



MAIN PROJECT DOCUMENT

EDULIB-LIBRARY BOOKING SYSTEM

DKS1084

FINAL YEAR PROJECT

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PERAKUAN KEASLIAN PENULISAN

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Tandatangan Pelajar



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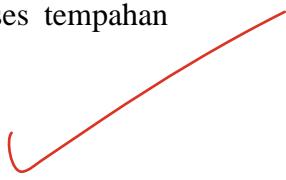
All this paragraphs
need to be justified.
My name just needs
to be capital in the
beginning.

ABSTRAK

Projek ini iaitu Edulib yang bertujuan untuk membangunkan satu sistem tempahan bilik dalam talian yang direka khas untuk kegunaan guru .Objektif utama projek ini adalah untuk memperbaharui proses tempahan bilik di institusi pendidikan yang kini manual sekiranya ingin menempah bilik di bawah jagaan Pusat Sumber serta meningkatkan interaksi pengguna melalui platform digital yang mesra navigasi dan mudah diakses. Proses pembangunan sistem ini menggunakan model Rapid Application Development (RAD), yang menekankan kepada pembangunan prototaip secara pantas, maklum balas berulang daripada pengguna, dan pelaksanaan yang cepat bagi memenuhi keperluan yang sentiasa berubah. Sistem ini dibangunkan menggunakan CodeIgniter 4, disokong oleh pangkalan data MySQL, dan menyimpan data dalam Laragon. Ciri-ciri utama sistem termasuk log masuk berasingan untuk pentadbir dan guru, pengurusan bilik, serta fungsi tempahan secara dalam talian.

Fasa analisis melibatkan ujian kefungsian dan ujian penerimaan pengguna bagi memastikan ketepatan, kebolehpercayaan, dan prestasi sistem. Sebagai sebuah projek berdasarkan produk, pembangunan merangkumi pengaturcaraan hadapan dan belakang, dengan penekanan terhadap keselamatan log masuk, logik tempahan yang dinamik, dan kemudahan capaian pengguna. Hasil ujian menunjukkan bahawa EduLib berfungsi dengan baik dalam membolehkan guru log masuk, menyemak ketersediaan bilik, dan membuat tempahan dengan lancar dan sekali gus meningkatkan ketelusan dan kebolehcapaian.Guru dan Pelajar juga boleh mengetahui tentang pentadbiran Pusat Sumber Sekolah ,aktiviti yang dilakukan,rak digital,buku popular yang ada di Pusat sumber Sekolah dan yang terakhir iaitu Lensa dimana mereka boleh melihat gambar mereka. Sistem ini berjaya mengurangkan proses manual, meminimumkan konflik penjadualan, dan meningkatkan kecekapan operasi.

Kesimpulannya, EduLib merupakan penyelesaian yang berkesan dan boleh diskala untuk pengurusan tempahan bilik di institusi pendidikan. Pembangunannya yang berjaya membuktikan kesan positif inovasi digital dalam menambah baik aliran kerja operasi, mengoptimumkan penggunaan sumber, serta menyokong proses tempahan yang lebih teratur untuk pendidik dan pelajar.



ABSTRACT

This project, titled EduLib, aims to develop an online room booking system specifically designed for teachers. The main objective is to modernize the current manual room booking process used in educational institutions, particularly for rooms managed by library, while also enhancing user interaction through a digitally accessible and well-structured platform. The system development adopted the Rapid Application Development (RAD) model, which emphasizes fast prototyping, continuous user feedback, and swift implementation to meet evolving requirements efficiently. The system was developed using CodeIgniter 4, supported by a MySQL database, with data hosted locally through Laragon. Key features of the system include separate login access for administrators and teachers, room management, and online booking functionality.

The analysis phase involved both functional testing and user acceptance testing to ensure system accuracy, reliability, and performance. As a product-based project, development encompassed both front-end and back-end programming with a focus on secure login, dynamic booking logic, and ease of access for users. Testing results confirmed that EduLib performs effectively in allowing teachers to log in, check room availability, and make bookings seamlessly, thus improving transparency and accessibility. Additionally, both teachers and students can access information related to the library administration, ongoing activities, digital shelves, a list of popular books, and a "Lensa" feature where users can view event photos. The system successfully reduces manual processes, minimizes scheduling conflicts, and enhances overall operational efficiency.

In conclusion, EduLib offers an efficient and scalable solution for managing room bookings in academic settings. Its successful development demonstrates the positive impact of digital innovation in streamlining workflows, optimizing resource management, and supporting a more organized, informative, and accessible digital environment for educators and students alike.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In today's era, Information technology makes day to day tasks easier and less time consuming. The impact of technology can be felt in every possible field especially in the field of education. My client is one of the teachers who in charged in SMK TROLAK, PERAK. They are having some problem such as booking room manually and the student doesn't know about the existence website of their school.

The purpose of this project is to develop a library room booking website that provides a streamlined and user-friendly system for managing room reservations. This project is aimed at addressing the challenges faced by teacher and staff when booking library rooms manually. The system will offer a convenient online platform that is accessible, efficient, and designed to enhance the overall library experience.

Gap not consistent

The idea to create a web-based System Management. The main purpose of this project is to design and develop an advanced library room booking website named EduLib(Education Library), which serves as a streamlined and user-friendly system for managing room reservations. This project aims to address the numerous challenges currently faced by teachers, staff, and library administrators when relying on traditional, manual methods to book library rooms. Such manual processes are often time-consuming, prone to errors, and can lead to inefficiencies in the reservation system.

Kalau terpaksa
guna my, lebih baik
gunakan kami (us)

"aims to provide..." sebab website ni kita dah buat, bukannya akan dibuat

EduLib will provide a modern, web-based system management solution that offers a convenient online platform for users. The platform will be accessible at any time, from any location, making it easier for teachers and staff to reserve rooms without

the need for physical paperwork or in-person interactions. By automating the reservation process, EduLib ensures an efficient, transparent, and hassle-free booking experience, ultimately saving time and reducing administrative burden.

1.2 Background Study

A booking classroom management system is important in school. EduLib website platform has been developed with a focus on providing easy access to educational resources, including books, journals, and learning materials. Library room booking systems are commonly used in educational institutions to simplify the process of reserving spaces for study or meetings. The process of booking library rooms manually has long been a challenge for academic institutions. Manual booking methods often involve paperwork, in-person coordination, or outdated systems, leading to inefficiencies, double bookings, and unnecessary delays. In the context of libraries, these issues not only disrupt the academic environment but also hinder the ability of teacher and staff to access critical resources effectively. With the increasing reliance on technology in academic settings, students expect a seamless and convenient way to reserve study or meeting rooms. The rise of web-based solutions aligns with this trend, offering platforms that cater to the tech-savvy nature of students while ensuring efficient resource management. EduLib seeks to address these gaps by providing an automated, user-friendly system that improves the overall academic experience and promotes effective use of library facilities.

1.3 Scope

The scope for EduLib includes high school teachers who manage room bookings and students who access general library information and services.

1.4 Objective

This study ke this project?

This study aims to:

- a) Ensure that the EduLib system is easy to use and accessible for both teachers and students, allowing seamless room availability checks and online booking, thereby facilitating room management within the library.
- b) Test the entire EduLib system on the website to ensure all functions operate smoothly, including user login, room availability display, booking process, and additional features such as the library activities, digital shelves, and the photo viewing feature through the Lensa function.

1.5 Platform

The EduLib website can be accessed across multiple platforms, ensuring flexibility and ease of use for all users. Visitors can use any internet-enabled device, such as smartphones to access the website on the go using mobile browsers, tablets for a larger screen experience and easier navigation, and laptops or desktops to leverage full functionality with robust performance on standard computing devices. This cross-platform compatibility ensures that users can browse and manage library bookings from virtually any device, providing accessibility at their convenience.

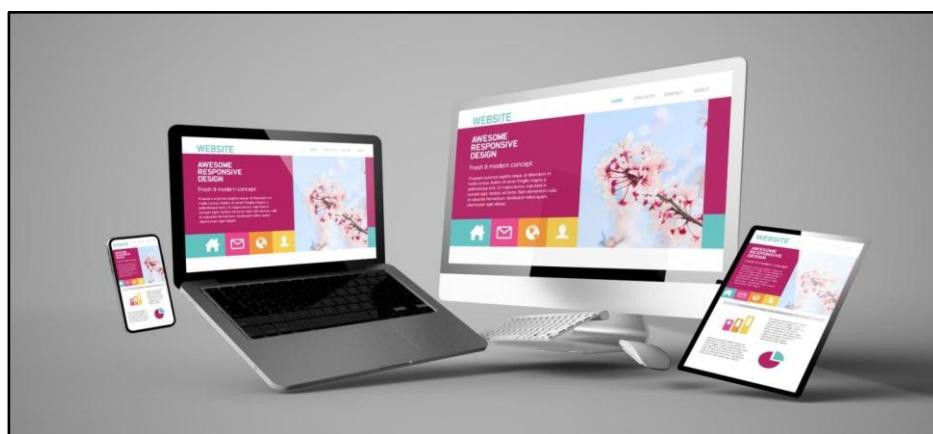


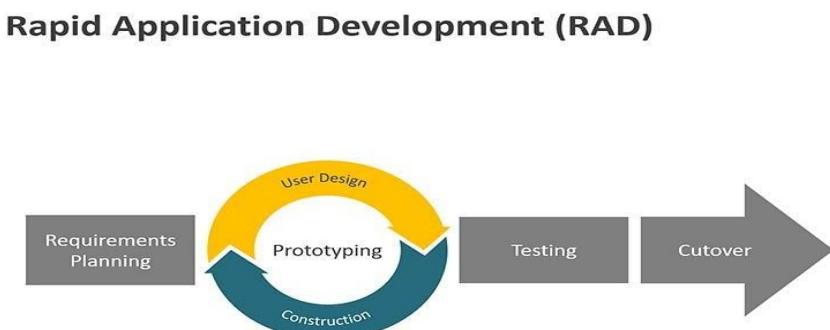
Figure 1: Web Platform

1.6 Methodology

Rapid application development (RAD) Methodology is the most suitable for my project is because it will deliver on time, with high client satisfaction and minimal risk of delays. In the Rapid Application Development (RAD) methodology, there are four steps: Define Requirement, Prototype, Rapid construction & feedback gathering and Finalize product / implementation.

tak konsisten -
kalau guna
DEFINE
REQUIREMENT,
yang lain semua
kena follow...

figure kasi besar
sikit



consistent kan..
better mcm ni -
requirement
definition,
prototype build,
rapid construction,
feedback
gathering....and so
on..

konsistenkan huruf
besar kecil.

1.6.1 Define Requirement Phase

Follow balik u tulis
apa...kita akan
gantikan fasa
kepada
Requirement
Definition kan

In the Define Requirement Phase, the focus is on gathering and understanding the requirements for the new website. Based on the discussions with the client from SMK Trolak (a teacher for the school library), the following requirements were identified. Firstly, the room booking process is inefficient and prone to scheduling conflicts. To address this, an online room booking system will be developed, enabling teachers and staff to reserve rooms easily. Secondly, there is a lack of awareness of the existing library website among students and staff. To solve this, the new website will be designed to be more user-friendly with clear navigation and interactive features to increase awareness and engagement. Additionally, the client has some request for the

website which is they want have some functionalities such as booking room page and make the website look attractive.

1.6.2 Define Requirement Phase

In this phase, the focus is on gathering and understanding the requirements for the new library website. Based on the discussions with the client from SMK Trolak (a teacher in charge for the school library), the following requirements were identified. Firstly, the manual room booking process is inefficient and prone to scheduling conflicts. To address this, an online room booking system will be developed, enabling teachers and staff to reserve rooms easily. Secondly, there is a lack of awareness of the existing library website among students and staff. To solve this, the new website will be designed to be more user-friendly with clear navigation and interactive features to increase awareness and engagement. Additionally, the client has some request for the website which is they want have some functionalities such as booking room page and make the website look attractive.

1.6.3 Prototype Phase

This phase involves creating a prototype of the website to visualize its structure and functionality. Wireframes and mockups of the homepage, room booking system, login page, and another page for library resources section will be developed. User-friendly features such as intuitive menus, search bars, and responsive design will be emphasized. The prototypes will then be shared with the client (the teacher from SMK Trolak) to gather initial feedback.

1.6.4 Rapid Construction & Feedback Gathering Phase

This phase involves building the actual website in small, iterative cycles while incorporating feedback at every stage. In the first iteration, the core functionality will

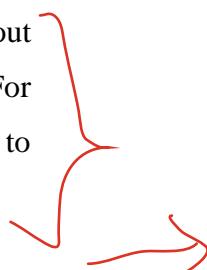
be developed, including the room booking system and user authentication for different roles such as students, teachers, and staff. In the second iteration, usability enhancements will be implemented, such as creating the homepage with announcements, upcoming events, and quick links to resources, as well as optimizing the design for mobile-friendliness and accessibility. Feedback will be gathered at each stage by sharing the iterations with the client for testing and suggestions. This iterative process will ensure that the website meets user expectations and requirements.

1.6.5 Finalize Product /Implementation Phase

In the final phase, the website will be prepared for deployment to ensure it meets all the requirements. Comprehensive testing will be conducted to validate functionality, usability, and performance. The room booking system will be tested for errors, and user access levels will be verified. A user guide will be provided to help teachers, students, and staff navigate the website effectively. Additionally, a training session will be conducted for library staff to manage the website efficiently. The website will then be hosted on a reliable server to ensure accessibility for all users. Post-deployment monitoring will be carried out to identify and resolve any issues promptly. By following the RAD methodology, the library website will be delivered on time with high client satisfaction.

1.7 Current Analysis

The current analysis about the idea coming from the brainstorming about the requirement and make analysis for each of the website references. For example, the table below shows about the current analysis according to the websites with different features and functions.



tak nampak!

Features/Website	User Control	Admin Control	Gallery	Booking room	Login Public	Popular Book page
smk USJ 13	✓	✓	✓	✗	✗	✗
SMK Sungai Pusu	✓	✓	✗	✓	✗	✗
Smk Tunku Kursiah	✓	✓	✓	✗	✓	✗
EDULIB	✓	✓	✓	✓	✓	✓

Table 1: Current Analysis on Library Website

1.8 Gantt Chart

This Gantt chart outlines the Final Year Project (FYP) timeline from December 2024 to April 2025, covering five phases—Planning, Design, Development, Evaluation, and Implementation—with detailed tasks, milestones like proposal and report submissions, and clear task dependencies shown across the project duration.

betulke dash ni
panjang semacam

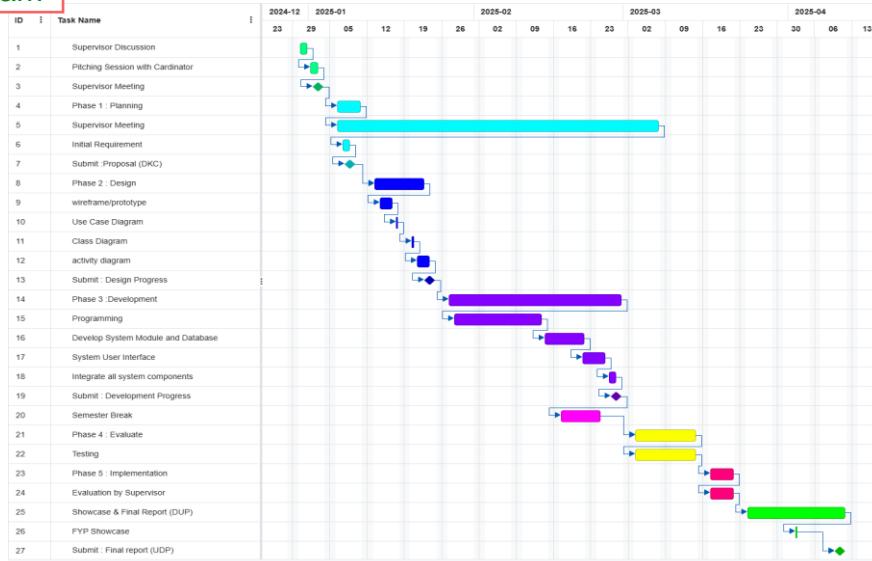


Figure 3: Gantt Chart

besarkan sikit....

CHAPTER 2

REQUIREMENT ANALYSIS AND SPECIFICATION

2.1 Introduction

Requirement analysis and specification are crucial steps in the development process of any software project. It involves identifying the needs and requirements of the users and clients and translating them into a clear and concise specification that the development team can work with. In this chapter, we will discuss how we approached the requirement analysis and specification process for our EduLib library room booking system. These specifications serve as a blueprint for the development team, ensuring the final products aligns with user needs and project objectives.

After that, the requirement analysis was carried out through direct engagement with the project's intended user base. A site visit was conducted to a school located in Perak, where a discussion was held with a teacher who also acted as the client representative. During the session, valuable feedback and suggestions were gathered regarding the features, design preferences, and overall functionality of the system.

The client expressed a desire for the platform to offer a unique and engaging experience, especially to capture the interest of both students and teachers. This feedback played a crucial role in shaping the direction of the project, ensuring that EduLib would not only be functional and efficient but also visually appealing and user-friendly for its intended audience.

2.2 Background study related



Before beginning the requirement analysis and specification process, we conducted a detailed background investigation on existing room booking systems used in academic libraries. We examined current platforms to determine their features, functionality, and limitations. This involved studying how other systems handle room availability, user

authentication, booking flow, and admin control. We also explored current trends and technologies used in educational web platforms to ensure that EduLib would be aligned with user expectations and modern standards.

2.3 How specification was created

"Specification Creation"

tajuk semua
permulaan kena
huruf besar..

To improve the user experience for student, staff and teacher, the specification for Edulib was carefully crafted with their needs in mind. One major improvement focused on separating the access between admin users and teachers. Many existing room booking systems lack clear role management and sometimes include unnecessary features or complicated workflows. Edulib was designed to streamline the process by allowing teachers to easily view and book available rooms and make sure the design elements will attract student interest in using the platform.

2.4. Communication with users/client

tajuk semua
permulaan kena
huruf besar..

Effective communication with the client is the most important in gathering accurate requirements and understanding the expectations for the Edulib system. A meeting was held with teacher from a school in Perak, Puan Emma who served as the client representative. During the discussion, various aspects of the system were explored, including ease to use, layout design, booking flow, and features that suitable for the platform that will use by the teachers and students. The client emphasized the importance of creating accessible platform that would not only simplify room bookings for teachers but engage students through an appealing interface. Ongoing feedback sessions were held during development to ensure that all features met the client's needs and preferences.

2.5 Relevant constraints

There have several constraints faced during the development of the Edulib project. Firstly, time limitation. The project had to be completed within the duration of the academic semester, requiring effective time management and prioritization of key



features. It required proper time management and focus on completing the most important features and function first.

After that, technical limitation played a role due to the use of CodeIgniter 4, MySql and Laragon dictated the technology stack and influenced how system components were designed and integrated. These tools, while suitable for small-scale projects, limited flexibility in terms of integrating modern features or using newer frameworks.

In Addiction, resource limitation that effected the development progress. The development was carried out individually, with limited access to advanced development tools or external libraries. The project was developed individually, without a team or access to advanced development tools, premium software, or external plugins. This meant relying mainly on free and open-source resources. Another challenge was the lack of fully detailed user requirements at the beginning. Due to limited time with the client, some features had to be adjusted later during development.

2.6 Rational for choices made

For this part, each decision made during the development of Edulib was guided by practicality, user needs and available resources. Firstly, for the framework selection, CodeIgniter 4 was selected because its lightweight structure and easy to use, especially suitable for rapid development and clean MVC architecture.

Apart from that, the division of roles played an important part in the system's structure. To ensure system clarity and better workflow, the system was designed with clearly defined user roles for teachers and administrators. This separation of responsibilities helped minimize confusion and streamline operations within the platform. The user interface was intentionally kept simple, intuitive, and accessible to support users with varying levels of technical proficiency. Additionally, based on client feedback, visually engaging elements were incorporated into the design to attract student interest and encourage regular interaction with the platform.

justified dik....

2.7 Details of the specification

The system specifications for Edulib were designed to align with the project's objectives and meet user expectations. The platform supports two main user roles: Admin and Teacher. Admins are responsible for managing room details, handling bookings, and maintaining teacher records, while teachers are able to log in, check room availability, and make bookings as needed. Separate login modules were implemented for admins and teachers to ensure data security and role-based access control. The booking system provides teachers with a clear and guided process to reserve rooms efficiently. For room management, administrators have full control over creating, updating, and removing room information. The user interface was built to be responsive and clean, ensuring smooth navigation across different devices and screen sizes. The underlying database was structured with dedicated tables for admins, teachers, rooms, and bookings to promote organized data handling and maintain data integrity. To enhance usability, the system also includes visual indicators, confirmation messages, and error prompts, offering users immediate feedback and improving the overall experience. For students, while they don't require a login, they can still access publicly available content on the Edulib website. One key feature is the Lensa section, which showcase a gallery of photos and activities related to the library and it will attract the student interest. This feature was designed to engage students by offering a more interactive and visually appealing experience while browsing the website.

CHAPTER 3

SYSTEM DESIGN AND DEVELOPMENT

3.1 Introduction

This chapter describes how the EduLib system was designed and developed. It covers the methods and tools used, design decisions made, and the final system outcome. EduLib is a web-based room booking system developed using CodeIgniter, with a focus on simplifying the booking process for teachers and managing resources effectively for administrators. The development process followed the Rapid Application Development (RAD) model, which emphasizes quick prototyping, user feedback, and fast delivery.

3.2 How system was design including design method design process and design outcome.

macamana saya
sebut di atas.

The EduLib system was designed using the Rapid Application Development (RAD) model. This method was chosen because it supports fast development and continuous user involvement, allowing the system to be completed within the project timeline.

Design Method:

3.2.1 The RAD model emphasizes quick development with user feedback at different stages. Although no separate prototype was created, the real system was built step-by-step, and feedback was gathered during the development to make immediate improvements.

Design Process:

3.2.2.. atau nak
guna cara lain.
bold kan ke.. tapi
takleh mcam sedia
ada...takleh
nakbeza dengan
perenggan

Design process began with gathering system requirements for two main user groups: teachers and administrators. The system was then developed module by module using an iterative approach, with four major iterations (iter 1, iter 2, iter 3, iter 4). Important features, such as the teacher login, room booking system, and dashboard, were developed based on these requirements. After completing each iteration, user feedback was collected and used to refine the system for the next iteration.

part, it was reviewed and tested, and any necessary adjustments were made immediately. The focus was on developing a working system directly without creating separate prototypes.

Design Outcome:

The final outcome was a complete, web-based room booking system tailored for educational use. In EduLib, teachers must log in before they can book rooms. Once logged in, teachers can view history, select booking times, and submit their bookings through a user-friendly interface. Administrators have a separate login and dashboard where they can manage rooms, monitor bookings and all the system, and manage teacher accounts. The system was designed to be simple, efficient, and responsive to different devices, ensuring that all users could perform their tasks easily. CodeIgniter 4 provided a secure framework to support the system's functionalities.

3.3 Use Case Diagram

The use case diagram shows how Teachers, Students, and Administrators interact with the booking system. Teachers can log in, make bookings, view management pages, access the rak digital and Lensa pages, and check popular books. Students have similar access, except they cannot make bookings. Administrators have full control to add, edit, and delete data. The Module Testing Report confirms the system works effectively, with key tests on booking submission, approval updates, receipt uploads, and booking history. Results show smooth workflow, accurate status changes, and user-friendly features, supporting reliable role-based access and real-world usability.



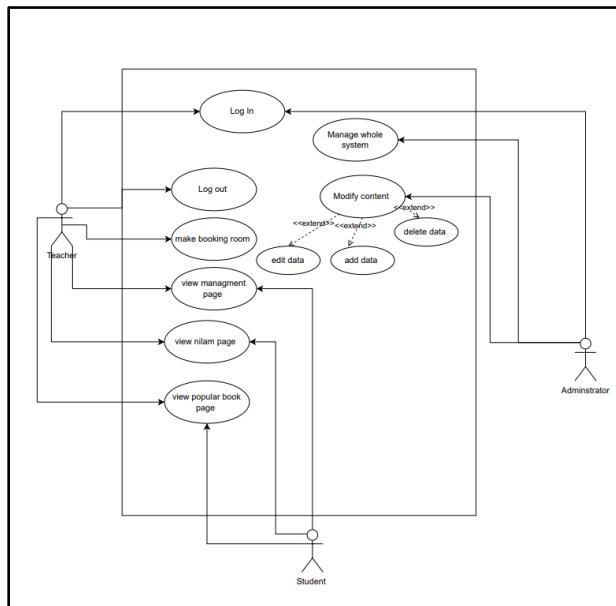


Figure 4: Use Case Diagram

kecik sangat! besarkan sikit

3.4 Class Diagram

The class diagram illustrates the structural framework of the booking system, outlining key entities, their attributes, and interactions. It defines essential classes such as Booking, Management, Popular Book, and Activity, along with user roles including Teachers, Students, and Administrators. The diagram demonstrates how users interact with bookings, allowing them to create, view, update, and delete reservations, while administrators manage system operations. By establishing clear relationships between different components, the class diagram ensures an organized, efficient system design that supports seamless functionality and data management.

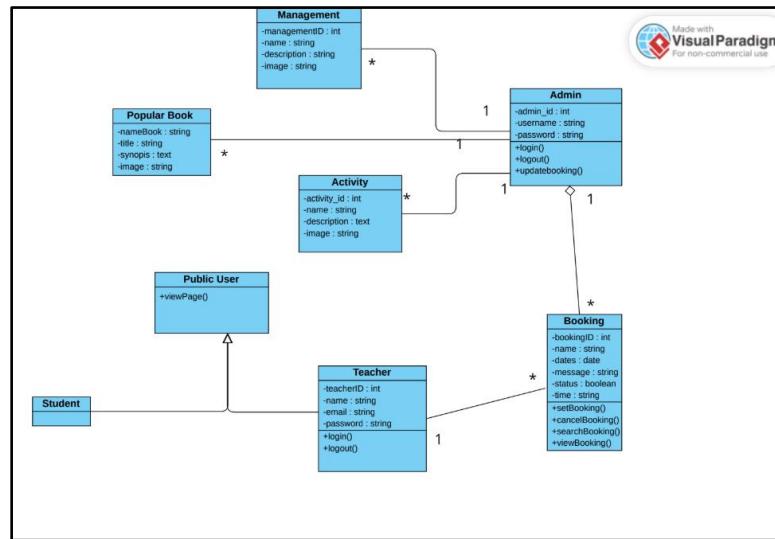


Figure 5: Class Diagram
sama juga..takleh baca

3.5 Activity Diagram

3.5.1 Admin

Admin View

The activity diagram for the admin illustrates the sequence of actions and decisions within the system. It begins with the admin logging in, followed by an authentication check to verify credentials. Once successfully authenticated, the admin is directed to the homepage, where they can navigate to different sections, including management, activity, room, popular book, and booking pages. Each of these pages allows the admin to view and update relevant data.

On the booking page, the admin has the option to approve or reject booking requests, ensuring that only valid bookings proceed. Finally, the process concludes with the admin logging out, securely ending their session. The diagram serves as a workflow visualization, helping to understand the admin's interactions and decision points within the system.

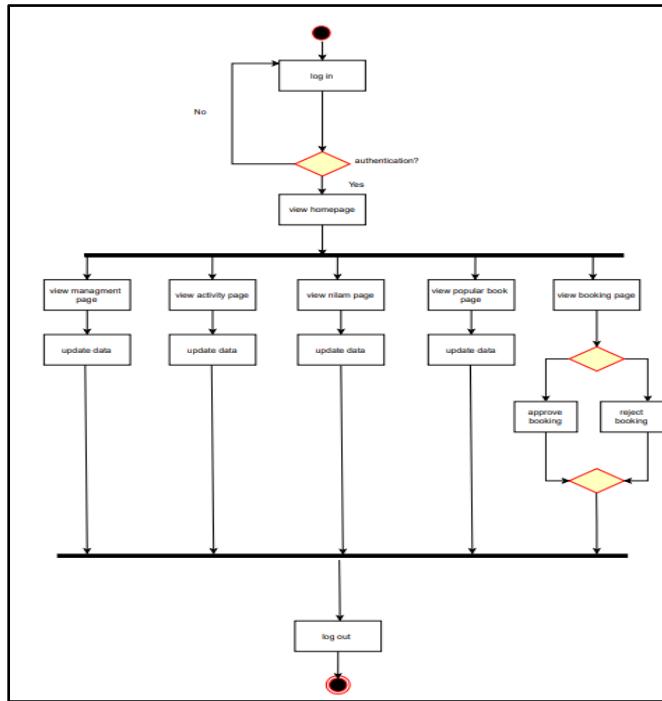


Figure 6: Class Diagram for Admin

3.5.2 Teacher

Teacher View

The activity diagram for the teacher illustrates the workflow and interactions within the system. Teachers can access various sections, including management, activity, nilam, popular book page, without requiring authentication. However, if a teacher needs to perform a booking action, they must first log in, followed by an authentication check to verify credentials. Once logged in, they proceed to the booking page where they can approve or reject bookings, ensuring efficient room management. After completing booking-related tasks, the teacher logs out, securely ending their session. This diagram highlights the teacher's administrative responsibilities while ensuring that login is only required when necessary, optimizing user experience and system efficiency.

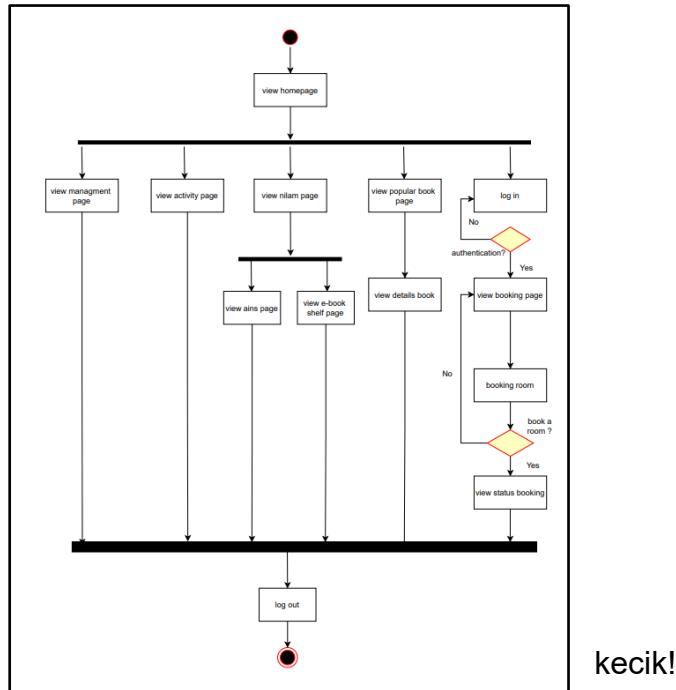


Figure 7: Class Diagram for Teacher

3.5.3 Student View

Same like Teacher ,but no need to login because student only can view the page such as management page, view activity , view nilam page and view popular books.

kecil!

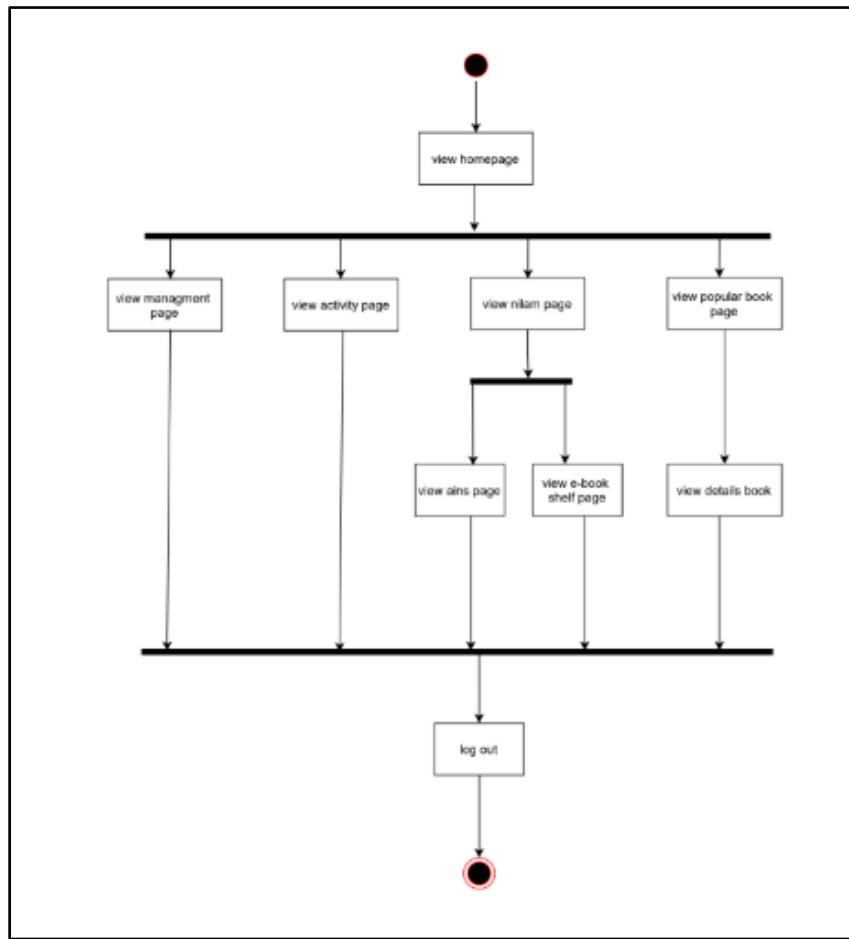


Figure 8: Class Diagram for Student

3.6 Wireframe

This wireframe for the EduLib system was created using Canva and Mock flow. At this stage, it serves as an initial design concept to visualize the system layout. The wireframe begins with the admin page, followed by the user pages for teachers and students. Creating a wireframe in the early stages is important because it visually presents the system's architecture and outlines key website features. The figure below shows the Welcome page that all users see before proceeding to the next stage.

3.6.1 Admin Page



Before accessing the admin dashboard, the admin is required to log in first. This page is exclusively for admins and does not include a button to create a new account.

The screenshot shows a login form titled "LOGIN". It contains two input fields: "Email" and "Password", both with placeholder text. Below the password field is a "Remember" checkbox and a "Forgot password?" link. At the bottom are a "SUBMIT" button and a "Create account" link.

macam tak berapa tengah sangat caption ni..

Figure 9: Login Admin

After logging in, the admin is directed to the dashboard, which is the first page displayed. The dashboard includes navigation links to access other sections of the system.

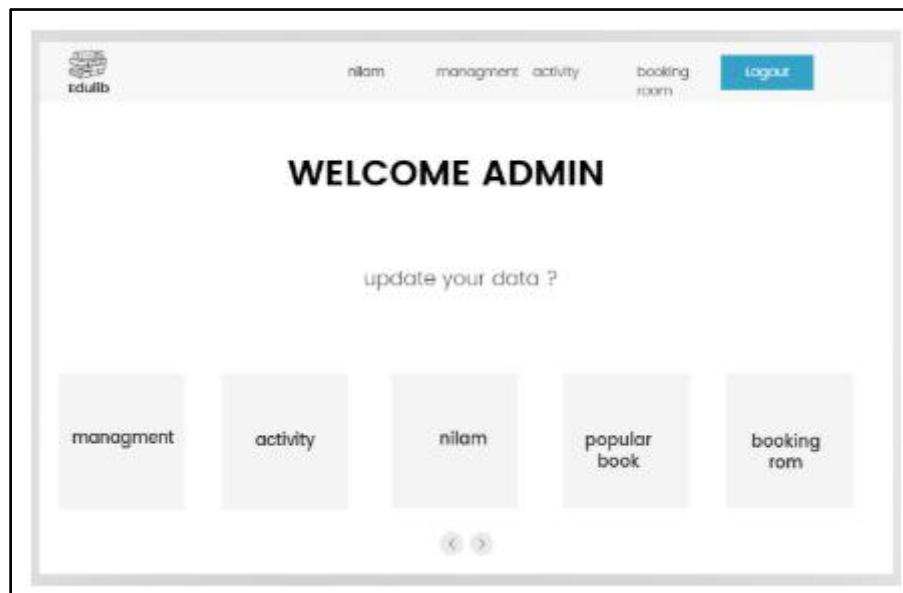


Figure 10: Dashboard Admin

This is the management page, where the admin can add, edit, or delete data that will be displayed to the public.

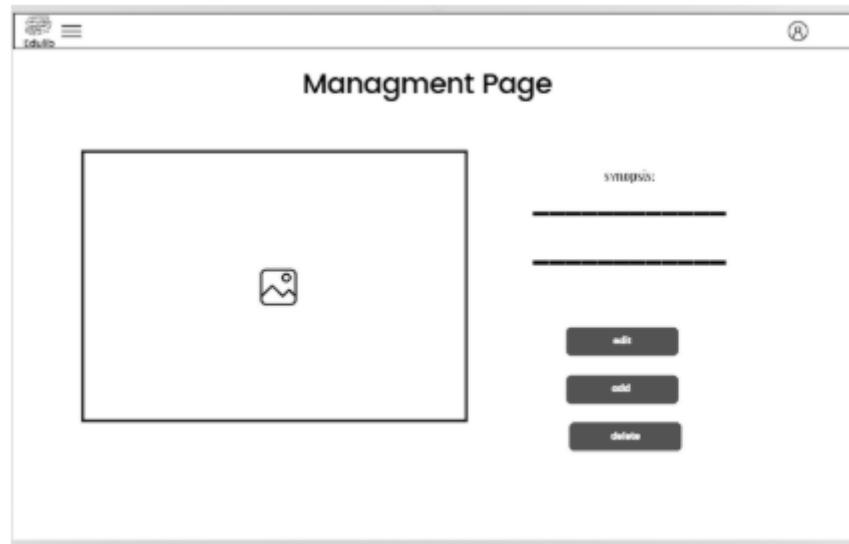


Figure 11: Management Admin Page

This is the management page, where the admin can add, edit, or delete data that will be displayed to the public. The same applies to the Activity page, which allows the admin to manage activity-related content, ensuring that all public-facing information is accurate and up to date. These features help maintain the system's content effectively from the admin side.

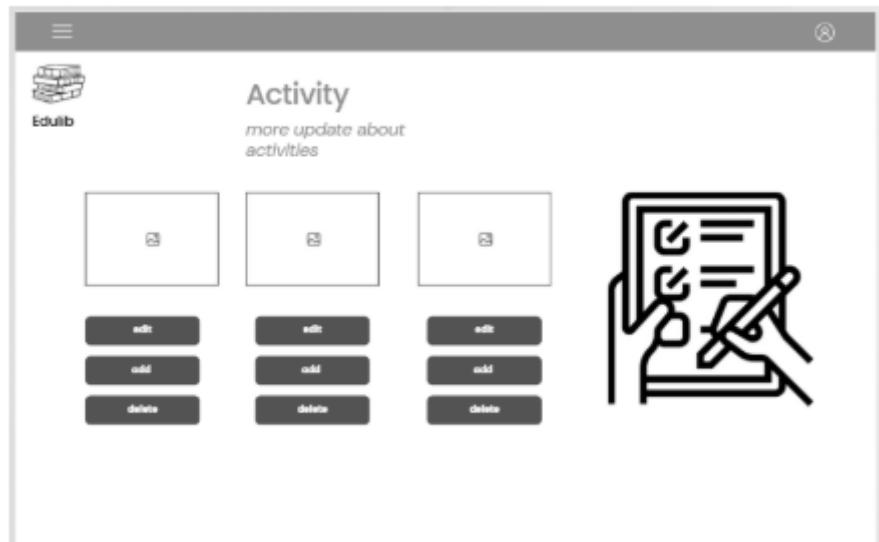


Figure 12: Activity Admin Page

This is the Rak Digital page, where the admin has full control to add, update, or remove digital rack content. The information managed here will be displayed to public users, allowing them to view the latest digital resources available. This section helps the admin keep the digital collection well-organized and relevant.

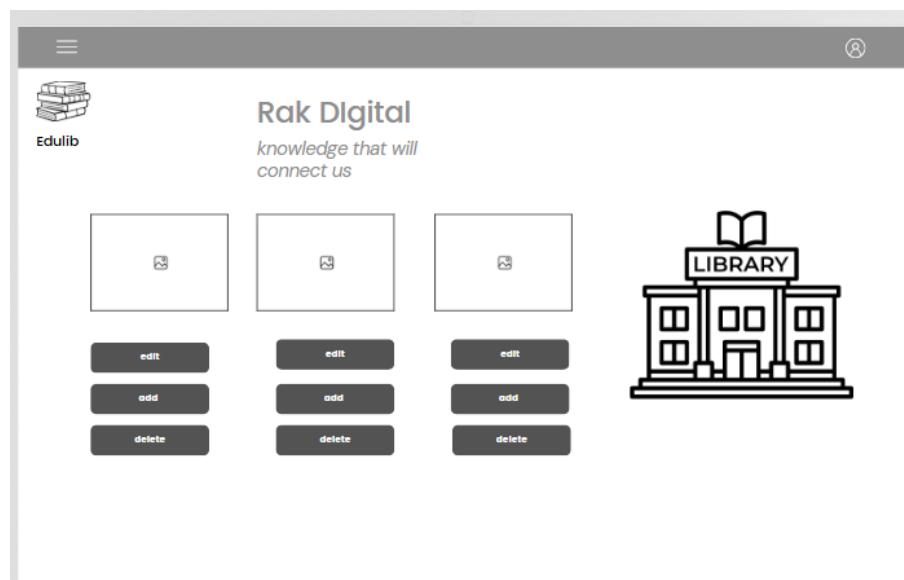



Figure 13: Rak Digital Admin Page

This is the Popular Book page, which showcases the books most frequently searched for by students. Similar to other sections, the admin can add, edit, or delete the listed books. This allows the admin to highlight trending or in-demand titles, making it easier for users to discover popular reading materials.

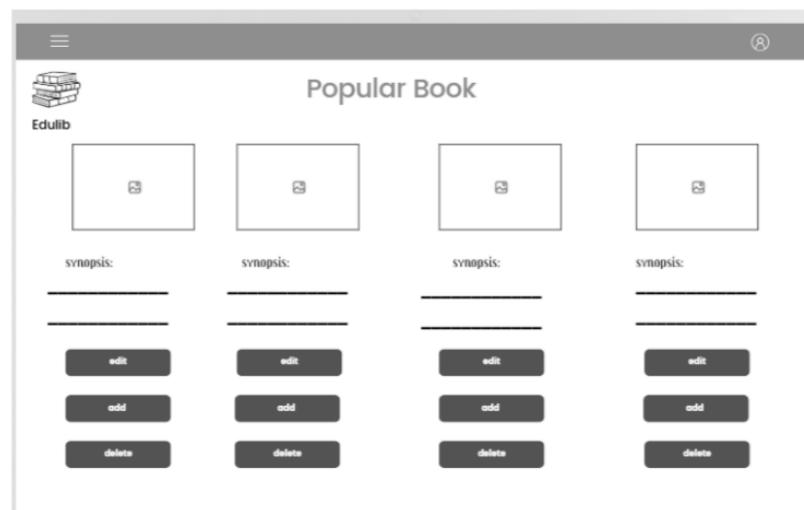



Figure 14: Popular Book Admin Page

This is the Booking page on the admin side, where the admin has the authority to review, accept, or reject room booking requests made by users. Unlike other sections where content is directly managed, this page focuses on handling user-submitted bookings.



Booking Room				
id	name	email	status	Phone
1	adam	dam@ma	accept	📞
2	tamia	mia@gm	not accept	📞
3	tambi	tambi@ma	accept	📞
4	fira	fira@ma	still in process	📞

lebarkan sikit...

DELETE

Figure 15: Popular Book Admin Page

This is the Lensa page, where the admin can upload and manage a collection of images. This section allows the admin to showcase various visuals related to the system, events, or activities. Just like other sections, the admin can add, update, or delete images to keep the gallery fresh and relevant for public viewing.

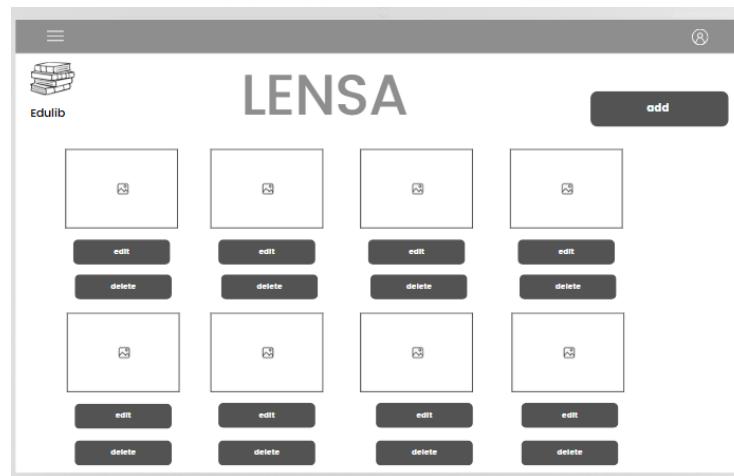


Figure 16: Lensa Admin Page

This is the Create Account page, where the admin can add teacher accounts that will be used to log in on the public page. In addition to creating accounts, the admin also

has the option to delete any account when necessary. This feature helps manage teacher access and ensures only authorized users can use the booking system.

The screenshot shows a user interface for managing accounts. At the top, there's a logo and a menu icon. The main title is "Create Account". Below the title are three input fields: "id: _____", "email: _____", and "password: _____". To the right of these fields is a "add" button. Below the input fields is a table with three columns: "ID", "EMAIL", and "PASSWORD". The table has two rows of data, each consisting of three empty input fields. To the right of the table are two "delete" buttons. The entire interface is enclosed in a light gray border.

Figure 17: Create Account Admin Page

3.6.2 Public Page

This is the homepage for public users, accessible to both students and teachers. From here, users can navigate to other pages using the navigation bar at the top. The homepage provides an overview of the system and serves as the starting point for exploring available features such as Popular Books, Activities, Rak Digital, and more. It is designed to make it easy for users to find what they need quickly.

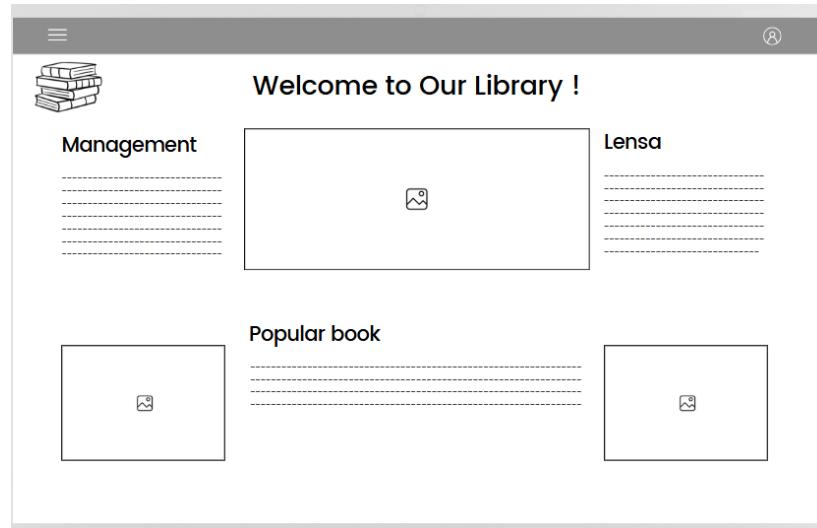


Figure 18: Homepage Public

This is the Management page on the public side, where both students and teachers can view important information shared by the admin. It provides updates or announcements related to the system, helping users stay informed. While they cannot edit the content, students and teachers can refer to this section to get the latest updates or details relevant to their use of the platform.

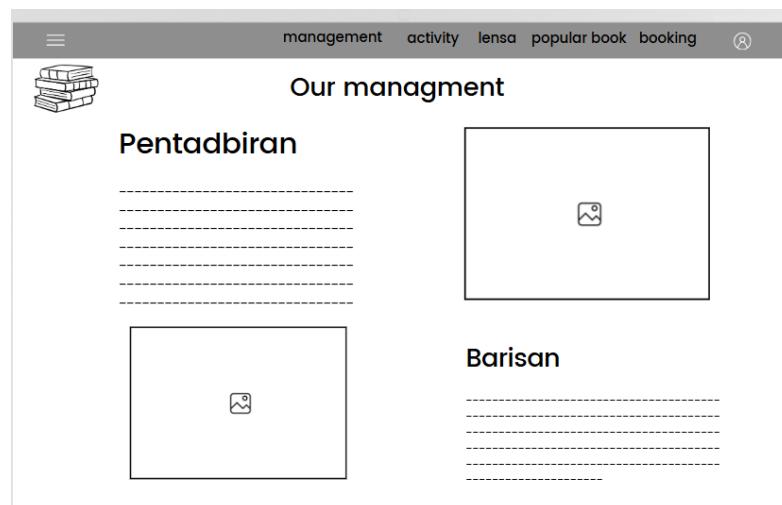


Figure 19: Management Page Public

This is the Activity page for public users, where students and teachers can view upcoming or past activities organized within the system. The information displayed here is managed by the admin and helps users stay updated with events such as workshops, talks, or school programs.

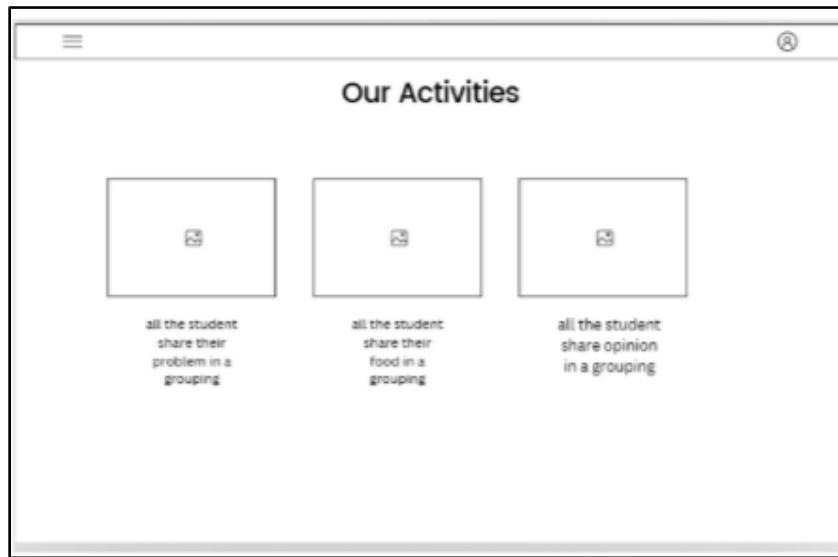


Figure 20: Activity Page Public

This is the Rak Digital page for public users, where both students and teachers can access various digital resources. By clicking on the links provided, users will be directed to external platforms such as Semetro Rak Digital and the AINS website. This section makes it easy for users to explore educational materials and digital collections beyond the EduLib system.

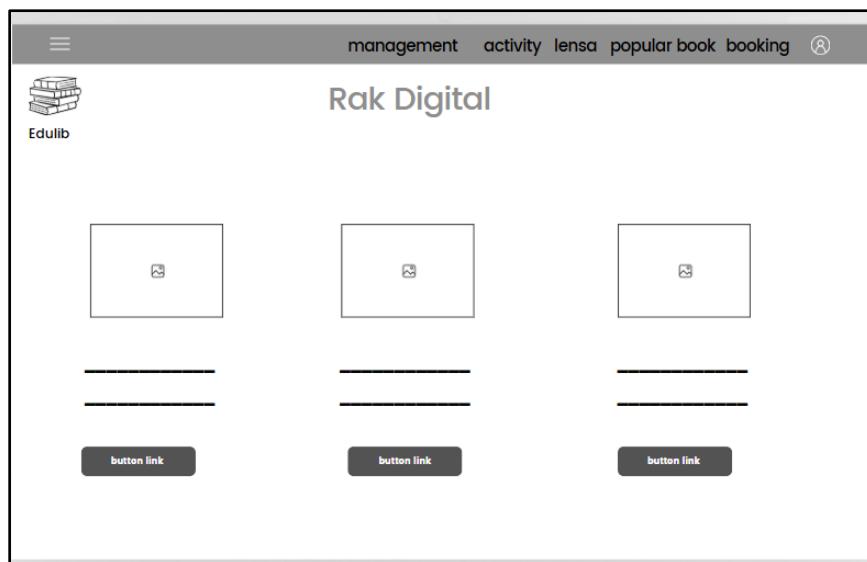


Figure 21: Rak Digital Page Public

This is the Popular Book page for public users, where students and teachers can view a list of the most searched and frequently accessed books.

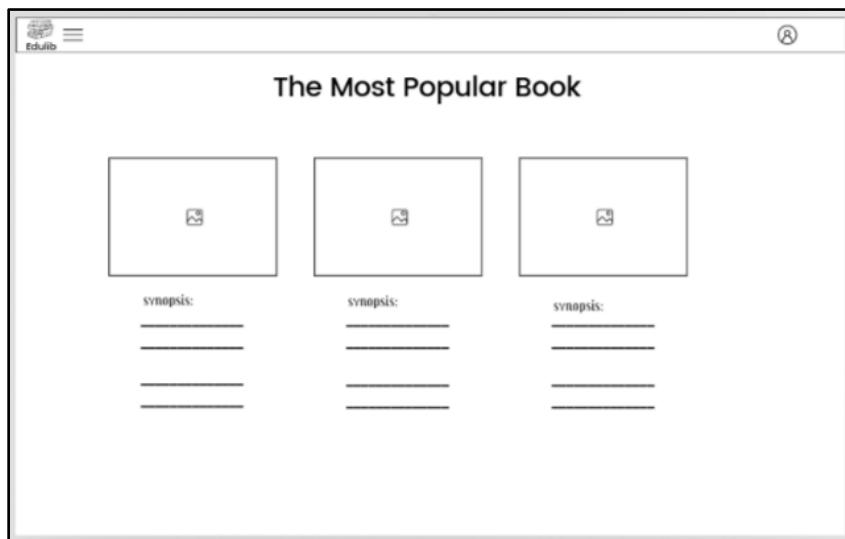


Figure 22: Popular Book Page Public

This is the Lensa page for public users, where students and teachers can browse through a gallery of images uploaded by the admin. The images may showcase events, activities, or other highlights related to the EduLib system.

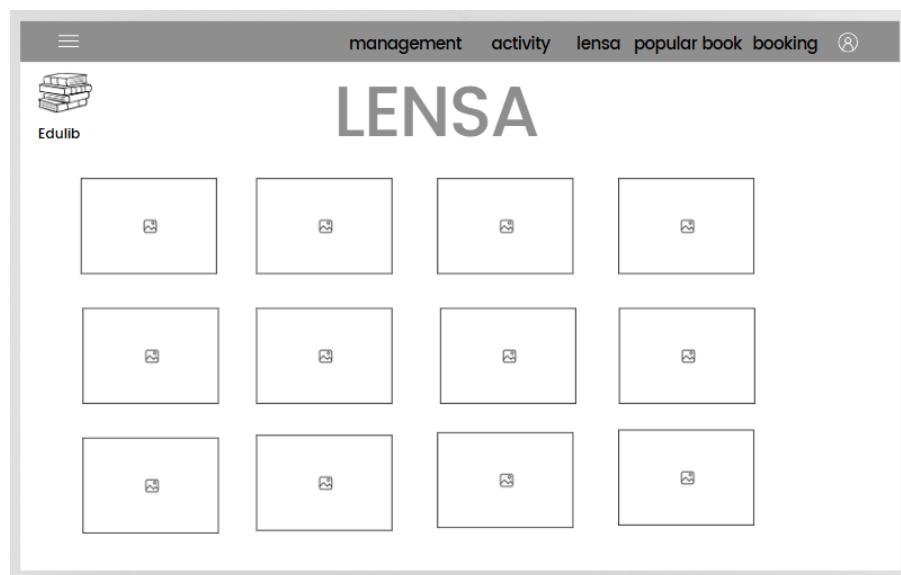


Figure 23: Lensa Page Public

This is the login section specifically for teachers, and it is required before they can access the booking page. Only teachers with registered accounts can log in and proceed with booking a room. This section is not required for students, as they do not have access to the booking feature. It ensures that only authorized teachers can manage and make reservations within the EduLib system.

The login page features a pink header bar. Below it is a white rectangular form with a rounded border. At the top center is the word "LOGIN" in red capital letters. Below this are two input fields: "Email" and "Password", each with a placeholder text inside. Underneath the password field is a "Remember" checkbox and a "Forgot password?" link. At the bottom center is a red "SUBMIT" button. Below the button is a "Create account" link.

Figure 24: Login Page For Teacher Public

This is the Booking page, accessible only after a teacher has successfully logged in. From here, teachers can view available rooms and proceed to make a booking based on their needs.

The booking page has a dark header bar with a search icon and a user profile icon. Below the header is a title "Booking Room" with a subtitle "open your room without any disturbance". A table lists four booking requests:

ID	Name	Email	Status	Action
1	adam	dam@mail	accept	📞
2	tamia	mia@gmai	not accept	📞
3	tambi	tambi@ma	accept	📞
4	fira	fira@mail	still in process	📞

A green box on the right contains the text "lebarkan..".

Figure 25: Booking Page Public

3.7 System Module Development

3.7.1 System Module Development

The EduLib system is built in separate parts called modules. Each module has its own job, which makes the system easier to understand, fix, and improve later.

Firstly, Admin Module. This module allows to admin to manage the entire system. Features include account creation for teachers, managing content for public pages (such as Management, Activity, Rak Digital, Lensa, Popular Books) and handling room booking requests by accepting or rejecting them.

After that, teacher module that provides access for teachers to log in and manage their room bookings. Teacher required to log in through a secure page before they can access the booking system.

In Addition, booking module that handles the room booking system, accessible only to logged-in teachers. Teachers can view available rooms and select time slots. Admin can review these bookings and approve or reject them.

Lastly, authentication module that handles login functionality for both admin and teachers. It ensures that users are correctly authenticated and redirected to their respective dashboard which is admin dashboard or booking page.

3.7.2 System Database Development

 edulib	160.0 KiE
 activities	16.0 KiE
 bookings	32.0 KiE
 lensa	16.0 KiE
 management	16.0 KiE
 migrations	16.0 KiE
 popular_books	16.0 KiE
 teachers	32.0 KiE
 users	16.0 KiE



Figure 26: Database Edulib

This is users table that use for login section especially for admin.

Columns:		+ Add	- Remove	▲ Up	▼ Down					
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Co		
1	user_id	INT	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AUTO_INCREMENT...			
2	username	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
3	password	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			

Figure 27: Users Table

This is teachers table which is for teacher to login before can book a room.

Columns:		+ Add	- Remove	▲ Up	▼ Down					
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default			
1	id	INT	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default			
2	email	VARCHAR	100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
3	password	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
4	created_at	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL			
5	updated_at	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL			

Figure 28: Teachers Table

This is management table that have id, name and image.

Columns:		+ Add	- Remove	▲ Up	▼ Down					
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default			
1	id	INT	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AUTO_INCREMENT...			
2	name	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
3	image	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			

Figure 29: Management Table

This is activities table where the attributes are activity_id, title, description and image.

Columns:		+ Add	- Remove	▲ Up	▼ Down					
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default			
1	activity_id	INT	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AUTO_INCREMENT...			
2	title	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
3	description	TEXT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			
4	image	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default			

Figure 30: Activities Table

This is popular_books table where the attributes are book_id, title, synopsis and image.

Columns:									+ Add	X Remove	▲ Up	▼ Down
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Cor				
1	book_id	INT	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AUTO_INCREMENT					
2	title	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default					
3	synopsis	TEXT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default					
4	image	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default					

Figure 31: popular_books Table

This is lensa table where the attributes are lensa_id, image., created_at and updated_at.

Columns:									+ Add	X Remove	▲ Up	▼ Down
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Cor				
1	lensa_id	INT	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AUTO_INCREMENT					
2	image	VARCHAR	255	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No default					
3	created_at	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL					
4	updated_at	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL					

Figure 32: Lensa Table

This is the booking table used to store all room booking requests made by teachers. It includes booking_id (unique ID), teacher_id (to link the teacher), room_name, phone_number, date, time, message (optional notes), and status (default is pending, can be approved or rejected).

Columns:									+ Add	X Remove	▲ Up	▼ Down
#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Cor				
1	booking_id	INT	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AUTO_INCREMENT					
2	teacher_id	INT	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default					
3	room_name	VARCHAR	100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default					
4	phone_number	VARCHAR	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default					
5	date	DATE		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default					
6	time	TIME		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default					
7	message	TEXT		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NULL					
8	status	ENUM	'pending','ap...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	'pending'					

Figure 33: Booking Table

3.8 User Interface System Development

EduLib interface was designed to be simple, responsive, and easy to navigate using Bootstrap and JavaScript. Bootstrap provided consistent styling and mobile



responsiveness, while JavaScript enabled features like form validation and dynamic content.

The layout includes clean navigation, buttons, and tables styled with Bootstrap, with custom styling as needed. The interface works well across desktops, tablets, and mobile devices.

3.8.1 Admin login

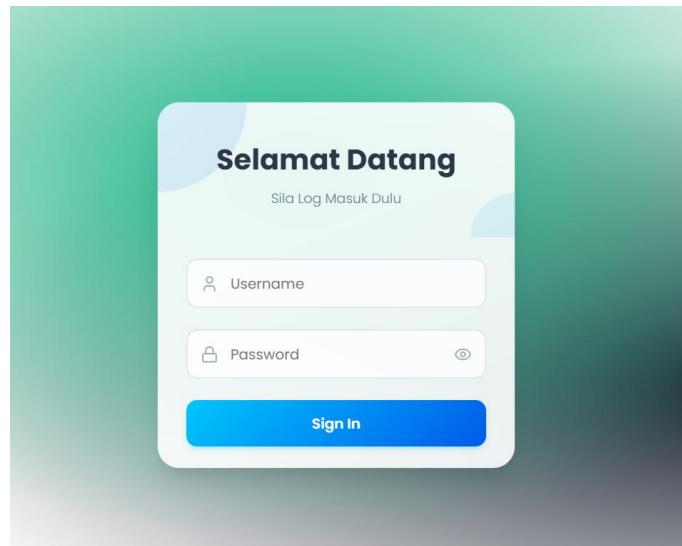


Figure 34: Login Admin

3.8.2 Dashboard admin



Figure 35: Dashboard Admin

3.8.3 Activiti page admin

#	Tajuk	Keterangan	Gambar	Tindakan
1	Lawatan	membuat satu lawatan di bazar buku perak bersama-sama pelajar dan guru		[Kemas Kini] [Hapus]
2	Aktiviti jualan	Salah satu aktiviti jualan daripada kraftangan yang dianjurkan oleh pihak pusat sumber sekolah (PSS)		[Kemas Kini] [Hapus]
3	Lawatan	Lawatan penanda aras ke perpustakaan di SMK BERCHAM, IPOH		[Kemas Kini] [Hapus]
4	Lawatan	Ini salah satu antara lawatan penanda aras ke perpustakaan institut latihan Statistik Malaysia		[Kemas Kini] [Hapus]
5	Pelancaran	Pelancaran Semetro Pesona Studio		[Kemas Kini] [Hapus]

Figure 36: Activity Page Admin

3.8.4 Management page admin

#	Nama	Gambar	Tindakan
1	Barisan Pentadbir Tahun 2025		[Kemas Kini] [Hapus]
2	Barisan Pengawas 2025		[Kemas Kini] [Hapus]

Figure 37: Management Page Admin

3.8.5 Popular book page admin



#		Tajuk	Sinopsis	Gambar	Tindakan
1	Motel oleh Sahidan Salleh	Dendam seorang bekas banduan terhadap kekasihnya, kisah dua sahabat yang bercita-cita menjadi kaya tapi memilih jalan yang salah, cerita seorang pemuda yang menuntut hutang dari kawan lama, pembunuhan upahan yang memburu sasarnya, dan detektif yang menjelaki seorang penulis yang hilang setahun lamanya. Semuanya menunjuk ke destinasi yang serupa. Sebuah motel terpencil yang menyimpan seribu satu rahsia		Kemas Kini Hapus	
2	Unbox oleh Ariff Adly	"Kita sekarang kat rumah Adam." Iqbal menyusakan henfon ke arah Adam. "Okay bro say hi." "Halu geng!" kata Adam sambil membuat isyarat peace senget ke tepi. Stylo habislah tu! Kemudian dia menghalakkan kamera kepada Nadia dan Dira. Mereka meletakkan tangan di bahu masing-masing sambil membuat muka comel. Dira sempat mengenyek mata sebelum Iqbal mengalihkan henfon ke arahku. "Yo," kataku ringkas, kemudian arahkan telunjuk ke arah kotak misteri. "So kita sekarang kat rumah Adam, dia order mystery box dari dark web, and now we are going to unbox it." Iqbal memberikan narasi. "Nervous siot." "Tau takpe," balasku. Adam mula memotong pita pelekat dengan pisau butterfly miliknya...		Kemas Kini Hapus	
3	Kita Cuma Kawan, Kan? oleh Auni Zainal	"Suara penyanyi ni macam itik tercekkil, encik?" "Awak kata suara saya macam itik tercekkil?" *** Yulia – kelam-kabut, tapi sibuk mahu menjadi hero untuk semua orang. Sanggup tinggalkan cita-cita dan memandu e-hailing demi menyeru ibu dan adiknya — sebuah dia saje boleh diharap. Adam – penyanyi popular kontroversi yang lebih suka menyendiri; takut mahu rapat dengan orang. Kan lebih senang mencintai dari jauh? Tida siapa kecewa. Dunia mereka bertembung apabila Adam menjadi penumpang		Kemas Kini Hapus	

Figure 38:Popular Book Page Admin

3.8.6 Booking Page Admin

Senarai Tempahan									
#	ID Guru	Nama Bilik	Nombor Telefon	Tarikh Tempahan	Masa Tempahan ^	Mesej	Status	Tindakan	
1	100	Bilik Seminar	0122353632	11-04-2025	03:07:00	miow	Pending	  	
2	104	Bilik Multimedia	0122353632	26-04-2025	18:40:00	saya mahukan pembantu	Rejected	 	

Figure 39:Booking Page Admin

3.8.7 Lensa Page Admin



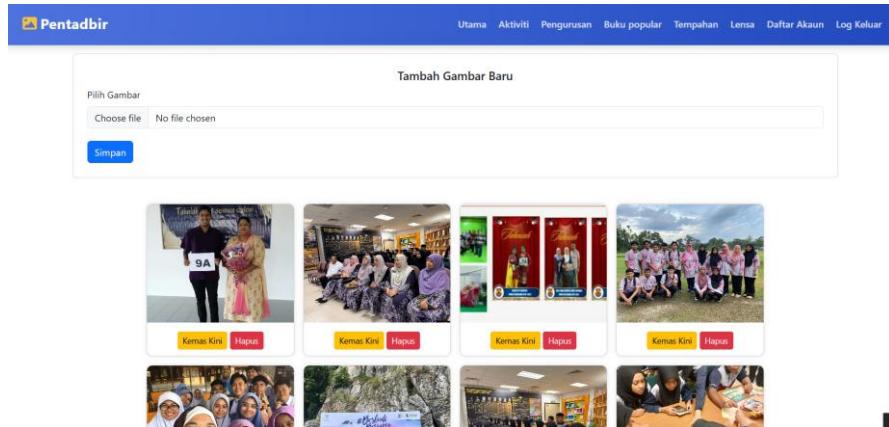


Figure 40:Lensa Page Admin

3.8.8 Create Account Page Admin

The screenshot shows the 'Daftar Guru Baru' (New Teacher Registration) page. The header is identical to Figure 40. The main form has fields for 'ID Guru' (with a dropdown menu), 'Emel' (email), and 'Katalaluan' (password). There is also a 'Daftar Guru' (Register Teacher) button. Below this, a table titled 'Senarai Guru Berdaftar' (List of Registered Teachers) displays four rows of data. Each row contains the teacher's ID, email, and a 'Tindakan' (Action) column with edit and delete icons.

ID Guru	Emel	Tindakan
100	emma@gmail.com	
101	faridahyusuf@gmail.com	
103	nizam@gmail.com	
104	nadia@gmail.com	

Figure 41:Create Account Page Admin

3.8.9 Homepage Public





Figure 42: Homepage Public

3.8.10 Management page public



Figure 43: Management Page Public

3.8.11 Activity page public



Figure 44: Activity Page Public

3.8.12 Rak digital public



Figure 45: Rak Digital Page Public

3.8.13 Popular book page public





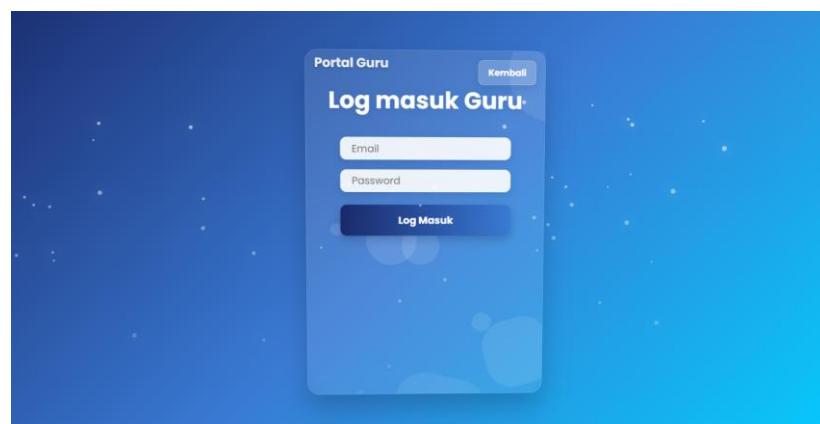
Figure 46: Buku Popular Page Public

3.8.14 Lensa page public



Figure 47: Buku Popular Page Public

3.8.15 Login teacher for booking



takkan orang nak baca caption di muka surat lain kot...kena elok sikit adam...

Figure 48: Login Teacher Public

3.8.16 Booking page public

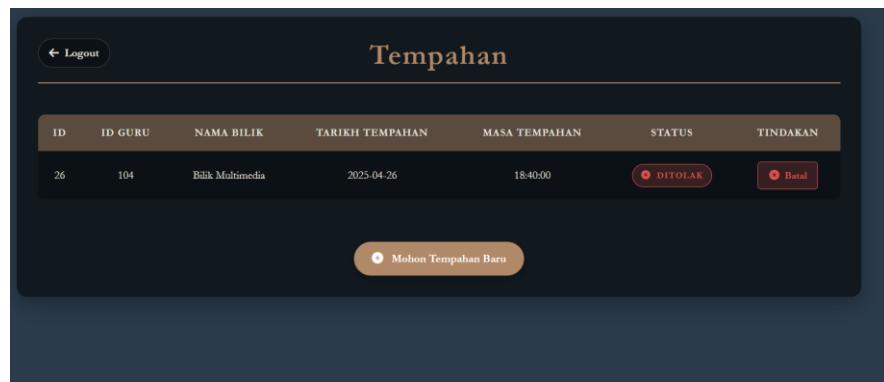


Figure 49: Booking Page Public

3.9 Intergrate All System Component

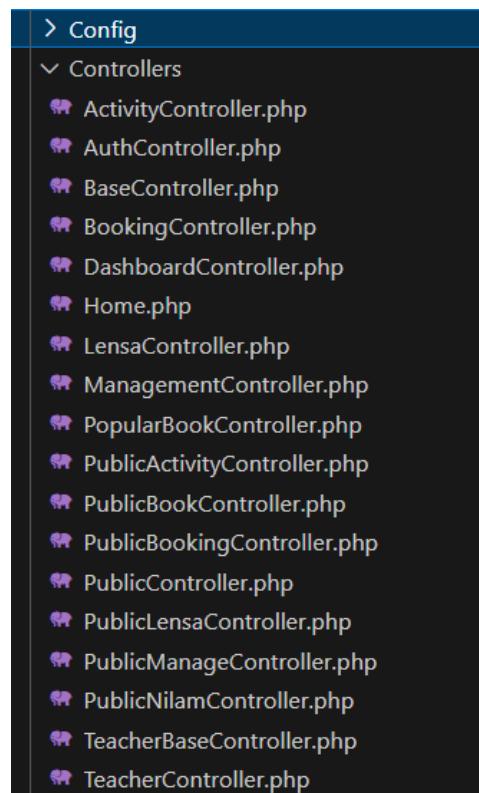


Figure 50: Controller File in Codeigniter

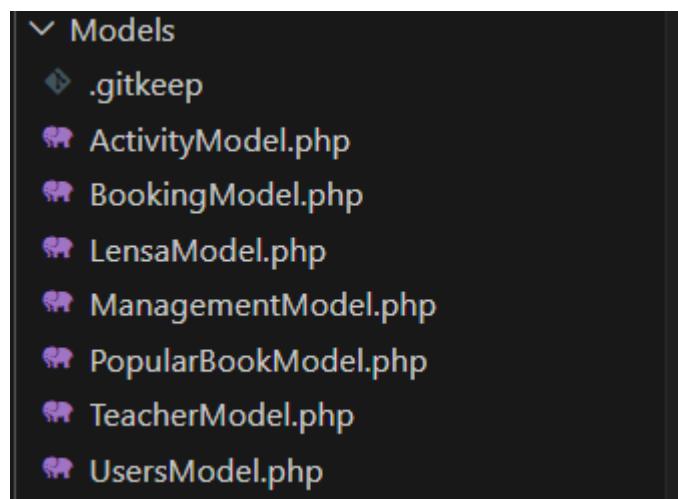


Figure 51: Model File in Codeigniter

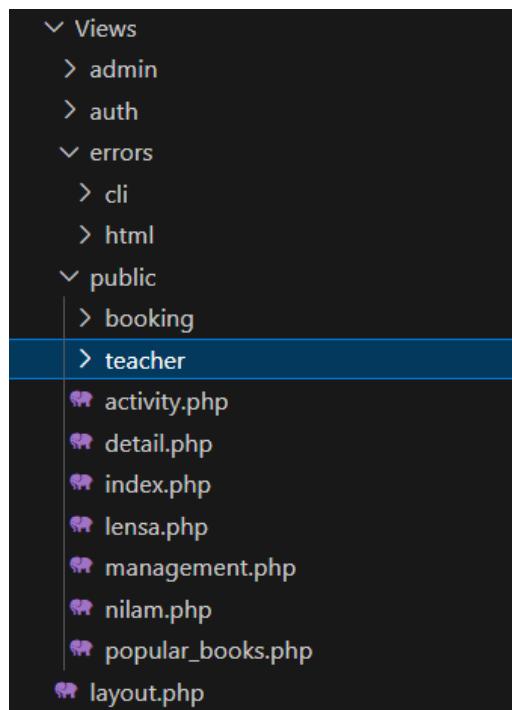


Figure 52: View File in Codeigniter

3.10 Programming and Coding (Design Process)



3.10.1 Login Css Code

```

:style {
  * {
    margin: 0;
    padding: 0;
    box-sizing: border-box;
    font-family: 'Poppins', sans-serif;
  }
}

body {
  min-height: 100vh;
  display: flex;
  align-items: center;
  justify-content: center;
  background-color: #f5f5f5;
  background-image:
    radial-gradient(at 47% 33%, hsl(162, 77%, 40%) 0, transparent 50%),
    radial-gradient(at 82% 65%, hsl(218, 39%, 11%) 0, transparent 55%);
  padding: 1.5rem;
}

.container {
  width: 100%;
  max-width: 400px;
  perspective: 1000px;
}

.flash-error {
  margin-bottom: 1.5rem;
  padding: 1rem;
  background-color: rgba(239, 68, 68, 0.9);
  color: white;
  border-radius: 0.75rem;
  text-align: center;
  backdrop-filter: blur(10px);
  box-shadow: 0 10px 15px -3px rgba(239, 68, 68, 0.2);
  animation: slideDown 0.4s ease-out;
}

.flash-success {
  margin-bottom: 1.5rem;
  padding: 1rem;
  background-color: rgba(34, 197, 94, 0.9);
  color: white;
  border-radius: 0.75rem;
  text-align: center;
  backdrop-filter: blur(10px);
  box-shadow: 0 10px 15px -3px rgba(34, 197, 94, 0.2);
  animation: slideDown 0.4s ease-out;
}

@keyframes slideDown {
  from {
    opacity: 0;
    transform: translateY(-20px);
  }
  to {
    opacity: 1;
  }
}

```

Figure 53: Login Css

3.10.1 Homepage Public Css Code



```

/* Reading lamp effect */
.reading-lamp {
  position: fixed;
  width: 200px;
  height: 200px;
  border-radius: 50%;
  background: radial-gradient(circle, #rgba(255,235,130,0.3) 0%, #rgba(255,235,130,0) 70%);
  pointer-events: none;
  z-index: 5;
  transform: translate(-50%, -50%);
  opacity: 0;
  transition: opacity 0.5s ease;
}

/* Bookshelf Navigation */
.shelf-container {
  position: relative;
  width: 30rem;
  height: 10rem;
  display: flex;
  flex-direction: column;
  align-items: center;
  padding: 2rem 0;
  z-index: 10;
}

.shelf {
  position: relative;
  width: 30rem;
  height: 10rem;
  border: 0.5rem solid #37445b;
  border-radius: 0.5rem;
  background-color: #rgba(255, 255, 255, 0.1);
  perspective: 100px;
  box-shadow: inset 0 0 2rem #rgba(0, 0, 0, 0.2), 0 10px 30px #rgba(0, 0, 0, 0.3);
  overflow: hidden;
  transform-style: preserve-3d;
}

/* Door control buttons */
.door-btns {
  display: flex;
  justify-content: center;
  gap: 1rem;
  margin-top: 1.5rem;
}

.door-btn {
  background-color: var(--accent-color);
  color: var(--text-color);
  border: none;
  padding: 0.5rem 0.5rem;
  border-radius: 0.5rem;
  cursor: pointer;
  font-size: 0.9rem;
  transition: all 0.3s ease;
  display: flex;
  align-items: center;
}

```

Figure 54: Homepage Css for Public

3.10.1 Router Code

This is router code which is for public section and administrator section.

```

// + Authentication Routes
$routes->get('/login', 'AuthController::login');
$routes->post('/login-process', 'AuthController::loginProcess');
$routes->get('/register', 'AuthController::register');
$routes->post('/register-process', 'AuthController::registerProcess');
$routes->get('/logout', 'AuthController::logout');

// ✅ Fix for "Can't find a route for 'GET: dashboard'"
$routes->get('admin/dashboard', 'DashboardController::index');

// + Booking Routes
$routes->group('admin', function ($routes) {
  $routes->get('booking', 'BookingController::index');
  $routes->post("booking/delete(:num)", 'BookingController::delete/$1');

  // Use POST for approve/reject actions to prevent misuse via URL
  $routes->post("booking/approve/:num", 'BookingController::approve/$1');
  $routes->post("booking/reject/:num", 'BookingController::reject/$1');
});

// + Management Routes
$routes->get('admin/management', 'ManagementController::index');
$routes->get('admin/management/create', 'ManagementController::create');
$routes->post('admin/management/store', 'ManagementController::store');
$routes->get('admin/management/edit/:num', 'ManagementController::edit/$1');
$routes->post('admin/management/update/:num', 'ManagementController::update/$1');
$routes->post('admin/management/delete/:num', 'ManagementController::delete/$1');

// + Popular Books Routes (Renamed for consistency)
$routes->get('admin/poular_books', 'PopularBookController::index');
$routes->get('admin/poular_books/create', 'PopularBookController::create');
$routes->post('admin/poular_books/store', 'PopularBookController::store');
$routes->get('admin/poular_books/edit/:num', 'PopularBookController::edit/$1');
$routes->post('admin/poular_books/update/:num', 'PopularBookController::update/$1');
$routes->post('admin/poular_books/delete/:num', 'PopularBookController::delete/$1');

// Lensa routes
$routes->get('admin/lensa', 'LensController::index');
$routes->get('admin/lensa/create', 'LensController::create');
$routes->post('admin/lensa/store', 'LensController::store');
$routes->get('admin/lensa/edit/:num', 'LensController::edit/$1');
$routes->post('admin/lensa/update/:num', 'LensController::update/$1');
$routes->post('admin/lensa/delete/:num', 'LensController::delete/$1');

$routes->get('admin/register', 'TeacherController::register');
$routes->post('teacher/store', 'TeacherController::store');

```

Figure 55: Router for Admin

3.11 System Security and Network Development

The EduLib system is built using the CodeIgniter framework, which includes a default session management system. Session checks are implemented to enhance data security and ensure user authentication throughout the application.

```

#-----
# CI_ENVIRONMENT = development
#-----
# APP
#-----

app.baseURL = 'http://localhost:8080/'
# If you have trouble with `.` , you could also use `_` .
# app_baseURL = ''
# app.forceGlobalSecureRequests = false
# app.CSPEnabled = false

#-----
# DATABASE
#-----

database.default.hostname = localhost
database.default.database = edulib
database.default.username = root
database.default.password = |
database.default.DBDriver = MySQLi
database.default.DBPrefix =
database.default.port = 3306

```

Figure 56: Env.

```

class TeacherAuthFilter implements FilterInterface
{
    public function before(RequestInterface $request, $arguments = null)
    {
        // Check if teacher is not logged in
        if ($this->session()->get('isTeacherLoggedIn')) {
            // Store the current URL to redirect back after login
            $this->session()->setFlashdata('redirect_url', current_url());
            // Redirect to the login page
            return $this->redirect()->to('/teacher/login')->with('error', 'Sila log masuk untuk melihat maklumat tempahan anda.');
        }
    }

    public function after(RequestInterface $request, ResponseInterface $response, $arguments = null)
    {
        // Do nothing after
    }
}

```

Figure 57: Session Code in Teacher Login

3.12 Overview of Project (Design Outcome)

3.12.1 Public:

Homepage

Homepage? Cuba bagi seiring dengan cara awak tulis dengan gambar-gambar sebelumnya.



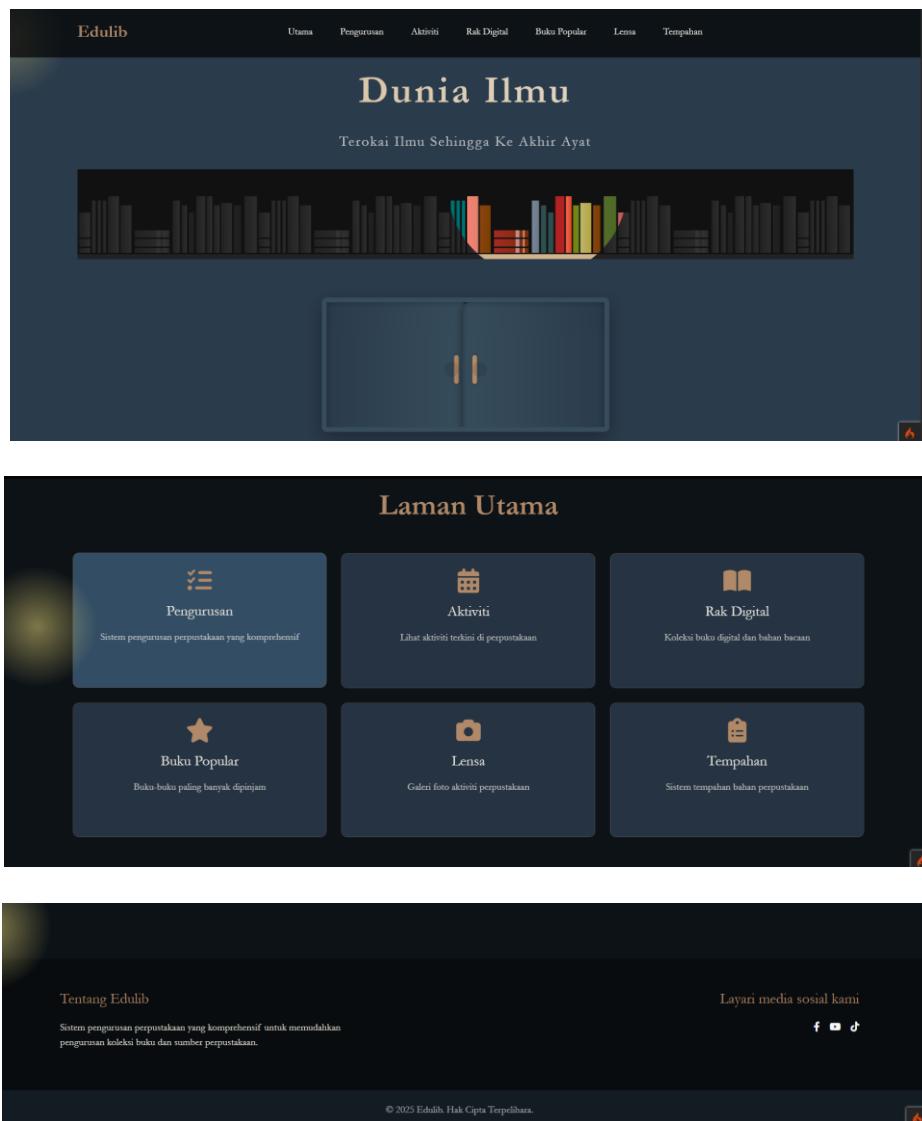


Figure 58: Homepage Public

Management Page



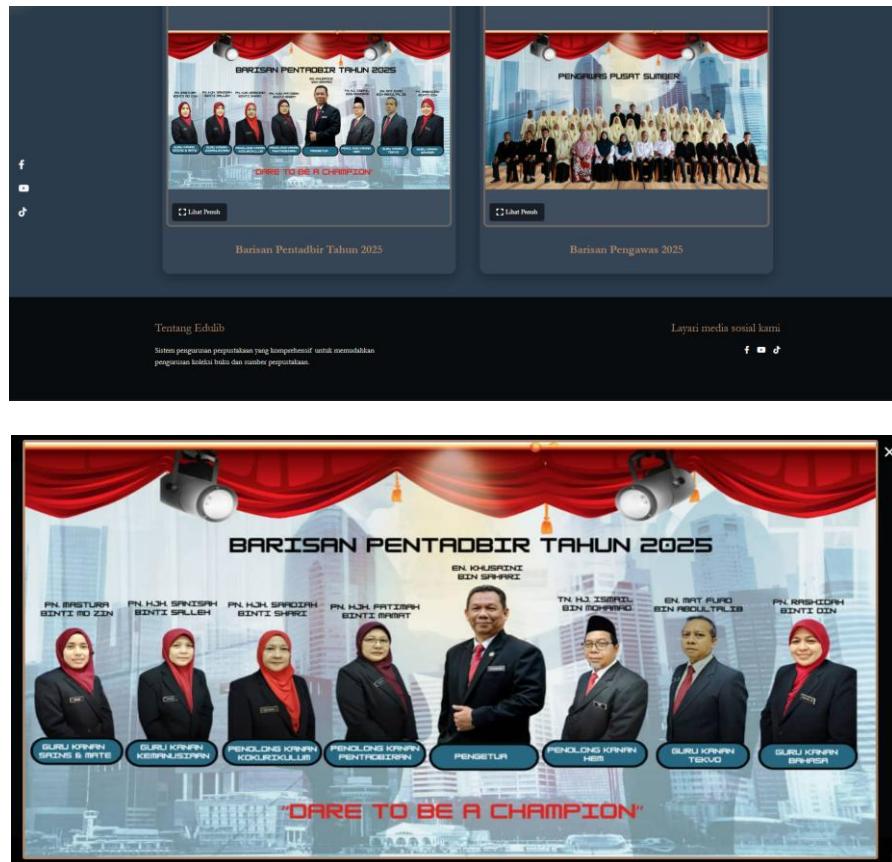


Figure 59: Management Page Public

Activity Page

The screenshot displays a grid of four activity cards. The first card, 'Lawatan', shows a group at a book fair. The second, 'Aktiviti jualan', shows a stall with goods. The third, 'Lawatan', shows a group at a library. The fourth, 'Lawatan', shows a group at a statistical office. A header above the cards reads 'Aktiviti Edulib'.

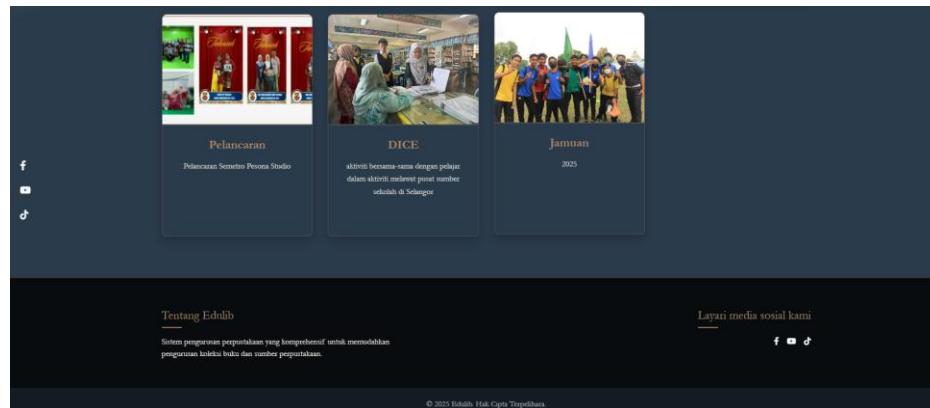


Figure 60: Activity Page Public

Rak Digital Page



Figure 61: Rak Digital Page Public

Popular Book Page tak konsisten..ikut saranan saya seblum ni

Edulib

Utama Pengurusan Aktiviti Rak Digital Buku Popular Lensa Tempahan

Buku Popular

Koleksi Buku Popular

Antara Buku yang menjadi sumber rujukan utama serta mendapat perhatian dan permintaan tinggi dalam kalangan pelajar kerana kandungannya yang relevan dan bermanfaat.

Motel oleh Sahidan Salleh

Unbox oleh Ariff Adly

Kita Cuma Kawan, Kan? oleh Auni Zainal

Bayang Sofea oleh Teme Abdullah

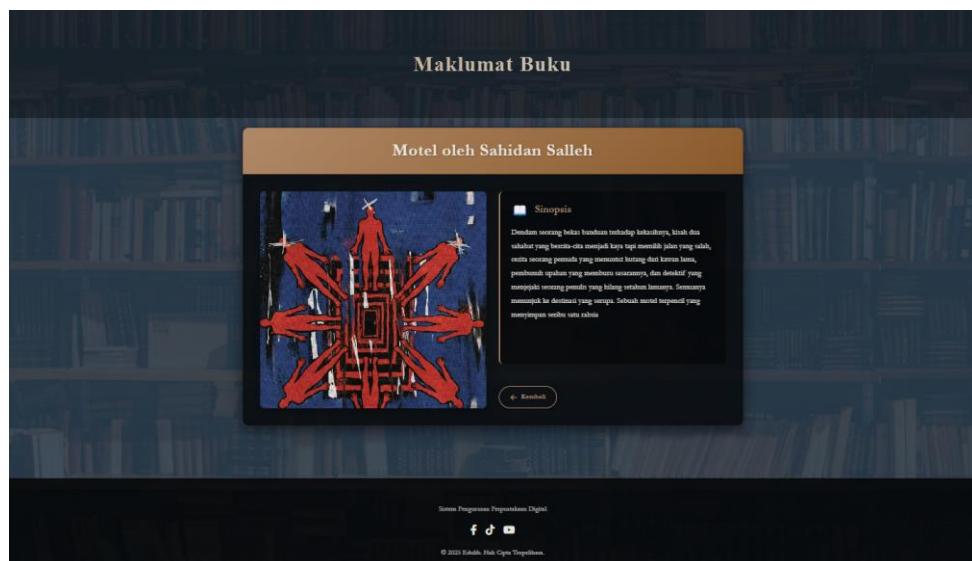
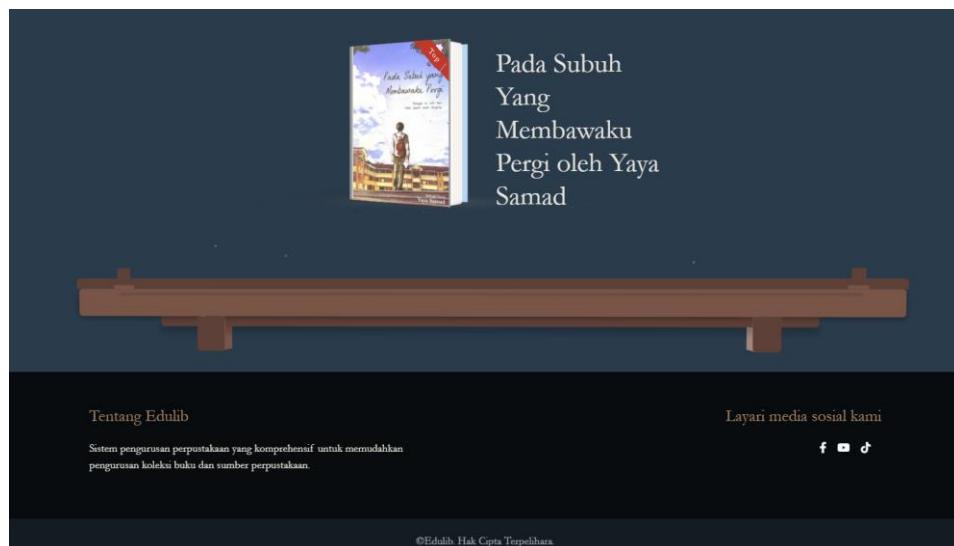


Figure 62: Popular Book Page Public

Lensa Page



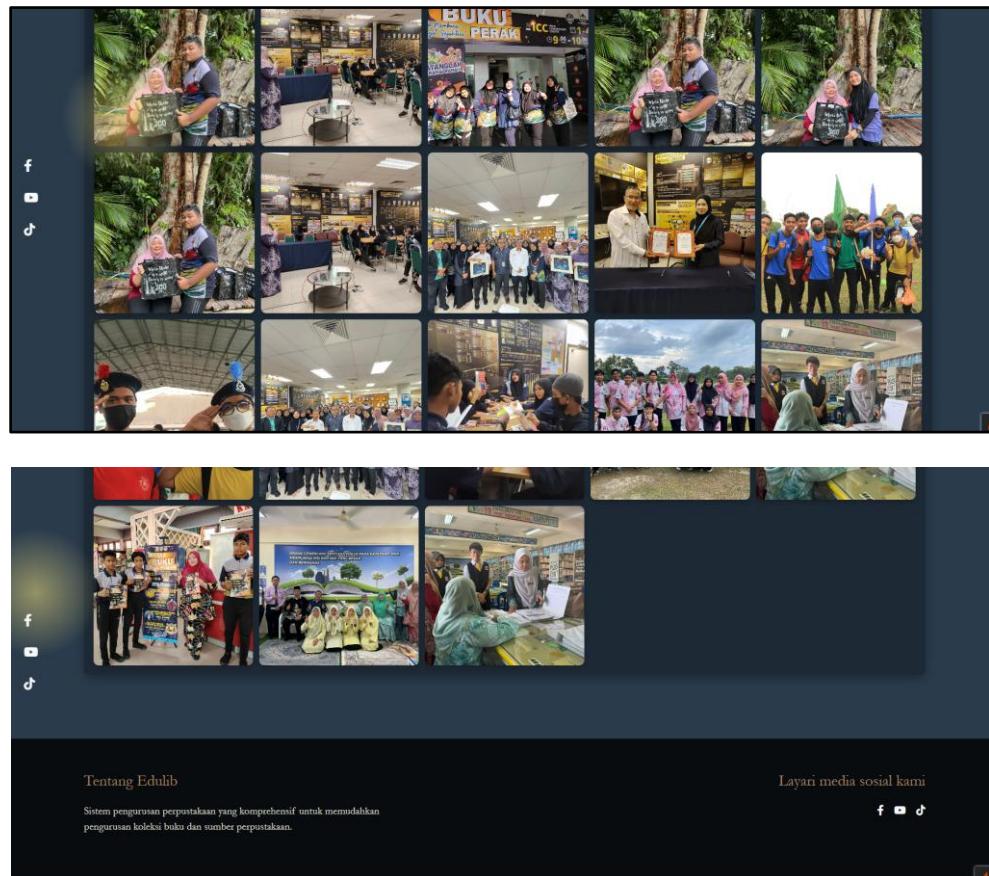


Figure 63: Lensa Page Public

Teacher Login



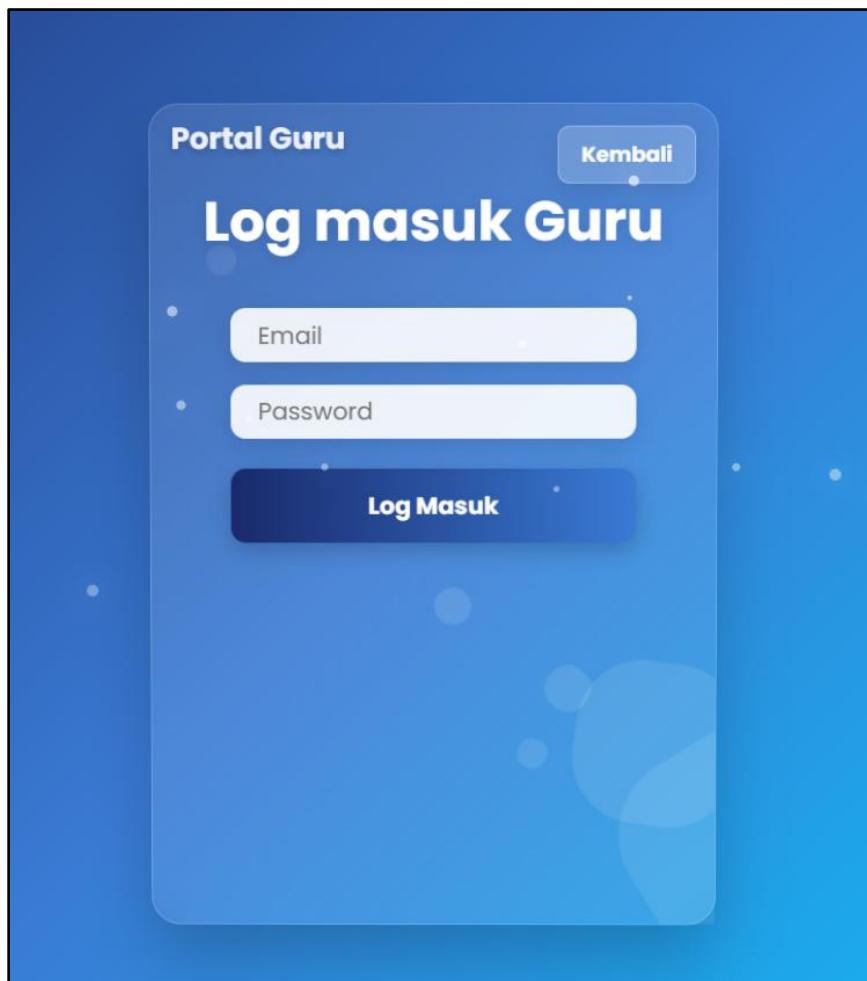


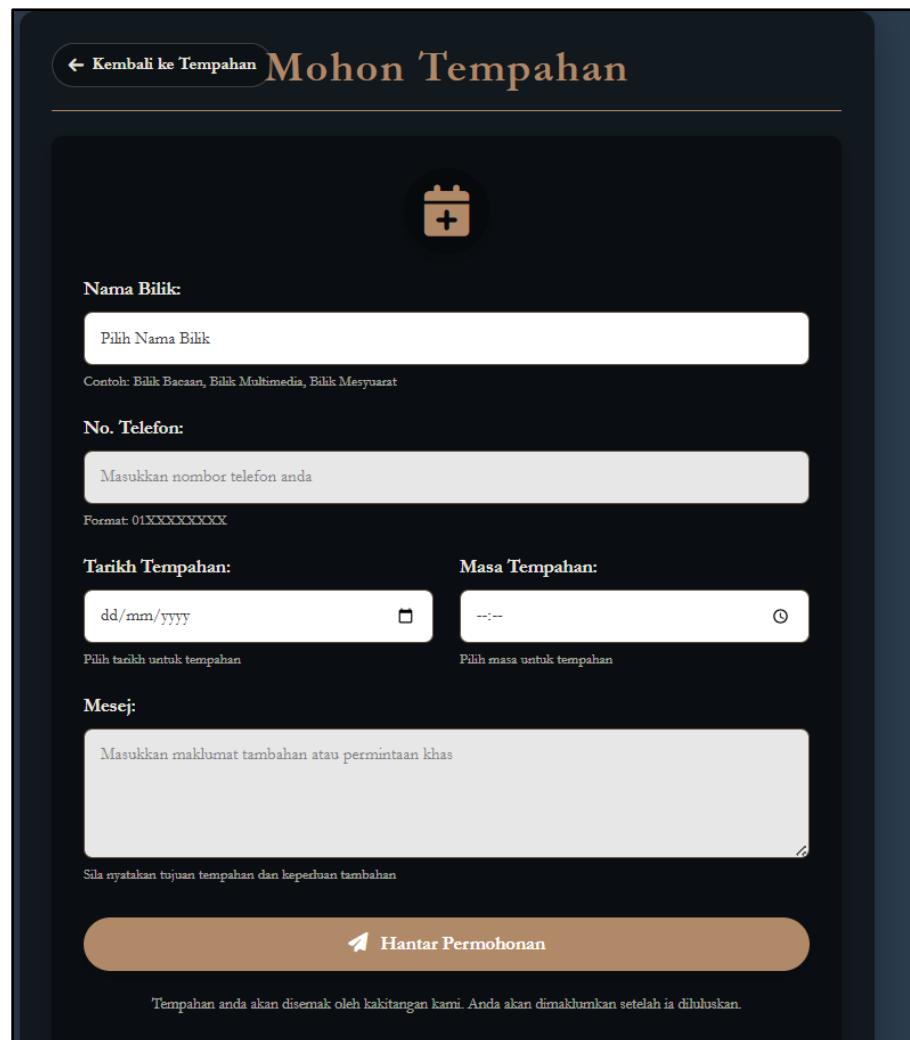
Figure 64: Login Page Public

Booking Page After Login

A screenshot of the 'Tempahan' (Booking) page. The page title is 'Tempahan'. It features a table with columns: ID, ID GURU, NAMA BILIK, TARikh TEMPahan, MASA TEMPahan, STATUS, and TINDAKAN. A single row is shown: ID 26, ID GURU 104, NAMA BILIK Bilik Multimedia, TARikh TEMPahan 2025-04-26, MASA TEMPahan 18:40:00, STATUS DITOLAK, and TINDAKAN with buttons for 'DITOLAK' and 'Batal'. At the bottom is a button labeled 'Mohon Tempahan Baru'.

Figure 65: Booking Page Public

Booking Form



The image shows a mobile-style booking form titled "Mohon Tempahan". At the top left is a back button labeled "Kembali ke Tempahan". The title "Mohon Tempahan" is centered above a large input field containing a calendar icon with a plus sign. Below this is a section for "Nama Bilik" with a placeholder "Pilih Nama Bilik" and a note "Contoh: Bilik Bacaan, Bilik Multimedia, Bilik Mesyuarat". Next is a "No. Telefon" section with a placeholder "Masukkan nombor telefon anda" and a note "Format: 01XXXXXXXXX". Then there are two date pickers: "Tarikh Tempahan" (dd/mm/yyyy) and "Masa Tempahan" (hh:mm). Both have notes "Pilih tarikh untuk tempahan" and "Pilih masa untuk tempahan". Below these is a "Mesej:" section with a placeholder "Masukkan maklumat tambahan atau permintaan khas" and a note "Sila nyatakan tujuan tempahan dan keperluan tambahan". At the bottom is a large orange "Hantar Permohonan" button with a paper airplane icon. A small note at the bottom states: "Tempahan anda akan disemak oleh kakitangan kami. Anda akan dimaklumkan setelah ia diluluskan."

Figure 66: Booking Form Page Public

3.12.2 Admin

Login Section for Admin



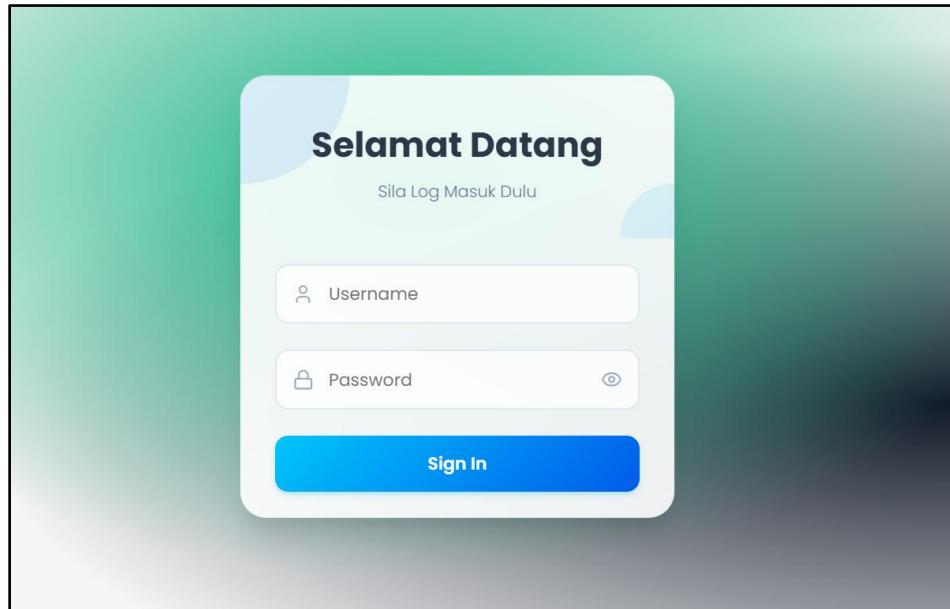


Figure 67: Login Section Admin

Admin Dashboard

A screenshot of the Admin Dashboard. The top navigation bar includes "Pentadbir", "Utama", "Aktiviti", "Pengurusan", "Buku popular", "Tempahan", "Lensa", "Daftar Akaun", and "Log Keluar". The main content area displays a message: "Selamat datang ke Edulib!" followed by "Kamu log masuk sebagai admin" and "Guna papan navigasi untuk ke seksyen lain.".

Figure 68: Admin Dashboard

Activity in Admin Section

#	Tajuk	Keterangan	Gambar	Tindakan
1	Lawatan	membuat satu lawatan di bazar buku perak bersama-sama pelajar dan guru		<button>Kemas Kini</button> <button>Hapus</button>
2	Aktiviti jualan	Salah satu aktiviti jualan daripada kraftangan yang dianjurkan oleh pihak pusat sumber sekolah (PSS)		<button>Kemas Kini</button> <button>Hapus</button>
3	Lawatan	Lawatan penanda aras ke perpustakaan di SMK BERCHAM, IPOH		<button>Kemas Kini</button> <button>Hapus</button>
4	Lawatan	Ini salah satu antara lawatan penanda aras ke perpustakaan institut latihan Statistik Malaysia		<button>Kemas Kini</button> <button>Hapus</button>
5	Pelancaran	Pelancaran Semetro Pesona Studio		<button>Kemas Kini</button> <button>Hapus</button>
6	DICE	aktiviti bersama-sama dengan pelajar dalam aktiviti melawat pusat sumber sekolah di Selangor		<button>Kemas Kini</button> <button>Hapus</button>
7	Jamuan	2025		<button>Kemas Kini</button> <button>Hapus</button>

[Kembali](#) [Tambah Aktiviti](#)

Figure 69: Activity Page Admin

Edit Page for Activity

Kemas Kini Aktiviti	
Tajuk Aktiviti	Lawatan
Penerangan	membuat satu lawatan di bazar buku perak bersama-sama pelajar dan guru
Gambar Kini	
Tukar Gambar	<input type="file"/> Choose file No file chosen
Kemas Kini Kembali	

Figure 70: Edit Activity Page Admin

Create Page for Activity

Tambah Aktiviti Baru

Tajuk		
Penerangan		
Gambar	Choose file	No file chosen

Simpan **Kembali**

Figure 71: Create Activity Page Admin

Management Page in Admin Section

Senarai Pengurusan

#	Nama	Gambar	Tindakan
1	Barisan Pentadbir Tahun 2025		Kemas Kini Hapus
2	Barisan Pengawas 2025		Kemas Kini Hapus

Kembali **Tambah Pengurusan Baru**

Figure 72: Management Page Admin

Edit Page for Management

Kemas Kini Pengurusan	
ID	8
Nama	Barisan Pentadbir Tahun 2025
Gambar Kini	
Tukar Gambar	<input type="button" value="Choose file"/> No file chosen
<input type="button" value="Kemas Kini"/> <input type="button" value="Kembali"/>	

Figure 73: Edit Management Page Admin

Create Page for Management

Tambah Pengurusan Baru	
Nama	<input type="text"/>
Pilih Gambar	<input type="button" value="Choose file"/> No file chosen
<input type="button" value="Simpan"/> <input type="button" value="Kembali"/>	

Figure 74: Create Management Page Admin

Popular Book in Admin Section

Pentadbir

Utama Aktiviti Pengurusan Buku popular Tempahan Lensa Daftar Akaun Log Keluar

Pengurusan Buku Popular

#	Tajuk	Sinopsis	Gambar	Tindakan
1	Motel oleh Sahidan Salleh	Dendam seorang bekas banduan terhadap kekasihnya, kisah dua sahabat yang bercita-cita menjadi kaya tapi memilih jalan yang salah, cerita seorang pemuda yang menuntut hutang dari kawan lama, pembunuhan upahan yang memburu sasarnya, dan detektif yang menjelaki seorang penulis yang hilang setahun lamanya. Semuanya menunjuk ke destinasi yang serupa. Sebuah motel terpencil yang menyimpan seribu satu rahsia		<input checked="" type="checkbox"/> Kemas Kini <input type="button" value="Hapus"/>
2	Unbox oleh Ariff Adly	"Kita sekarak kat rumah Adam." Iqbal menyuaikan henfon ke arah Adam. "Okay bro say hi." "Halu gengi" kata Adam sambil membuat syarat peace senget ke tepi. Stylo habislu tu? Kemudian dia menghalakkan kamera kepada Nadia dan Dira. Mereka meletakkan tangan di bahu masing-masing sambil membuat muka comel. Dira sempat mengenyitkan mata sebelum Iqbal mengalihkan henfon ke arahku. "Yo," kataku ringkas, kemudian arahkan telunjuk ke arah kotak misteri. "So kita sekarak kat rumah Adam, dia order mystery box dari dark web, and now we are going to unbox it." Iqbal memberikan naratif. "Nervous siot." "Tau takpe," balasku. Adam mula memotong pita pelekat dengan pisau butterfly miliknya...		<input checked="" type="checkbox"/> Kemas Kini <input type="button" value="Hapus"/>
3	Kita Cuma Kawan, Kan? oleh Auni Zainal	"Suara penyanyi ni macam itik terceklak, encik." "Awak kata suara saya macam itik terceklak?" *** Yulia – kelam-kabut, tapi sibuk mahu menjadi hero untuk semua orang. Sanggup tinggalkan cita-cita dan memandu e-hailing demi menyeru ibu dan adiknya — sebab dia saja boleh diharap. Adam – penyanyi popular kontroversi yang lebih suka menyendirilah; takut mahu rapat dengan orang. Kan lebih senang mencintai dari jauh? Tiada siapa kecewa. Dunia mereka bertembung apabila Adam menjadi penumpang		<input checked="" type="checkbox"/> Kemas Kini <input type="button" value="Hapus"/>
4	Bayang Sofea oleh Temie Abdullah	popular kontroversi yang lebih suka menyendirilah; takut mahu rapat dengan orang. Kan lebih senang mencintai dari jauh? Tiada siapa kecewa. Dunia mereka bertembung apabila Adam menjadi penumpang kereta Yulia. Namun mereka bertemu semula ketika Yulia yang masih cuba menjadi hero tek pasal-pasal pergi mencari sampai ke celah longkang. Saat itu, barulah Yulia tersedih penyanyi yang dikutuk sebelum ini iaitu Adam! "Kalau awak pandai sangat bab muzik, awak takkan komen suara saya macam tu." Yulia cuba mengambil hati. Namun pantang bertemu, pasti Adam cari pasal. Semakin lama kenal, diam-diam, ada perasaan asing berputik dalam hati. Yulia keliru. Adam takut berharap. Soalnya, adalah ia sesuatu yang pasti atau hanya mainan perasan? Ini cinta, atau sekadar kawan?		<input checked="" type="checkbox"/> Kemas Kini <input type="button" value="Hapus"/>
5	Pada Subuh Yang Membawaku Pergi oleh Yaya Samad	Sofea, seorang pekerja yang berdedikasi dan bijak, bercita-cita ingin berjaya di syarikat RICE dengan hasil usaha sendiri. Dia menyayangi kehidupannya akan menjadi normal seperti orang lain. Namun, pertemuan dengan Danny af' seorang artis tinsuh tersohor af' mengingatkan Sofea kepada sesuatu yang sudah lama dilupakan. Sebuah organisasi misteri yang telah membantunya berjaya af' tetapi dengan harga yang mahal. Semenjak itu, perjalanan hidup Sofea mula terju apabila seorang lelaki daripada organisasi misteri tersebut tiba-tiba muncul dan menuntut janji lama Sofea.		<input checked="" type="checkbox"/> Kemas Kini <input type="button" value="Hapus"/>

[← Kembali](#) [+ Tambah Buku Baru](#)

Figure 75: Popular Book Page Admin

Edit Page for Popular Book

Kemas Kini Buku Popular

Tajuk	Motel oleh Sahidan Salleh
Sinopsis	Dendam seorang bekas banduan terhadap kekasihnya, kisah dua sahabat yang bercita-cita menjadi kaya tapi memilih jalan yang salah, cerita seorang pemuda yang menuntut hutang dari kawan lama, pembunuhan upahan yang memburu sasarnya, dan detektif yang menjelaki seorang penulis yang hilang setahun lamanya.
Gambar Kini	
Tukar Gambar	<input type="file"/> Choose file No file chosen

Figure 76: Edit Popular Book Page Admin

Create Page in Popular Book

Tambah Buku Popular	
Judul Buku	
Sinopsis	
Gambar	<input type="button" value="Choose file"/> No file chosen
<input type="button" value="Simpan"/> <input type="button" value="Kembali"/>	

Figure 77: Create Popular Book Page Admin

Booking Page in Admin Section

Senarai Tempahan								
#	ID Guru	Nama Bilik	Nombor Telefon	Tarikh Tempahan	Masa Tempahan ^	Mesej	Status	Tindakan
1	100	Bilik Seminar	0122353632	11-04-2025	03:07:00	miow	Pending	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2	104	Bilik Multimedia	0122353632	26-04-2025	18:40:00	saya mahukan pembantu	Rejected	<input type="checkbox"/> <input checked="" type="checkbox"/>

Figure 78: Booking Page Admin

Create Account in Admin Section

The screenshot shows a web application interface for managing teacher accounts. At the top, there is a navigation bar with links: Utama, Aktiviti, Pengurusan, Buku popular, Tempahan, Lensa, Daftar Aktaun, and Log Keluar. The main content area has two sections: 'Daftar Guru Baru' (Create New Teacher Account) and 'Senarai Guru Berdaftar' (List of Registered Teachers).

Daftar Guru Baru:

- ID Guru:
- Emel:
- Katalaluan:
-

Senarai Guru Berdaftar:

ID Guru	Emel	Tindakan
100	emma@gmail.com	
101	faridahyusuf@gmail.com	
103	nizam@gmail.com	
104	nadia@gmail.com	

Figure 79: Create Account Page Admin

Bagi besar-besar sikit gambar.. saya enjoy kalau boleh bayangkan website tapi kena besar baru boleh feel

CHAPTER 4 SYSTEM TESTING

4.1 Introduction

This chapter discusses the different kinds of tests that the EduLib system has undergone to ensure it meets all the required specifications and functions correctly. Specifically, tests such as unit testing, module testing, interface testing, and database testing were performed to verify that the system aligns with its intended scope and criteria.

After the completion of the system design and development process, several tests were carried out to ensure the EduLib system operates properly and fulfills its functional requirements. This chapter outlines the testing procedures and provides evidence that the system was tested, debugged, and evaluated to confirm that the tester (user/client) requirements have been satisfied.

4.2 Unit Testing

4.2.1 Admin Login Testing

No	Test case/Test Script	Attribute Value	Expected Result	Result
1.	Verify admin login after clicking the "Login" button with correct credentials.	Email: admin Password:1234	Successfully login to the admin dashboard of the EduLib system.	Pass
2.	After pressing the "Login" button, verify	Username: Null	Login fails and appropriate	Pass

	admin login with empty fields.	Password: Null	error messages are displayed asking the user to fill in both fields.	
3.	After pressing the “Login” button, verify admin login with incorrect input.	Username: admin Password: wrong password	Login fails and failure messages are displayed asking for the correct credentials.	Pass

Table 2: Testing Admin Login

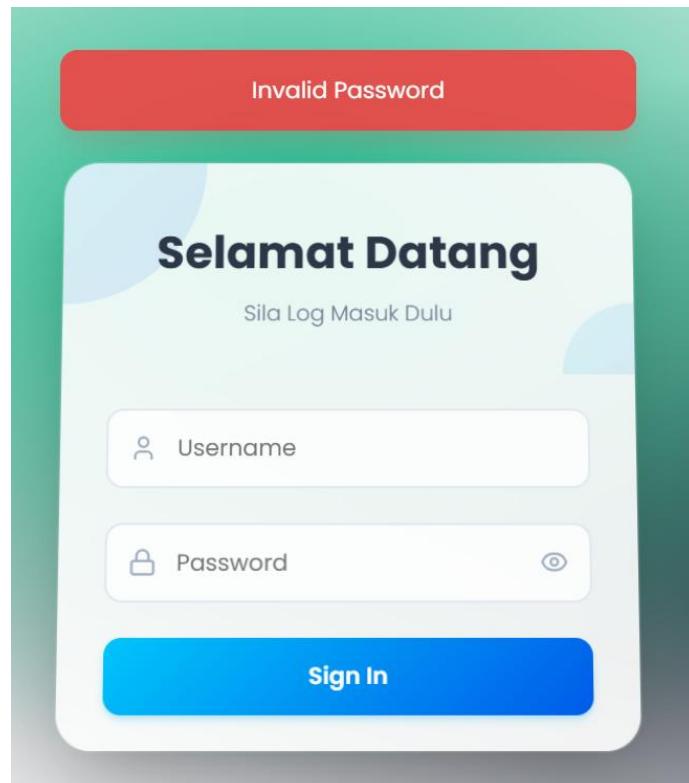


Figure 80: Invalid Password Message

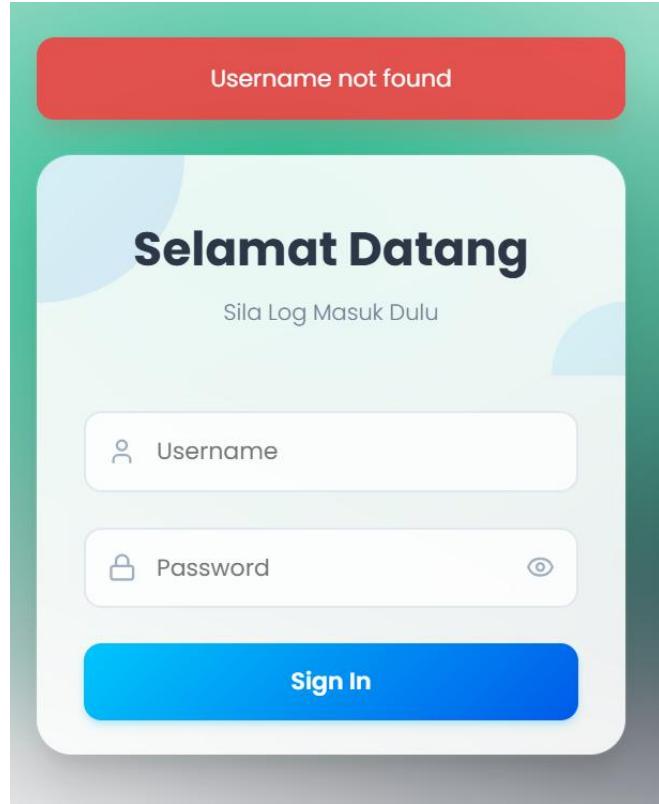


Figure 81: Username Not Found Message

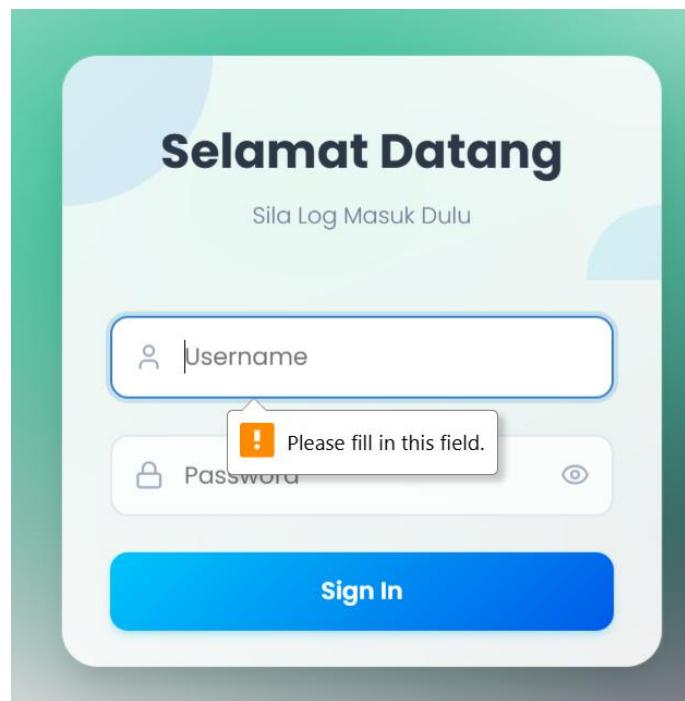


Figure 82: Login With The Null Value

4.2.2 Booking Form

This testing to ensure that the booking form work correctly and validates inputs before submission. It also checks how the system responds to various user actions during the booking process.

No	Test Case Description	Input	Expected Result	Actual Result	Status
1	Submit booking with valid details while logged in	Room Name :Bilik Tayang Date 30/4/2025 Time:22:12	Booking submitted successfully:pending approval by admin	Booking saved message shown: “Waiting for Admin approval”	Pass
2	Attempt to book without logging in	User not logged in	Redirect to login/signup page with message	System redirects to login page	Pass
3	Submit booking with empty form	All fields empty	Show Error :Please fill in this field”	Booking not submitted:error message shown	Pass

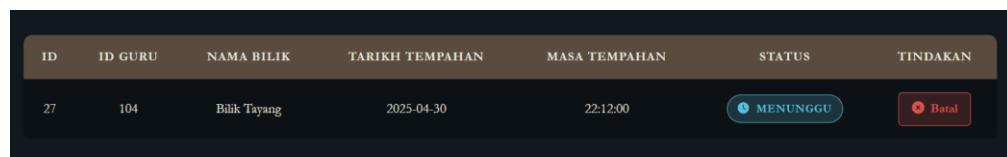


Figure 83: Booking Details

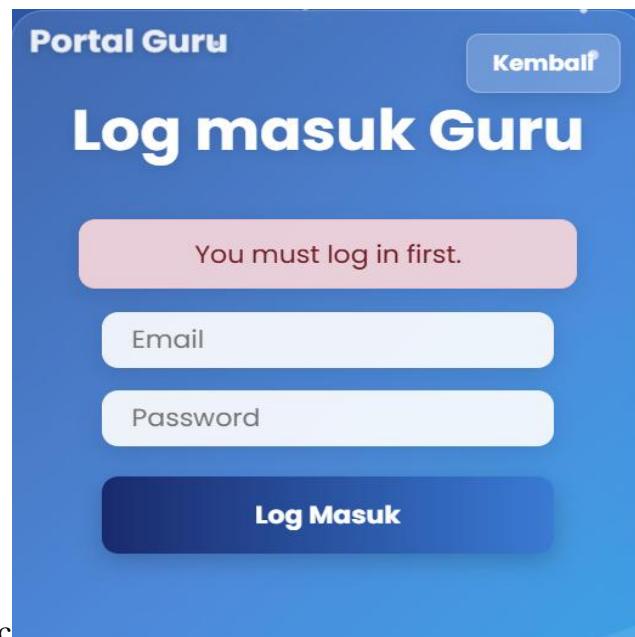


Figure 84: Attempt to book without login first

Figure 85: Submit form with empty form

4.3 Module Testing

Module testing is carried out to confirm that a collection of related functionalities (modules) function as intended when integrated. Each module consists of several components, such as forms, validation logic, and database operations, and the



objective is to ensure these elements interact correctly and produce the expected outcomes.

4.3.1 User Module

This module includes:

- i. Login
- ii. Profile View
- iii. Session Management

No.	Test Case Description	Input	Expected Result	Actual Result	Status
1	Login after registration	Registered email and password	User is successfully authentication and session starts	As expected,	Pass
2	View profile view after successfully login	Session active	User profile display correct name and email info	As expected,	Pass
3	Restrict booking access without authentication	No session	Redirected to login page	As expected,	Pass

4.3.2 Booking Module

This module includes:

- i. Booking Form
- ii. Booking History
- iii. Admin Approval

No.	Test Case Description	Input	Expected Result	Actual Result	Status
1	Submit booking while logged in	Valid booking details	Booking request is saved, appear in booking history with status of "Pending"	As expected,	Pass
2	Check booking status after admin approval	Booking ID: 27	Status changes to "Approved", After admin approve	As expected,	Pass
3	View booking history	Logged in user	Complete list of previous bookings is displayed	As expected,	Pass

4.3.3 Booking Module

This module includes:

- i. Admin Login
- ii. CRUD Function (Create, Read, Update, Delete) for each page
- iii. Approval system for booking requests

No.	Test Case Description	Input	Expected Result	Actual Result	Status

1	Admin logs in with valid credentials	Username: admin Password: 1234	Redirected to admin dashboard	As expected,	Pass
2	View existing data	Click on each module in navbar	All records are displayed from database is listed with edit/delete options	As expected,	Pass
3	Add new management data	Management Name: “Barisan Pengawas 2025”	New Data is added and shown in listing	As expected,	Pass
4	Edit management details	Name: Barisan Pentadbir Tahun 2025 Image: New image	Updates reflected in database and frontend	As expected,	Pass
5	Delete management details	Click “Delete” on entry	Data removed and not shown on frontend	As expected,	Pass
6	Approve booking	Booking ID: 27 Click “Approve”	Status updated in user's booking history	As expected,	Pass



4.4 System Usability Testing

The System Usability Scale (SUS) was employed to evaluate the overall usability of the EduLib system. SUS is a widely recognized and reliable tool that provides a quick assessment of a system's user experience. It consists of 10 standardized statements rated on a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree."

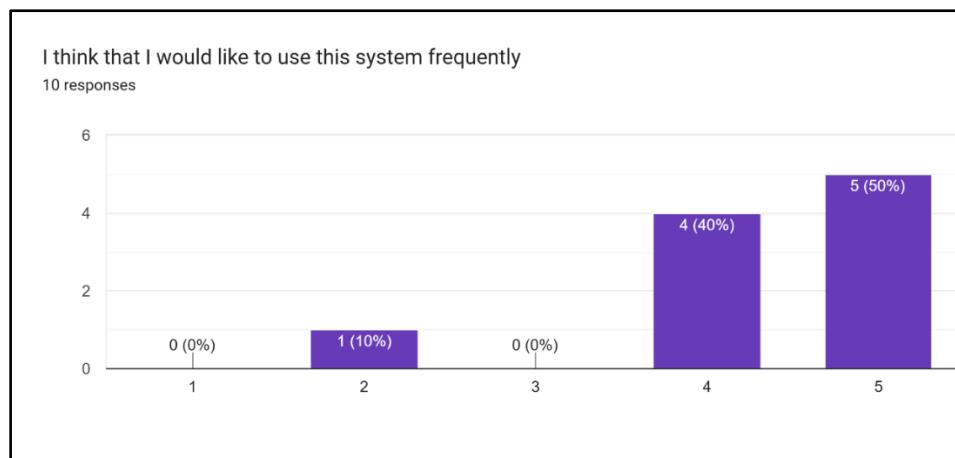


Figure 86: The bar graph shows the frequency of users using this system/website

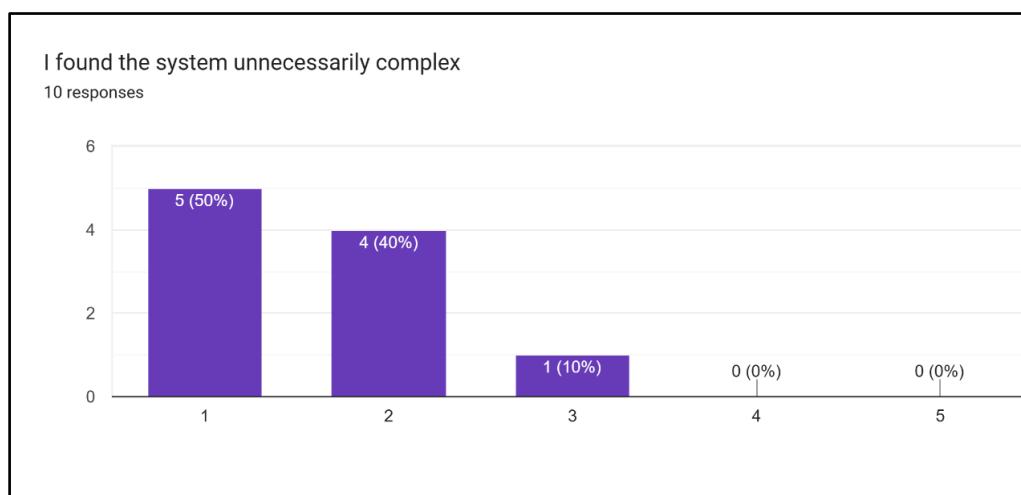


Figure 87: The bar graph shows the user feel the system is unnecessarily complex

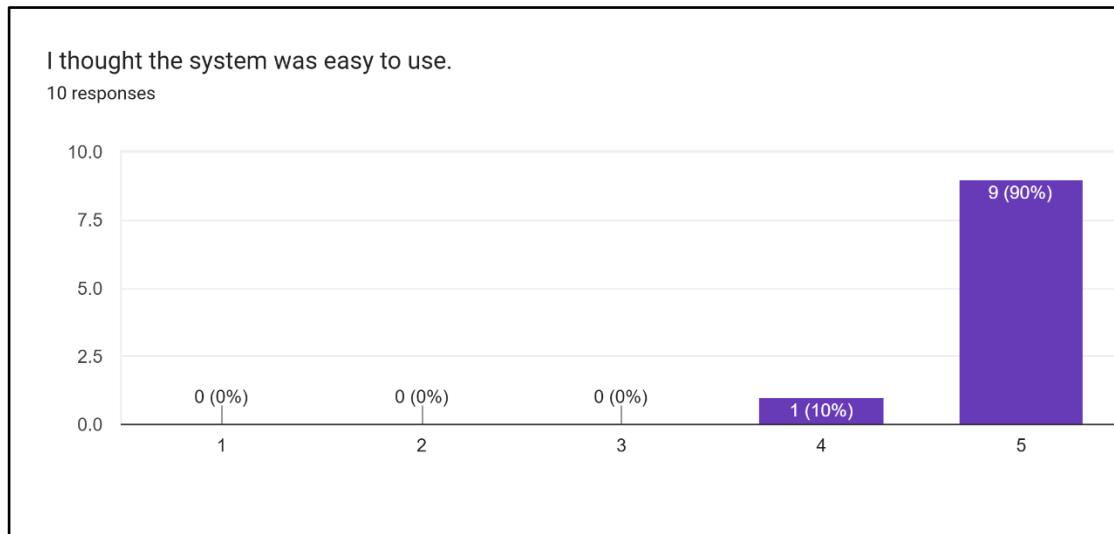


Figure 88: The bar graph shows the user feel the system is easy to use

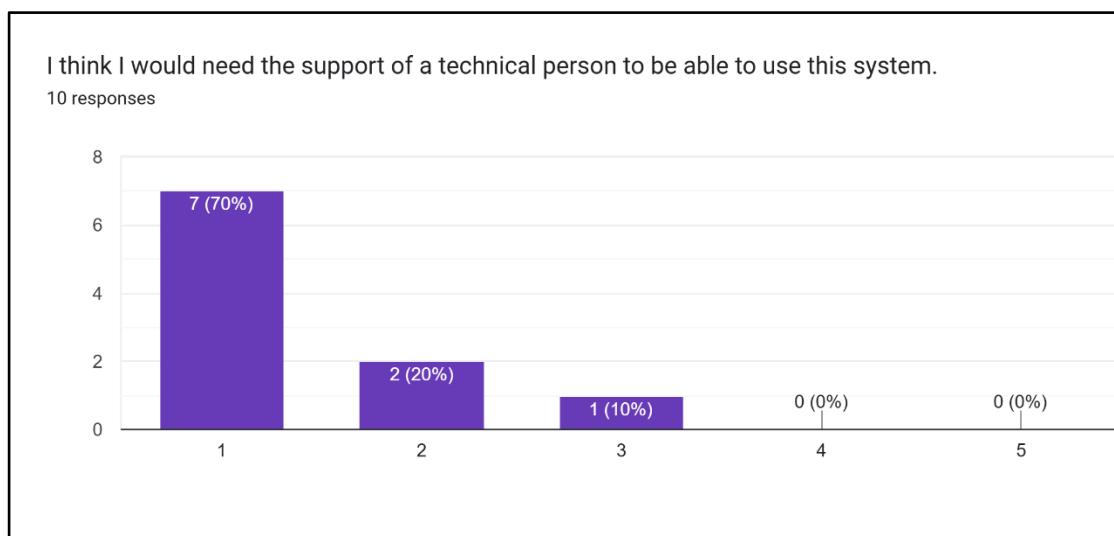


Figure 89: The bar graph shows the user think they need technical person to use this system

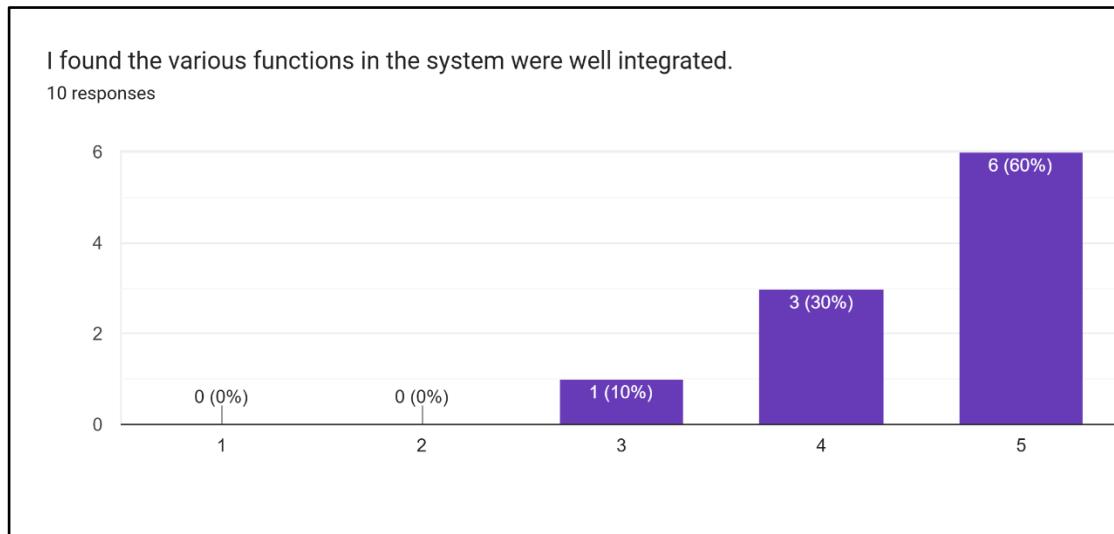


Figure 90: The bar graph shows the user think various function in the system were well integrated

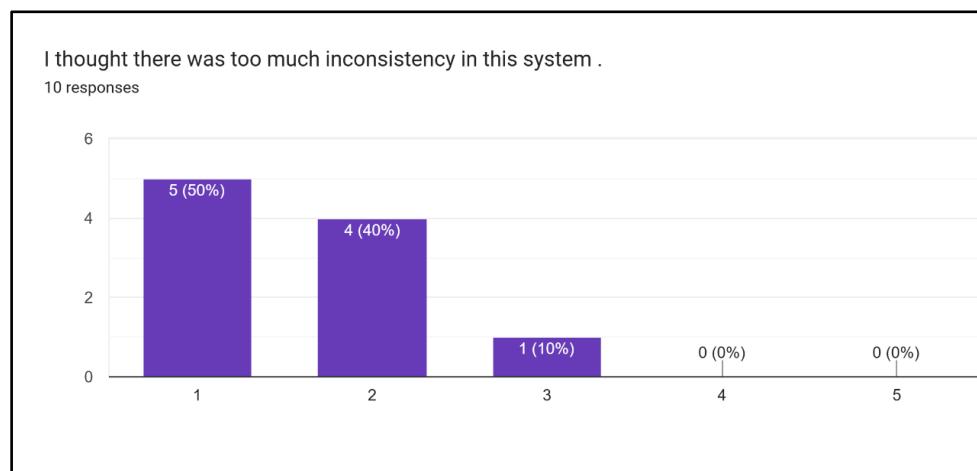


Figure 91: The bar graph shows the user think too much inconsistency in this system

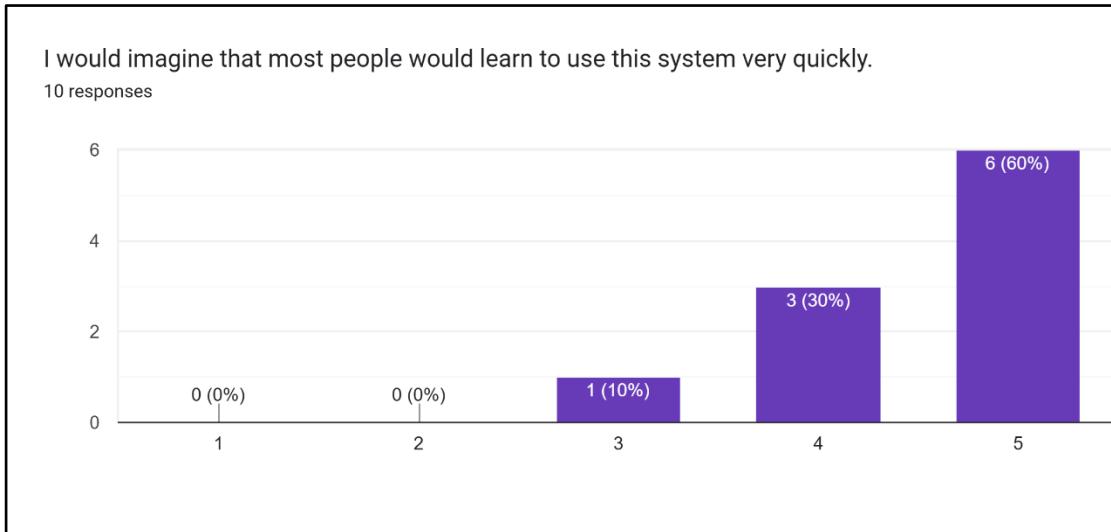


Figure 92: The bar graph shows the user will learn quickly when using the system

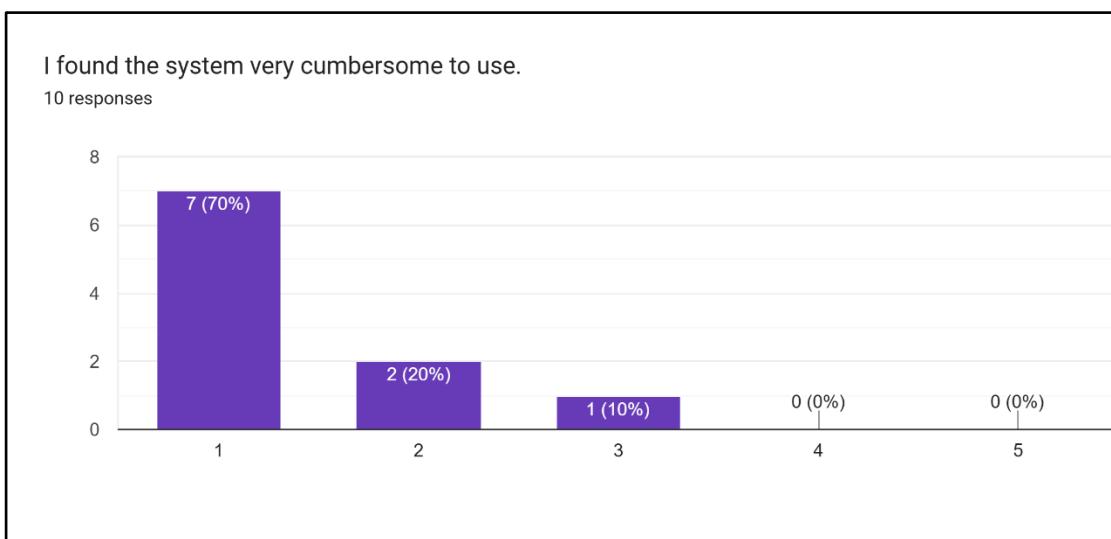


Figure 93: The bar graph shows the users think the system very cumbersome to use

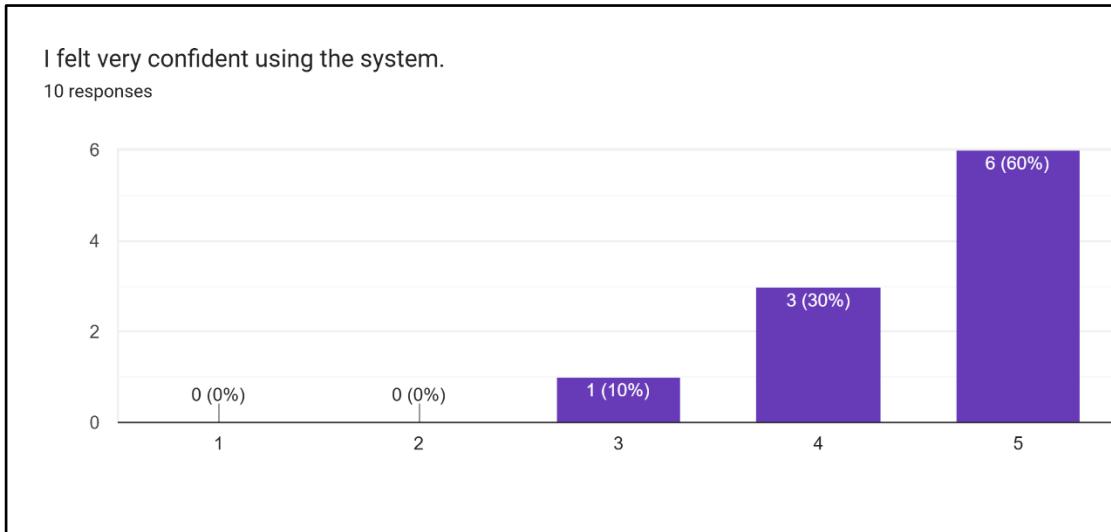


Figure 94: The bar graph shows how confident the user when use the system

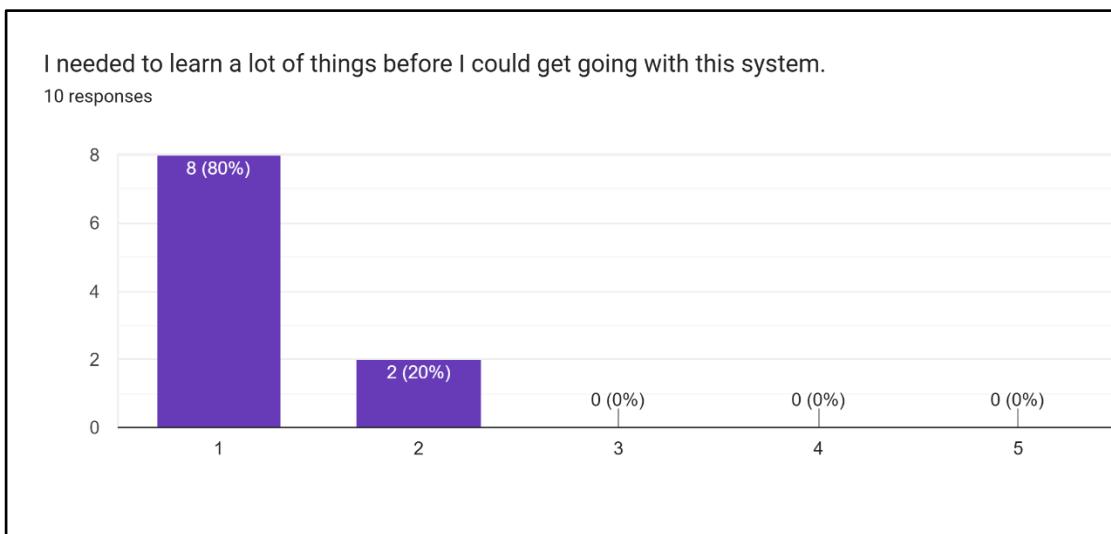


Figure 95: The bar graph shows user they need to learn many things before using the system

4.4.1 Result Sus Score

Based on the responses collected from 10 participants, the overall System Usability Scale (SUS) scores for the EduLib system ranged from 70 to 92.5, with an average score of 85.25 out of 100. According to standard SUS interpretation guidelines, a score above 80 is considered "Excellent," indicating a high level of user satisfaction and usability. This result suggests that users found the EduLib system intuitive,

efficient, and user-friendly. While a few individual scores were slightly lower, the overall outcome reflects a positive user experience, with only minor areas identified for potential improvement.

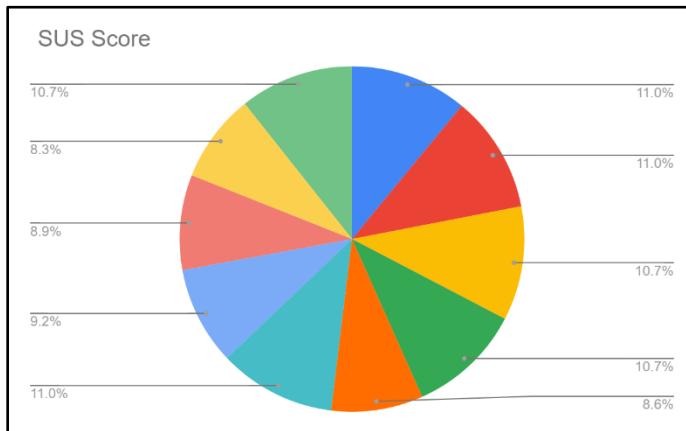


Figure 96: Result Sus Score

4.5 Exhibition of the Final Year Project

There were two (2) judges who evaluated my EduLib project on 18th April 2024. On that day, the final year project results were announced across several categories, including Gold Award, Silver Award, Best Presenter, and Top 3. My EduLib website received the Gold Award, won Best Poster, and was ranked in the Top 3 websites.

CONGRATULATION!!!

DICE 2025
Diploma Innovative & Creative Project Exhibition

FULL RESULT

TOP 3 COMPUTER SCIENCE		
NAME	PROJECT	SUPERVISOR
AKASH A/L SATHIA MOORTHY	INTACT REGISTRATION & MONITORING SYSTEM	DR. NADIA AKMA BINTI AHMAD ZAKI
HAIQAL HAZIM BIN SAHRIKFARIZAL	TINTA PERSONA	DR. NOR MASHARAH BINTI HUSAIN
MUHAMMAD ADAM BIN MD SUHAIZAM	EDULIB: LIBRARY BOOKING SYSTEM	DR. AHMAD UZAIR BIN MAZLAN

TOP 3 GAME DESIGN		
NAME	PROJECT	SUPERVISOR
NUR AKHMALIA BINTI KHAIRI	CAPYBARA AKADEMI: MISI ILMU	PN. NUR SAADAH BINTI FATHIL
MUHAMMAD ARIF FIRDAUS BIN YUSAINI	PART TIMER'S CO	PN. FADHLINA BINTI MOHD RAZALI
MOHAMMAD SYAFIQ BIN ROSLAN	CONNECT	DR. WONG YOKE SENG JASON

BEST POSTER – SCIENCE COMPUTER		
NAME	PROJECT	SUPERVISOR
MUHAMMAD ADAM BIN MD SUHAIZAM	EDULIB: LIBRARY BOOKING SYSTEM	DR. AHMAD UZAIR BIN MAZLAN

Figure 97: Result of Exhibition

GOLD AWARD			
NO	NAME	PROJECT	SUPERVISOR
1	AKASH A/L SATHIA MOORTHY	Intact Registration & Monitoring System	DR. NADIA AKMA BINTI AHMAD ZAKI
2	HAIQAL HAZIM BIN SAHROLFARIZAL	TINTA PERSONA	DR. NOR MASHARAH HUSAIN
3	MUHAMMAD ADAM BIN MD SUHAIZAM	EDULIB -LIBRARY BOOKING SYSTEM	DR. AHMAD UZAIR BIN MAZLAN
4	NUR AKHMALIA BINTI KHAIRI	CAPYBARA AKADEMI: MISI ILMU	PN. NUR SAADAH BINTI FATHIL
5	MUHAMMAD FARHAN DANIAL BIN HUSNI	INTACT Appointment Booking System	DR. NADIA AKMA BINTI AHMAD ZAKI
6	AFIQAH MAISARAH BINTI SUHAIMI	Study Buddy	DR. YUSRI BIN ABDULLAH
7	PUTRA ZAIRUL BIN SHAMSUDIN	NetBook : Badminton Court Booking Website	TS. SALMAN FIRDAUS BIN SIDEK
8	ARIF FIRDAUS BIN NORYUSSAINI	Part-Timer's Co	PN. FADHLINA BINTI MOHD RAZALI
9	MOHAMMAD SYAFIQ BIN ROSLAN	Connect	DR. WONG YOKE SENG JASON
10	MUHAMMAD SYAWAL BIN MOKTAR	Kindergarten Care Centre Management System	DR. NOR MASHARAH HUSAIN
11	SIYAM MD RAYSUL ISLAM	Inventory Management System (IMS)	DR. SALEM ABDULLAH SALEM GARFAN
12	NIK PUTERI FATIN NOR'AMIRA BINTI MOHAMMAD SHU'EF	Eden Go!	PN. HASLINA BINTI HASSAN

Figure 98: Gold award List

hruf kecil semuanya...

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter includes how Edulib website go through the challenges and reaches the objective. However, strength, weakness and suggestions on the future enhancement will also be shared.

5.2 Discussion

5.2.1 Discussion with client

From the client's point of view, the EduLib system successfully addressed the main objective of simplifying the room booking process for teachers. The platform was developed with ease of use in mind, allowing teachers to log in, submit room booking requests, and track the status of their bookings without needing technical knowledge. The interface was intuitive, and the separation between public content and teacher-only features ensured a smooth experience.

During testing, the client confirmed that key features such as login authentication, booking submission, and viewing of booking history worked as intended. However, the client also pointed out some missing features that could improve usability such as the ability to edit bookings and receive email notifications for booking updates. Overall, the client was satisfied with the core functionalities and expressed interest in seeing further improvements in the future.

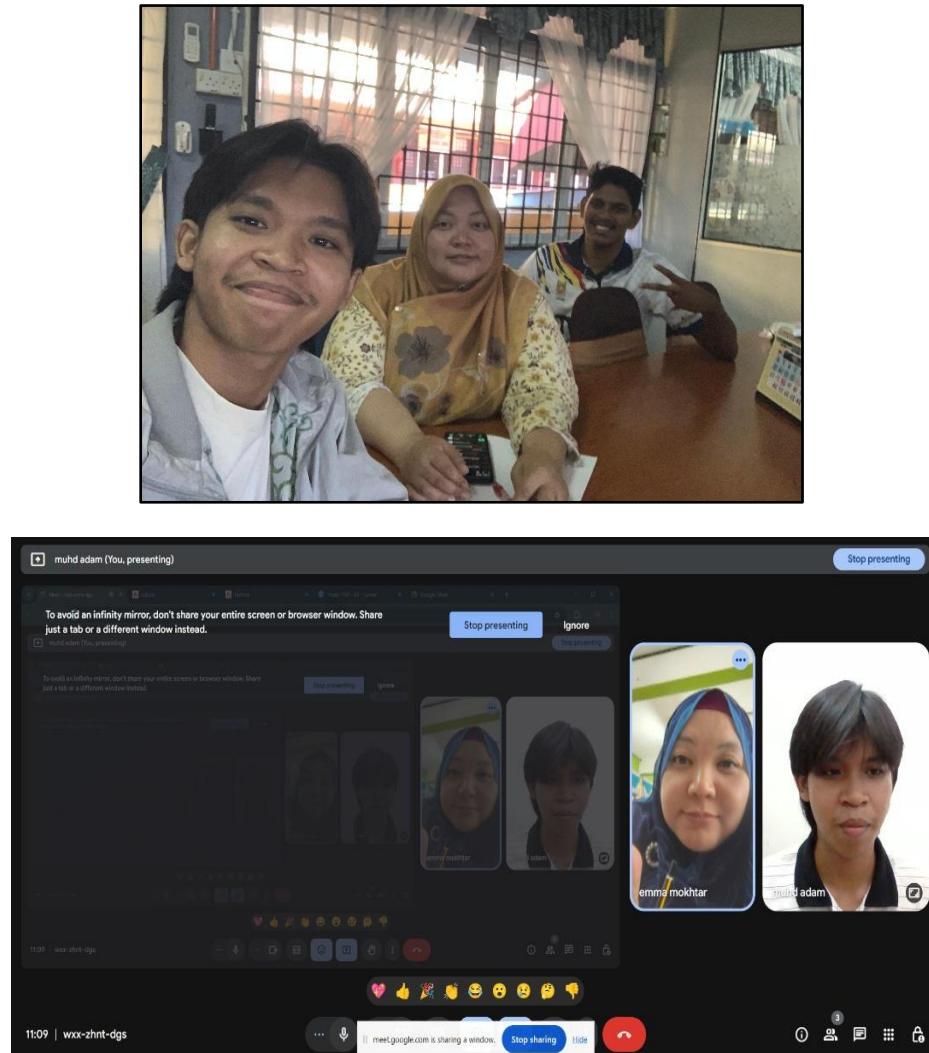


Figure 99: Discussion with Client

5.2.2 Discussion with Supervisor

From the supervisor's perspective, the EduLib project demonstrated a strong grasp of web development principles and the ability to integrate multiple components effectively. The project addressed core technical requirements, including secure login management, session handling, CRUD operations, and dynamic data display from the database.

The supervisor also observed that the system followed good design practices, such as clear user roles (admin and teacher), proper navigation flow, and modular coding structure. These aspects contribute to future scalability and ease of maintenance. While the system met its primary goals, the supervisor noted a few limitations such as the lack of automated notifications and booking management.

flexibility that could be addressed in future iterations to enhance system robustness and user experience.



Figure 100: Discussion with Supervisor

5.3 Future Work

Although the EduLib system achieved its core objectives, there are opportunities for future enhancements. One potential improvement is the addition of an email notification system that would confirm and remind teachers about their bookings. Another enhancement could be the ability for teachers to cancel or edit their bookings directly through the system. Implementing a calendar view would further enhance usability by allowing users to see room availability at a glance. Security could also be improved by introducing two-factor authentication (2FA) for administrator logins, offering an extra layer of protection.

5.4 Conclusion

In conclusion, the EduLib project has successfully achieved its main goal of providing a simple and reliable room booking system for educational institutions. The system allows teachers to log in, book rooms, and check their booking status, while administrators can manage the overall system, including approving bookings and maintaining user access. Additionally, both students and teachers can view important information on the public page, making the platform more informative and accessible.

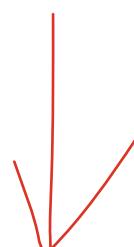
Although there are still areas that can be improved, EduLib lays a strong foundation for future development. With further enhancements, it has the potential to become a more efficient, user-friendly, and feature-rich system for managing library room usage.

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APPENDICES

Survey Form



Edulib -Booking Room System Website

B I U ↵ ✖

System Usability Scale (SUS)

Email *

Valid email address

This form is collecting email addresses. [Change settings](#)

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

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

I found the system unnecessarily complex *

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

I thought the system was easy to use. *

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

I think 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"/> Strongly Agree				

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

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

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

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

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

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

I found the system very cumbersome to use. *

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

I felt very confident using the system. *

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

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"/> Strongly Agree				

Poster

This poster was prepared and presented during the exhibition to showcase the EduLib system

The poster is titled "EDULIB LIBRARY BOOKING SYSTEM" and is displayed at the "DICE 2025" (Diploma Innovative & Creative Project Exhibition) held at Universiti Pendidikan Sultan Idris (UPSI). The poster is organized into several sections:

- Abstract:** Describes EDULIB as a web system created to improve library room bookings at school, replacing manual methods with an efficient online platform.
- Introduction:** States that at SMK TROLAK, teachers face difficulties with manual room bookings, and many students are unaware of the school's website. EDULIB was developed as a web-based booking system.
- Objective:**
 - TO ENSURE THE SYSTEM IS EASY TO USE AND ACCESSIBLE
 - TO TEST THE ENTIRE SYSTEM ON THE WEBSITE TO ENSURE IT WORKS CORRECTLY.
- Benefits:**
 - TO OFFER A CONVENIENT AND ACCESSIBLE PLATFORM THAT IMPROVES COMMUNICATION AND REDUCES THE NEED FOR MANUAL PROCESSES
 - THE WEBSITE ALSO PROVIDES USEFUL FEATURES FOR STUDENTS.
 - HELPS TEACHERS AND STAFF MANAGE LIBRARY ROOM RESERVATIONS EASILY AND EFFICIENTLY
- Conclusion:** States that the development of EDULIB has led to a smoother way of handling room reservations in schools, with its intuitive features and clear navigation.
- Result:** Shows two bar charts: "Find the reason for not use the system" and "Ask why". Below the charts is the text "AVERAGE SUS SCORE: 85.25".
- Methodology:** Illustrates the "4 phases of Rapid Application Development" process: Requirements planning, User design, Construction, and Cutover, with feedback loops between them.
- Interface:** Displays screenshots of the "Dudu Liba" mobile application interface, showing screens for "Donasi Buku", "Log Masuk", and "Beranda".
- Developer:** Features portraits of the student developer, MUHAMMAD ADAM BIN MD SUHAIZAM, and his supervisor, DR. AHMAD ZEIN BIN MAZLAN, along with their respective titles and names.

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