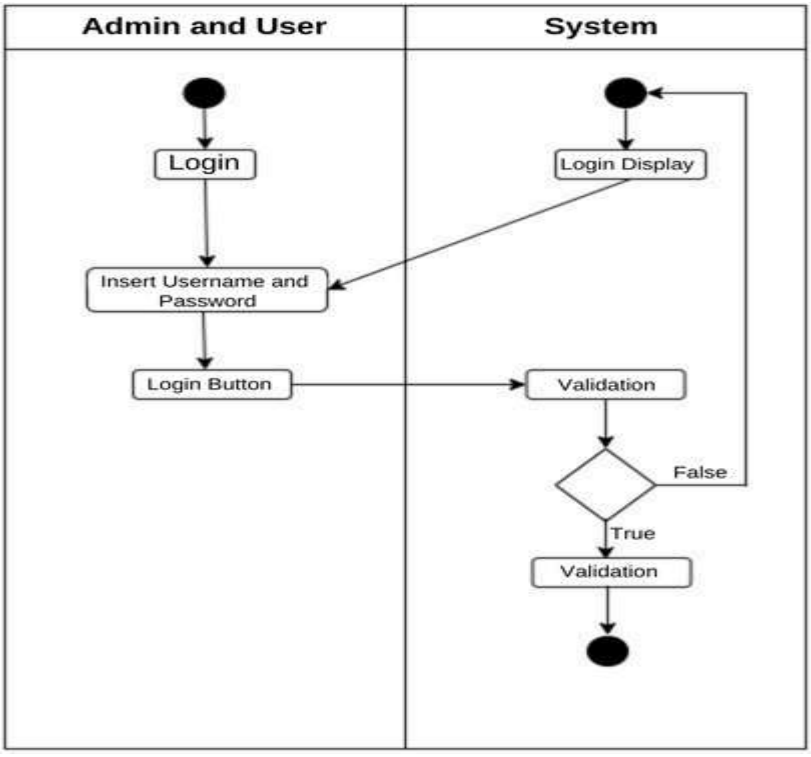


**Figure 4.** Activity Diagram

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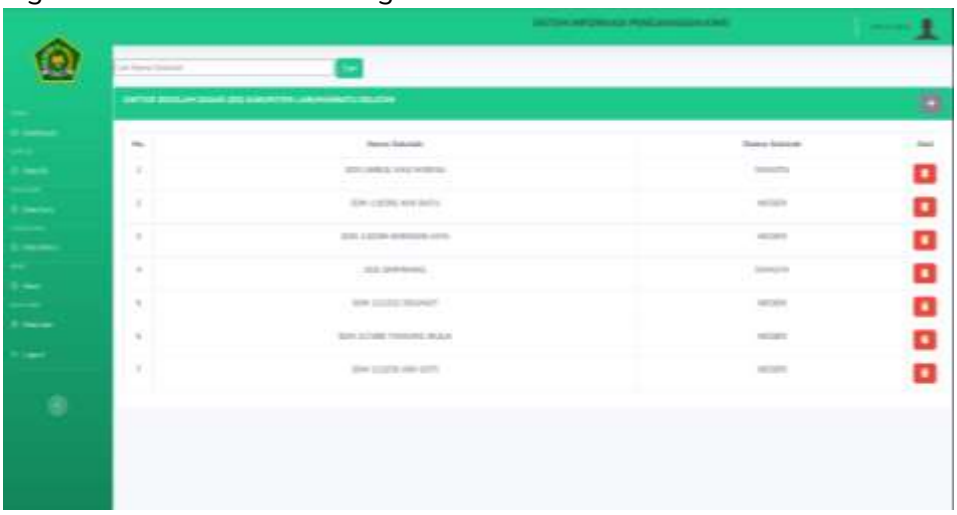
## Implementation and Results

After being analyzed in the previous chapter, namely research methods, the next step is the system implementation stage, which will produce a system that can be used by users, so this chapter will explain the results of the system that has been designed and built. The following are the results of the system display along with an explanation so that it is easy to understand how this system works. System testing can be done using Google Chrome. The implementation results discussed are system implementation.

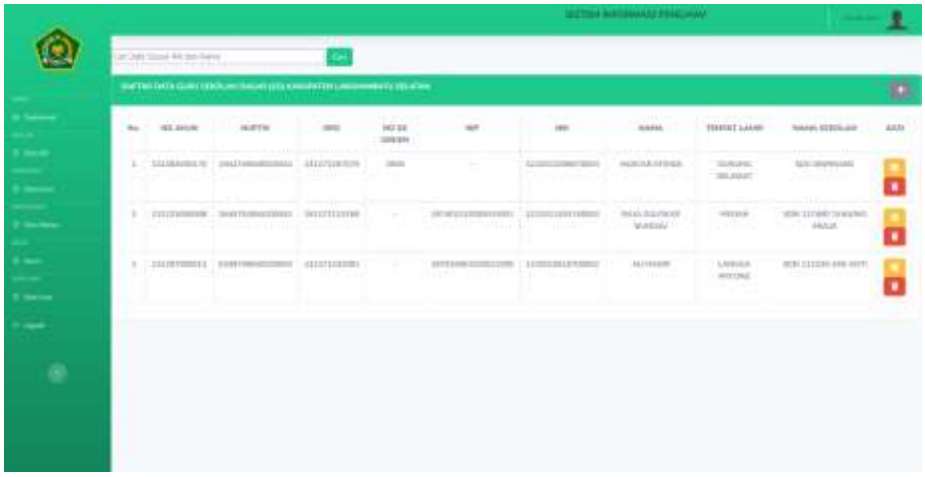
a. Primary School Data Display

This page is used to display SD data consisting of school name and school status. The data taken is based on elementary schools in Labuhan Batu district. Admin can manage SD data such as deleting.



b. Teacher Data Display

This page is used to display teacher data consisting of account number, nuptik, nrg, director general's sk number, nip, nik, name, place of birth and school name. Admin can manage teacher data such as add, edit, delete and search for nickname and name data.



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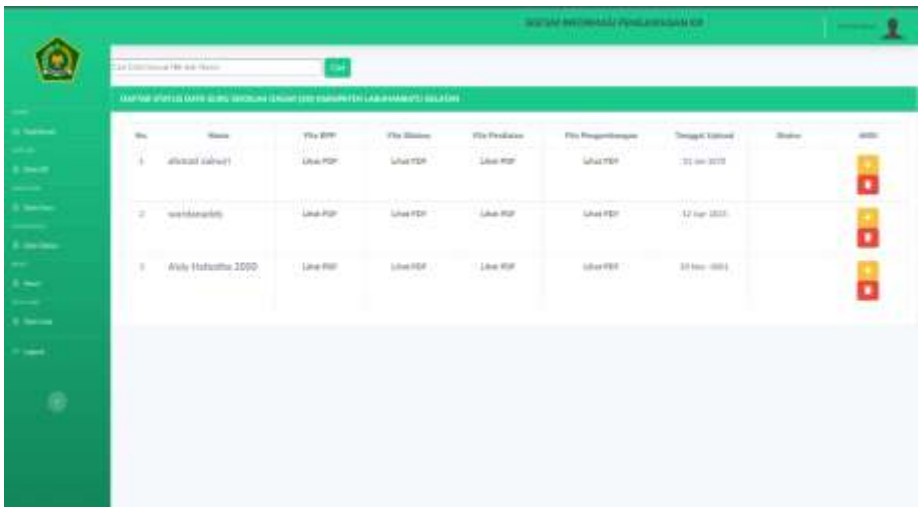
c. Status Data Display

This page is used to display data status consisting of name, lesson plan file, syllabus file, assessment file, development file, upload date, status and action. Admins can manage data status such as adding status and deleting data as well as searching for ID and name data.



d. News view

This page is used to display news about the ministry of religion in Labuhan Batu Regency. This page will also be integrated into the teacher's Dashboard page. On this page the admin can manage data such as adding news data.


e. Login View

This page is used to log in to the Admin and User Dashboard using the email and password that have been registered in the system.

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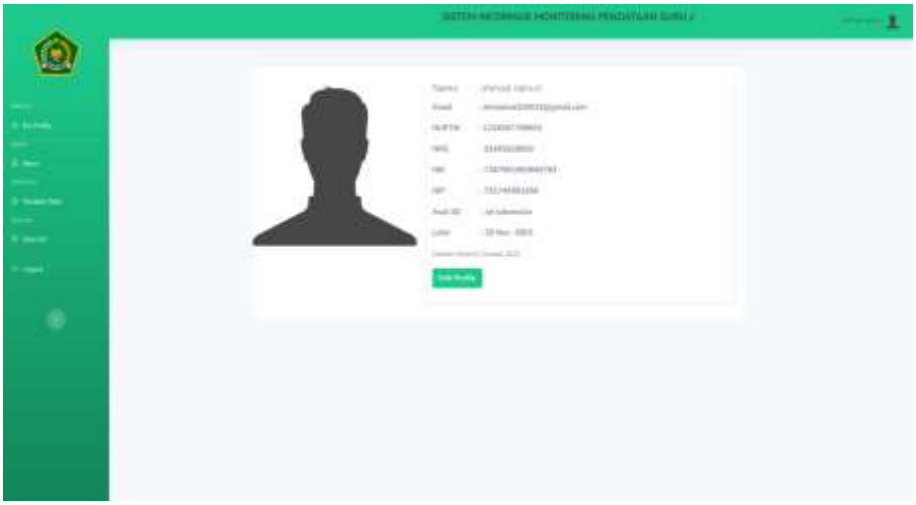
f. Profile View (User)
This page is used to display teachers' profiles and can edit profiles such as name, email, nuptik, nrg, nik, nip, elementary school origin and date of birth.



g. Add Data Display (User)
This page is used to display uploaded files such as lesson plan files, syllabus files, assessment files and development files. Teachers can add data to this page by uploading files.

From the results of system validation testing carried out at the research site, receive results from a system designed based on the needs required by the research site

## CONCLUSION

Based on everything that has been discussed, such as the results, discussion and appearance on the screen it can be concluded that the results of the research carried out, in designing the Monitoring Information System system for monitoring and reporting the performance of Religious Subject Teachers at the Ministry of Religion, can make it easier for

PAI teachers to send learning results reports. Apart from that, this website can help the Ministry of Religion of South Labuhan Batu Regency in monitoring data collection on teachers of religious subjects in South Labuhan Batu Regency. For further development to make it better, the system is more complex and can be equipped with statistical data facilities to make it easier to find out PAI teacher participation numbers. to increase effectiveness in monitoring and reporting the performance of religious teachers. This system is designed to provide a better understanding of performance achievements, assist the decision-making process, and provide relevant information to stakeholders related to the field of religious education. This research also reflects efforts to utilize information technology to increase transparency, accountability and efficiency in managing the performance of religious subject teachers.

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