
| RESEARCH ARTICLE

Digitalization of Student Administration Services at Politeknik Negeri Ujung Pandang

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| ABSTRACT

The process of handling student correspondence submitted to the Study Program / Department, then processed by academics and signed by Deputy Director 1, has experienced obstacles in terms of the time needed to complete the various kinds of letters needed by students. Sometimes, it takes up to one week to complete the process. If a student sends a Professional Work Practice (PKP) application letter to the Industry and the letter is rejected, the student must repeat the process of proposing the application letter for a long time. This is because the correspondence process still uses conventional methods. This research aims to develop a web application that is integrated with various related units in handling student correspondence at Ujung Pandang State Polytechnic. The waterfall method is used in its development, including needs analysis, design, development, testing, and implementation. The result is an application that facilitates the management of student letter administration with a barcode system for verification and signing, ensuring efficiency and effectiveness in the process. The results of this research are as follows: 1) Assist the storage of data management of academic administration services; 2) The process of inputting statement letter data becomes easier and faster; 3) Make it easier for department/study program / related unit admins to manage statement letters; 4) searching for administrative service data and statement letters is easier and faster; 5) integrated student data and statement letters can improve the quality of administrative services at Politeknik Negeri Ujung Pandang.

| KEYWORDS

Application, Administration, Statement Letter

| ARTICLE INFORMATION

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1. Introduction

Higher education as a center of education requires an effective and efficient information system to manage academic activities. This not only aims to increase efficiency but also to improve education quality standards (Suminten, 2021).

Students have various needs related to information and correspondence in their education (Widodo, 2018). However, research results show that many aspects of services in higher education, especially related to the use of student mail service administration systems, require improvement (Rizal, 2017).

Ujung Pandang State Polytechnic, as one of the Vocational Education colleges that has expertise in data processing and information needs, should adopt a technology-based information system that can support efficiency in student academic processes, including correspondence. Unfortunately, it is seen that in the Academic section, the Study Program / Department still uses conventional methods in the process of submitting Field Work Practice letters to industry, active college statement letters, research permits, and graduation certificates. This causes the procedure followed by students to apply for fieldwork research letters to still be relatively long.

For example, students must submit a request to the staff of the Study Program / Department, after which the letter must be signed by the Head of the Department, then forwarded to the Academic section for processing and obtaining the signature of the Deputy Director 1.

The foregoing can be proven through the results of research [Taufik, 2020] on academic services, which states that "The academic administration system in managing various kinds of correspondence needed by students, such as letters of Field Work Practice to industry, active college certificates, research permits, and graduation certificates, and completeness of Final Project Report exam files, and so on, received a 'less satisfied' level of satisfaction of 51.5%, on the grounds that it took quite a long time to complete.

By considering these aspects, this research aims to implement a Web Application for Student Correspondence Administration Services of the PNUP Commercial Administration Department that allows study program staff and academic staff who handle student correspondence to use their respective logins. That way, student correspondence administration services can be well integrated between the staff of each study program, department, and academic staff.

2. Literature Review

Administrative services are a form of activity carried out by the government or public institutions in order to meet the needs of the community for administrative services [Hendrayady, 2022].

The correspondence system is a series of administrative actions to handle incoming letters, outgoing letters, memos, telegrams, and other archives in the sense of managing and arranging them correctly, efficiently, and effectively for the benefit of the organization and the public." (Nugroho, 2017]

Statement Letter is a letter given by universities to students as proof of their status as active students and contains information about the study period, study program, and student activeness status. Statement Letter is often requested as a requirement for administrative purposes, such as scholarships, course registration, and other purposes [Cahyono, 2016]. Furthermore, a statement letter is an official document issued by a higher education institution that contains information about the student's active status, the study program taken, and their academic achievements [Frencky, A, 2019].

The use of electronic media has become a necessity and solution in solving administrative process problems. Electronic media is expected to be able to help document managers with both effective and efficient [Imasita, 2022].

An application is a computer program created to meet certain user needs in performing specific tasks related to data processing. Applications can be used on various electronic devices, such as computers, smartphones, or tablets, and are designed to make it easier for users to perform certain tasks on these devices [Sri Tita, 2021].

The waterfall application development method is one approach to software development that involves stages that must be carried out sequentially and continuously. The stages in the waterfall method include requirements analysis, design, implementation, testing, and maintenance. This approach allows developers to see the big picture of the entire project and allows for better planning. However, this approach has a weakness, which is that it lacks flexibility in addressing changing user needs that arise during the development process [Sommvervile, 2016].

3. Methodology

This research was conducted at the Department and Study Program at Ujung Pandang State Polytechnic, which is located at Jalan Politeknik, Tamalanrea Indah, Kec. Tamalanrea, Makassar City, South Sulawesi. The method used is the waterfall method with the following stages:

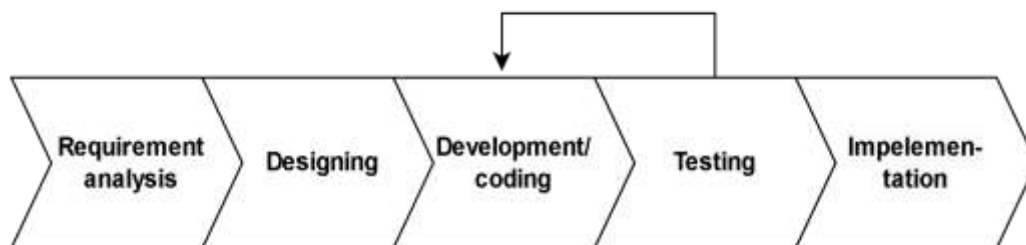


Fig. 1 Waterfall method

3.1 Needs Analysis

In the Waterfall software development methodology, requirements analysis refers to the process of understanding and documenting detailed user and system requirements before the software development steps begin. This process involves the use of various data collection methods such as interviews, observations, and literature studies.

3.2 System Design

Website design is carried out using visualization of various diagrams to make it easier to build the system later so that the description made is clear in its intent and purpose.

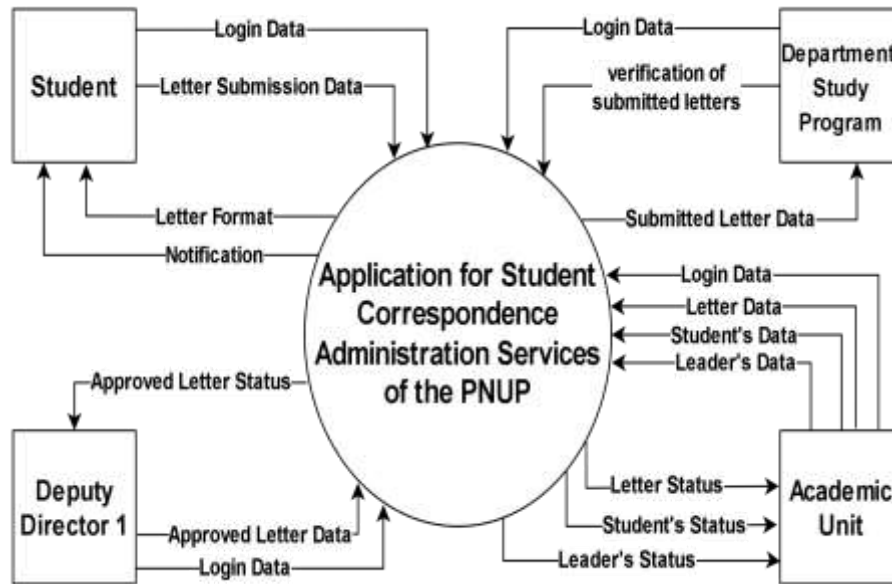


Fig 2 Context Diagram

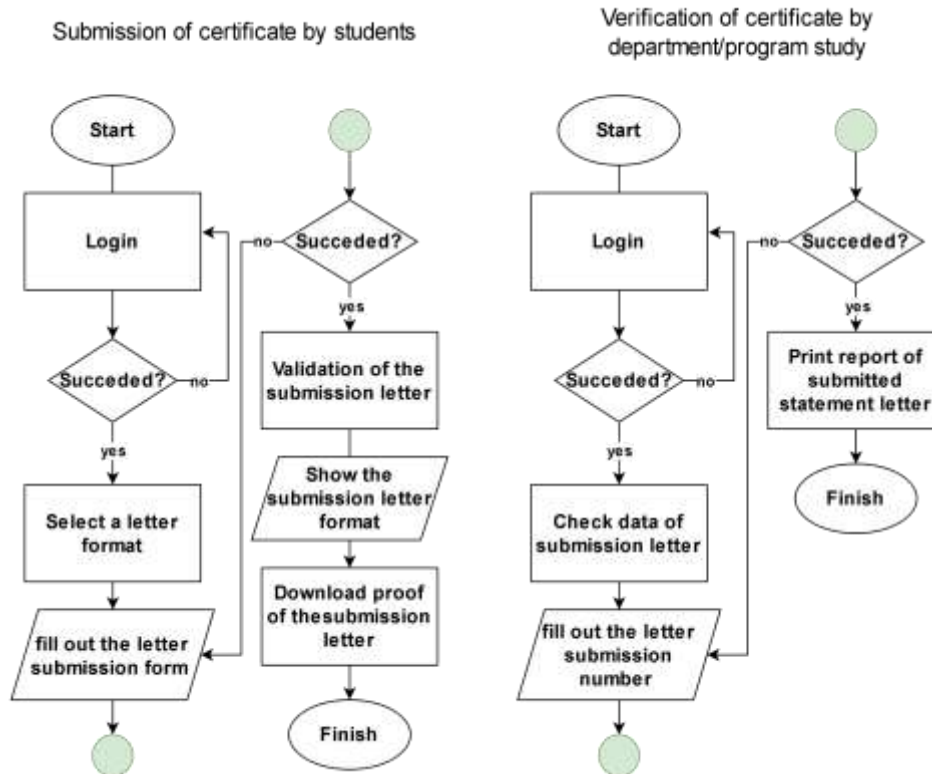


Fig 3 Flowchart of Statement letter Submission (left) and Verification of Statement Letter by Department and Study Program (right)

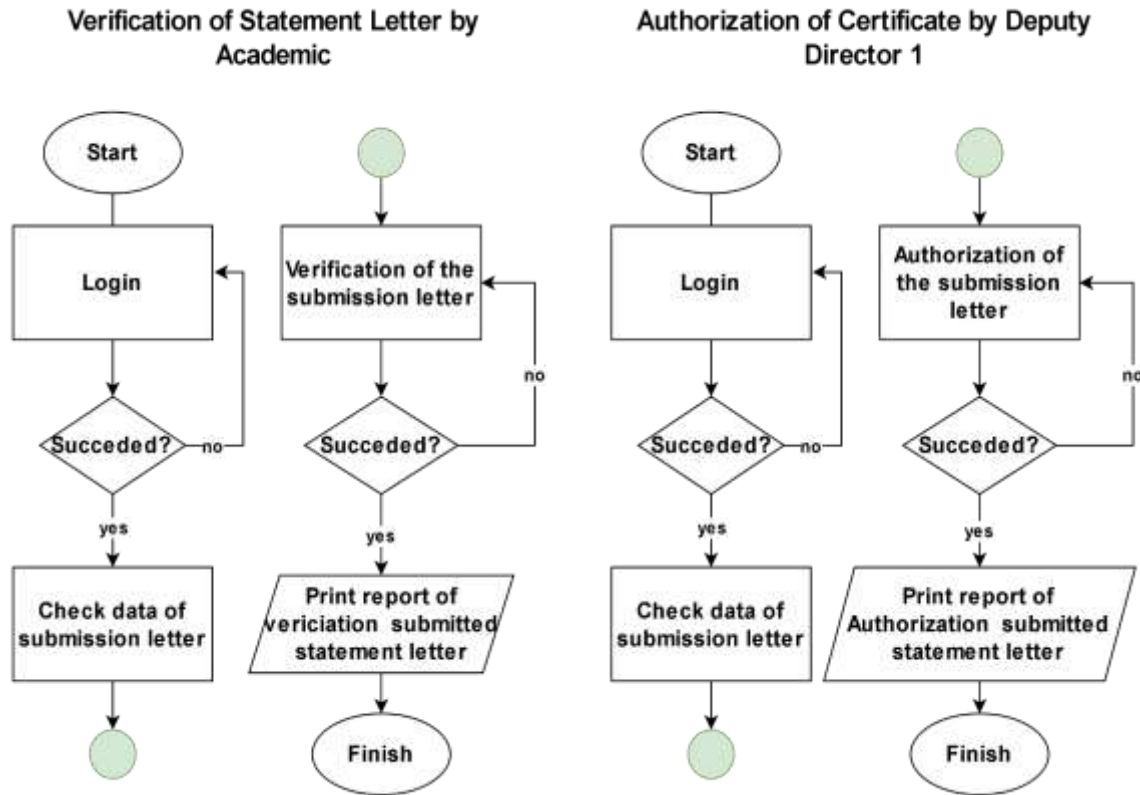


Fig 4 Flowchart of Verification of Statement Letter by academic (left) and Verification of Statement Letter by Deputy Director 1 (right)

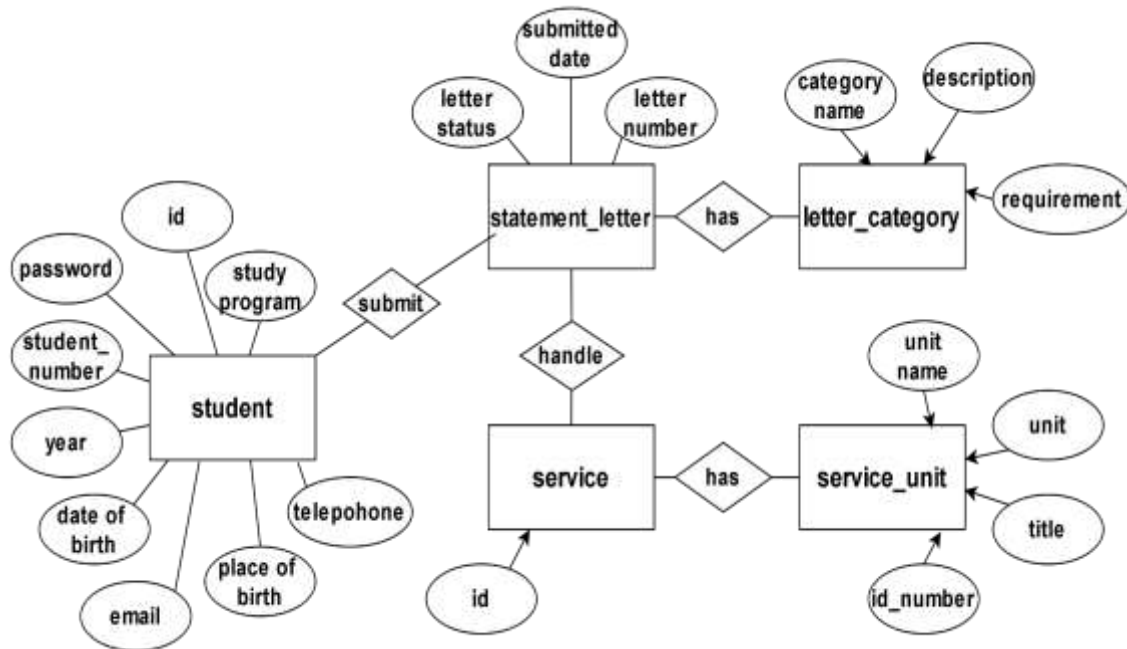


Fig 5 Application Database

3.3 Implementation

Implementation is the process of implementing an information system that has been designed with the aim of facilitating the process. Administrative management at Ujung Pandang State Polytechnic.

3.4 Testing

After the system design is complete, testing of the design results is then carried out. At this stage, check the application to see whether it can function properly or if there are errors, such as errors, so that it is in accordance with the use of the system and can achieve the results.

4. Results and Discussion

4.1 Student Menu

1. Login Page

The initial display is the log in page, which serves to identify users who can access this system. To be able to enter and access this system, students are required to log in first by entering the password that has been previously set.



Fig 6 Login page

2. Dashboard Page

This page appears after a successful log in process, which will then display the system homepage on the screen. Students can select and press the menu as needed.

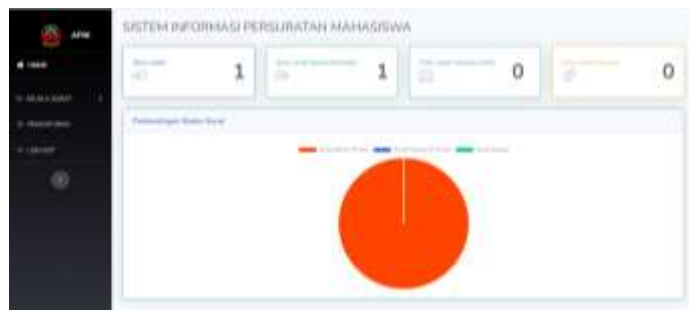


Fig 7 Student Dashboard Page

3. Active College Statement Letter page

The active college statement letter page allows students to create, view, and manage active college statement letters. Its main features include buttons to add new letters, as well as options to edit and print existing letters. The menu also provides information such as letter number, month of request, and letter status.

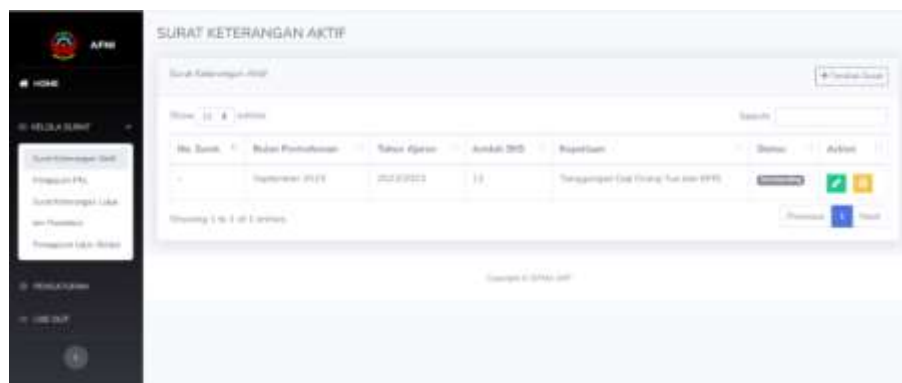


Fig. 8 Page of Active College Statement Letter

4. Field Work Practice Submission Letter Page

The field work practice submission letter page acts as a catalog of letters that have been created by students for field work practice. On this page, there is a list of letters along with an add button to create a new letter and action buttons to edit and print letters. Available information includes the letter number, the name of the intended company, and the status of the letter.

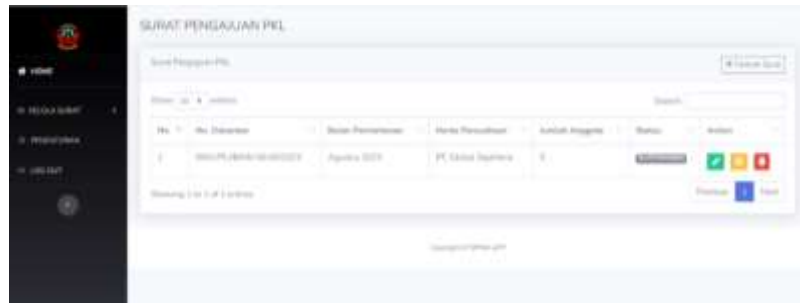


Fig. 9 Field Work Practice Submission Letter Page

5. Research Permission Page

The research permit page functions to create and display a list of research permit letters that have been made by students. There is also a button next to the research permit letter that functions to add a new letter. In addition, there are also three buttons in the action column that function to edit letters print letters and information. In this menu, you can also see the letter number, the name of the company you want to go to, and the status of the letter.

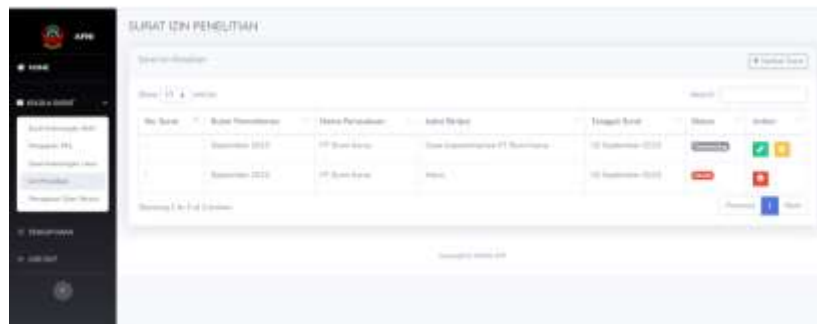


Fig. 10 Research Permission Letter page

6. Graduation Certificate Page

The thesis assignment letter page plays a role in recording and displaying a list of thesis assignment letters that have been made by students. There is an add button to add a new letter, as well as edit and print buttons next to each letter. This menu also contains the letter number and its status.



Fig. 11 Graduation Certificate page

7. Student Settings Page

Student settings is a page that displays student data registered in the application.

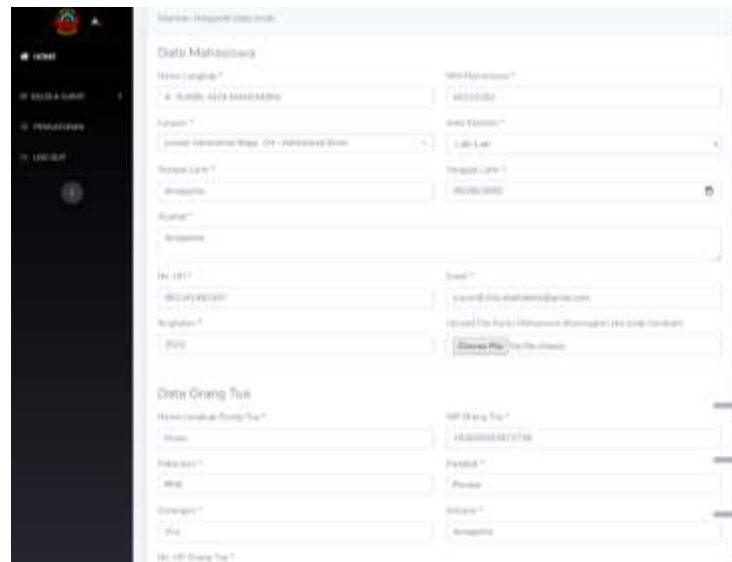


Fig. 12 Student Settings Page

4.2 Admin Menu

1. Letter Type Page

The admin system dashboard displays information about the total number of letters, the total letters that have not been processed, the total letters being checked and the total letters that have been completed.

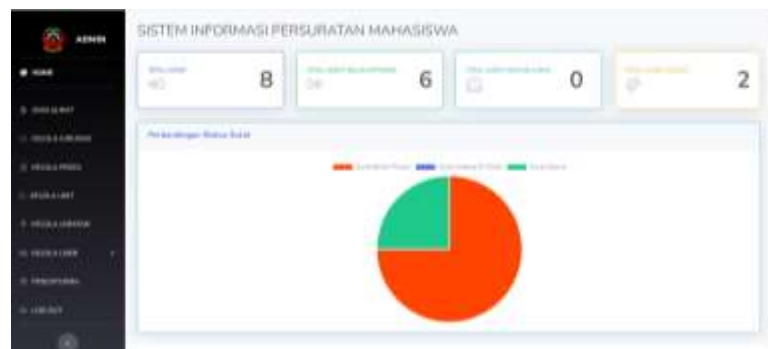


Fig. 13 Letter Type Page

2. Dashboard Page

The letter type page displays the types of student letters that can be created in this system. The student letters consist of an active College Statement Letter, Fieldwork Letter, Graduation Certificate, Research Permit Letter and Cover Letter for Session Examination.

No.	Jenis Surat	Stempel	Pengecekan
1	Surat Keterangan Madya		
2	Surat PKL		
3	Surat Keterangan Lulus		
4	Surat Keterangan		
5	Surat Permisian dan Izin		

Fig. 14 Admin Dashboard Page

3. Manage Department, Study Program, and Related Units page.

Manage Departments is a page for managing departments, study programs, and related units in Ujung Pandang State Polytechnic. On this page, the admin can add, search, edit, and delete data on related departments, study programs, or units.

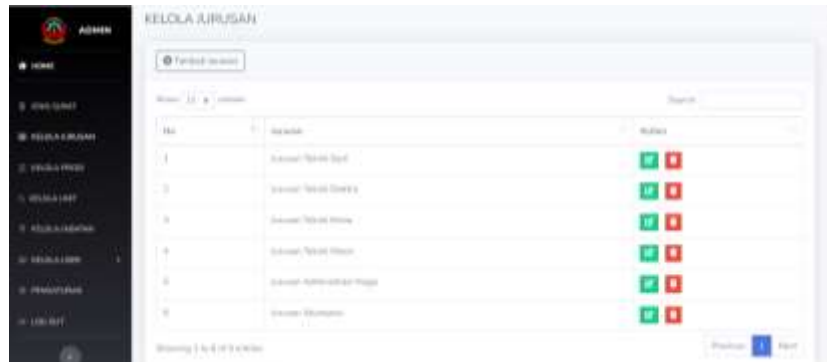


Fig. 15 Manage Department page

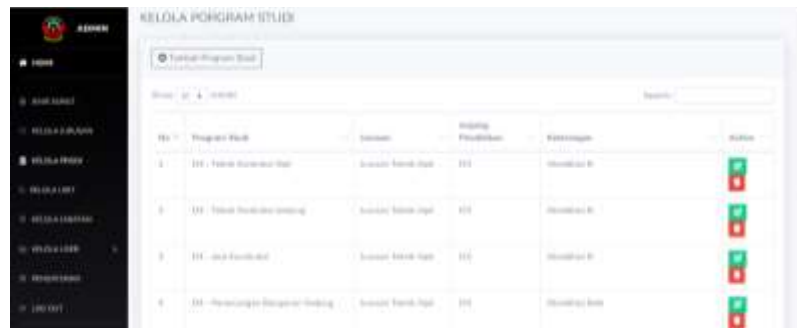


Fig. 16 Manage Study Program page



Fig. 17 Manage Related Units page

4. Manage Users

Manage user is a page that serves to manage student data, Head of Department, Head of Study Program, Head of Section and Deputy Director.

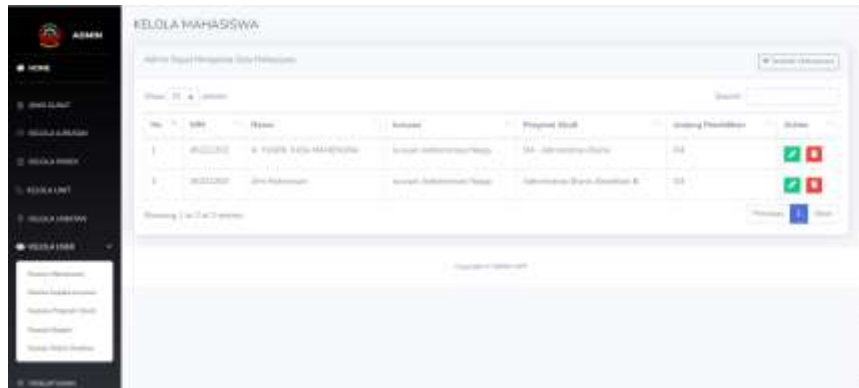


Fig. 18 Student User Management Page

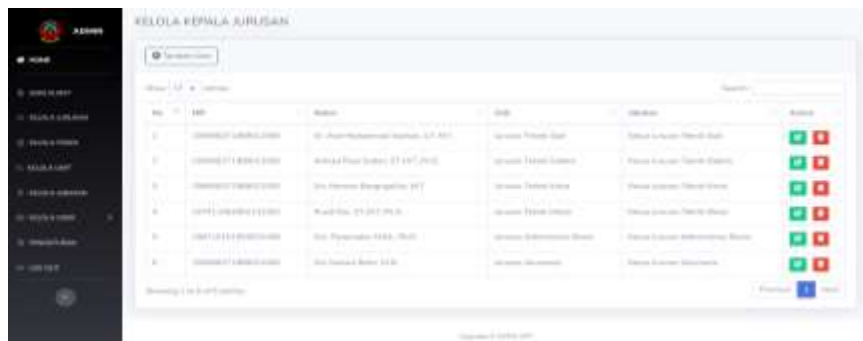


Fig. 19 Section Head User Management Page



Fig. 20 User Management Page of Deputy Director

5. Admin Settings

Admin settings is a page that displays admin management data. Here's a look at the admin account management settings:

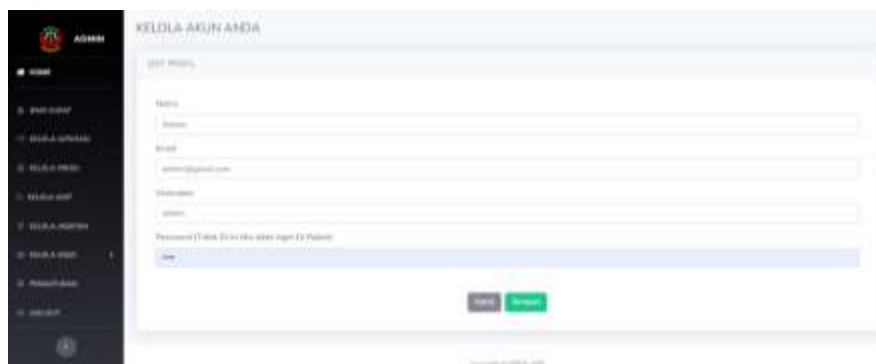


Fig. 21 Admin Settings Page

5. Conclusion

The purpose of the study was to design the Student Correspondence Administration Service Application of Ujung Pandang State Polytechnic.

The application has successfully delivered several benefits, as outlined below: 1) Helps with data storage management of academic administration services. 2) The process of inputting statement letter data becomes easier and faster. 3) Making it easier for admins of departments/study programs / related units to manage statement letters, 4) searching for administrative service data and statement letters is easier and faster, 5) integrated student data and statement letters can accelerate administrative management at Politeknik Negeri Ujung Pandang.

Through this system, Admins in departments, study programs, and academic staff no longer have difficulty in finding files. There is a search feature on the system with fast results, inputting data about the signatures of related officials no longer needing to use manual signatures but using barcodes.

For all these benefits, it is also realized that the system that has been created still has shortcomings, namely the lack of a digital correspondence data input system, and it is necessary to develop this system integrated with Field Work Practice supervisors and student thesis supervisors to make it easier for lecturers to find out where students are researching. These shortcomings can be resolved in further research.

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Ethical approval: Authors are required to state whether ethical approval was sought or not for the present study, especially if the study is a clinical trial or animal experiment.

Informed consent: Users or users of this system are asked for their verbal approval.

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