

Web-Based Thesis Management Information System Design

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Abstract: One of the academic activities that still uses manuals is the submission of a final assignment or thesis. Submission of the final assignment at starts from submitting a title which is filled out through a form then submitted to the head of the study program for review and approval. After the verification is complete, students can immediately take part in pre-Thesis Proposal Seminar provisional guidance and when finished, they can immediately take part in the proposal seminar as well as the assembly. the system that runs at arrowroot in presenting information on student final assignments it is still manual, namely using bookkeeping/paper, submission of data which makes the provision of information quite long and the data is easily scattered until it is lost. It can be observed from the opportunities and business where there is a management system that allows researchers to implement a system with the concept of an online thesis management system with a website-based application so that student final assignment data can be properly managed and accessed through internet media and in building this system researchers use the Software Development Life Cycle (SDLC) with the waterfall approach method, namely analysis, design, implementation and testing. By using this method, it can increase the efficiency of the average time than before. As well as saving costs for other needs in making thesis report data and facilitating the management of final project information data.

Keywords: *Analysis, Designing, Information system, SDLC, Thesis.*

INTRODUCTION

The development of Information Technology in the era of globalization has had a very good influence on various fields of people's lives, one of which is in the field of education, technological advances in the world of education have opened up new innovations for the development of science which has made it easier for us to carry out various academic activities. One of the technologies that is often used is the website, in the world of education, the website is often used in data management, servers and repositories. The use of the website on the other things that is often used in education is to accommodate the activities of accepting new students, Administration Payment, E-learning, Student Portal etc. Technology in the field of Education will make it a necessity in school institutions and Campus/School Institutions at this time to be more Creative, Innovative, Modern, Advanced, and developing. Institut Pendidikan Indonesia Garut (IPI Garut) is one of the universities in the city of Garut. IPI Garut in its academic activities already uses Website Technology. Making IPI Garut a campus institution that is modern and [development of the era](#). However, in a number of academic activities there are some that are still carried out manually, one of which is the activity of compiling a Final Project or Thesis, especially for the Information Systems Study major.. Submission of titles still uses the form filled out by the Student Then it is approved by the Head of the Study Program and it is still ineffective because of the possibility of Duplicate titles because the title that has been submitted can be submitted again. Or loss of title submission data because the data has not been stored securely. Therefore, this reserch by using the method Software Development Life Cycle (SDLC) with waterfall approach method, namely analysis, design, implementation and testing. Is very important because, it can increase the efficiency of the average time than before. As well as saving costs for other needs in making thesis report data and facilitating the management of final project information data.

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METHOD

The development method used in this study is to use the method Software Development Life Cycle (SDLC). This method is a structured method from the initial planning stage to the final stage of system testing. This SDLC method has several approaches that are often used in the development stage, one of the well-known approaches is the Waterfall approach.

In this method, the steps that will be carried out will be outlined in several instruments according to the stages that are passed. Common stages that are often carried out such as the results of data collection and analysis are usually outlined and designed in a form such as diagrams, symbols and pictures. Several stages of the development method in the SDLC with the Waterfall approach include on below:

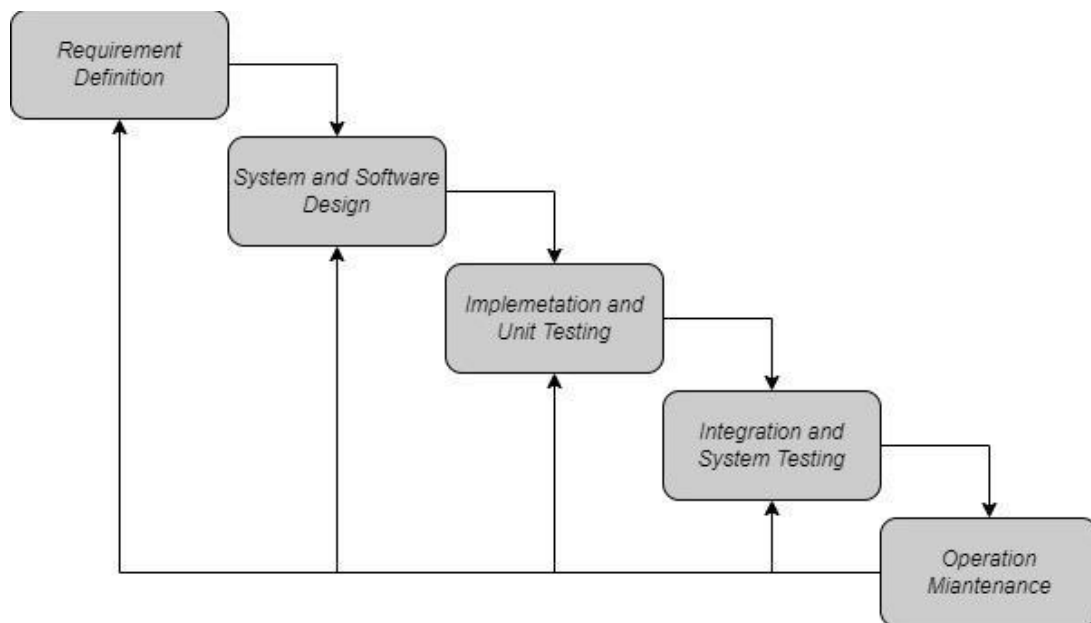


Figure 1. Waterfall Method

1. Requirements Analysis and Definition

At this phase data collection is carried out for system requirements, and defines what requirements must be achieved by the system.

2. System and Software Design

At this phase, the results of the analysis from data collection are presented and presented in the form of pictures and diagrams. System design can be made with use cases, class diagrams, activity diagrams and sequence diagrams.

3. Implementation and Unite Testing

At this phase, the design have been made and then poured in the form of programs and code (Programming). At this phase, the system has begun to be nuilt according to the needs and design.

4. Integration and System Testing

At this phase, this phase can carry out overall integration testing and then test the system from start to finish.

5. Operation and Maintenance

This phase is the final phase in the development method, the finished system can be maintained and repaired if problems or errors occur.

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RESULT

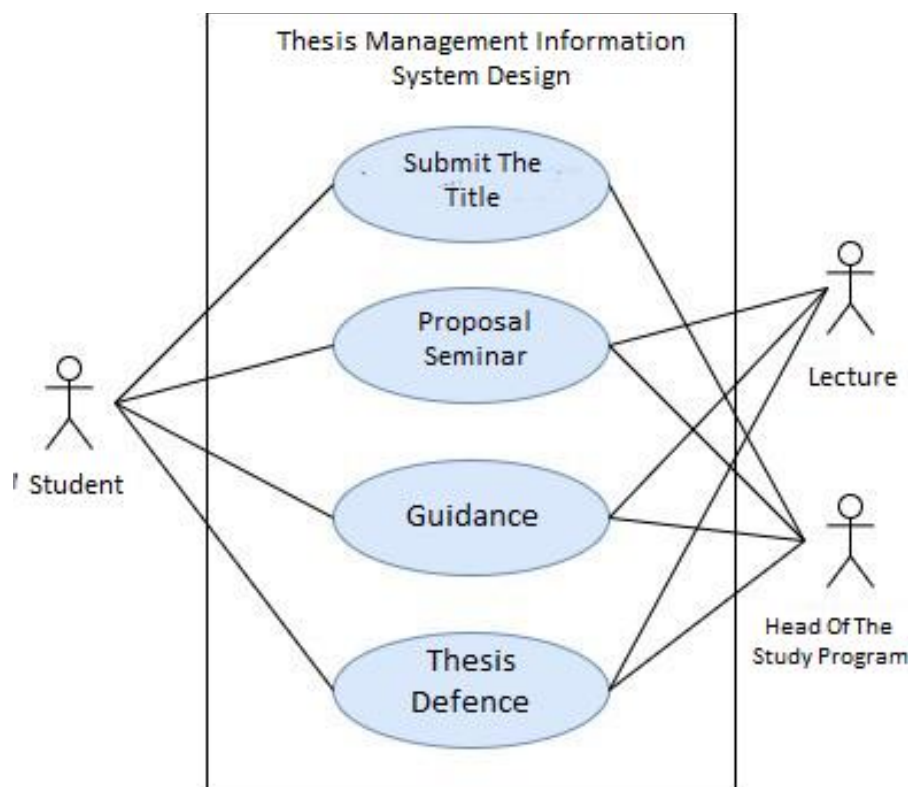


Figure 2 The Running system of Thesis Management

Running System Analysis

The description of data collection that will be explained at this stage is as follows:

1. The current system in the thesis process at the IPI Garut in Information Systems major begins with students choosing a title according to the focus and ability of the student.
2. The students should submit maximum of three titles to the head of study program.
3. The submission process still uses paper forms or Google forms,
4. Title approval is carried out by the head of study program.
5. If the title has been approved, students may continue pre-proposal seminar and continue the proposal seminar until the final session.

The system to be Manufacturing

To increase the effectiveness of Student Final Project activities, a relevant system is needed by creating a management system with the concept of a web-based Thesis Management information system that focuses on submitting titles to the final trial of student thesis. With several facilities such as title submission reports, student thesis reports, sempro file reports, guidance card reports, final value recapitulation reports etc.

the application will make the thesis management system computerized and integrated directly with the respective actors and users because it can be done and done anywhere. And making informations system major be better by utilizing technology to achieve educational goals order to educate the life of the nation.

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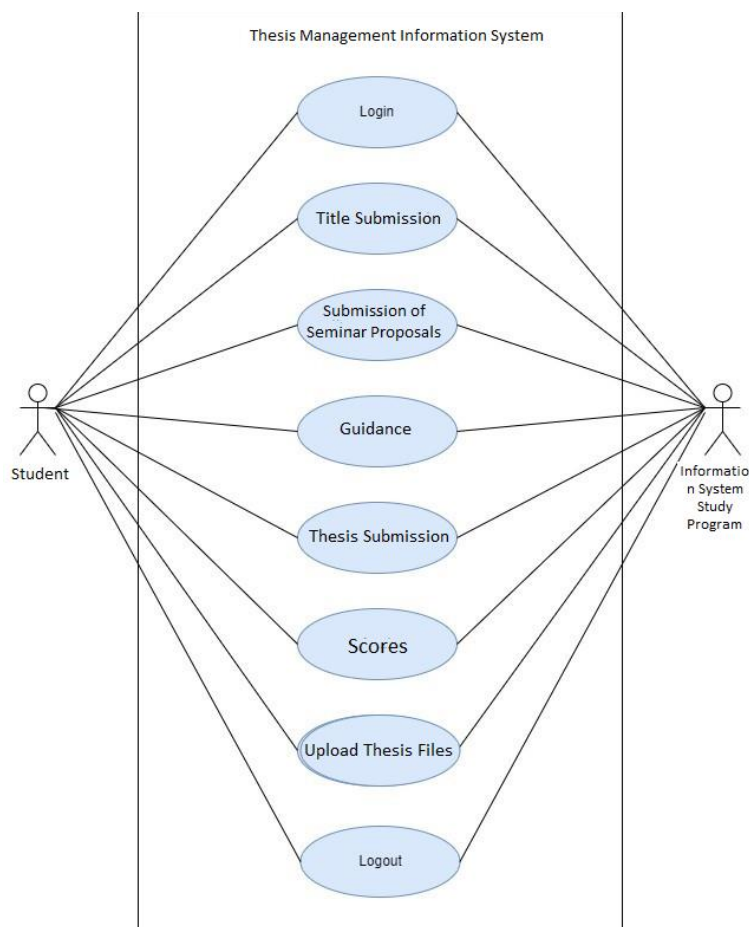


Figure 3 *Online Thesis Management System by Use Case*

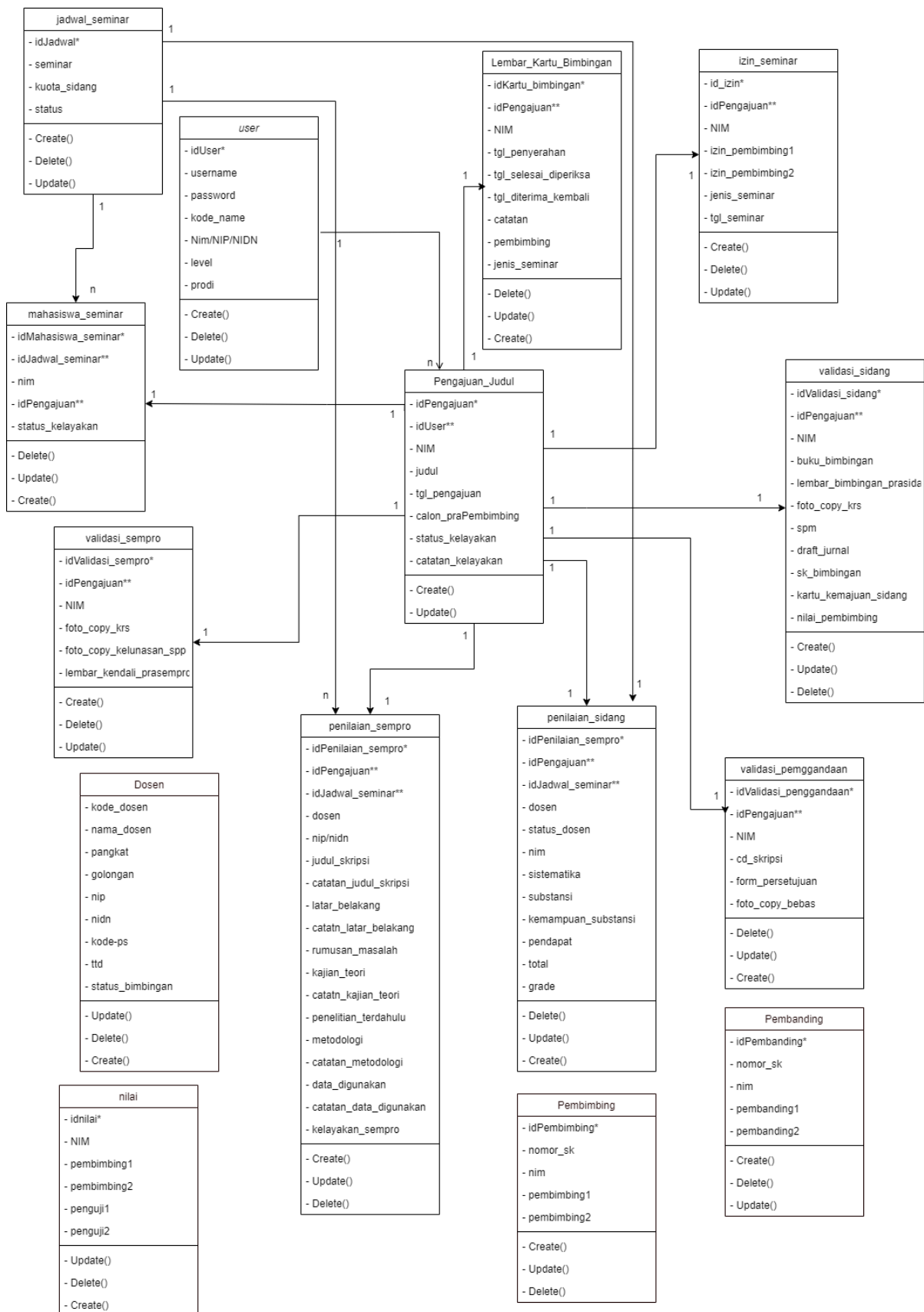
In the Online Thesis Management System there are several actors or users in it, namely Students as Service Users in submitting thesis, and the IS Study Program which includes the Head of the Study Program, admin and Lecturers, where the IS Study Program is the user in data management

Database Structure

In the development of this thesis management system, several tables and relations will be built in the database that are used to store the data and information needed by the system. Table relations are relationships between tables that are widely used. to define a relationship where one model is the parent of one or more models are derived data. The database structure in this development is illustrated with a Class Diagram, the Class Diagram above is an illustration of the process of proposal seminars, hearings and uploading of thesis files that will be used in the thesis management system. Some of the connector classes in the picture above are depicted with arrows. These connectors are relations from each table using one to many and one to one relationships. One to Many is represented by the symbols 1 to n, and One to One is represented by 1 to 1 on the arrows.

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Picture 4 Diagram Class Information System Tracer Study IPI Garut

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System Implementation

The results of the implementation of the system will produce a complete system that is ready to use according to the results of the previous design. The online thesis management application is divided into several system portals according to the users in the thesis management application, namely the admin portal, lecturer portal, student portal, and portal of study program head.

1. Portal Admin

These is are some of the interface pages on the admin portal.

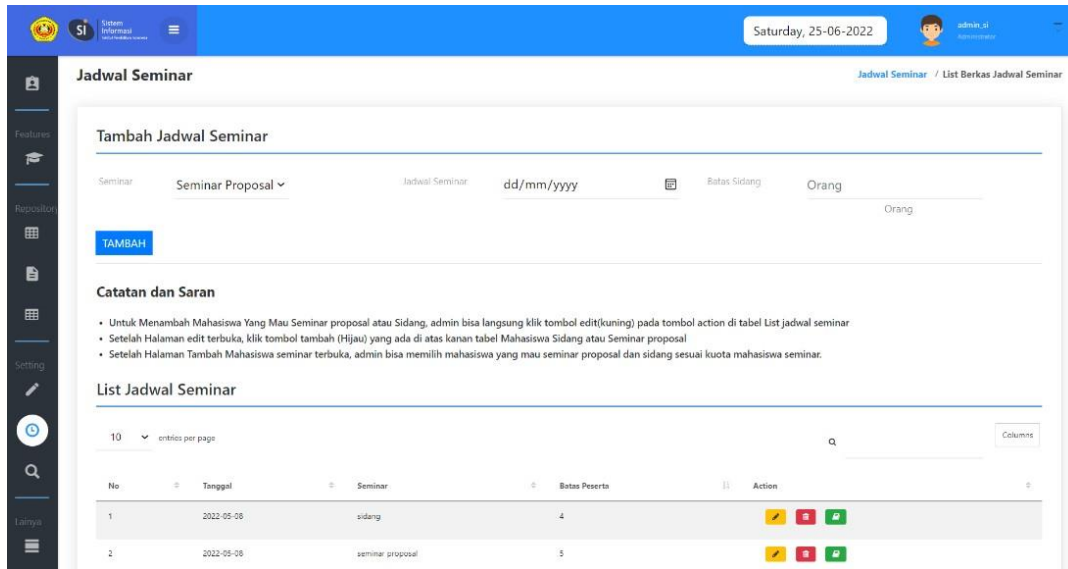


Figure 5 Portal of admin Seminar Schedule Management

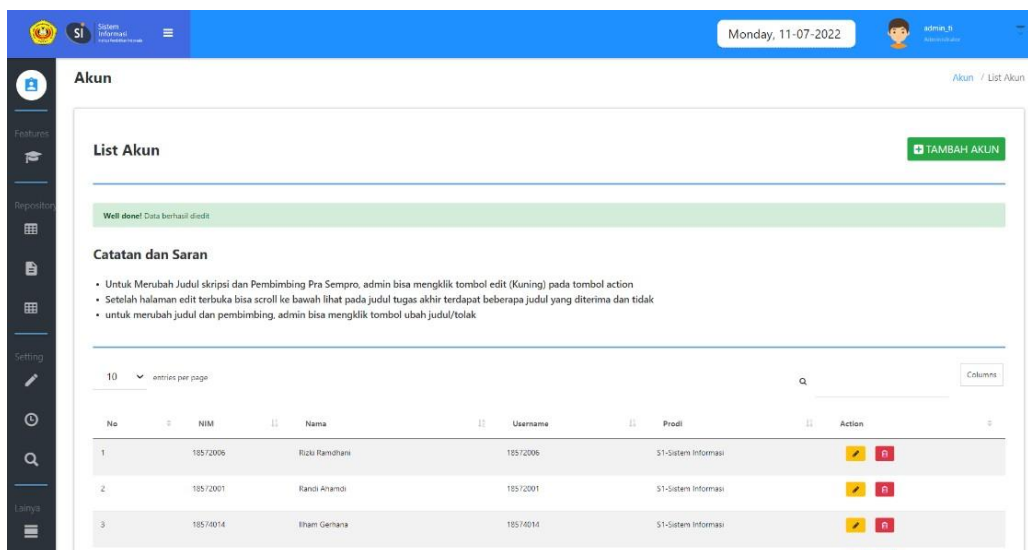
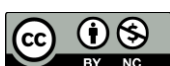


Figure 6 Portal Account Management

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2. Lecturer Portal

These is a several interface pages on the lecturer portal.

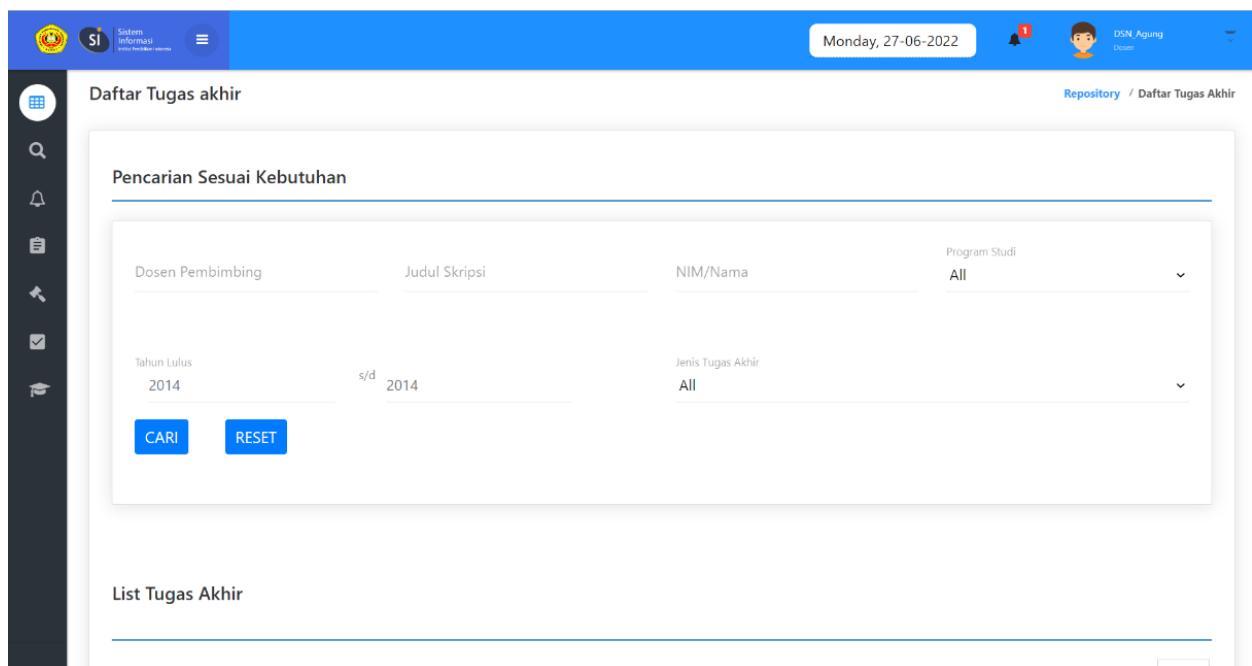


Figure 7 Lecturer Portal

Figure 7 is a list of student assignment list pages displaying data being sprayed, trial and passed. With a search list as needed on the same page

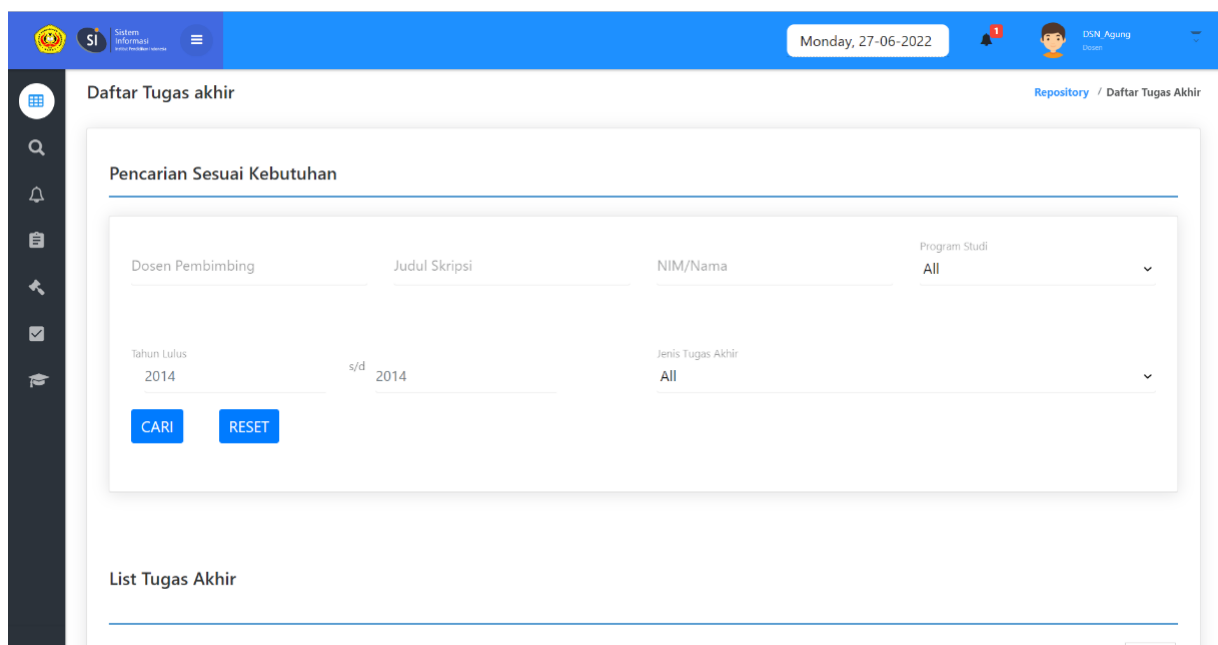


Figure 8 Lecturer Notification

Figure 8 is the notification interface on the lecturer portal.

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3. Portal of the head study programe.
These is are some of the interface pages on the Admin portal.

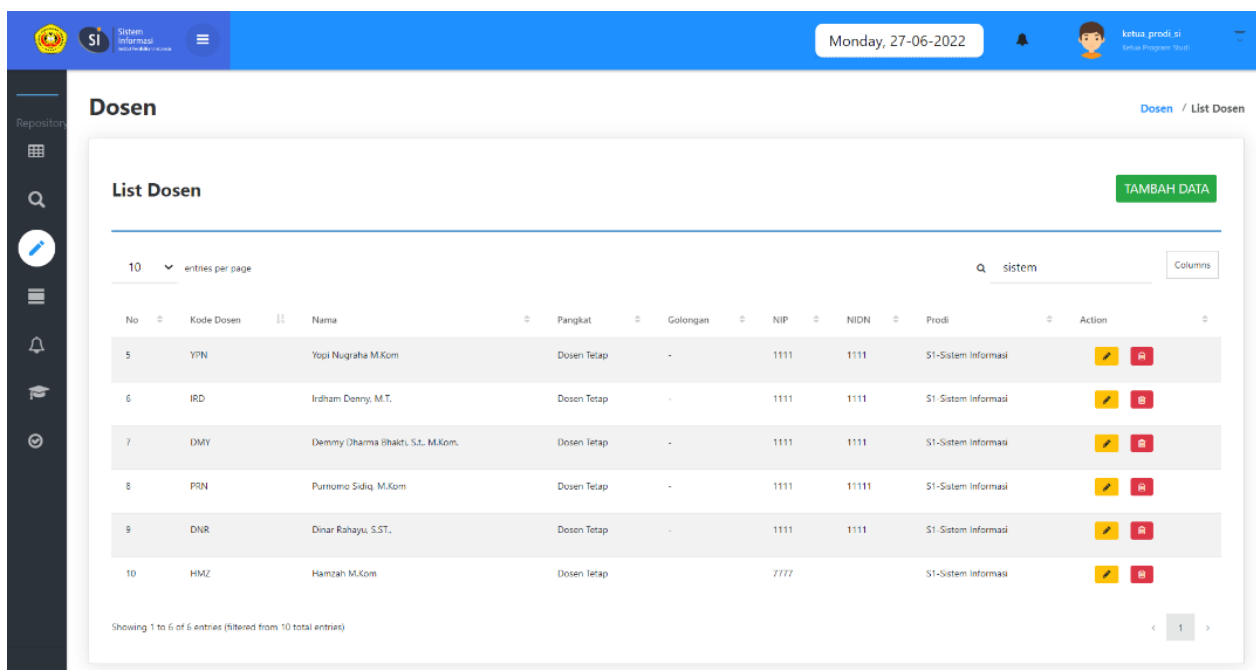


Figure 9 Lecturer Guidance Quota on the Head of Study Program Portal

Figure 9 is a page for determining guidance quotas for each lecturer according to the needs and provisions of the head of the study program.

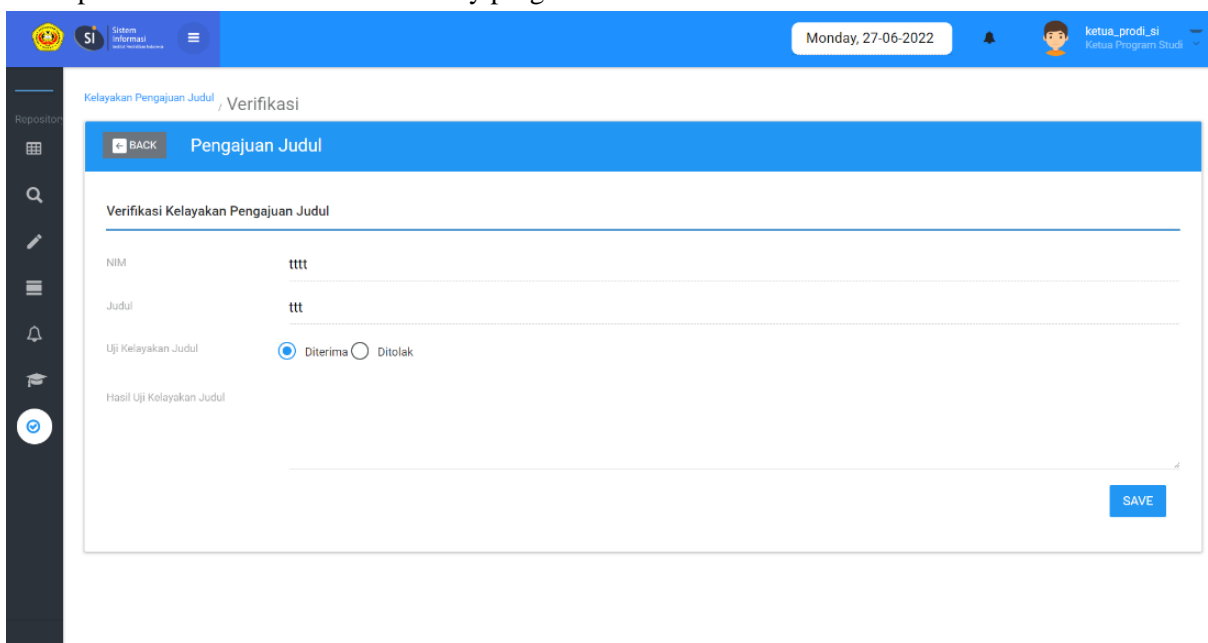


Figure 10 Student Title Validation

Figure 10 is a validation page for student thesis titles carried out by the head of the study program, to determine whether a student's title is accepted or not accepted.

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4. Students portal

These is a several interface pages on the student portal.

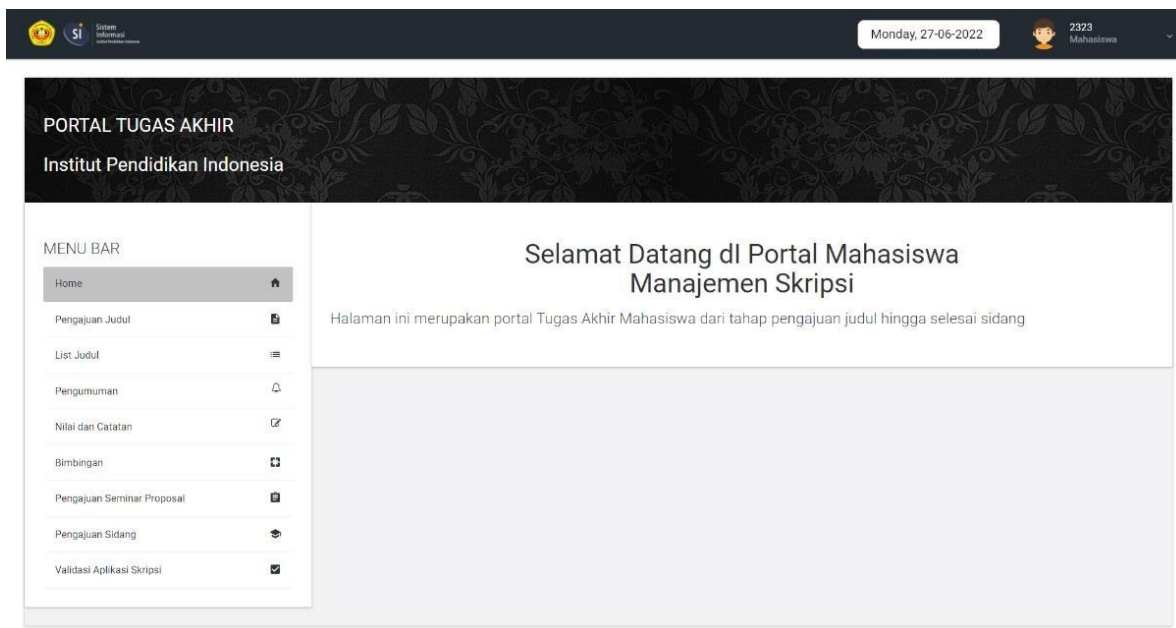


Figure 11 Front Page of the Student Portal Interface

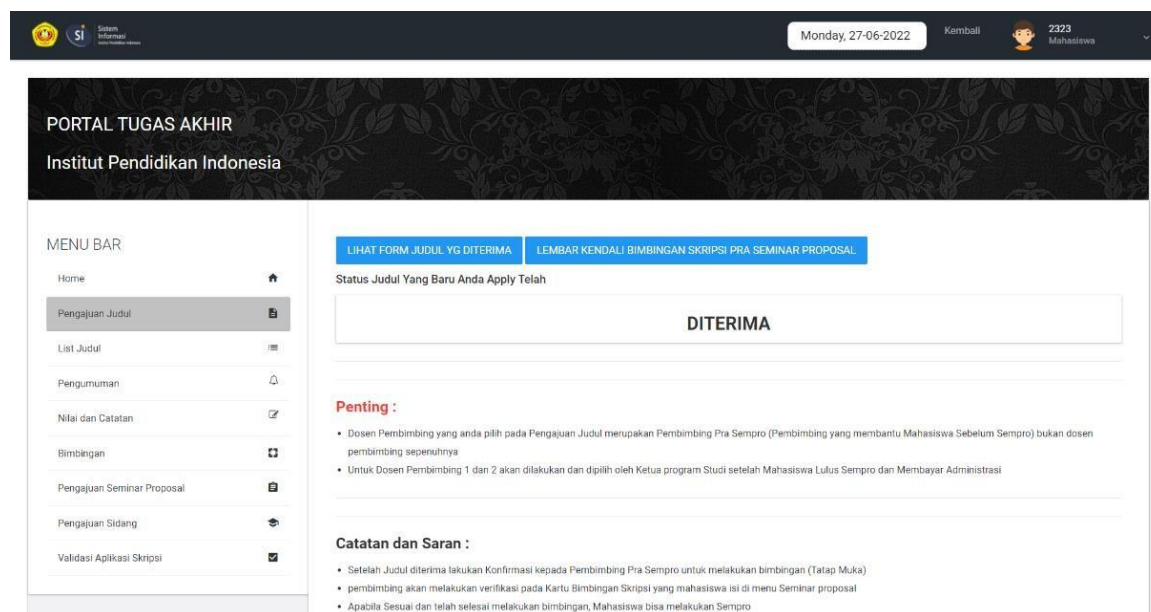


Figure 12 Student Portal Title Submission Page

Figure 12 is the title submission page on the student portal, students can submit as many titles as possible, if the title has been approved the page will change automatically as shown in figure 12.

DISCUSSIONS

Development Life Cycle (Sdlc) With The Waterfall Approach Method Using This Method, It Can Increase The Efficiency Of The Average Time Than Before. As Well As Saving Costs For Other Needs In Making Thesis Report Data And Facilitating The Management Of Final Project Information Data

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CONCLUSION

With this thesis management web application, it can increase time efficiency in sending thesis student data after using this application. The time difference is shorter by seconds compared to not using thesis management web, such as controlling data manually, reporting data must be input manually, etc. Computerized data storage makes it easier for study programs in the process of storing, searching, managing, and reporting data, all of which are stored properly in the database. Storage in the database makes the data safer so that the report data of students who are doing thesis are stored neatly, not lost or scattered.

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