



Faculty of Computer Science and Information Technology

Pejabat Daerah Setiu Letter and File Management System

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Bachelor of Computer Science with Honours (Software Engineering)

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ABSTRACT

Pejabat Daerah Setiu Letter and File Management System is a web-based system that will be developed to help *Pejabat Daerah Setiu (PDS)* staff to carry out their task efficiently in their daily work life. The PDS staff are facing some problems when doing their work such as having difficulty when they want to find files, and time consuming when registering incoming letters. When doing some research on how to solve this problem, we found a few existing systems that offer similar problem-solving; they develop a system for their organization. Thus, an idea comes up which is to develop a web-based system specifically for PDS staff. This project provides several functionalities for *PDS* staff such as letter registration into the online system and file tracking. This system will be developed on a PHP platform and supported by SQL database to store letter and file information. In conclusion, with the existence of this system, PDS staff can do their work efficiently without wasting their time.

ABSTRAK

Pejabat Daerah Setiu Letter and File Management System merupakan sebuah sistem berasaskan web yang akan dibangunkan bagi membantu pekerja Pejabat Daerah Setiu (PDS) melakukan tugas mereka dengan cekap. Namun begitu, pekerja PDS menghadapi beberapa masalah semasa menjalankan tugas mereka seperti pencarian fail dan semasa mendaftar masuk surat. Kami menjalankan beberapa penyelidikan bagi menyelesaikan masalah ini dan telah menemukan beberapa sistem yang telah wujud; mereka membangunkan sebuah sistem bagi organisasi tertentu. Oleh itu, sebuah idea telah tercetus, iaitu kami akan membangunkan sebuah sistem berasaskan web khusus buat pekerja PDS. Sistem ini menyediakan beberapa fungsi seperti daftar masuk surat secara atas talian and pencarian fail. Sistem ini akan dibangunkan dengan menggunakan platform PHP dan pangkalan data SQL bagi penyimpanan data fail dan surat. Kesimpulannya, dengan wujudnya sistem ini, pekerja PDS mampu menjalankan tugas mereka dengan cekap.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Pejabat Daerah Setiu (PDS) is an administrative management organization of district. This organization was established in 1985 which located at Bandar Permaisuri, Setiu, Terengganu. This organization play a role in implementing government policies as safeguarding the welfare and interests of the community its administration. The main functions of *PDS* are planning, implementing, and reporting development of project, coordinating the activities of government agencies, and coordinating secretariat duties for official government ceremonies and programs.

Due to these functions, this organization would receive many invitation letters that need to distribute to the officials and staff and these letters are stored by category using physical files. This organization currently use a physical book called *Buku Daftar Surat* to register incoming letter and Microsoft Excel to store and categorize the file, but this method is inefficient as it is time-consuming and gives hassle to the staff. In *Buku Daftar Surat*, the staff needs to write some information such as *Tarikh Penerimaan, No. Fail Kementerian Ibu Pejabat, Tarikh Surat, Daripada Siapa, Perkara* and *Dirujukkan Kepada*. All this information needs to write manually and only one staff can register it at one time. After the letter successfully registered, *PDS* staff need to assign the letter to the official in charge for them to act according to the letter.

As for file tracking, currently, they use Microsoft Excel to store file information such as *Siri Fail, Bahagian, Perkara, Hantar Kepada, Diterima Daripada* and *Tarikh Terima*. Microsoft Excel is not efficient because only one staff can access the main file. After all, the file information needs to be updated one by one at one time. Thus, *PDS* staff are having a hard

time when they want to find the location of the file because only one staff that have access to the Excel document.

Therefore, an idea came up which is to develop a web-based system called Pejabat Daerah Setiu Letter and File Management System. This system aims to be able to keep and record all the files information online and a feature where user can register letter into the online system. With this system, any PDS staff can access the system to register letters or tracking files.

1.2 Problem Statement

Pejabat Daerah Setiu (PDS) are required to register incoming letter and store it in a file for future use. Sometimes, the letters are pile up, thus leading to the staff needing to work harder and faster as only one staff at one time can register the letter. This is time consuming because PDS staff needs to write manually in a book called *Buku Daftar Surat*. Figure 1.1 shows the data that needs to be registered in the book. Then, the registered letters are assigned to an officer or stored in a file by category.

DAFTAR SUR						MENYURAT	
Number	Tarikh Penerimaan	No Fail Koresponden (No. Pejabat)	Number number yang lain	Tarikh surat	Dependa siapa	Pekerja	Disiapkan oleh
1	14/12/21	MOPN-TR-000-1/90-1		13/12/21	maje Perjuluas Tamak Nop 20	Program Perancangan Persekitaran Taman Rekreasi Jhu Watehnd	1/4/13 - Mubarakat
2		TI 62/06/204 -574		12/12/21	Tersesgarny INC	Disputasi ke Aduan Pkg dgn "Gantian Mamban Kile asai"	1/10/1 - Jemputan
3		VEPL 01/21/12		12/12/21	Reed kishool Out Logtop	Tertima Penerimaan Pengerusi Perak Keshonal DAN Logtop long Boleh Diketahui 2021	1/2/16 - Perit (Penerima)
4				25/12/21	Sekendar D. Yus	Pelaksanaan Jemputan	1/2/16 - Perit (Penerima)
5				25/12/21	Amir mamb D1. Anton	Pelaksanaan Jemputan	1/2/16 - Perit (Penerima)
6		AEB (KOPAN) 2/02/205		16/8/21	Amir mamb D1. Anton	Pelaksanaan Jemputan	1/2/16 - Perit (Penerima)
7		SUR-TR-000/246 202-020		12/12/21	SUR-TR (KOPAN)	Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
8		SUR-TR-000/246 202-020		12/12/21	SUR-TR	Surat kemasukan Sekolah Peringkat 14/12/21 Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
9		SUR-TR-000/246 202-020		12/12/21	SUR-TR	Surat kemasukan Sekolah Peringkat 14/12/21 Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
10		SUR-TR-000/246 202-020		12/12/21	SUR-TR	Surat kemasukan Sekolah Peringkat 14/12/21 Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
11		SUR-TR-000/246 202-020		12/12/21	SUR-TR	Surat kemasukan Sekolah Peringkat 14/12/21 Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
12				12/12/21	SPK 10 Baharu Baharu	Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
13				12/12/21	SPK 10 Baharu Baharu	Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
14				12/12/21	SPK 10 Baharu Baharu	Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)
15				12/12/21	SPK 10 Baharu Baharu	Menerima kemasukan untuk pelaksanaan pembangunan Kuching Kuching kejuruan di Perak 14/12/21 Tamat selaya (Kuching) 14/12/21	1/17/16 - Perit (Penerima)

Figure 1.1 Buku Daftar Surat

The current system they use to keep track of the location of each file is using Microsoft Excel which the staff needs to key in the file information and change the data manually. By using this Excel file, only one worker can access to Excel document at one time since not everyone has the updated Excel file. *PDS* staff are having a hard time to find the file because the file location is not fixed due to the file being moved from one place to another place.

1.3 Project Aim and Objectives

Pejabat Daerah Setiu Letter and File Management System aims to help *PDS* staff to work efficiently and able to manage the file tracking and letter registration via online. Specifically, the objectives of this project are stated as below:

- a. To design a user-friendly web-based system that will store files and letters information.
- b. To perform CRUD (create, read, update, and delete) function on the files and letters records.
- c. To evaluate the functionality and usability of the web-based system.

1.4 Project Scope

The scope of the Pejabat Daerah Setiu Letter and File Management System is:

- a. This web-based system is developed for *Pejabat Daerah Setiu (PDS)*, Terengganu.
- b. This web-based system only collects and store data for file and letter information of *PDS*.
- c. This web-based system only accessible to *PDS* staff and admin and need to login and logout via online.

1.5 Project Methodology

Software methodology that will be used for the development of Pejabat Daerah Setiu Letter and File Management System is Waterfall methodology. The waterfall methodology is

a linear project management approach in which the project's needs are first obtained from stakeholders and customers, after which a sequential project plan is made to meet those requirements (ProjectManager, n.d). In this methodology, it consists of five phases which are requirements, design, implementation, verification, and maintenance. Figure 1.2 shows the illustration of the Waterfall methodology.

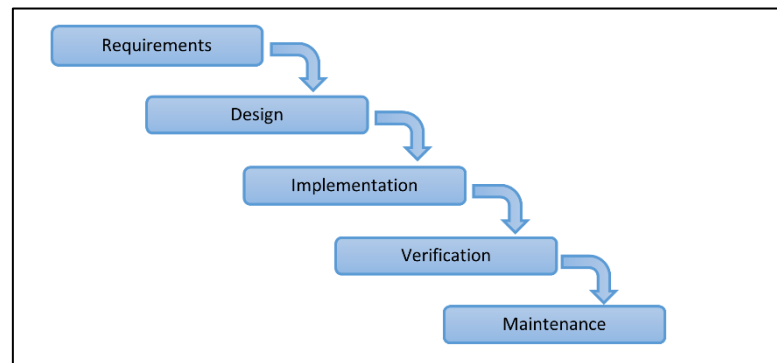


Figure 1.2 Waterfall Methodology Phases (ProjectManager, n.d)

a. Requirement

During the requirement phase, we would observe the problem, collect the *PDS*'s user requirements and plan on how to find the solution. Other than that, we also identified the project's risks, assumptions, and timeline. The initial documentation of *PDS*'s user requirements and list of priorities also will be determined in this phase.

b. Design

In the design phase, we need to design a database, create a prototype of the user interface (UI) and user experience (UX). Other than that, we need to determine to use which programming language and framework.

c. Implementation

The implementation phase focuses on converting all the design documentation (prototype) that we have created into real software. By the end of this phase, a functional product needs to be completed and we able to test the functionality of the system. However, it will go through many revisions before we release the final product to the *PDS*.

d. Verification

During the verification phase, we focus on the functionality and quality of the developed system. The system will be gradually tested after the system goes through an improvement and has fully met *PDS*'s requirements.

e. Maintenance

In the maintenance phase, we make some improvements or modifications to the system if needed. Other than that, we also identify bug and fix any error that may occur.

1.6 Expected Outcomes

The outcome of this project is expected to be a fully functional Pejabat Daerah Setiu Letter and File Management System. The main features of this web-based system are the staff able to track the location of the file easily and able to register incoming letter quickly via online. The outcome of this project, the system should be able to ease the staff work and reduce time so that they can deliver their work efficiently and effectively by replacing the old system (Excel file and manual book) with an online web-based system.

1.7 Significance of Project

The significance of this project is *PDS* staff able to register incoming letter quickly via online. Next, *PDS* staff able to track the location of the file easily and lastly *PDS* staff able to work efficiently as all their task can be done without hassle.

1.8 Project Schedule

Please refer to Appendix A.

1.9 Summary

Pejabat Daerah Setiu Letter and File Management System is a web-based system that will be used by *Pejabat Daerah Setiu (PDS)* to manage letter registration and file tracking. Throughout this project, the Waterfall methodology will be implemented. The current system *PDS* staffs used is quite inefficient especially when they need to carry out their task quickly. So, the system will provide two main functions which is letter registration and file tracking. Thus, with the help of the Pejabat Daerah Setiu Letter and File Management System, the staff would be able to perform their task efficiently.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will cover about the details of the existing system available on the website. The similar systems have been evaluated and will be compared between each system. There are three existing systems that are related to this project. The three existing are SIPAS, efail, and eSurat. Explanations of these systems with their functions and screenshots are also included here.

2.2 Existing Systems

2.2.1 SIPAS

Sistem Informasi Pengelolaan Arsip Surat (SIPAS) is a web-based incoming and outgoing letter registration system based in Indonesia. This system is suitable to use as an administrative tool for managing incoming and outgoing letter in every process of the correspondence information system (Raja Putra Media, n.d).

Figure 2.1 shows the dashboard of the SIPAS. The dashboard displays the statistic of the total of units/sections, a total of incoming letters, and total of outgoing letters.

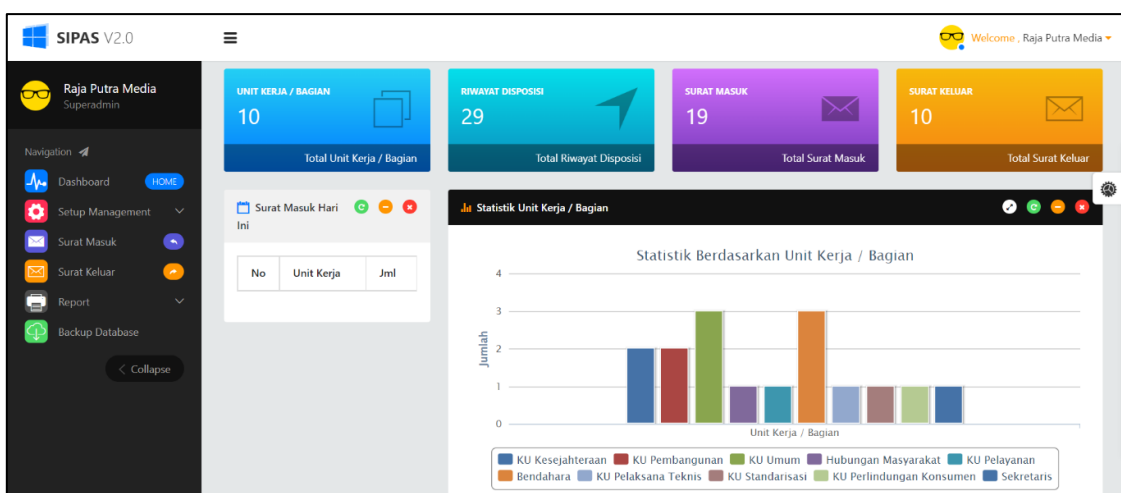


Figure 2.1 SIPAS dashboard

Figure 2.2 shows that SIPAS can perform CRUD functions on letter details. The letter details consist of date and time, letter series, letter type, sender, and status.

No	Tanggal dan Jam	Nomor Surat	Sifat Surat	Pengirim	Disposisi Saat Ini	Action
1	2020-05-14 / 22:05:48	DPUJ.2020/IV/762-1	Penting	Dinas PU	Wait disposisi	[Edit] [Delete]
2	2020-05-14 / 22:05:52	KCV.13/2020/14-14	Penting	CV Karya	Wait disposisi	[Edit] [Delete]
3	2020-05-15 / 18:05:21	PRA.13/2020/14-22	Biasa	UPT Karang Sari 1	KU Umum	[Edit] [Delete]
4	2020-05-14 / 16:05:49	HTM.13/2020/16-4	Penting	CV HTM Bangun	Bendahara	[Edit] [Delete]
5	2020-05-13 / 18:05:58	NAC.11/2020/14-9	Rahasia	NAC Daily	Wait disposisi	[Edit] [Delete]
6	2018-03-05 / 12:03:40	201803/MAS/11-001	Biasa	PRO Gunung Simpang	KU Kesejahteraan	[Edit] [Delete]
7	2018-03-05 / 12:03:02	201803/MAS/10-001	Segera	CV Karya	Bendahara	[Edit] [Delete]
8	2018-03-05 / 12:03:29	201803/MAS/08-001	Penting	RED Community	Hubungan Masyarakat	[Edit] [Delete]

Figure 2.2 Interface for CRUD function

Figure 2.3 shows one of the functions of this system which is adding new letter. Users need to key in all the details needed and save them.

Figure 2.3 Interface for adding incoming letter

Figure 2.4 shows the Report webpage for SIPAS. Here, the user needs to set when the letter's date is, and the system will display it in a list.

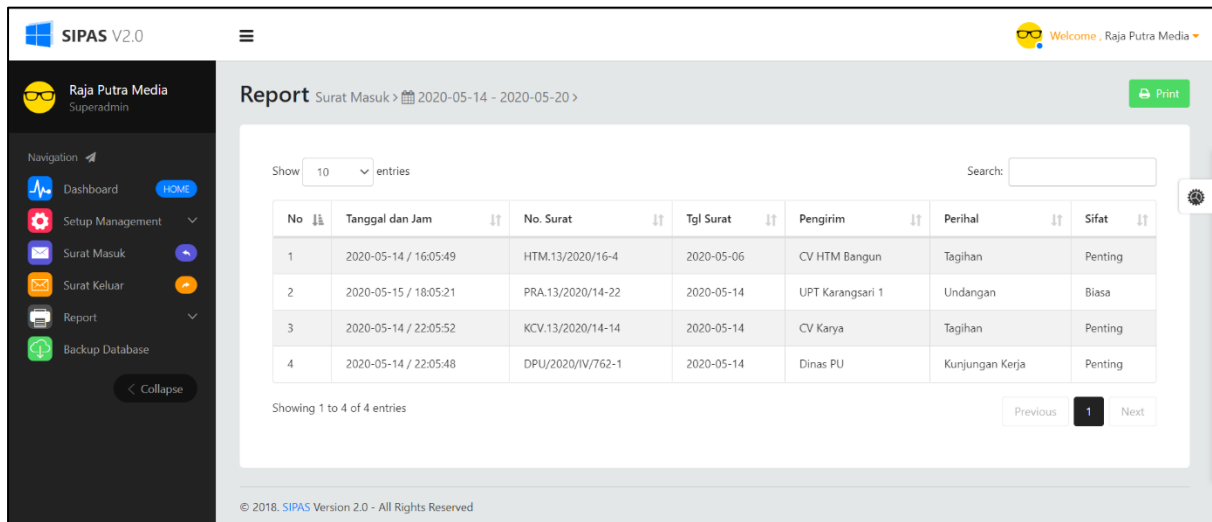


Figure 2.4 Interface for report

2.2.2 efail

efail is a web-based file management system based in Malaysia. This system can store files that can be sorted by cabinet (Kabinet) and level (Aras). Each cabinet and level have a different category of the store's file. Figure 2.5 show the list of the cabinet and level. efail system will ask the user to choose which level of cabinet they want to see and edit.



Figure 2.5 List of cabinet and level

In Figure 2.6, efail system allows the user to perform search function. The user needs to enter a keyword in the search box, and the system will display all the possible results of the file. The user can click on the file name, for example, *SISTEM PENGURUSAN ISO*, then the system will display the details of the file.



Figure 2.6 Interface for search function

In Figure 2.7, efail system allows the admin to perform CRUD function on the user's details.



Figure 2.7 Interface for CRUD function on user details

2.2.3 eSurat

eSurat is a web-based letter record system based in Malaysia that function as letter registration (Upah Buat Sistem PHP, 2013). This system can perform CRUD (create, read, update and delete) function on letter details. In Figure 2.8, eSurat allows users to register incoming letters into the system. The user needs to fill in all the required details such as the received date, reference number, title, and sender.

The screenshot shows a web form titled "Kemasukan Rekod Surat". The form contains the following fields and controls:

- Tarikh Surat : (with a calendar icon)
- Tarikh Surat Diterima : (with a calendar icon)
- No.Rujukan Surat :
- Tajuk Surat :
- Pengirim Surat :
- No.Fail Surat Disimpan :
- Tarikh Surat Keluar Dari Pejabat Pengarah/Timbangan : (with a calendar icon)
- Pihak Kepada Surat Diminitkan :
- Arahan Minit :
- Catatan :

At the bottom of the form, there are two buttons: "Hantar" (blue) and "Semula" (red).

Figure 2.8 Interface for letter registration

In Figure 2.9, eSurat allows the user to perform CRUD function on the letter details.

Users can search letters by using the search box.

Senarai Surat

Papar: 10 rekod Carian:

Bil	Tarikh Surat	Tarikh Surat Diterima	Tajuk Surat	Pengirim Surat	Status	Tindakan
1	02-04-2014	03-04-2014	PANDUAN MENUBUHKAN PERSATUAN PENDANDAN ANJINGJOHOR BAHRU	LAU KOK GUAN LIAN @ ASSOCIATES	Belum Disemak	 
10	01-01-1970	01-01-1970			Belum Disemak	 
2	28-03-2014	03-04-2014	PENYATA TAHUNAN 2013	PERSATUAN BEKAS PASUKAN KESELAMATAN NEGARA MALAYSIA CAWANGAN JALAN MARIAM, MUAR	Belum Disemak	 
3	03-01-2017	01-01-1970			Belum Disemak	 
4	30-12-2016	04-01-2017	EDARAN TRIBUN PUTRA	COSSCOMM	Belum Disemak	 
5	15-02-2018	06-02-2018	testing jpp	pos	Belum Disemak	 

Figure 2.9 Interface for CRUD function on letter details

In Figure 2.10, the system displays the detail of the letter when the user clicks on the number in the *Bil* column.

Selamat Datang Ke Sistem Rekod Surat

Rekod Surat

Tarikh Surat	28-03-2014
Tarikh Surat Diterima	03-04-2014
No.Rujukan Surat	
Tajuk Surat	PENYATA TAHUNAN 2013
Pengirim Surat	PERSATUAN BEKAS PASUKAN KESELAMATAN NEGARA MALAYSIA CAWANGAN JALAN MARIAM, MUAR
No.Fail Surat Disimpan	PPM/JHT362/55-534
Tarikh Surat Keluar	03-04-2014
Pihak Kepada Surat Diminitkan PP2	
Arahan Minit	SILA REKODKAN
Catatan	
Direkod Oleh	Nur Asma
Bahagian	Bahagian Kewangan
Status Tindakan	Belum Disemak

Tutup

Figure 2.10 Details of the letter

2.3 Comparison of Reviewed Systems

The three reviewed systems – SIPAS, efail, and eSurat will be compared based on their functionality and availability in the following features:

- a. File details management
- b. Letter details management
- c. Dashboard
- d. Search box
- e. Generate report

The first and second features are quite similar which are file detail management and letter detail management. The three reviewed systems able to perform CRUD on the file and letter details. These two features are important as it is the aim of these systems which is to manage files and letters. However, the reviewed systems do not have both features in one system. The existing systems only have either file detail management or letter detail management.

Next, the dashboard and search box. A dashboard is very useful when the system can show the statistics of the data that exist in the system. The search box is also important especially when the user needs to find a certain file or letter. The three reviewed systems able to perform this function and able to list all the desired result based on the keyword that the user enters.

The last feature is generated report. The three systems able to show the statistic of data of the file and letter that has been added into the system. However, only one system that have this function which is SIPAS.

Table 2.1 Summary of Existing systems comparison

Features	SIPAS	efail	eSurat
File details management	Does not have a file management function. Only for incoming and outgoing letter.	The user interface for CRUD function is easy to understand and they can use it well.	Does not have a file management function. Only for incoming letter registration.
Letter details management	The user interfaces for CRUD function are user friendly.	Does not have letter management. Only for file management.	The system has a simple user interface and is easy to understand.
Dashboard	The system displays the statistic of the data for the system.	Only show the list of the file.	Only show the list of letters.
Searching function	The search functions can find and display all the details of the letter.	The search functions can find the file but only display a few details of the file.	The search functions can find and display all the details of the letter.
Report	The system can generate a report and print any registered letter that the user needs.	The system does not have this function.	The system does not have this function.

2.4 Proposed System

Pejabat Daerah Setiu Letter and File Management System is a proposed system that will be implemented by adopting some of the functions and features that exist in the three reviewed systems. This system will have two main functions which are incoming letter registration and file management and can perform CRUD on the letters and files.

There are a few features that will be included in this proposed system such as a dashboard, a search function, and generate report. In the dashboard, the system should be able to display the statistic of the registered letter and file category. As for the search function, the user does not need to go to another page when they want to search file or letter. The search box should be situated at the top of the list file or letter. Lastly, generate report function will be added to the system. The system will display a list of files or letters with a certain date or section and be able to print it.

2.5 Summary

In conclusion, this chapter explained the functionality of the reviewed systems which are, SIPAS, efail, and eSurat. All these systems have been reviewed in detail to understand all the features and be compared in several criteria between the systems. This comparison will be helpful for Pejabat Daerah Setiu Letter and File Management System as we can make some adoption and improvement to the system.

CHAPTER 3: REQUIREMENT ANALYSIS AND DESIGN

3.1 Introduction

Requirement analysis and design is an important phase before developing the web-based system. It is crucial to elaborate on the task and procedures beforehand to outline and visualize the interaction in the system. In this chapter, user requirements and the analysis will be used for designing the interface for Pejabat Daerah Setiu (PDS) Letter and File Management System. Waterfall methodology has been chosen to be used for this web-based system since this project is a small project and have a fixed requirement. Waterfall methodology is a sequential process that requires projects to be completed in order (Shevchuk, n.d.). There are five phases of Waterfall methodology which are requirements, design, implementation, verification, and maintenance. The requirements and design phase were covered in this chapter.

3.2 Requirement phase of Waterfall methodology

The first phase of Waterfall methodology is requirement phase which in this project, user requirement was acquired by conduct online interview with Pejabat Daerah Setiu (PDS) staff.

3.2.1 User Requirement

An online interview was conducted to gather data and views from the target user to ensure this system fulfilled their requirements. The interview has been done with two staff of PDS via online platform Webex Meeting with their consent. The consent form can be referred in Appendix C.

3.2.2 Interview Summary

The questions for the interview can be referred in Appendix B. This interview was conducted with two Pejabat Daerah Setiu (PDS) staff via an online platform which is Webex Meeting. These two staff are the person in charge for managing letters and file's location.

Before the interview started, they have been briefed about the consent form and give their consent to participate in the interview. Since this interview session was conducted online, the interview session has been recorded for future use. The interview question consists of 12 questions about their job description and how they do their work.

From the interview, it can be summarized that they work as Pembantu Tadbir and was given the task to manage letters and files. The staff has told that they need to register each of the incoming letters in *Buku Daftar Surat* for record purposes. For each letter, they need to minute it to the officers. However, they are having some difficulty when doing their task which is time-consuming as there is too much information that needs to write in the registration book. The information that they need to record in the registered book are *Nombor, Tarikh Penerimaan, No. Fail Kementerian, Tarikh Surat, Daripada Siapa, Perkara* and *Dirujukkan Kepada*.

The registered letter needs to be arranged in a file by category. If PDS staff want to find a certain letter, they need to find it through a file. This becomes too much work because it is difficult to find a letter in each file in the file room. They said that they have been using Microsoft Excel to track the location of the file. However, only one person has this access since only one person manages the Excel document but there are four to five staff who are in charge of this letter and file management. They use this method because it is the only solution that they can do to help them in file tracking.

When they have been proposed to have a new system, they requested some features for the search function. The feature that they want is they can search the file by keying in a keyword such as a file title or file series. Lastly, as for report function, it should be useful if the system is able to display the letter or file that they searched.

3.3 Design

In this phase, an initial design of the proposed project is created. Part of the designing phase is to create an activity diagram, use case diagram, sequence diagram, class diagram, and wireframe for the user interface interaction to explain the flow of the system. Before moving on to the implementation phases, this phase is crucial because the outlines of how the projects interact to give the developer an idea of how the whole thing will work.

3.3.1 Activity Diagram

Activity diagram is used to describe the sequence of the process actions and flow control in the system. The homepage consists of two options which are Manage Letter (*Pengurusan Surat*) and Manage File (*Pengurusan Fail*). The Manage Letter page is consisting of Letter Registration (Daftar Masuk Surat), Letter Minute (*Minit Surat*) and Letter List (*Senarai Surat*) button for users to choose tasks. As for Manage File, it consists of Add File (*Tambah Fail*) and File List (*Senarai Fail*). For example, if the user chooses Add File, the website will display a form for user to fill in all the details of the files. After that, the website will show the File List page to the user after they successfully added the file. Additionally, every page will be provided with a home button to return to the home page. The activity diagram of the proposed web-based system is shown in Figure 3.1.

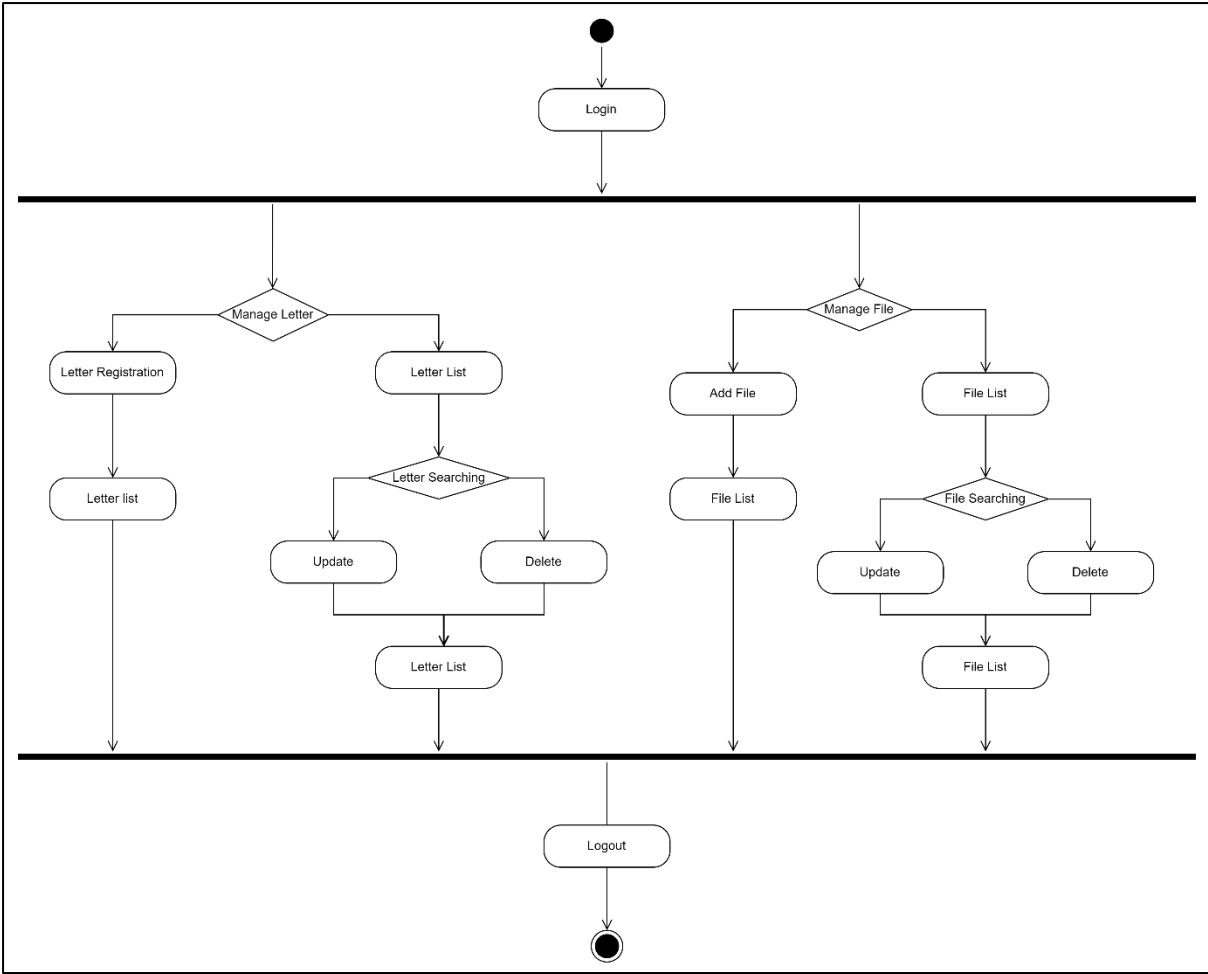


Figure 3.1 Activity Diagram

3.3.2 Use Case Diagram

Figure 3.2 shows the simplified and graphical presentation of the functional view of the PDS Letter and File Management System.

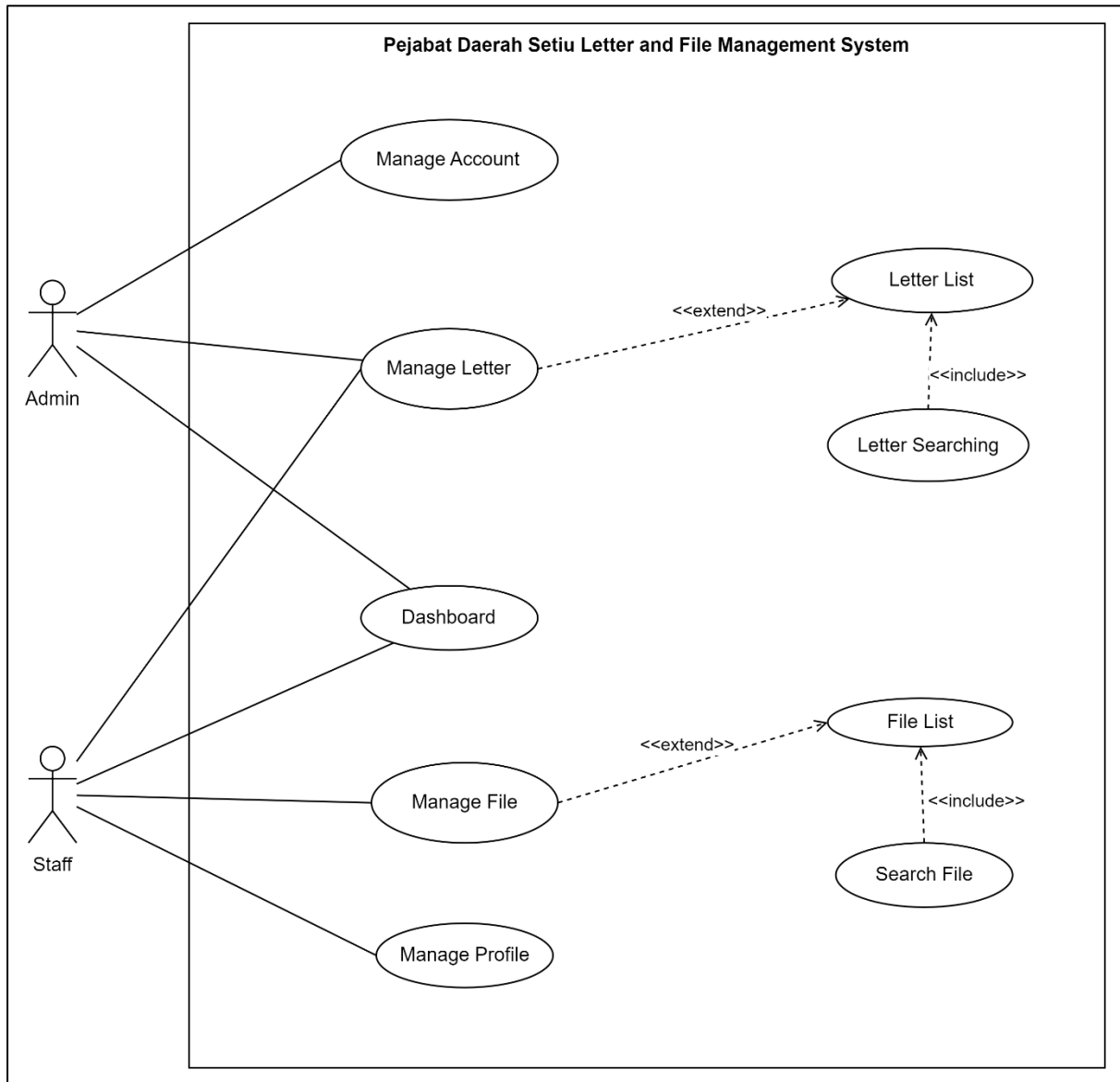


Figure 3.2 Use Case Diagram

3.3.3 Use Case Specifications

Use Case 1: Manage Account

Table 3.1 Use Case Specification for Manage Account

Use Case ID	1
Use Case Name	Manage Account
Actor	Admin
Short Description	An admin able to manage staff account.
Pre-Condition	The admin must be logged-in into the system.
Post-Condition	The staff can access their account.
Main Flow	<ol style="list-style-type: none">1. Admin can create new user account (Staff).2. Admin can update user information.3. Admin can delete user accounts.
Alternative	N/A
Exception Flow	N/A

Use Case 2: Dashboard

Table 3.2 Use Case Specification for Dashboard

Use Case ID	2
Use Case Name	Dashboard
Actor	Staff
Short Description	The system displays option to the staff either to manage letter or manage file.
Pre-Condition	The staff must be logged-in into the system.
Post-Condition	The system displays page for manage letter or manage file.

Main Flow	<ol style="list-style-type: none"> 1. Staff may choose to manage letter. 2. Staff may choose to manage file.
Alternative	N/A
Exception Flow	N/A

Use Case 3: Manage Letter

Table 3.3 Use Case Specification for Manage Letter

Use Case ID	3
Use Case Name	Manage Letter
Actor	Staff
Short Description	A staff manage letter by do letter registration (add letter), do letter minute and view letter list.
Pre-Condition	The staff must be logged-in into the system.
Post-Condition	The staff has successfully managed letter.
Main Flow	<ol style="list-style-type: none"> 1. Staff may choose either want to do letter registration or view letter list. 2. Staff register new letters into the system. 3. Staff able to do letter minute. 4. Staff may view the letter list. 5. Staff can search letter.
Alternative	N/A
Exception Flow	N/A

Use Case 4: Manage File

Table 3.4 Use Case Specification for Manage File

Use Case ID	4
Use Case Name	Manage File
Actor	Staff
Short Description	A staff can manage file.
Pre-Condition	The staff must be logged-in into the system.
Post-Condition	The staff has successfully managed file.
Main Flow	<ol style="list-style-type: none">1. Staff can create new file.2. Staff can view file list.
Alternative	N/A
Exception Flow	N/A

Use Case 5: Letter Minute

Table 3.5 Use Case Specification for Letter Minute

Use Case ID	5
Use Case Name	Letter Minute
Actor	Staff
Short Description	A staff do letter minute to the registered letters.
Pre-Condition	The letters must be successfully registered.
Post-Condition	The system displays the letter information.
Main Flow	<ol style="list-style-type: none">1. Staff do letter minute by assigned the letters to the officers.
Alternative	N/A
Exception Flow	N/A

Use Case 6: Letter List

Table 3.6 Use Case Specification for Letter List

Use Case ID	6
Use Case Name	Letter List
Actor	Staff
Short Description	The system displays the list of the letters and staff able to delete or update letter information.
Pre-Condition	The letters are stored in the system.
Post-Condition	The system displays letter list information.
Main Flow	1. Staff may choose either to update, delete or view letters.
Alternative	N/A
Exception Flow	N/A

Use Case 7: Letter Searching

Table 3.7 Use Case Specification for Letter Searching

Use Case ID	7
Use Case Name	Letter Searching
Actor	Staff
Short Description	Staff able to search letter by entering keyword.
Pre-Condition	The letters are stored in the system.
Post-Condition	The system displays the letter information based on staff keywords.
Main Flow	1. Staff can search letter by entering keywords. 2. The system displays the searched letter information.
Alternative	N/A

Exception Flow	N/A
-----------------------	-----

Use Case 8: File List

Table 3.8 Use Case Specification for File List

Use Case ID	8
Use Case Name	File List
Actor	Staff
Short Description	The system displays the list of the files and staff able to delete or update file information.
Pre-Condition	The files are stored in the system.
Post-Condition	The system displays file list information.
Main Flow	1. Staff may choose either to update, delete or view file.
Alternative	N/A
Exception Flow	N/A

Use Case 9: File Searching

Table 3.9 Use Case Specification for File Searching

Use Case ID	9
Use Case Name	File Searching
Actor	Staff
Short Description	Staff able to search file by entering keyword.
Pre-Condition	The files are stored in the system.
Post-Condition	The system displays the files information based on staff keywords.
Main Flow	1. Staff can search file by entering keywords.

	2. The system displays the searched file information.
Alternative	N/A
Exception Flow	N/A

3.3.4 Sequence Diagram

Sequence diagram is a Unified Modeling Language (UML) that views the interactions arranged between an object in time sequences. The sequence diagram for this system is shown in Figure 3.3, Figure 3.4 and Figure 3.5.

i. Sequence diagram for Login

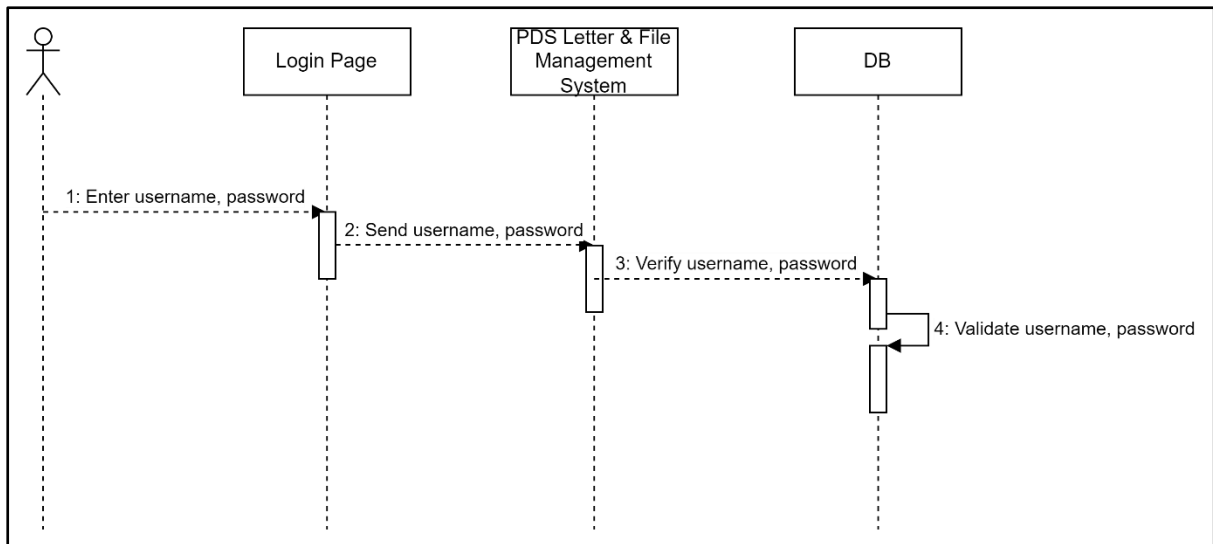


Figure 3.3 Sequence diagram for Login

ii. Sequence diagram for Manage Letter (*Pengurusan Surat*)

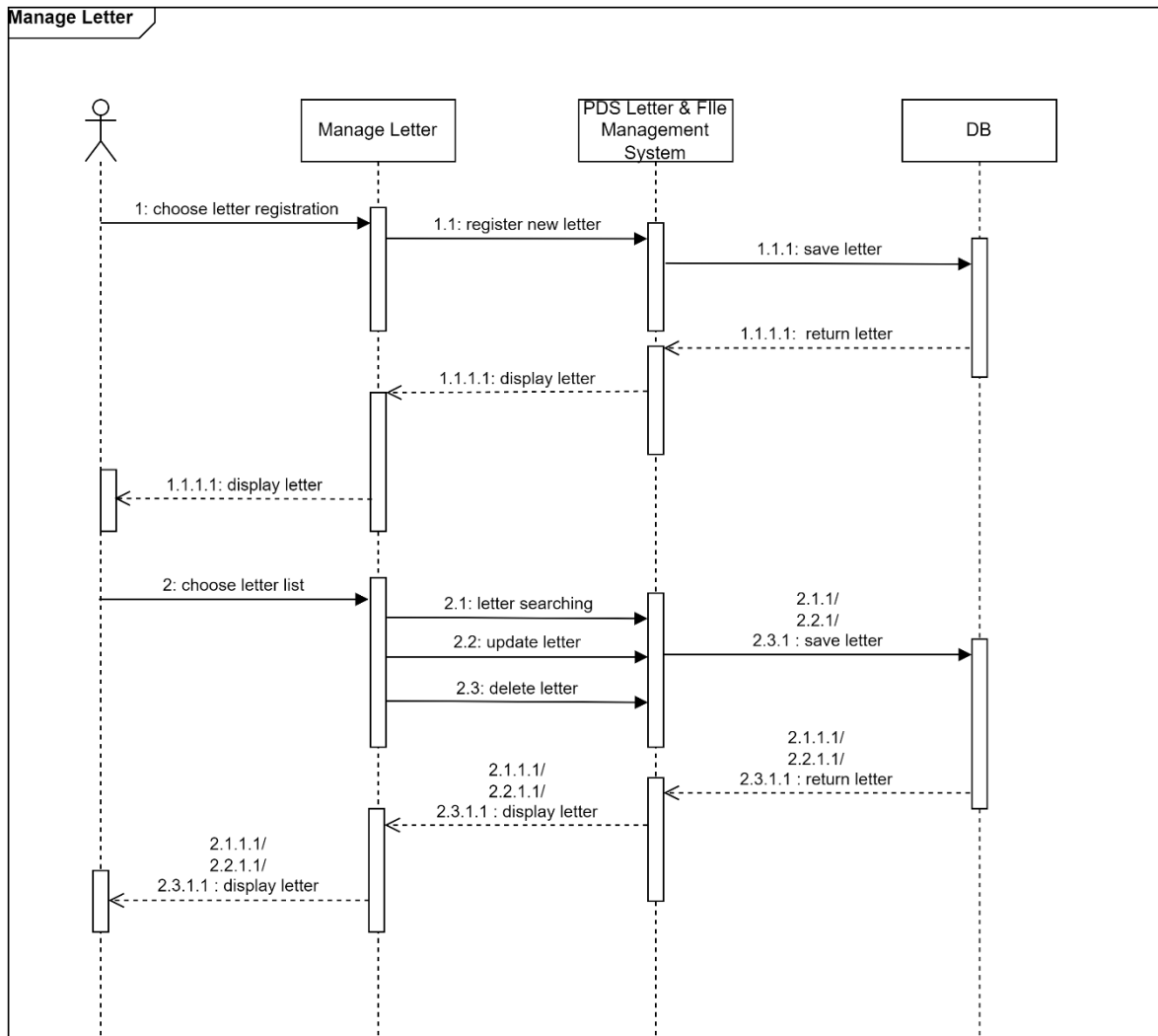


Figure 3.4 Sequence diagram for Manage Letter (Pengurusan Surat)

iii. Sequence diagram for Manage File (*Pengurusan Fail*)

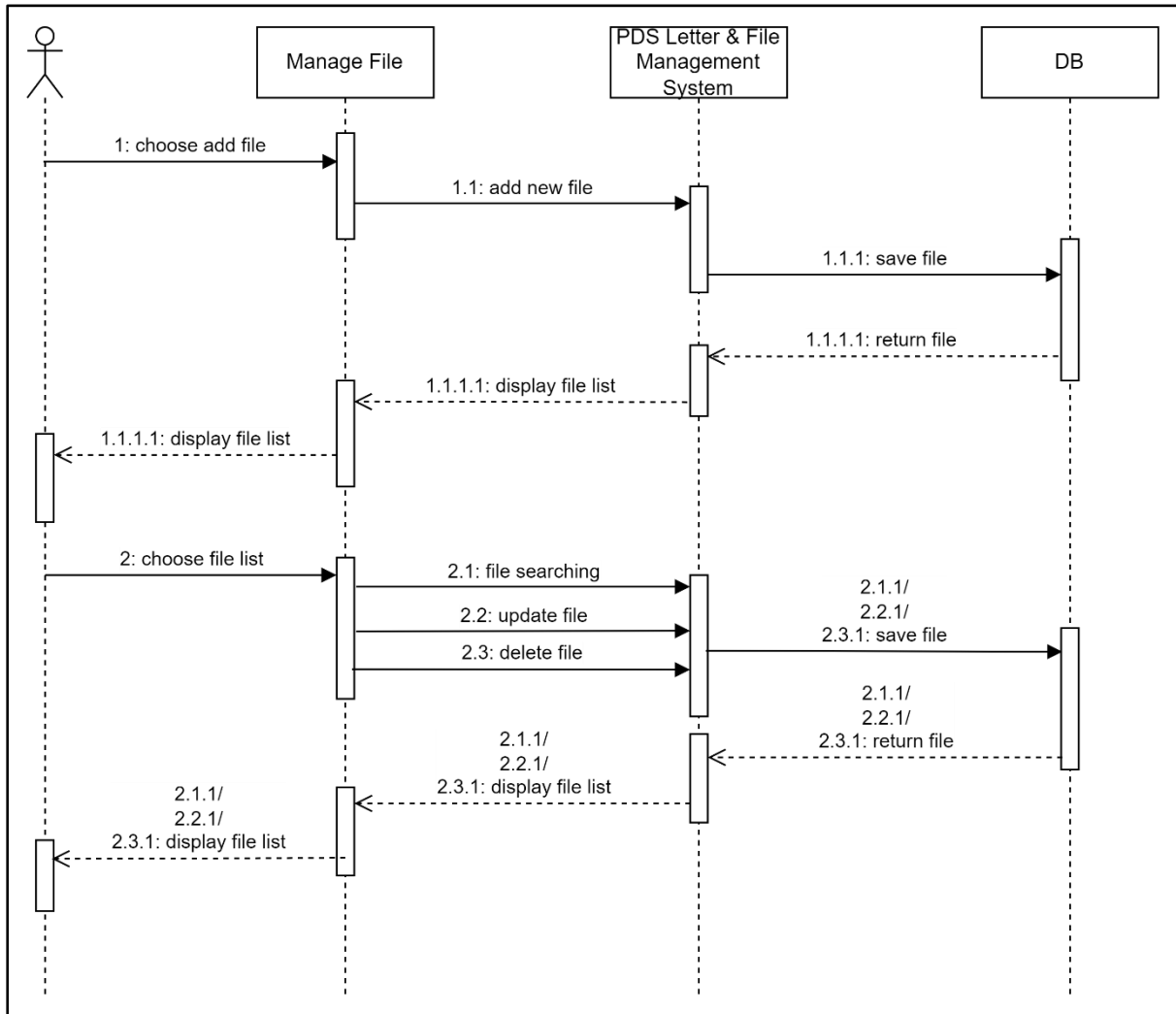


Figure 3.5 Sequence diagram for Manage File (Pengurusan Fail)

3.3.5 Class Diagram

The class diagram is the best method to show a detailed structure of the web-based system. The class diagram of this web-based system is illustrated in Figure 3.6.

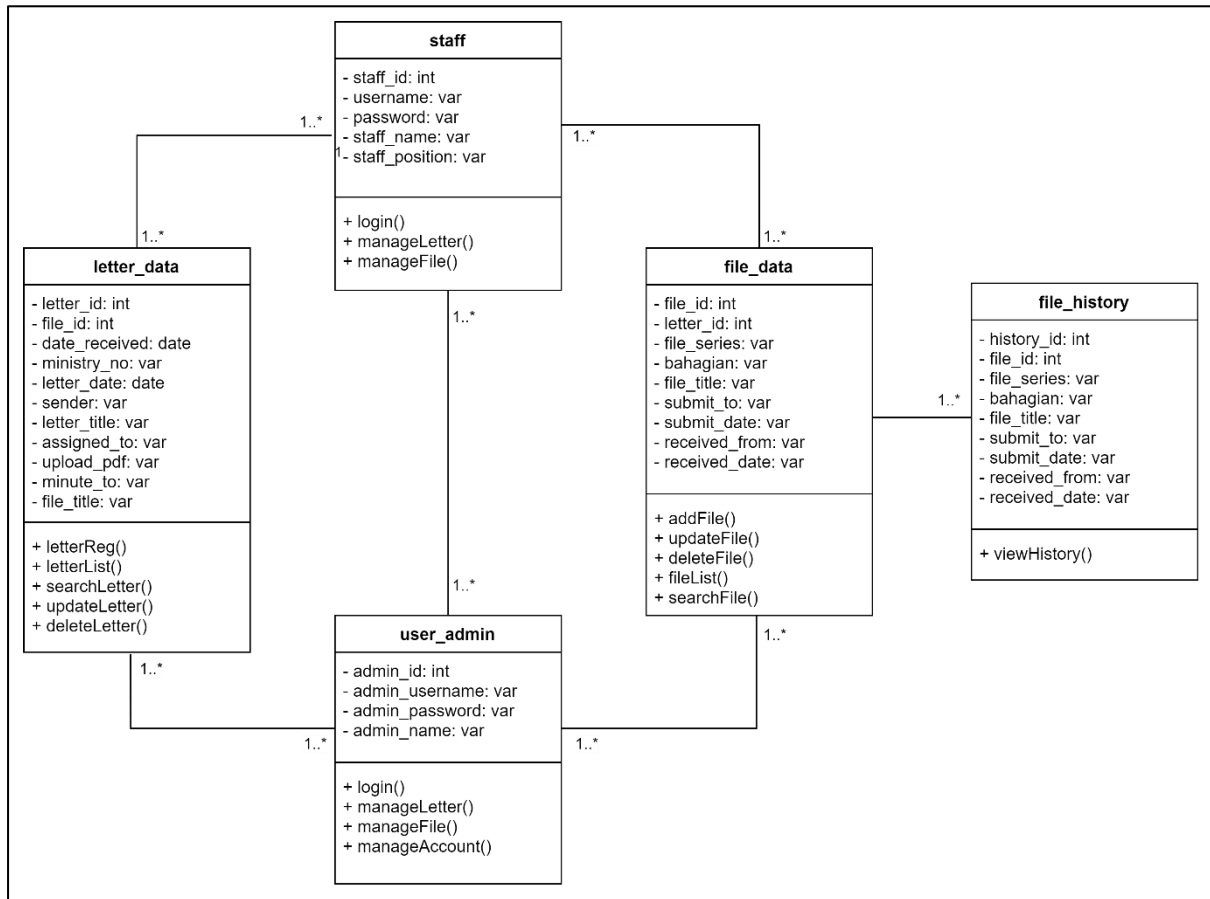


Figure 3.6 Class Diagram

3.3.6 Wireframes

Figure 3.7 shows the Login page of Pejabat Daerah Setiu Letter and File Management System. In this page, user need to enter username and password to login into the system.

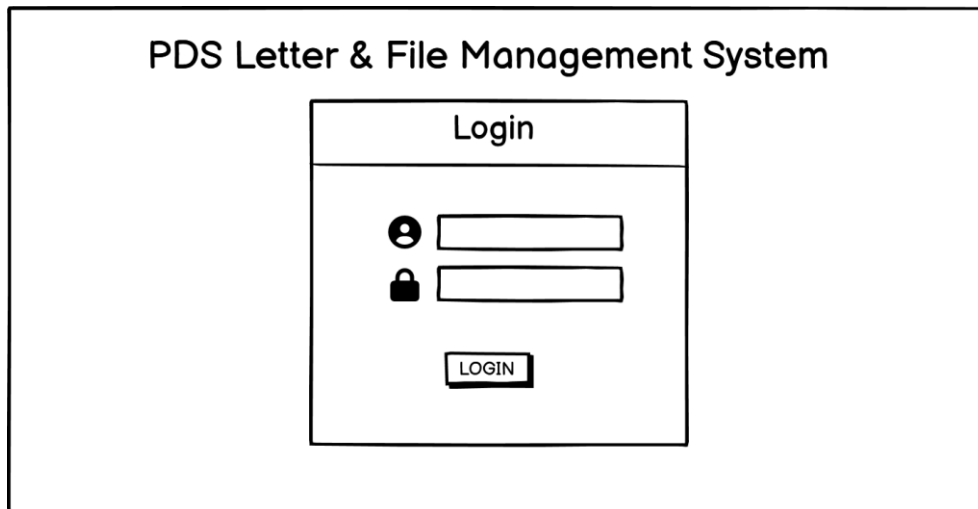


Figure 3.7 Login page

The Homepage of the system in the Figure 3.8 has a navigation bar where user can choose either to manage letter (*Pengurusan Surat*) or manage file (*Pengurusan Fail*). User can select *Daftar Keluar* in order to logout from the system.

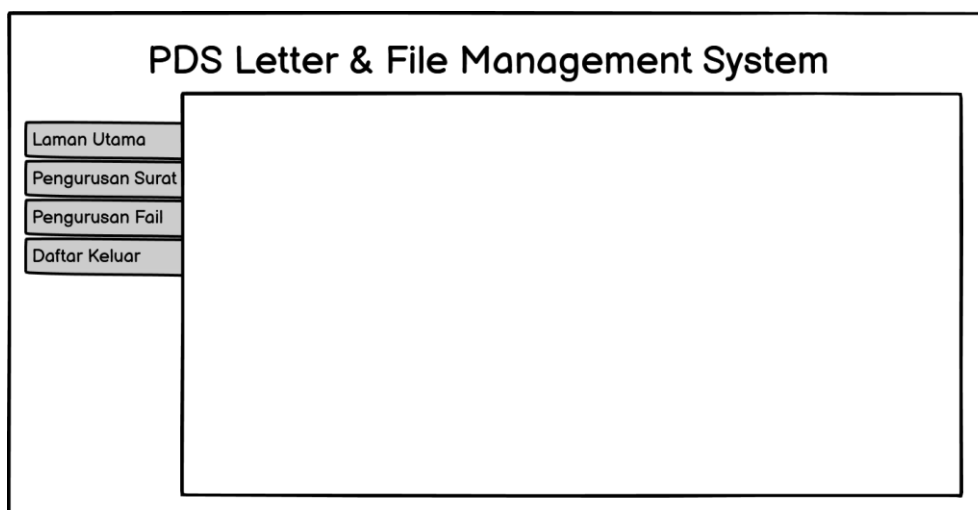


Figure 3.8 Homepage (Laman Utama)

If user choose to manage letter, the page will link it to another page which shown in Figure 3.9. The page consists of several functions such as letter registration (*Daftar Masuk*

Surat), letter minute (*Minit Surat*) and letter list (*Senarai Surat*). User can select *Daftar Masuk Surat* to register incoming letter or select *Minit Surat* to do a letter minute to each of the registered letter. User may select *Senarai Surat* to see a list of letters and do letter searching.

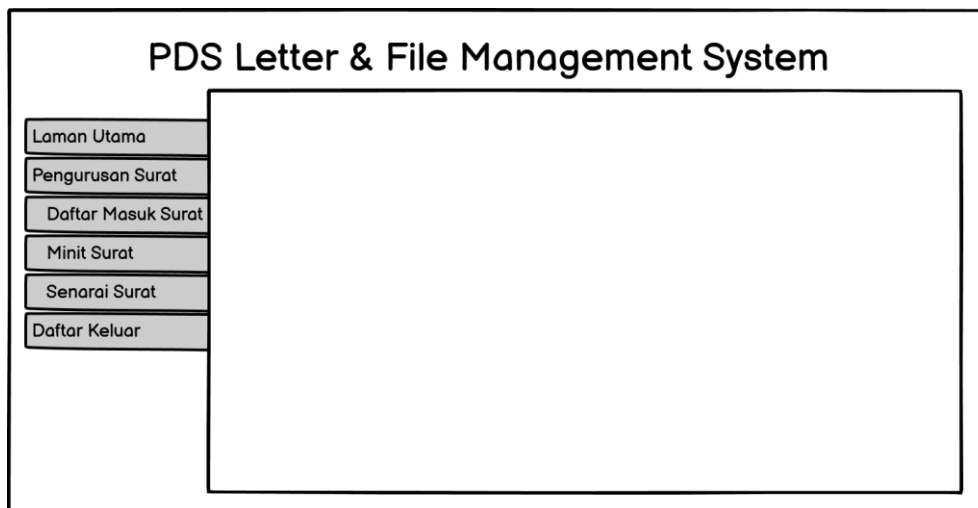


Figure 3.9 Manage Letter (Pengurusan Surat)

Figure 3.10 shows the letter registration (*Daftar Masuk Surat*) page of the system. User needs to fill in all the required information and must click *Daftar* button in order to register letter and save it into the system.

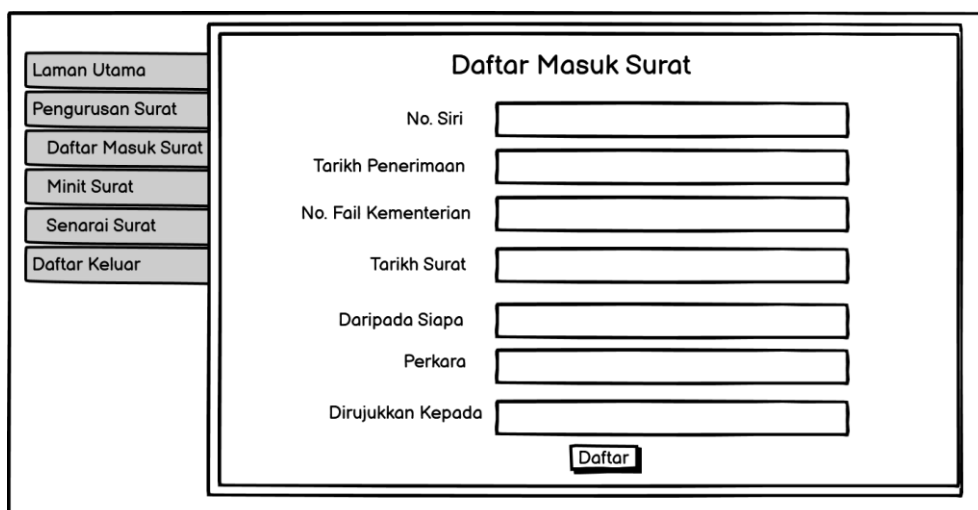


Figure 3.10 Letter Registration (Daftar Masuk Surat)

Figure 3.11 shows the letter minute (*Minit Surat*) page of the system. User needs to fill in all the required information and must click *Simpan* button in order to do letter minute and save the information.

Figure 3.11 Letter Minute (Minit Surat)

User may choose *Senarai Surat* page to see the list of the letters as shown in Figure 3.12. Furthermore, user can do letter searching by enter keyword at search bar. After the system displays the result, user can choose either to update or delete the letter information.

Senarai Surat							
Cari Surat..							
No. Siri	Tarikh Pen	No. Fail	Tarikh Surat	Daripada	Perkara	Dirujukkan	Tindakan
							Update
							Delete

Figure 3.12 Letter List (Senarai Surat)

If user choose to update letter information, the page will link it to another page which shown in Figure 3.13. At this page, user can update the letter information if anything needs to be changed and must click *Kemaskini* button to save all the changed that has been changes.

The screenshot shows a web interface for updating letter information. On the left, a sidebar menu contains the following items: 'Laman Utama', 'Pengurusan Surat', 'Daftar Masuk Surat', 'Minit Surat', 'Senarai Surat', and 'Daftar Keluar'. The main content area is titled 'Kemaskini Surat' and features seven text input fields, each preceded by a label: 'No. Siri', 'Tarikh Penerimaan', 'No. Fail Kementerian', 'Tarikh Surat', 'Daripada Siapa', 'Perkara', and 'Dirujukkan Kepada'. A button labeled 'Kemaskini' is positioned at the bottom center of the form area.

Figure 3.13 Update Letter (Kemaskini Surat)

If user choose to delete letter, the page will link it to another page which shown in Figure 3.14. At this page, user can delete the registered letter by clicking *Hapus* button.

The screenshot shows a web interface for deleting letter information. On the left, a sidebar menu contains the following items: 'Laman Utama', 'Pengurusan Surat', 'Daftar Masuk Surat', 'Minit Surat', 'Senarai Surat', and 'Daftar Keluar'. The main content area is titled 'Hapus Surat' and features seven text input fields, each preceded by a label: 'No. Siri', 'Tarikh Penerimaan', 'No. Fail Kementerian', 'Tarikh Surat', 'Daripada Siapa', 'Perkara', and 'Dirujukkan Kepada'. A button labeled 'Hapus' is positioned at the bottom center of the form area.

Figure 3.14 Delete Letter (Hapus Surat)

The page for creating new file (*Tambah Fail*) is shown in Figure 3.15. Here, user needs to fill in all the required information and must click *Simpan* button in order to create new file and save it into the system.

Figure 3.15 Add File (Tambah Fail)

Figure 3.16 shows the file list for all the files that has been created. Here, user can do file searching by enter keyword at search bar. After the system displays the result, user can choose either to update or delete the file information.

Siri Fail	Bahagian	Perkara	Hantar Kepada	Tarikh Hantar	Tindakan
					<input type="button" value="Update"/> <input type="button" value="Delete"/>

Figure 3.16 File List (Senarai Fail)

If user choose to update file information, the page will link it to another page which shown in Figure 3.17. At this page, user can update the file information if anything needs to be changed and must click *Kemaskini* button to save all the changed that has been changes.

Figure 3.17 Update File (Kemaskini Fail)

Lastly, if user choose to delete file, the page will link it to another page which shown in Figure 3.18. At this page, user can delete the existing file by clicking *Hapus* button.

Figure 3.18 Delete File (Hapus Fail)

3.4 Summary

This chapter discusses the requirement and design phase of Waterfall methodology that used to develop the PDS Letter and File Management System. This phase contains user requirement that was acquired by interviewing PDS staff and the design for the web-based system that was explained using diagrams. The diagram that was included in this chapter are activity diagram, use case diagram, sequence diagram and class diagram. The wireframes are

provided in this chapter to illustrate the web-based system interface that consists of several pages such as homepage, letter registration page and adding file page. The rest of the pages are shown in this chapter.

CHAPTER 4: IMPLEMENTATION

4.1 Introduction

In this chapter, it discusses the implementation of PDS Letter and File Management System. The implementation of this proposed system is based on the objectives and requirements mentioned in previous chapters. The user interfaces of the system are part of the physical design which centre around the functionalities of the proposed system. Furthermore, the software utilised for the proposed system development is discussed in the following sections.

4.2 Design Tools

This proposed web system was developed by using several tools which is Sublime Text, phpMyAdmin and XAMPP. Sublime text is used as a text editor for coding, which offers a clean and user-friendly interface, and syntax highlighting (Schaferhoff, N. 2022).

phpMyAdmin is a free and open-source tool for managing MySQL databases. It provides a graphical user interface to create, modify, and delete databases, tables, and data (Priya, P. 2023). phpMyAdmin also supports advanced features such as SQL queries, importing and exporting data, and user management.

To connect the web application to the database, a web server is required. XAMPP is an open-source web server solution that provides Apache, MySQL, and PHP (Ashwani, K. 2021). It allows developers to test and deploy web applications on their local machine before uploading them to a live server.

4.3 System Function

The interfaces of PDS Letter and File Management System consist of two part which is for admin user and staff user. The interface for each user will be explained throughout this section.

4.3.1 Front Page



Figure 4.1 Front Page

Figure 4.1 shows the front page of the system when user click on the link. This page consists of two option which are “Admin Login” and “Staff Login” button. If the user clicks on “Admin Login” button, the login page for admin will appear while “Staff Login” button will display the page for staff login.

4.3.2 Admin Login

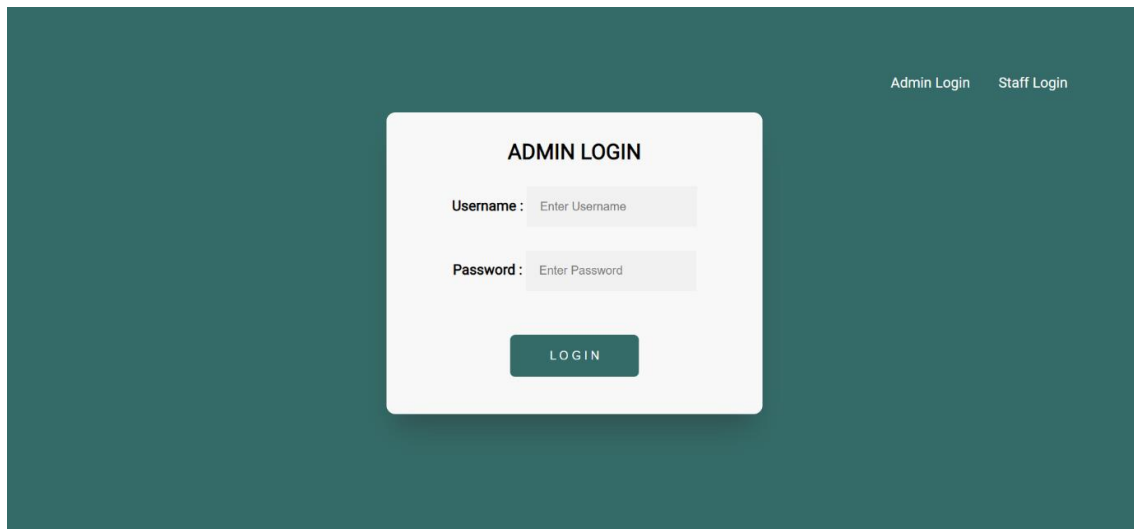


Figure 4.2 Admin Login

Figure 4.2 shows the login page for admin login. During login, user is required to input the username and password before accessing the homepage for admin. Then, the username and password input will undergo a validation process with database. If the credential input existed in the database, user will be redirected to the admin homepage. Otherwise, the user is required to try again with a correct username or password.

4.3.3 Admin Homepage

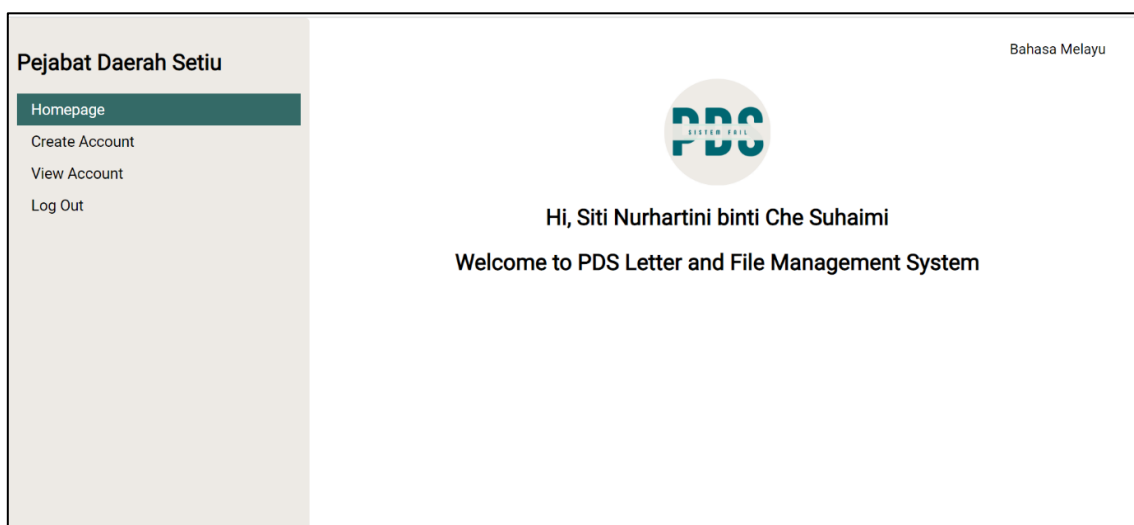
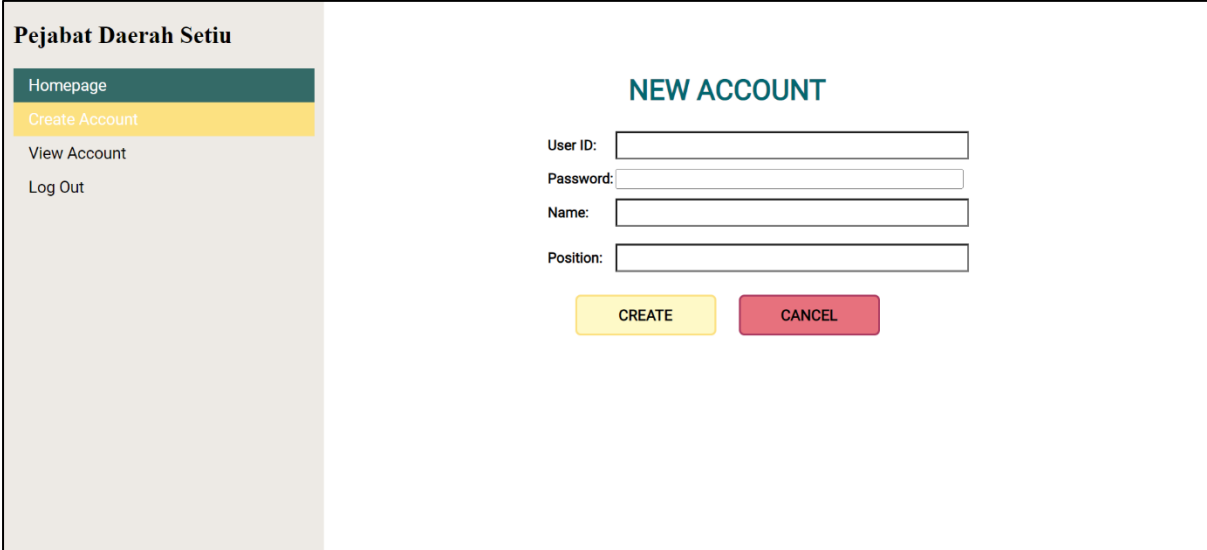


Figure 4.3 Admin Homepage

In Figure 4.3, it shows the homepage for Admin part where admin can choose from the navigation sidebar whether they want to create account or view account. If admin clicks on the “Create Account”, the system will redirect it to the create account page and if admin clicks on the “View Account”, the system will redirect it to the view account page.

4.3.4 Create Account



The screenshot displays the 'NEW ACCOUNT' form within the 'Pejabat Daerah Setiu' application. On the left, a sidebar menu lists 'Homepage', 'Create Account' (highlighted in yellow), 'View Account', and 'Log Out'. The main content area features the title 'NEW ACCOUNT' in blue. Below the title are four input fields: 'User ID:', 'Password:', 'Name:', and 'Position:'. At the bottom of the form are two buttons: a yellow 'CREATE' button and a red 'CANCEL' button.

Figure 4.4 Create Account

Figure 4.4 display the interface for admin creating new account for staff. Admin is required to fill in all the credentials and clicks on the “CREATE” button to create the new account. Admin can click “CANCEL” button if they want to cancel it.

4.3.5 View Account

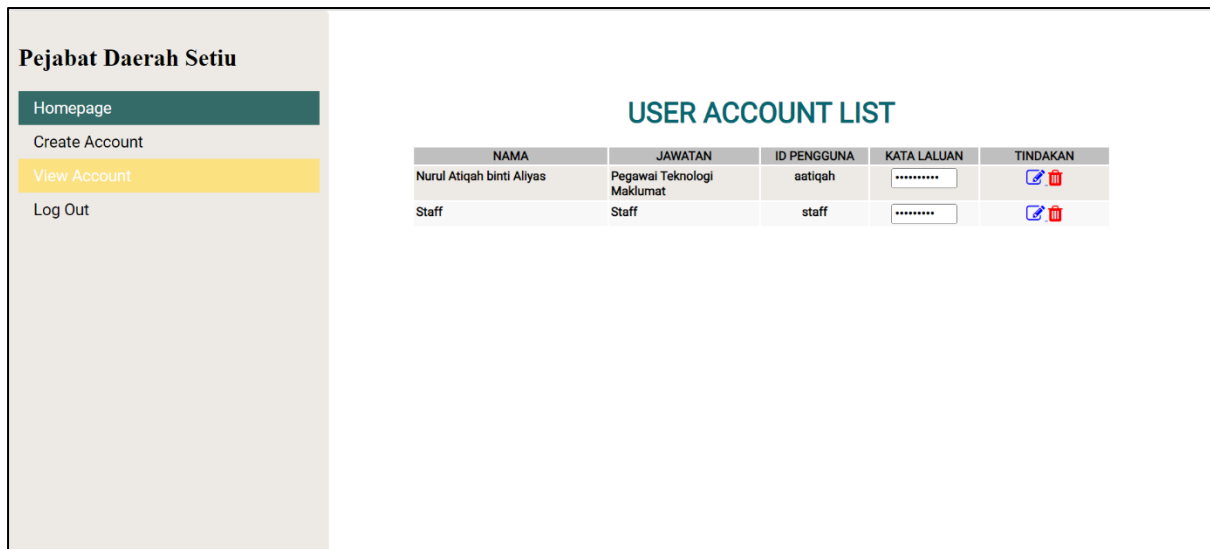


Figure 4.5 View Account

In Figure 4.5, the system displays the list of staff account. Admin can choose whether they want to edit or delete the staff accounts. If admin click on the edit icon, the system will redirect to the update account page and if admin click on the delete icon, the system will delete the data from the database.

4.3.6 Update Account

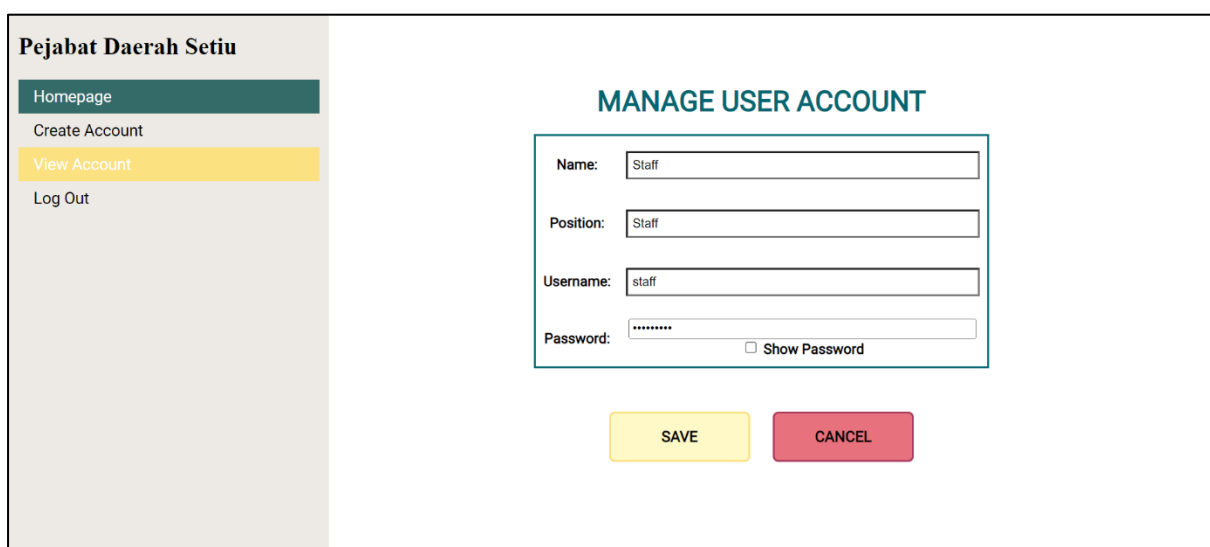


Figure 4.6 Update Account

In Figure 4.6, the system displays the interface for admin to update or edit the staff account's information. Admin need clicks on the "SAVE" button in order to keep the latest information in the database.

4.3.7 Staff Login

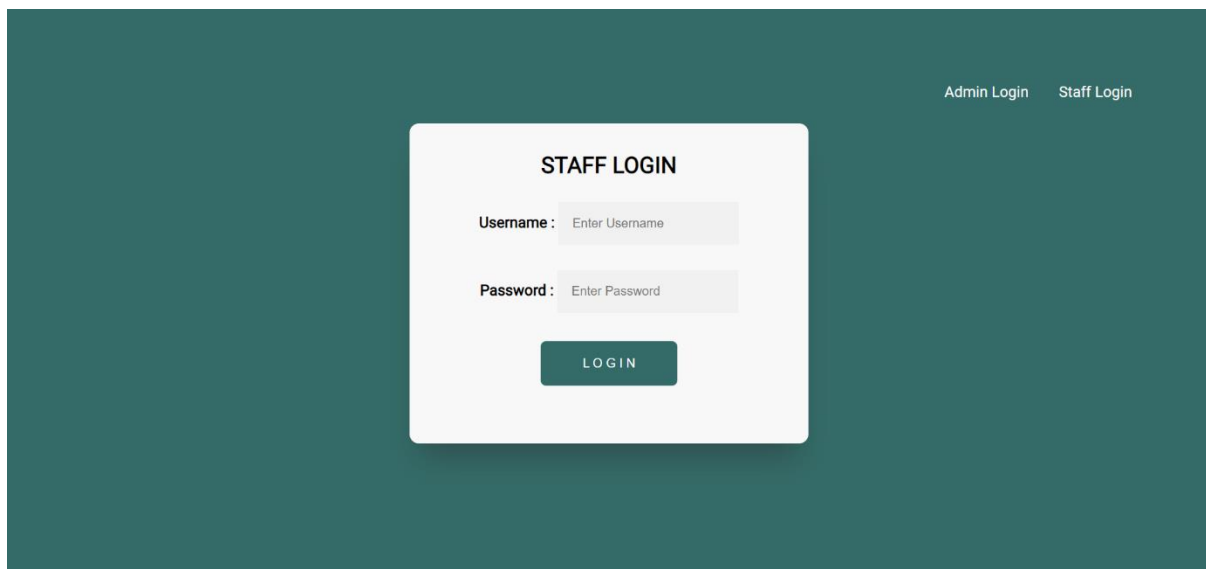


Figure 4.7 Staff Login

Figure 4.7 shows the login page for staff login. During login, user is required to input the username and password before accessing the homepage for staff. Then, the username and password input will undergo a validation process with database. If the credential input existed in the database, user will the redirect to the staff homepage. Otherwise, the user is required to try again with a correct username or password.

4.3.8 Staff Homepage

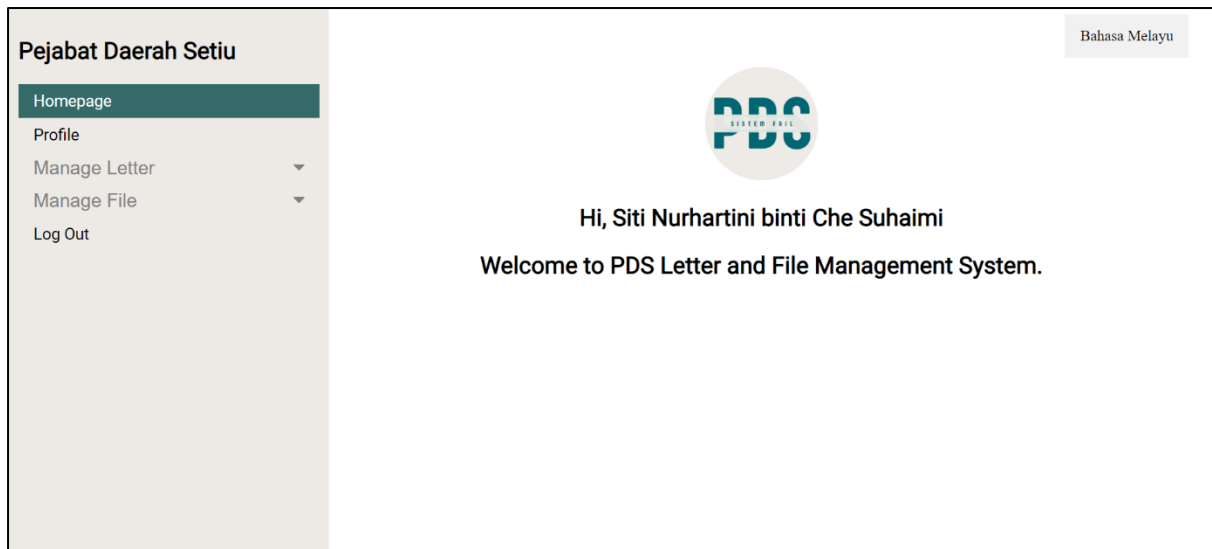


Figure 4.8 Staff Homepage

In Figure 4.8, it shows the homepage for Staff part where staff can choose from the navigation sidebar what they want to do. If staff clicks on the “Profile”, the system will redirect it to the update profile page. Next, staff can choose either “Manage Letter” or “Manage File”. For manage letter, it consists of letter registration and letter list while manage file consists of create file and file list. At the top right of the page, it has “Bahasa Melayu” button that will redirect the system to Bahasa Melayu language of this system.

4.3.9 Profile

The screenshot shows a web application interface for staff profile management. On the left is a sidebar menu for 'Pejabat Daerah Setiu' with options: Homepage, Profile (highlighted), Manage Letter, Manage File, and Log Out. The main content area is titled 'MANAGE ACCOUNT' and contains a form with the following fields: Name (Staff), Position (Staff), Username (staff), and Password (masked with asterisks). A 'Show Password' checkbox is present below the password field. At the bottom of the form are two buttons: 'SAVE' (yellow) and 'CANCEL' (red).

Figure 4.9 Profile

Figure 4.9 shows the interface for staff to edit their profile such as name, position, username as well as their password. Staff must click on the “SAVE” button in order to keep the latest information in the database.

4.3.10 Letter Registration

The screenshot shows a web application interface for letter registration. On the left is a sidebar menu for 'Pejabat Daerah Setiu' with options: Homepage, Manage Letter, Letter Registration (highlighted), Letter List, Manage File, and Log Out. The main content area is titled 'LETTER REGISTRATION' and contains a form with the following fields: Tarikh Terima (date picker), No. Fail, Kementerian, Tarikh Surat (date picker), Daripada siapa, Perkara, Dirujuk kepada (dropdown), Minit Kepada (dropdown), Muatnaik Surat (file upload button showing 'No file chosen'), and Kategori Fail (dropdown). At the bottom of the form are two buttons: 'REGISTER' (yellow) and 'CANCEL' (red).

Figure 4.10 Letter Registration

In this Figure 4.10, the system shows the interface for letter registration. As shown in the figure above, staff must fill in all the credentials of the letter and clicks on the “REGISTER” button in order to register the new letter.

4.3.11 Letter List

The screenshot shows a web interface for 'Pejabat Daerah Setiu' with a sidebar menu and a main content area titled 'LETTER LIST'. The sidebar includes options like 'Homepage', 'Manage Letter', 'Letter Registration', 'Letter List', 'Manage File', and 'Log Out'. The main area features a search bar and a table with the following data:










TARIKH TERIMA	NO FAIL KEMENTERIAN	TARIKH SURAT	PENGIRIM	PERKARA	DIRUJUK KEPADA	MINIT KEPADA	TINDAKAN
2022-06-13	JPS.TR.T4.1.8 SJ1 JLD 2(10)	2022-06-13	JABATAN PENGAIRAN DAN SALIRAN NEGERI TERENGGANU	KAJIAN PENYEDIAAN PELAN PENGURUSAN PANTAI BERSEPADU (ISMP) NEGERI TERENGGANU	PD	PPD	  
2022-06-20	JPN.TR.700-2/4/71	2022-06-20	JABATAN PELANCONGAN NEGERI TERENGGANU	MESYUARAT PENYELARASAN PENGISIAN AKTIVITI DAN PROGRAM SEMPERNA FESTIVAL SETIU WETLAND 2022	PD	PKPD	  
2022-06-14	MPTN.TR.700-2/9/8 Jld.2 - (54)	2022-06-14	MAJLIS PENGURUSAN TAMAN NEGERI TERENGGANU	JEMPUTAN MENYERTAI LAWATAN KERJA MAJLIS PENGURUSAN TAMAN NEGERI TERENGGANU BERSAMA PERBADANAN TAMAN NEGARA JOHOR KE PULAU BIDONG	PD	PKPD	  

Figure 4.11 Letter List

Figure 4.11 shows the list of all the registered letter and staff can do searching for any letter. Furthermore, for each letter, staff can choose if they want to view, update or delete the letter.

4.3.12 Update Letter

LETTER UPDATE

Tarikh Terima: 13/06/2022

No. Fail: JPS.TR.T4.1.8 SJ1 JLD 2(10)

Tarikh Surat: 13/06/2022

Daripada Siapa: JABATAN PENGAIRAN DAN SALIRAN NEGERI TERENGGANU

Perkara: KAJIAN PENYEDIAAN PELAN PENGURUSAN PANTAI BERSEPADU (ISMP) NEG. TRG.pdf

Dirujuk Kepada: PD

Minit Kepada: PPD

Muatnaik Surat: Surat: KAJIAN PENYEDIAAN PELAN PENGURUSAN PANTAI BERSEPADU (ISMP) NEG. TRG.pdf

Kategori Fail: JABATAN PENGAIRAN DAN SALIRAN JPS

SAVE **CANCEL**

Figure 4.12 Update Letter

In Figure 4.12, it is the interface for staff to update any information for the registered letter. Staff must click on the “SAVE” button in order to keep the latest updates of the information in the database.

4.3.13 Search Letter

RESULTS

BACK



TARIKH TERIMA	NO FAIL KEMENTERIAN	TARIKH SURAT	PENGIRIM	PERKARA	DIRUJUK KEPADA	MINIT KEPADA	TINDAKAN
2022-06-14	MPTN.TR.700-2/9/8 Jld.2 - (54)	2022-06-14	MAJLIS PENGURUSAN TAMAN NEGERI TERENGGANU	JEMPUTAN MENYERTAI LAWATAN KERJA MAJLIS PENGURUSAN TAMAN NEGERI TERENGGANU BERSAMA PERBADANAN TAMAN NEGARA JOHOR KE PULAU BIDONG	PD	PKPD	 

Figure 4.13 Search letter

Figure 4.13 shows the results for search letter after staff entered keyword. The results will show all the letters that contains the keyword.

4.3.14 Create File

Figure 4.14 Create File

Figure 4.14 shows the interface for staff to create new file. Staff must fill in all the credentials and click on the “CREATE” button in order to save it into the database.

4.3.15 File List







SIRI FAIL	BAHAGIAN	PERKARA	HANTAR KEPADA	TARIKH HANTAR	TERIMA DARIPADA	TARIKH TERIMA	TINDAKAN
PDS 1/3/7	JABATAN KERAJAAN	JABATAN PENGAIRAN DAN SALIRAN JPS	PE	2022-06-20	KPPD	2022-06-20	  
PDS 1/19/48	PERTUBUHAN	PEMBANGUNAN PELANCONGAN	PPD	2022-06-28	Peng. Kanan	2022-06-28	  

Figure 4.15 File List

In Figure 4.15, it shows the list of all the file that has been created and staff can search any file by using the searching bar. Staff also can view the movement of the file, update and delete file.

4.3.16 File History

SIRI FAIL	BAHAGIAN	PERKARA	HANTAR KEPADA	TARIKH HANTAR	TERIMA DARIPADA	TARIKH TERIMA
PDS 1/3/7	JABATAN KERAJAAN	JABATAN PENGAIRAN DAN SALIRAN JPS	KPPD	2022-06-16	PPD	2022-06-16
PDS 1/3/7	JABATAN KERAJAAN	JABATAN PENGAIRAN DAN SALIRAN JPS	PE	2022-06-20	KPPD	2022-06-20

Figure 4.16 File History

Figure 4.16 shows the history file or the movement of the file. The movement of the file is shown by the date (*tarikh terima*), receiver (*hantar kepada*) and sender (*terima daripada*).

4.3.17 Update File

FILE UPDATE

Siri Fail:

Bahagian:

Perkara:

Hantar Kepada:

Tarikh Hantar:

Terima Daripada:

Tarikh Terima:

Figure 4.17 Update File

In Figure 4.17, it shows the interface for staff to update the file information. Staff must click on the “SAVE” button in order for database to keep the latest information.

4.3.18 Letter List under File Category

LETTER LIST

PERKARA

[MESYUARAT PENYELARASAN PENGISIAN AKTIVITI DAN PROGRAM SEMPENA FESTIVAL SETIU WETLAND 2022](#)

JEMPUTAN MENYERTA LAWATAN KERJA MAJLIS PENGURUSAN TAMAN NEGERI TERENGGANU BERSAMA PERBADANAN TAMAN NEGARA JOHOR KE PULAU BIDONG

Figure 4.18 Letter list under file category

Figure 4.18 shows the list of letters under a certain category. The letter will display in pdf format.

4.4 Summary

This chapter covered the design software used to create the project, which included Sublime Text, phpMyAdmin, and XAMPP. The web-based system has been developed based on the user requirement that has been collected during the interview. The web-based system interface is also has been explained that focus on each of their function.

CHAPTER 5: TESTING

5.1 Introduction

The discussion of this chapter focuses on the testing phase of Pejabat Daerah Setiu Letter and File Management System. The goal of this chapter is to ensure that all the requirements and objectives are fulfilled and fully implemented. The testing follows two types of testing which is functional testing and non-functional testing. In terms of questionnaire preparation, most of the questions are modelled from perspective of usability measurement tool, namely System Usability Scale (SUS).

5.2 Functional testing

Functional testing focuses on verifying the functional requirements of a system. It involves testing the individual functions and features of the system to ensure they work correctly and produce the expected results (Software Testing Help, 2023). The testing of performance of the functions of the system are presented in forms of test cases.

5.2.1 Test Case

Table 5.1 Test case for admin login

Project Name: Pejabat Daerah Setiu Letter and File Management System		Test designer: Siti Nurhartini binti Che Suhaimi			
Module Name: Web-based system		Test designation date: 1 June 2023			
Test Title: Admin login					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Admin Login	1. Click “Admin Login”.	Admin should successfully login into the system.	Admin successfully login into the system.	Pass
		2. Admin entered valid username and password. E.g: Username: admin Password: Admin@123			
		3. Admin click “Login” button.			
2	Admin Login	1. Click “Admin Login”.	Admin should fail to login into the system.	Admin failed to login into the system.	Pass
		2. Admin entered invalid username and password. E.g: Username: admin Password: admin123			
		3. Admin click “Login” button.			

Table 5.2 Test case for staff login

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Staff login					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Staff Login	1. Click “Staff Login”.	Staff should successfully login into the system.	Staff successfully login into the system.	Pass
		2. Staff entered valid username and password. E.g: Username: staff Password: Staff@123			
		3. Staff click “Login” button.			
2	Staff Login	1. Staff “Admin Login”.	Staff should fail to login into the system.	Staff failed to login into the system.	Pass
		2. Staff entered invalid username and password. E.g: Username: staff Password: staff123			
		3. Staff click “Login” button.			

Table 5.3 Test case for account registration

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Account registration					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Registration	1. Admin click “Create Account”.	Admin should successfully create staff account.	Admin successfully create staff account.	Pass
		2. Admin fills in all the information fields with accurate formatting.			
		3. Admin click “CREATE” button.			
2	Registration	1. Admin click “Create Account”.	Staff should fail to login into the system.	Staff failed to login into the system.	Pass
		2. Admin fails to complete all the required information fields or provides them in an invalid format.			
		3. Staff click “Login” button.			

Table 5.4 Test case for view account

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View account					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	View account	Admin click “View Account”.	System should display a list of staff’s account.	System displays a list of staff’s account.	Pass

Table 5.5 Test case for delete staff account


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Delete staff account					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Delete account	1. Admin click “View Account” at navigation bar.	Staff account should successfully delete.	Staff account successfully deleted.	Pass
		2. Admin click  button.			

Table 5.6 Test case for update staff account


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Update staff account					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Update account	1. Admin click “View Account” at navigation bar.	Staff account should successfully updated.	Staff account successfully updated.	Pass
		2. Admin click  button.			
		3. Admin edit any information that need to be updated.			
		4. Admin click “SAVE” button.			

Table 5.7 Test case for admin logout

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Admin logout					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Admin logout	Admin click “Log Out” at the navigation bar.	Admin should be able to log out of the system.	Admin log out of the system.	Pass

Table 5.8 Test case for staff edit profile

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Staff edit profile					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Update profile	1. Staff click “Profile” at the navigation bar. 2. Staff edit any information that need to be updated. 3. Staff click “SAVE” button.	Staff account should be successfully updated.	Staff account successfully updated.	Pass

Table 5.9 Test case for letter registration

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Letter registration					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Letter registration	1. Staff click “Manage Letter” and proceed to click “Letter Registration”.	Letter should be successfully registered and saves into system database.	Letter successfully registered and saves into system database.	Pass
		2. Staff fills in all the information fields with accurate format.			
		3. Staff click “REGISTER” button.			
2.	Letter registration	1. Staff click “Manage Letter” and proceed to click “Letter Registration”.	Letter should be failed to register.	Letter failed to register.	Pass
		2. Staff fills in all the information fields with invalid format.			
		3. Staff click “REGISTER” button.			

Table 5.10 Test case for view list of registered letters details

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View list of registered letters details.					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Letter list	Staff click “Manage Letter” and proceed to click “Letter List”.	System should be able to display all the registered letters details.	System displays all the registered letters details.	Pass

Table 5.11 Test case for view letter in pdf format

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View letter in pdf format.					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	View letter	<p>1. Staff click “Manage Letter” and proceed to click “Letter List”.</p> <p>2. When system displays the list of letter’s detail, staff click any of the link under “PERKARA” column.</p>	<p>System should be able to display the letter in pdf format.</p>	<p>System displays the letter in pdf format.</p>	Pass

Table 5.12 Test case for update letter information


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Update letter information					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Update letter	<p>1. Staff click “Manage Letter” and proceed to click “Letter List”.</p> <p>2. When system displays the list of letter’s detail, staff click  button under “TINDAKAN” column for any letters.</p> <p>3. Staff edit any information needed to be updated.</p> <p>4. Staff click “SAVE” button.</p>	The letter information should be successfully update.	The letter information successfully updated.	Pass

Table 5.13 Test case for delete letter


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Delete letter					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Delete letter	1. Staff click “Manage Letter” and proceed to click “Letter List”.	Letter should be successfully deleted.	Letter successfully deleted.	Pass
		2. When system displays the list of letter’s detail, staff click  button under “TINDAKAN” column for any letters.			

Table 5.14 Test case for search letter

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Search letter					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Search letter	1. Staff click “Manage Letter” and proceed to click “Letter List”.	System should be able to display all the letters that contains the entered keyword.	System displays all the letters that contains the entered keyword.	Pass
		2. Staff insert a keyword in search box.			
		3. Staff click “Search” button.			

Table 5.15 Test case for create new file

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Create new file					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Create file	1. Staff click “Manage File” and proceed to click “Create File”.	File should be successfully created and saves into system database.	File successfully created and saves into system database.	Pass
		2. Staff fills in all the information fields with accurate format.			
		3. Staff click “CREATE” button.			
2.	Create file	1. Staff click “Manage File” and proceed to click “Create File”.	File should be failed to create.	File failed to create.	Pass
		2. Staff fills in all the information fields with invalid format.			
		3. Staff click “CREATE” button.			

Table 5.16 Test case for view list of files with details

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View list of files with details.					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	File list	Staff click “Manage File” and proceed to click “File List”.	System should be able to displays all the created files with details.	System displays all the created files with details.	Pass

Table 5.17 Test case for view file history


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View file history					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	File history	1. Staff click “Manage File” and proceed to click “File List”.	System should be able to	System displays the	Pass
		2. Staff click  button under “TINDAKAN” column.	display the file history.	file history.	

Table 5.18 Test case for view letter(s) under file category

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: View letter(s) under file category					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	View letter under file category	1. Staff click “Manage File” and proceed to click “File List”.	System should be able to display all the created files with details.	System displays all the created files with details.	Pass
		2. Staff click any link under “PERKARA” column.	System should be able to display all the registered letters according to file category.	System displays all the registered letters according to file category.	Pass
		3. Staff click any letter in the chosen file category.	System should be able to display letter in pdf format.	System displays letter in pdf format.	Pass

Table 5.19 Test case for update file information


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Update file information					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Update file	1. Staff click “Manage File” and proceed to click “File List”.	The file information should be successfully updated.	The file information successfully updated.	Pass
		2. When system displays the list of file’s detail, staff click  button under “TINDAKAN” column for any file.			
		3. Staff edit any information needed to be updated.			
		4. Staff click “SAVE” button.			

Table 5.20 Test case for delete file


Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Delete file					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Delete file	1. Staff click “Manage File” and proceed to click “File List”.	File should be successfully deleted.	File successfully deleted.	Pass
		2. When system displays the list of file’s detail, staff click  button under “TINDAKAN” column for any file.			

Table 5.21 Test case for search file

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Search file					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Search file	1. Staff click “Manage File” and proceed to click “File List”.	System should be able to display all the files that contains the entered keyword.	System displays all the files that contains the entered keyword.	Pass
		2. Staff insert a keyword in search box.			
		3. Staff click “Search” button.			

Table 5.22 Test case for staff logout

Project Name: Pejabat Daerah Setiu Letter and File Management System			Test designer: Siti Nurhartini binti Che Suhaimi		
Module Name: Web-based system			Test designation date: 1 June 2023		
Test Title: Staff logout					
No.	Test Case	Test procedure	Expected result	Actual result	Status
1.	Staff logout	Staff click “Log Out” at the navigation bar.	Staff should be able to log out of the system.	Staff log out of the system.	Pass

5.3 Non-functional Testing

Non-functional testing is equally important as functional testing, instead of reviewing the system’s functionality, it focuses more on the system’s readiness. The non-functional testing validates the system based on aspects such as accuracy, stability, and correctness (Software Testing Help, 2023).

5.3.1 Usability Testing

Usability testing is conducted to evaluate the difficulties of executing the functionalities of the proposed system. The questionnaire mentioned in the chapter introduction has been distributed via Google Form to three specific respondents. Among them, one respondent is a Information Technology Officer, while the remaining two are Administrative Assistants. The system for managing letters and files is intended for use by these three individuals. As a result, the distribution of the questionnaire has been limited exclusively to them. The Information Technology Officer will be responsible for the admin part, while the Administrative Assistants

will utilize the system for their staff-related tasks. The method used in the questionnaire are based of System Usability Scale (SUS) which is frequently used to measure the usability of websites (Will, T). Furthermore, an online link is attached to the questionnaire so that the user can download and try the proposed system. The user testing has been done with three staff with their consent. The consent form can be referred in Appendix D. As for the questionnaire, it is divided into two sections which is user interface and design and user functionality which can be referred in Appendix E.

A. User Interface and Design

In this section, users are requested to evaluate the design of the user interface from various perspective such as attractiveness and appropriateness.

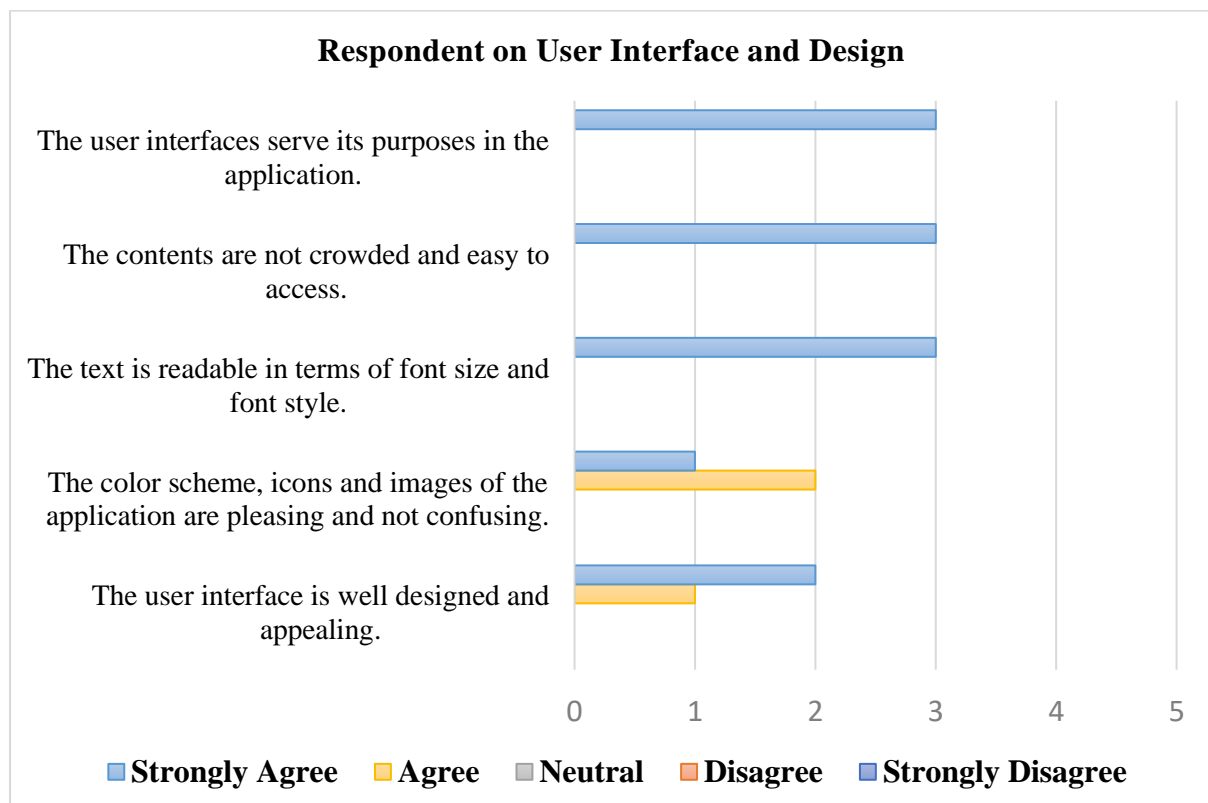


Figure 5.1 Graph for respondent on user interface and design

Based on the Figure 5.1, it is evident that there is a general positive perception of the user interface (UI) of the application. For the statement "The user interface is well designed and appealing," there were two respondents who strongly agreed, indicating a high level of satisfaction with the design and overall visual appeal of the UI. One respondent agreed, further supporting the notion that the UI is well designed.

Regarding the color scheme, icons, and images of the application, there were two respondents who agreed and one who strongly agreed, suggesting that the chosen colors, icons, and images are visually pleasing and do not lead to confusion. This indicates that the design elements are effective in creating a positive user experience.

Furthermore, when it comes to readability, all three respondents strongly agreed that the text in terms of font size and font style is easily readable. This indicates that the chosen fonts and their sizes are suitable for users, ensuring clear visibility and legibility.

In terms of content organization, all three respondents strongly agreed that the contents are not crowded and are easy to access. This suggests that the UI successfully presents information in a user-friendly manner, without overwhelming the users with excessive content or complex navigation.

Lastly, for the statement "The user interfaces serve its purposes in the application," all three respondents strongly agreed, indicating that the UI elements effectively fulfill their intended purposes within the application.

Overall, based on the provided ratings, it can be concluded that the user interface of the application is well designed, visually appealing, easy to read, and effectively serves its intended purposes, resulting in a positive user experience.

B. User Functionality

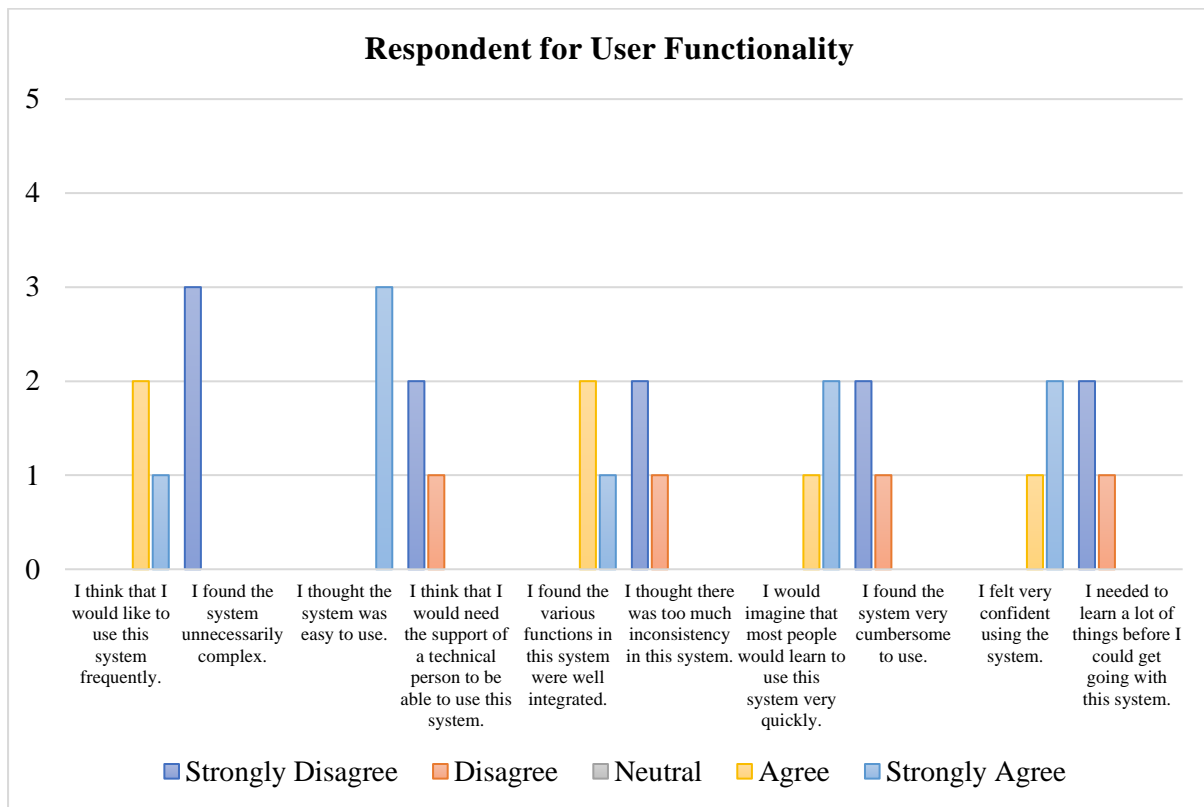


Figure 5.2 Graph for respondent for user functionality

The given Figure 5.2 represents a series of statements regarding the system's usability testing, and participants were asked to rate their agreement or disagreement with each statement on a scale from "Strongly Disagree" to "Strongly Agree".

In terms of the frequency of system usage, two participants agreed that they would like to use the system frequently, while one participant strongly agreed with this statement. This suggests a positive inclination towards using the system.

Regarding complexity, three participants strongly disagreed with the statement that the system was unnecessarily complex. This indicates that they found the system to be simple or not overly complicated.

When it comes to ease of use, all three participants strongly agreed that the system was easy to use, indicating a high level of user-friendliness.

In terms of technical support, two participants strongly disagreed that they would need the assistance of a technical person to use the system, while one participant disagreed. This suggests that most participants felt confident in using the system independently.

Regarding integration, two participants agreed, and one participant strongly agreed that the various functions of the system were well integrated. This implies that the system's components worked well together.

In terms of inconsistency, two participants strongly disagreed that there was too much inconsistency in the system, while one participant disagreed. This indicates that most participants perceived a good level of consistency within the system.

When asked about the learning curve, one participant strongly agreed that most people would learn to use the system quickly, and two participants agreed. This suggests a positive perception of the system's learnability.

In terms of usability, two participants strongly disagreed that the system was cumbersome to use, while one participant disagreed. This implies that the system was generally perceived as streamlined and not burdensome.

Regarding confidence, one participant strongly agreed that they felt very confident using the system, and two participants agreed. This indicates a positive level of confidence in operating the system.

Lastly, in terms of the initial learning phase, two participants strongly disagreed that they needed to learn a lot before getting started with the system, while one participant disagreed. This suggests that the majority of participants found it easy to get started with the system without extensive prior knowledge.

Overall, based on the responses in the table, the system seems to be positively perceived by the participants. It is considered user-friendly, not overly complex, well-integrated,

consistent, and easy to learn. Participants expressed confidence in using the system independently and believed that most people would quickly grasp its functionality.

5.4 Summary

This chapter clarifies the functional and non-functional testing that has been conducted on the Pejabat Daerah Setiu Letter and File Management System. The functional testing aims to check that all the system's function meets the requirements and able to work as planned. On the other hand, non-functional testing is used to test the overall readiness of the web-based system by evaluating the usability of the system from the target user.

CHAPTER 6: CONCLUSION

6.1 Introduction

This chapter concludes the proposed web-based system which is Pejabat Daerah Setiu Letter and File Management System. This chapter will elaborate on the accomplishments of the objectives, with each objective's accomplishments being described in depth. This chapter also contains information about the project's limitations and future works.

6.2 Objectives Achievements

The table below shows the objectives and achievements that accomplish from the proposed system.

Objectives	Achievements
To design a user-friendly web-based system that will store files and letters information.	Pejabat Daerah Setiu Letter and File Management System provided an easy-to-understand user interfaces to user.
To perform CRUD (create, read, update, and delete) function on the files and letters records.	User (staff) able to perform all the functions on the files and letters.
To evaluate the functionality and usability of the web-based system.	The functionality of this web-based system is tested using test case and received feedbacks for usability of the system.

6.3 Project Limitations

The Pejabat Daerah Setiu Letter and File Management System successfully meets the objectives and user requirements of the project. However, there are a few limitations that should be acknowledged. Firstly, the system is designed specifically for Pejabat Daerah Setiu

and does not cater to other Pejabat Daerah offices. Secondly, the system currently lacks a mobile application version, which could enhance accessibility and convenience for users. Additionally, as an internal-use system, the availability of letter and file information is limited, with only a restricted number of letters and files being accessible within the system.

6.4 Future Work

Although the Pejabat Daerah Setiu Letter and File Management System has been developed based on the user requirements, there are still possible features and improvements that can be made to web-based system. Firstly, implement a notification system that sends alerts to staff ensuring timely actions and follow-ups on registered letters and file management tasks. Secondly, develop reporting features to generate informative reports on letter registration statistics, file movements, and other relevant metrics, enabling management to make data-driven decisions and improve processes.

6.5 Summary

This chapter wraps up the Pejabat Daerah Setiu Letter and File Management System project by discussing the achievements of the objectives, limitations, and future enhancement. In summary, the Pejabat Daerah Setiu Letter and File Management System successfully meets its objectives by providing a user-friendly interface for storing files and letters, enabling staff to perform CRUD functions efficiently. Overall, the system serves as an effective tool for managing letters and files, with the potential for further enhancements to meet changing needs and enhance operational efficiency.

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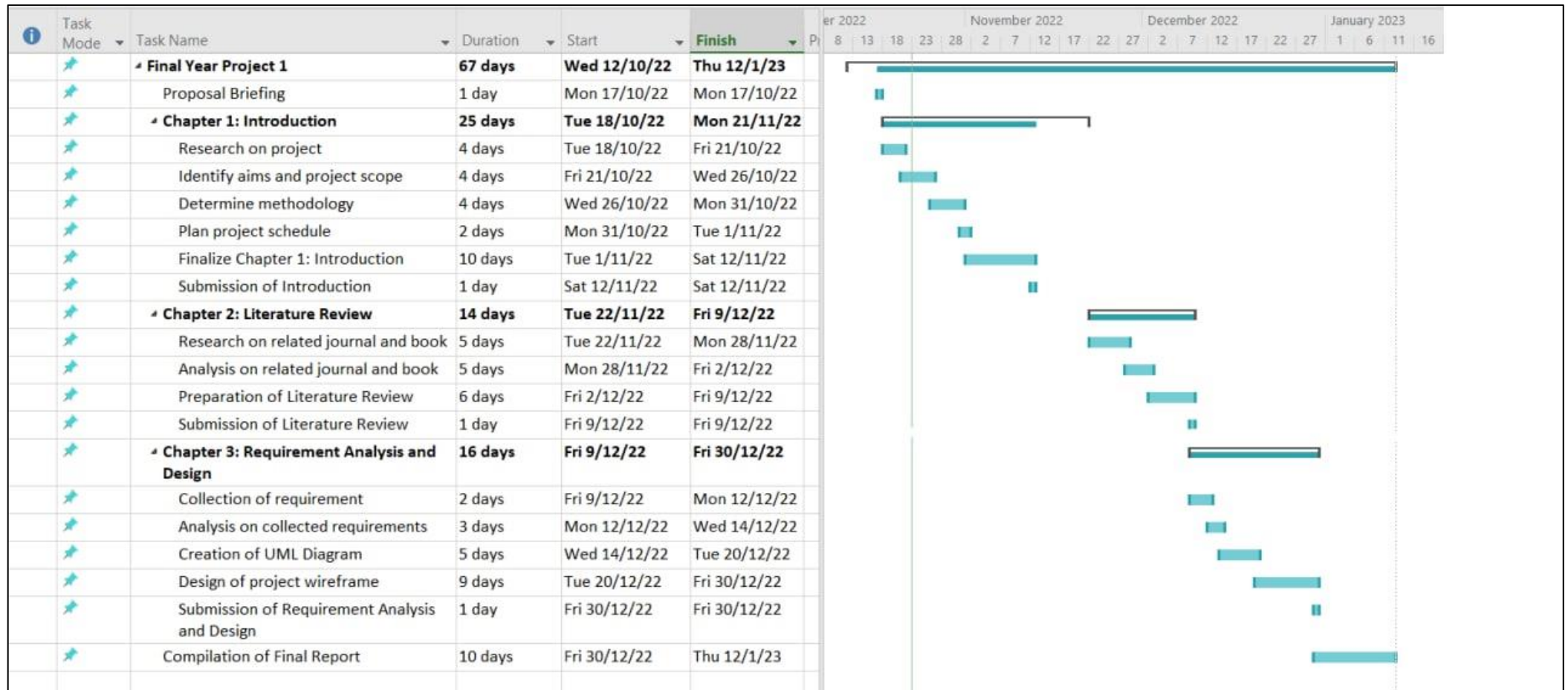
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APPENDIX A

Project Schedule



Task Mode	Task Name	Duration	Start	Finish	April 2023					May 2023					June 2023																	
					17	22	27	1	6	11	16	21	26	1	6	11	16	21	26	31	5	10	15	20	25							
✚	Final Year Project 2	71 days?	Mon 20/3/23	Sat 24/6/23	[Gantt bar spanning from 20/3/23 to 24/6/23]																											
✚	Revised structure of FYP Project	6 days	Tue 21/3/23	Tue 28/3/23	[Gantt bar from 21/3/23 to 28/3/23]																											
✚	Outlined gantt chart	7 days	Wed 29/3/23	Thu 6/4/23	[Gantt bar from 29/3/23 to 6/4/23]																											
✚	Submission of revised FYP project and gantt chart	1 day	Fri 7/4/23	Fri 7/4/23	[Gantt bar on 7/4/23]																											
✚	Chapter 4: Implementation	27 days	Fri 7/4/23	Mon 15/5/23	[Gantt bar from 7/4/23 to 15/5/23]																											
✚	Preparation of first draft version of Chapter 4	26 days	Fri 7/4/23	Fri 12/5/23	[Gantt bar from 7/4/23 to 12/5/23]																											
✚	Submission first draft version of Chapter 4	1 day	Mon 15/5/23	Mon 15/5/23	[Gantt bar on 15/5/23]																											
✚	Chapter 5: Testing	5 days	Mon 15/5/23	Fri 19/5/23	[Gantt bar from 15/5/23 to 19/5/23]																											
✚	Preparation of first draft version of Chapter 5	5 days	Mon 15/5/23	Fri 19/5/23	[Gantt bar from 15/5/23 to 19/5/23]																											
✚	Chapter 6: Conclusion and Future Work	6 days	Mon 22/5/23	Mon 29/5/23	[Gantt bar from 22/5/23 to 29/5/23]																											
✚	Preparation of Chapter 6 and Abstract for Paper	5 days	Mon 22/5/23	Fri 26/5/23	[Gantt bar from 22/5/23 to 26/5/23]																											
✚	Submission of Chapter 5, 6, and Abstract for Paper	1 day	Mon 29/5/23	Mon 29/5/23	[Gantt bar on 29/5/23]																											
✚	First Draft of Final Year Project 2 Full Report and Paper	9 days	Tue 30/5/23	Fri 9/6/23	[Gantt bar from 30/5/23 to 9/6/23]																											
✚	Preparation of first draft of Final Year Project 2 Full Report and Paper	8 days	Tue 30/5/23	Thu 8/6/23	[Gantt bar from 30/5/23 to 8/6/23]																											
✚	Submission of first draft of Final Year Project 2 Full Report and Paper	1 day	Fri 9/6/23	Fri 9/6/23	[Gantt bar on 9/6/23]																											
✚	Final Year Project 2 Full Report	12 days	Fri 9/6/23	Sat 24/6/23	[Gantt bar from 9/6/23 to 24/6/23]																											
✚	Preparation of Final Year Project 2 Final Report, source code, user manual, installation kits, and paper for assessment	11 days	Fri 9/6/23	Fri 23/6/23	[Gantt bar from 9/6/23 to 23/6/23]																											
✚	Submission of Final Year Project 2 Final Report, source code, user manual, installation kits, and paper for assessment	1 day	Sat 24/6/23	Sat 24/6/23	[Gantt bar on 24/6/23]																											

APPENDIX B

Interview Question

1. What is your job description at Pejabat Daerah Setiu?
Apakah jawatan anda di Pejabat Daerah Setiu?
2. Have you been assigned to register incoming letters?
Adakah anda ditugaskan untuk mendaftar masuk surat?
3. How do you register the incoming letters?
Bagaimanakah anda mendaftar masuk surat?
4. What are the difficulties you are facing when registering incoming letters?
Apakah masalah yang anda hadapi semasa mendaftar masuk surat?
5. What is the information that you need to key in when registering incoming letters?
Apakah maklumat yang perlu anda masukkan semasa mendaftar masuk surat?
6. How do you keep track the location of the file?
Bagaimanakah anda menyimpan data lokasi fail?
7. What are the difficulties you are facing when searching for the file?
Apakah masalah yang anda hadapi semasa pencarian fail?
8. What is the current method that you used for file tracking?
Apakah kaedah terkini yang anda gunakan untuk pencarian fail?
9. Why did you use this current method?
Mengapakah anda menggunakan kaedah ini?
10. If there is a new system, what is the features that you want to see when searching the file?
Jika sebuah sistem diwujudkan, apakah ciri-ciri yang anda ingin lihat apabila melakukan pencarian fail?
11. If this new system can generate report, does it have any use for your work?
Jika sistem baru ini mampu menjana laporan, adakah ia mempunyai sebarang kegunaan untuk kerja anda?

12. Who will have access for this system?

Siapakah yang akan mendapat akses untuk sistem ini?

APPENDIX C

Consent Form

INFORMED CONSENT FOR INTERVIEW

I, NURUL FARHANA IDAYU BT. MAMAT agree to be interviewed for the project entitled Pejabat Daerah Setiu File and Letter Management System which is being produced by Siti Nurhartini binti Che Suhaimi of Universiti Malaysia Sarawak (UNIMAS).

I certify that I have been told of the confidentiality of information collected for this project and the anonymity of my participation; that I have been given satisfactory answers to my inquiries concerning project procedures and other matters; and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time without prejudice.

I agree to participate in one or more electronically recorded interviews for this project. I understand that such interviews and related materials will be kept completely anonymous, and that the results of this study may be published in an academic journal or book.

I agree that any information obtained from this research may be used in any way thought best for this study.



Signature of Interviewee

14th December 2022

Date



Signature of Interviewer

14th December 2022

Date

If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this study, contact:

Name: Siti Nurhartini binti Che Suhaimi

Email: hartinicsuhaimi@gmail.com

Contact number: 0169350036

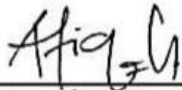
INFORMED CONSENT FOR INTERVIEW

I, NURUL ATIQAH BINTI ALIYAS, agree to be interviewed for the project entitled Pejabat Daerah Setlu File and Letter Management System which is being produced by Siti Nurhartini binti Che Suhaimi of Universiti Malaysia Sarawak (UNIMAS).

I certify that I have been told of the confidentiality of information collected for this project and the anonymity of my participation; that I have been given satisfactory answers to my inquiries concerning project procedures and other matters; and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time without prejudice.

I agree to participate in one or more electronically recorded interviews for this project. I understand that such interviews and related materials will be kept completely anonymous, and that the results of this study may be published in an academic journal or book.

I agree that any information obtained from this research may be used in any way thought best for this study.



Signature of Interviewee

14/12/2022

Date



Signature of Interviewer

14th December 2022

Date

If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this study, contact:

Name: Siti Nurhartini binti Che Suhaimi

Email: hartinicsuhaimi@gmail.com

Contact number: 0169350036

APPENDIX D

Informed Consent for User Testing


PDS Letter & File Management System Usability Testing


You are invited to participate in the user testing conducted by Siti Nurhartini binti Che Suhaimi from Universiti Malaysia Sarawak (UNIMAS). Thank you for considering participating in this Pejabat Daerah Setiu Letter and File Management System's user testing. Before we proceed with the user testing, we kindly request that you read and understand the following consent form.

By participating in this user testing, you acknowledge and agree to the following:

1. The purpose of this study is to gather feedback and evaluate the usability and user experience of the system. Your participation will involve performing specific tasks on the system and providing feedback based on your experience.
2. All the information collected during this study will be treated with strict confidentiality. Any data collected will be used solely for research purposes and reported in an anonymous manner.
3. Participation in this study is entirely voluntary, and you have the right to withdraw at any time without penalty or consequence. If you decide to withdraw, your data will not be used, and any information collected up to that point will be discarded.

For further information, please contact:
Name: Siti Nurhartini binti Che Suhaimi
Email: hartinicsuhaimi@gmail.com
Contact No.: 0169350036

hartinicsuhaimi@gmail.com [Switch accounts](#) 

 Not shared

* Indicates required question

I hereby consent to my participation in this user testing. *

Yes

[Next](#) [Clear form](#)

APPENDIX E

User Testing Questionnaire

User Interface and Design

1. The user interface is well designed and appealing. *

1 2 3 4 5

Strongly Disagree Strongly Agree

2. The color scheme, icons and images of the application are pleasing and not confusing. *

1 2 3 4 5

Strongly Disagree Strongly Agree

3. The text is readable in terms of font size and font style. *

1 2 3 4 5

Strongly Disagree Strongly Agree

4. The contents are not crowded and easy to access. *

1 2 3 4 5

Strongly Disagree Strongly Agree

5. The user interfaces serve its purposes in the application. *

1 2 3 4 5

Strongly Disagree Strongly Agree

User Functionality

1. I think that I would like to use this system frequently. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

2. I found the system unnecessarily complex. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3. I thought the system was easy to use. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

4. I think that I would need the support of a technical person to be able to use this system. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

5. I found the various functions in this system were well integrated. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

6. I thought there was too much inconsistency in this system. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7. I would imagine that most people would learn to use this system very quickly. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

8. I found the system very cumbersome to use. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

9. I felt very confident using the system. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

10. I needed to learn a lot of things before I could get going with this system. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Back

Next

Clear form

PDS Letter & File Management System Usability Testing

hartinicsuhaimi@gmail.com [Switch accounts](#)



Not shared

* Indicates required question

In this section, you are invited to provide your feedback/comment about the system. Please share your thoughts, suggestions, or any issues you encountered while using the system.

You may refer to the link provided on how to write feedback/comment.
[Feedback Example.pdf](#)

Please write your feedback or any suggestion(s) on improving the design of the user interface. *

Your answer

[Back](#)

[Submit](#)

[Clear form](#)

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