

Project Implementation Plan

Room Tenant System



Group 4

Group Members

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Class
2I

Department
Information Technology

Study Program
D4 Informatics Engineering

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Chapter 1

Project Description

A. Project Name

Information Technology Room Tenant System

B. Business Needs

In the Informatics Department, There is a standard operating procedure to borrow a room for events such as seminars, workshops, etc. Despite having the standard operating procedure, the procedure itself is deemed unnecessarily complicated and tedious. This app is aimed to streamline the process of borrowing rooms in the JTI building.

C. Product Perspective

This app is made to reduce the amount of paperwork and administrative workload being done manually. The staff and faculty of JTI will use the app to manage the rooms and the events. The students will also use the app to book the rooms for their events. This app will also ensure the borrower's reserved room isn't being overridden by any third party or will clarify why the reserved room is being overridden if anything happened that has higher priority than the borrower's event. This app aims for bureaucracy transparency to minimize miscommunication and misunderstanding.

D. Project Scope

- a. In Scope
 - i. The project is a web app that can be accessed by the admins of the inventory using a web browser.
 - ii. The app should have a basic authentication feature to ensure that only the authorized users can access the app.
 - iii. The app should be able to provide a way for the admins to manage the inventory, such as adding, removing, and updating the room and event data.
 - iv. The admin and student should be able to see the list of rooms and events.

-
- v. The app should be able to provide a way for the admins to manage the users, such as adding, removing, and updating the users.
 - vi. The app should provide a way for students to borrow a room from the list. Each room can only be borrowed for a certain amount of time.
 - vii. The admins should be able to see the history of the room borrowings.
 - viii. The app should never give an invalid state such as the start of the borrowing time is after the end of the borrowing time.
- b. Out of Scope
 - i. Integration with other systems, such as the university's student information system for Single Sign-On (SSO).

E. Project Team

Members	Role
Dicha Zelianivan Arkana	Fullstack Developer
Davis Maulana Hermanto	Frontend Developer
Muhammad Baihaqi Aulia Asy'ari	System Analyst
Sri Kresna Maha Dewa	UI/UX Designer
Steven Christian Susanto	Frontend Developer
Yanuar Thaif Chalil Candra	UI/UX Designer

F. Project Scheduling

GROUP 4		PROJECT LEAD		23 October 2023							30 October 2023							06 November 2023							13 November 2023						
TASK	INITIATION	START	END	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F			
				23	24	25	26	27	30	31	1	2	3	6	7	8	9	10	13	14	15	16	17								
Define Project Scope	25/10/2023	26/10/2023																													
Conduct Stakeholder Analysis	27/10/2023	28/10/2023																													
Develop Project Charter	29/10/2023	30/10/2023																													
Identify Project Team	31/10/2023	31/10/2023																													
Perform Risk Assessment	01/11/2023	02/11/2023																													
Define Project Objectives	03/11/2023	03/11/2023																													
Create Project Schedule	04/11/2023	04/11/2023																													
Obtain Project Approval	05/11/2023	05/11/2023																													

Room Tenant System

GROUP 4		PROJECT LEAD											
TASK	START	END	Dicha Zelianivian Arkana	06 November 2023		13 November 2023		20 November 2023		27 November 2023			
			M	T	W	T	F	M	T	W	F	M	T
PLAN													
Create Work Breakdown Structure	06/11/2023	07/11/2023											
Define Task Dependencies	08/11/2023	08/11/2023											
Develop Resource Management Plan	09/11/2023	10/11/2023											
Develop Project Schedule	11/11/2023	13/11/2023											
Conduct Risk Assessment and Mitigation Planning	14/11/2023	15/11/2023											
Finalize Project Budget	16/11/2023	17/11/2023											
Review and Refine Project Plan	18/11/2023	18/11/2023											

Room Tenant System

GROUP 4		PROJECT LEAD		EXECUTE	
		Dicha Zelianivan Arkana		START	END
		TASK			
		Develop User Interface Design		19/11/2023	23/11/2023
		Implement User Registration and Login		24/11/2023	26/11/2023
		Create Database Schema		27/11/2023	28/11/2023
		Develop Room Listing Functionality		29/11/2023	02/12/2023
		Develop Room Check-In and Check-Out Process		03/12/2023	06/12/2023
		Enable Room Availability Tracking		07/12/2023	09/12/2023
		Test and Debug System Functionality		10/12/2023	14/12/2023
		Perform User Acceptance Testing (UAT)		15/12/2023	17/12/2023
		Deploy System to Production Environment		18/12/2023	19/12/2023

Room Tenant System

GROUP 4		PROJECT LEAD			
		Dicha Zelianivan Arkana			
		TASK		START	END
CONTROL		Conduct Regular System Maintenance		20/12/2023	21/12/2023
		Perform Data Backup and Recovery		22/12/2023	22/12/2023
		Update and Maintain System Documentation		23/12/2023	23/12/2023
		Conduct Periodic Security Audits		24/12/2023	25/12/2023
		Conduct System Updates and Upgrades		26/12/2023	27/12/2023

Room Tenant System

GROUP 4		PROJECT LEAD											
TASK	START	END	Dicha Zelianivian Arkana	08 January 2024		15 January 2024		22 January 2024		29 January 2024			
			M	T	W	T	F	M	T	W	F	M	T
CLOSE													
Perform Final System Testing and Validation	28/12/2023	29/12/2023											
Complete User Acceptance Testing (UAT)	30/12/2023	31/12/2023											
Obtain Sign-Off and Acceptance from Stakeholders	01/01/2024	01/01/2024											
Perform Project Financial Closure	02/01/2024	02/01/2024											
Finalize and Close Contracts with Vendors	03/01/2024	03/01/2024											
Transfer Ownership of System and Assets	05/01/2024	05/01/2024											
Conduct Project Team Evaluation	05/01/2024	05/01/2024											

Room Tenant System

GROUP 4		PROJECT LEAD	
	Dicha Zellinivan Arkana		
		START	END
TASK			
INITIATION			
Define Project Scope	25/10/2023	26/10/2023	
Conduct Stakeholder Analysis	27/10/2023	28/10/2023	
Develop Project Charter	29/10/2023	30/10/2023	
Identify Project Team	31/10/2023	31/10/2023	
Perform Risk Assessment	01/11/2023	02/11/2023	
Define Project Objectives	03/11/2023	03/11/2023	
Create Project Schedule	04/11/2023	04/11/2023	
Obtain Project Approval	05/11/2023	05/11/2023	
PLAN			
Create Work Breakdown Structure	06/11/2023	07/11/2023	
Define Task Dependencies	08/11/2023	08/11/2023	
Develop Resource Management Plan	09/11/2023	10/11/2023	
Develop Project Schedule	11/11/2023	13/11/2023	
Conduct Risk Assessment and Mitigation Planning	14/11/2023	15/11/2023	
Finalize Project Budget	16/11/2023	17/11/2023	
Review and Refine Project Plan	18/11/2023	18/11/2023	
EXECUTE			
Develop User Interface Design	19/11/2023	23/11/2023	
Implement User Registration and Login	24/11/2023	26/11/2023	
Create Database Schema	27/11/2023	28/11/2023	
Develop Room Utilization Functionality	29/11/2023	02/12/2023	
Develop Room Check-In and Check-Out Process	03/12/2023	06/12/2023	
Enable Room Availability Tracking	07/12/2023	09/12/2023	
Test and Debug System Functionality	10/12/2023	14/12/2023	
Perform User Acceptance Testing (UAT)	15/12/2023	17/12/2023	
Deploy System to Production Environment	18/12/2023	19/12/2023	
CONTROL			
Conduct Regular System Maintenance	20/12/2023	21/12/2023	
Perform Data Backup and Recovery	22/12/2023	22/12/2023	
Update and Maintain System Documentation	23/12/2023	23/12/2023	
Conduct Periodic Security Audits	24/12/2023	25/12/2023	
Conduct System Updates and Upgrades	26/12/2023	27/12/2023	
CLOSE			
Perform Final System Testing and Validation	28/12/2023	29/12/2023	
Complete User Acceptance Testing (UAT)	30/12/2023	31/12/2023	
Obtain Sign-Off and Acceptance from Stakeholders	01/01/2024	01/01/2024	
Perform Project Financial Closure	02/01/2024	02/01/2024	
Finalize and Close Contracts with Vendors	03/01/2024	03/01/2024	
Transfer Ownership of Systems and Assets	05/01/2024	05/01/2024	
Conduct Project Team Evaluation	05/01/2024	05/01/2024	

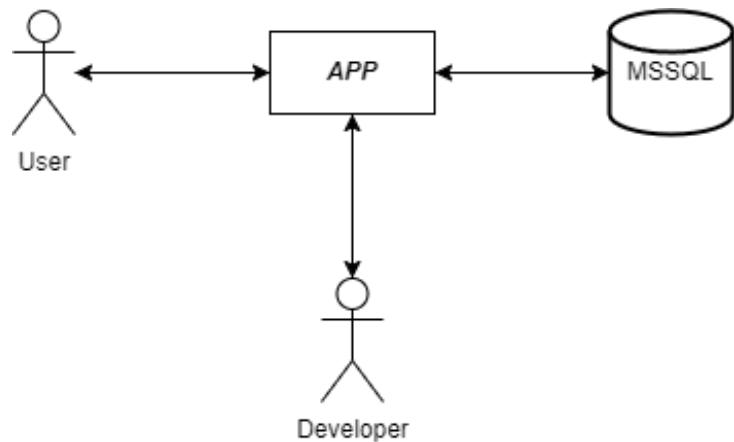
G. Technology Stack

	Languages	Technologies
Backend	PHP, Javascript	IntelliJ Idea
Frontend	HTML, CSS	IntelliJ Idea
Interface		Figma
Database	MSSQL	
Project Management		Notion, Google Doc, Whatsapp, and Github
Server		Docker

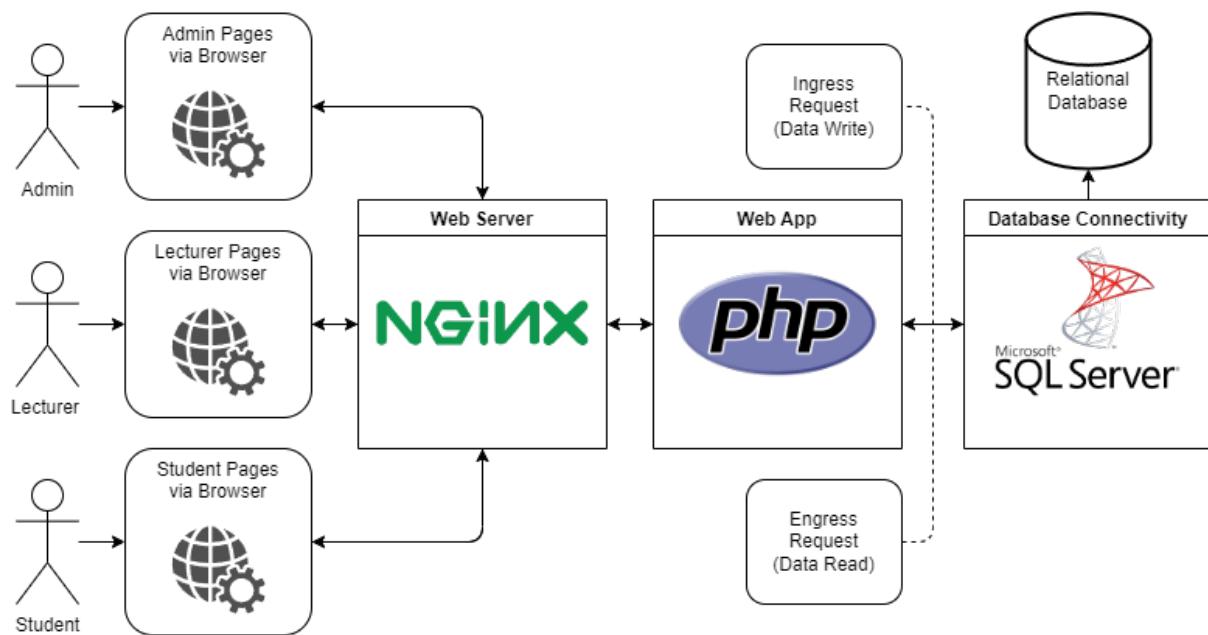
Chapter 2

Software Requirement

A. Interface System



B. System Design



Chapter 3

User Interface and User Experience Document

A. Application Logo



B. Application Logo Philosophy

The logo is taken from the logo of the information technology major from state polytechnic of malang itself. This logo is used because the app that we created is used for room tenant system to be used in the information technology. So we use the logo of the major itself to make it clear that the app that is being use is used for and belong to the information technology major.

C. Color Palet



Cyprus (#0F1E43)

The color Cyprus is a tertiary color with hex #0F1E43. This color is a Combination of primary and secondary colors which typically contain two words. The RGB in a color space for this color has three components: 15%, 30%, and 67 . Additionally, this cool color has HSB color space, which consists of % 223, % 77.61, and % 26.27. pbl



Thunderbird (#984934)

Color Thunderbird is from the neutral family. Therefore, it is very useful and has a good coexistence with other colors. Its RGB color space consists of% 152%, 57%, and 52. The numbers undefined, undefined and undefined also indicate the different values of the LAB color space of this color, respectively. Finally, its HSL color space consists of% h3, % 49, and % 40.



Cinnabar (#F15528)

Cinnabar color with hex code #F15528 is probably the most widely used color among users. Its constituent hue is also a secondary color. Its HSB color space is% 13,% 83.4 and% 94.51. The values R22, 16 and 94.51 also make up its NCol color code.



Dark Tangerine (#F99C1D)

Hue that makes up Dark Tangerine is one of the primary colors. Many designers like this color with the hex code #F99C1D. CMYK color space with values of% 0, % 88, % 88, and % 2 constitute this color. Its Pantone color code values are also 15-1058 TCX.



Amber (#FEBE10)

The color Amber is a tertiary color with hex #FEBE10. This color is a Combination of primary and secondary colors which typically contain two words. The RGB in a color space for this color has three components: 254%, 190%, and 16 . Additionally, this cool color has HSB color space, which consists of % 44, % 93.7, and % 99.61.

D. User Flow

a. General Description

The Room Tenant System is designed to optimize the room rental experience by involving three main roles: User, Admin, and Approver. The main goal of this system is to ensure the rental process is easier by digitalization, transparency, and in accordance with applicable requirements and policies.

b. Users and Personas

a. User Personas

- System users who want to rent space for certain purposes.
- Diverse users from various backgrounds and needs.

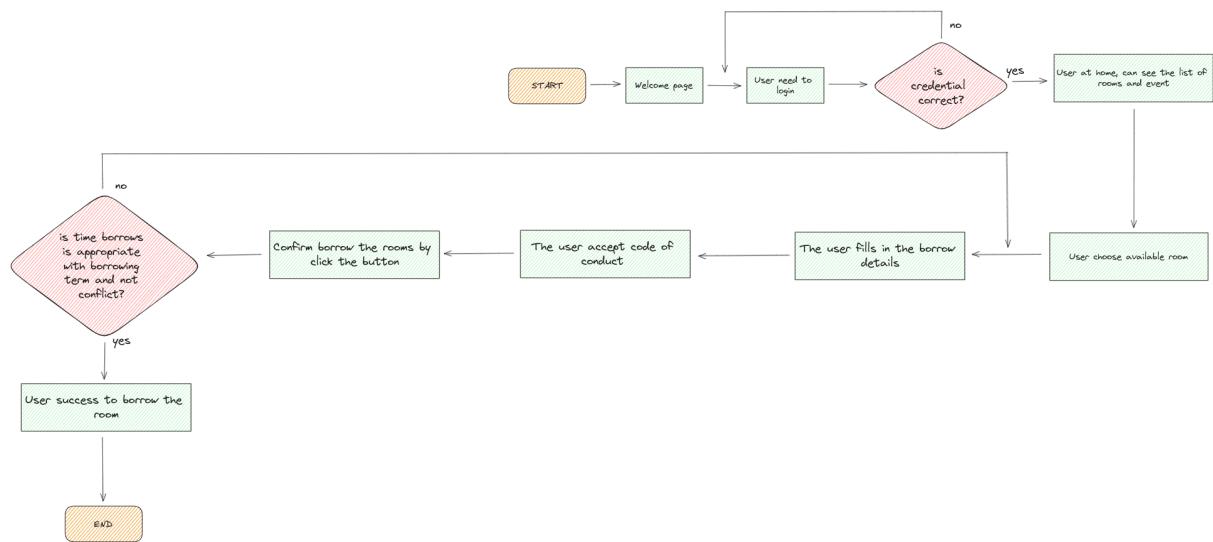
b. Admin Personas

- System administrator responsible for general management and monitoring rental activities.
- Have access to full control of system data and settings.

c. Approver Personas

- The party who has the authority to approve or reject room rental requests.
- Ensure compliance with established policies and requirements.

c. User flow for user



General Steps :

1. Users access the room tenant system website
2. To access website services, users need to log in first with the account they already have.
3. The user already logged in to the system.
4. At this point (home), the user can see the rooms available to borrow and three available menus.
5. Users can directly select an available room at home or go to the room list menu to select the room they want to borrow.
6. When the user has determined the room he wants to borrow, the user needs to fill in a borrow detail form consisting of the name of the event, date and time, as well as event details.
7. Apart from filling in borrow details, users need to agree to the code of conduct of the relevant regulations and room.
8. After everything has been filled in correctly by the user, the user can click the submit button to submit a request.
9. The user has finished making a borrow request.

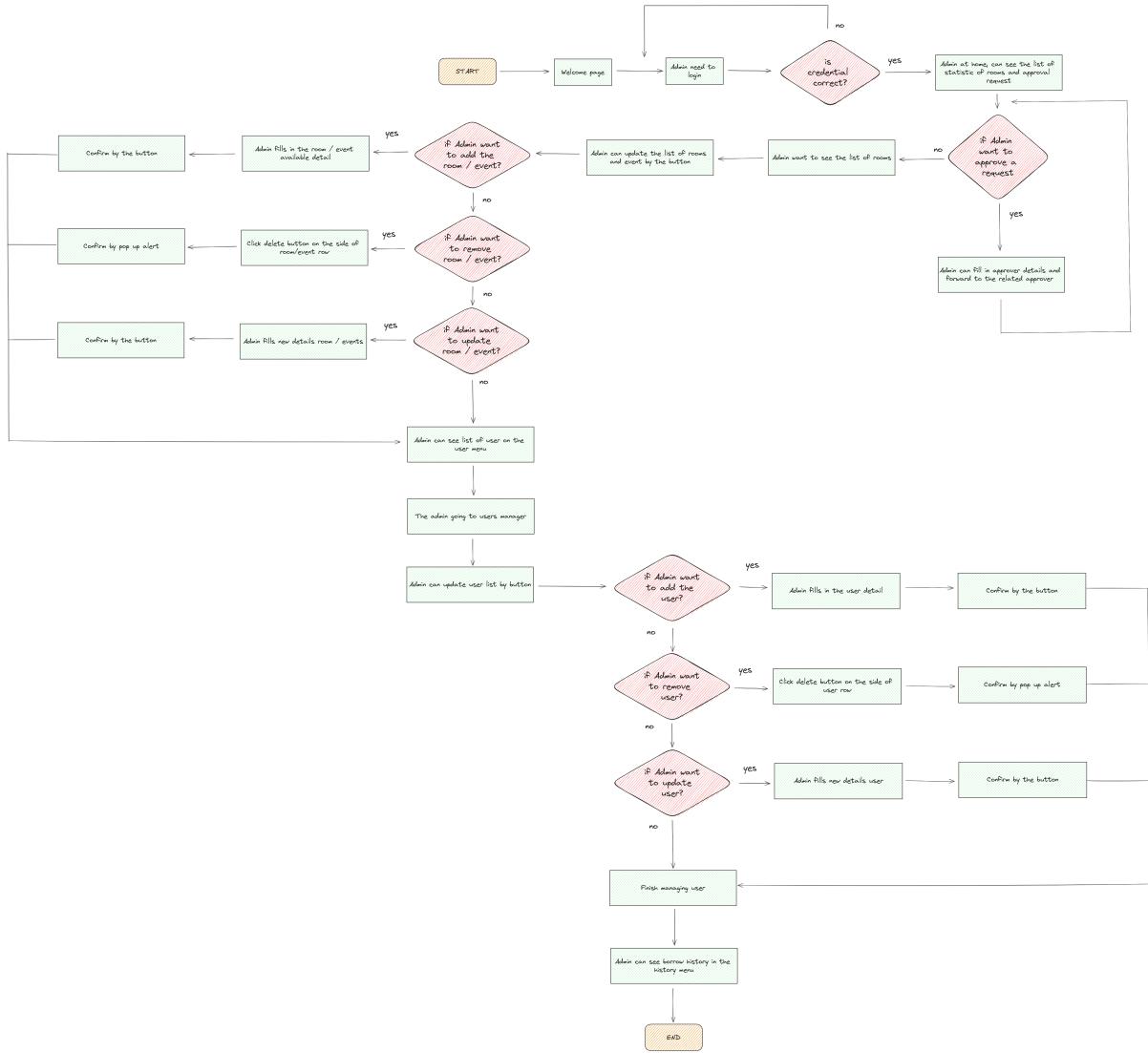
Validation and Error Handling :

1. It happens on the login process, If the account credentials entered are correct then the user can log in and arrive at the home page. But when the credentials entered are incorrect, the user is asked to log in again and ensure that the credentials entered are correct.
2. When a user has submitted a borrow request, when the system finds a borrow request on the same date and time in the room desired by the user, the system will ask the user to change the date and time that does not collide.

Backtracking :

Users can only abandon their intention to borrow the room they choose only when they have not submitted it. At the point where the user is asked to fill out a borrowed form, he can again use the back button to cancel the room selection.

d. User flow for admin



General Steps :

1. Admin access the room tenant system website
2. Admin login using their username and password.
3. After logging in, the admin will be directed to the homepage where they can view the pending approvals and the statistics of rooms.
4. Admin can choose pending approval on the homepage then fill in the approver detail, this is needed to forward borrow request to the related approver
5. The admin can also access the "Room List" menu, where they can create, edit, and delete rooms using the provided buttons.

-
6. To add a new room, the admin can click on the "Add New Room" button and fill in the room details, including the room name, code, floor, side, capacity, and cover image.
 7. If the admin wants to edit the details of an existing room, they can select the room from the room list and click on the "Edit" button.
 8. To delete an existing room, admin can select the room from the room list and click on the "Delete" button.
 9. Admin can access the "User List" page to view the list of system users.
 10. Admin can add a new user by clicking the "Create New User" button and filling in user details such as name, class and student ID.
 11. If the admin wants to edit the details of an existing user, they can select the user from the user list and click the "Edit" button.
 12. Admin can also delete a user by selecting the user from the user list and clicking the "Delete" button.
 13. The admin can also view the upcoming events on the "Event List" page.

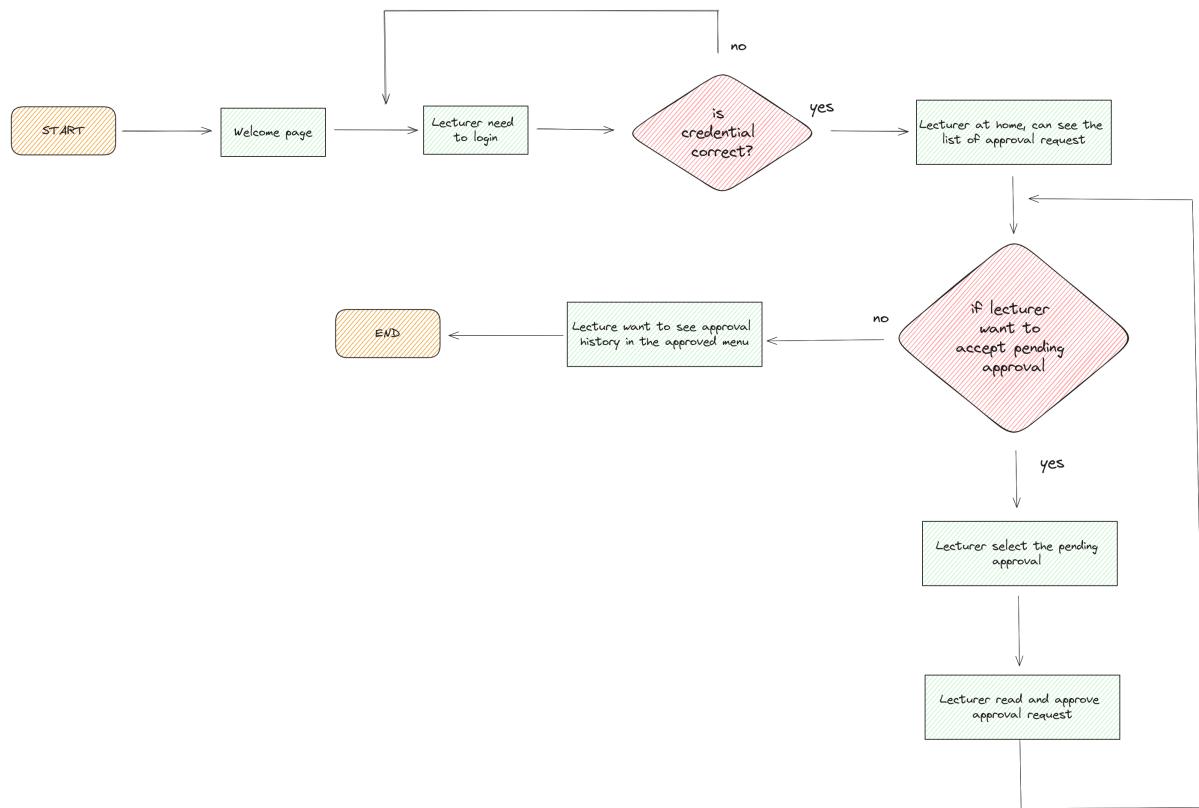
Validation and Error Handling :

During the login process, if the entered account credentials are correct, the admin can log in and access the homepage. If the credentials are incorrect, the admin will be prompted to log in again and ensure the credentials are correct.

Backtracking :

The admin can navigate back to the previous page using the back button on each menu.

e. User flow for approver



General Steps :

1. The approver logs in using their username and password.
2. After logging in, the approver is directed to the homepage where they can view the list of pending approvals.
3. If the approver selects a specific approval from the list, they will be directed to the approval details page where they can approve or reject the request.
4. The approver can also view the history approved request on the "Approved" page.

Validation and Error Handling :

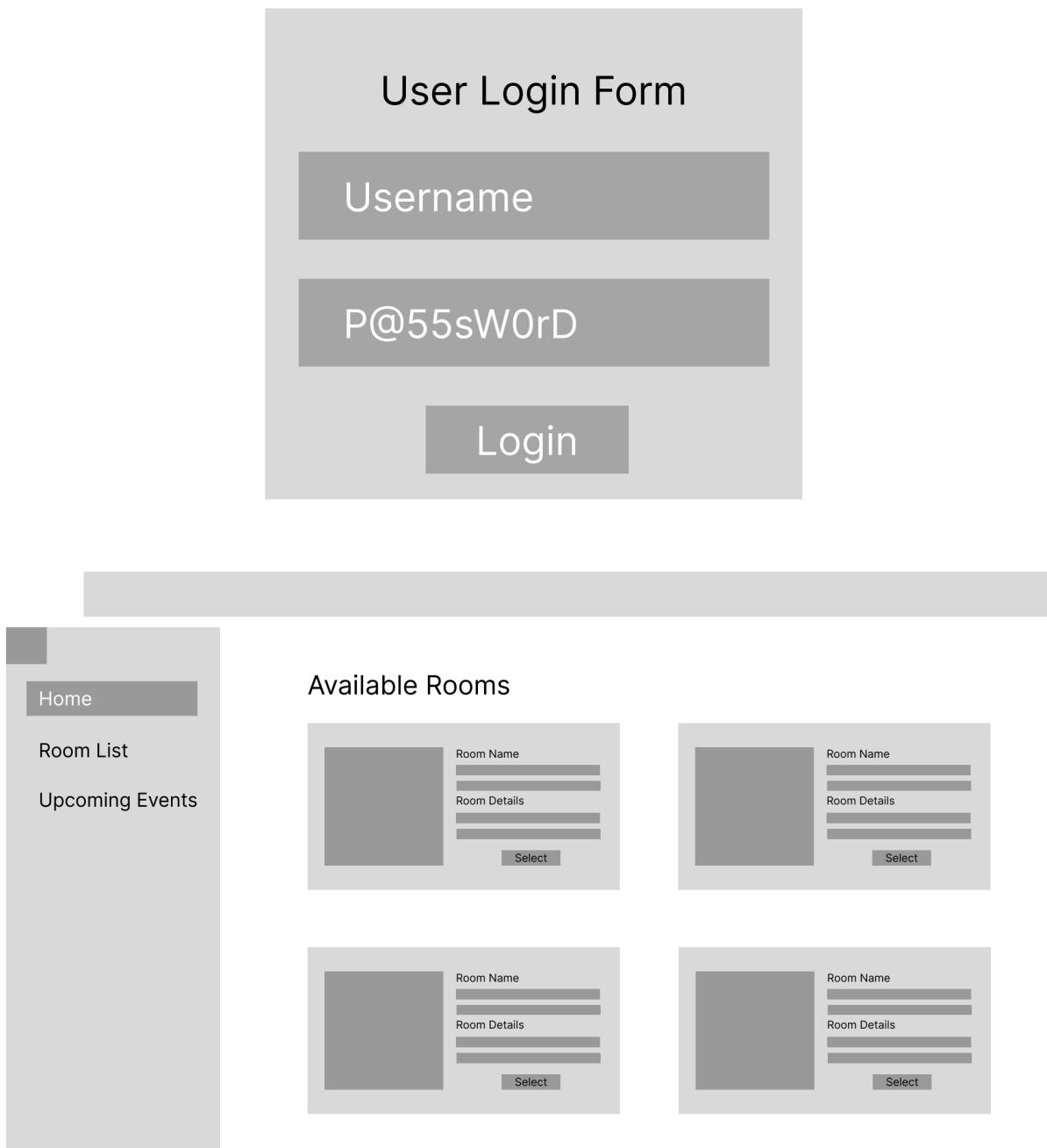
During the login process, if the entered account credentials are correct, the approver can log in and access the homepage. If the credentials are incorrect, the approver will be prompted to log in again and ensure the credentials are correct.

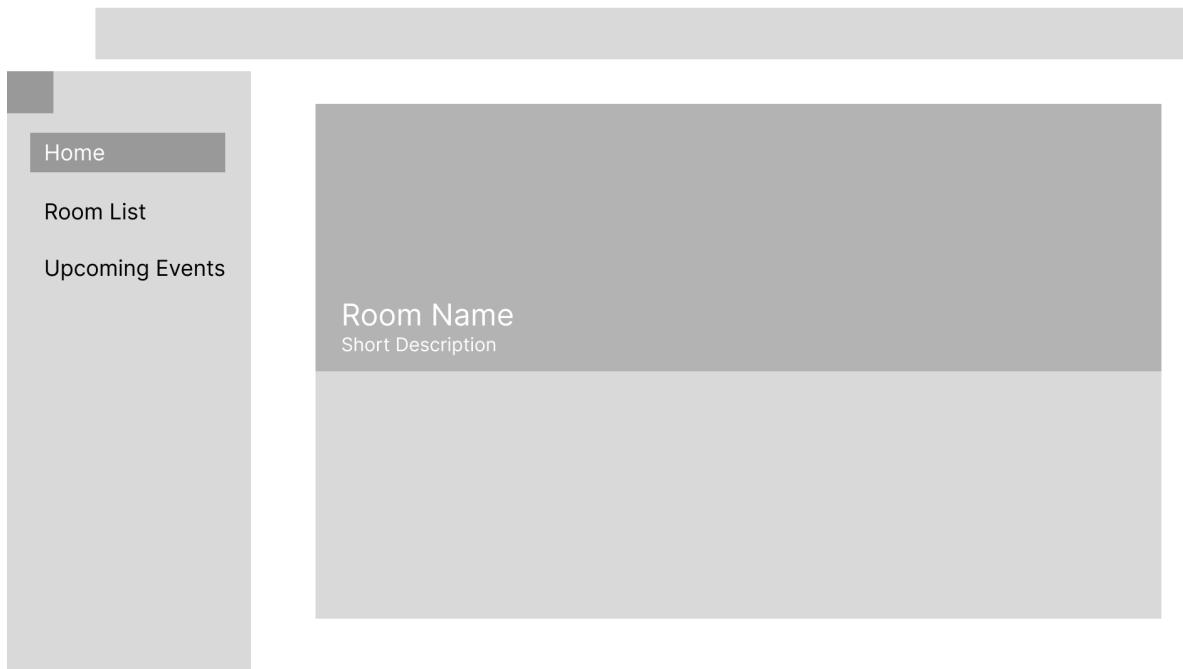
Backtracking :

The approver can navigate back to the previous page using the back button on each menu.

E. Wireframe (Low-fidelity Design)

a. User



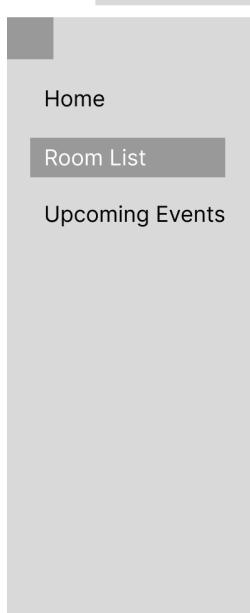


Borrowing Details

Event Name
[Redacted]

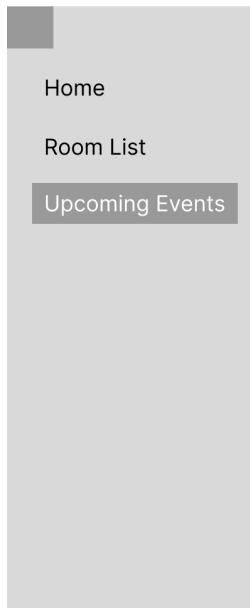
Date & Time
[Redacted]

Event Details
[Redacted]



List of All Rooms

Name	Description



List of All Events

Name	Date and Time	Room

b. Admin

User Login Form

Username

P@55sW0rD

Login

Statistics

- [Home](#)
- [Room List](#)
- [Upcoming Events](#)
- [User List](#)

Users

- [Approved Rooms](#)
- [Pending Approval](#)

Rooms

- [Rejected Approval](#)
- [Active Users](#)

Pending Approval



Room Name

Room Details

Select



Room Name

Room Details

Select

Room Name Short Description	Pending Approval
Room Description	
Approver 1	
Approver 2	

Home	List of All Events
Room List	
Upcoming Events	
User List	

Room Name
Short Description

Edit Room Detail

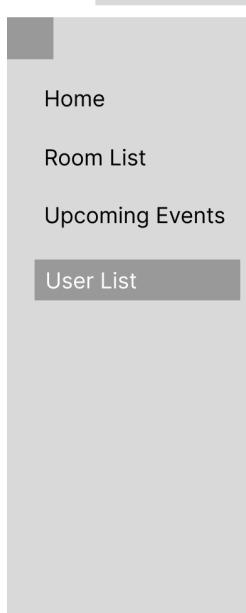
Room Name

Code

Floor Side Capacity

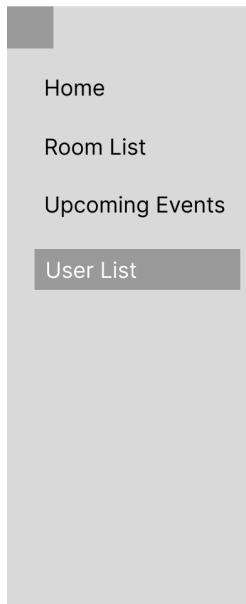
Cover Image

List of All Events		
Name	Date and Time	Room



List of All Users

Name	Class	Student ID	Action



Create New User



Name

Class

Student ID

Cancel

Save

The screenshot shows a user interface for editing user details. On the left is a sidebar with links: Home, Room List, Upcoming Events, and User List, where User List is highlighted with a dark grey background. The main area has a title "Edit User Details" and a large circular placeholder for a profile picture. Below it are three input fields labeled "Name", "Class", and "Student ID", each with a corresponding dark grey input field. At the bottom are two buttons: "Cancel" and "Save".

Home

Room List

Upcoming Events

User List

Edit User Details

Name

Class

Student ID

Cancel

Save

c. Approver

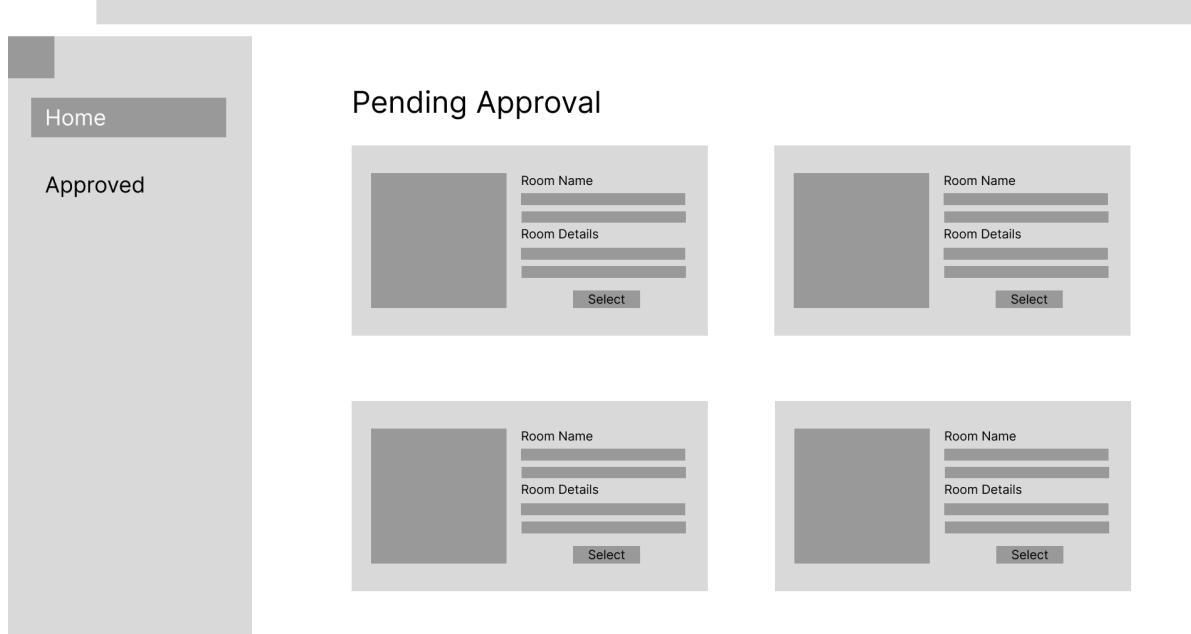


User Login Form

Username

P@55sWOrD

Login



Home

Approved

Pending Approval

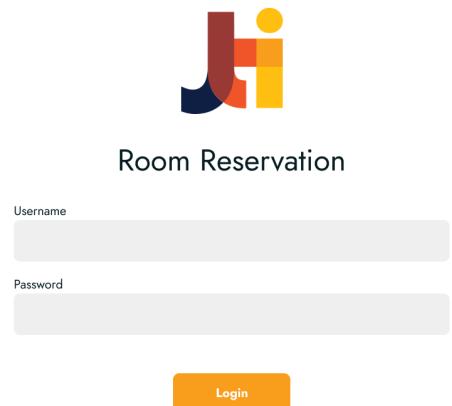
Room Name
Room Details
Select

Room Name Short Description	Pending Approval
Room Description	
	<input type="button" value="Reject"/> <input type="button" value="Approve"/>

Room Name Short Description	Pending Approval
Room Description	
	<input type="button" value="Reject"/> <input type="button" value="Approve"/>

F. User Interface (High-fidelity Design)

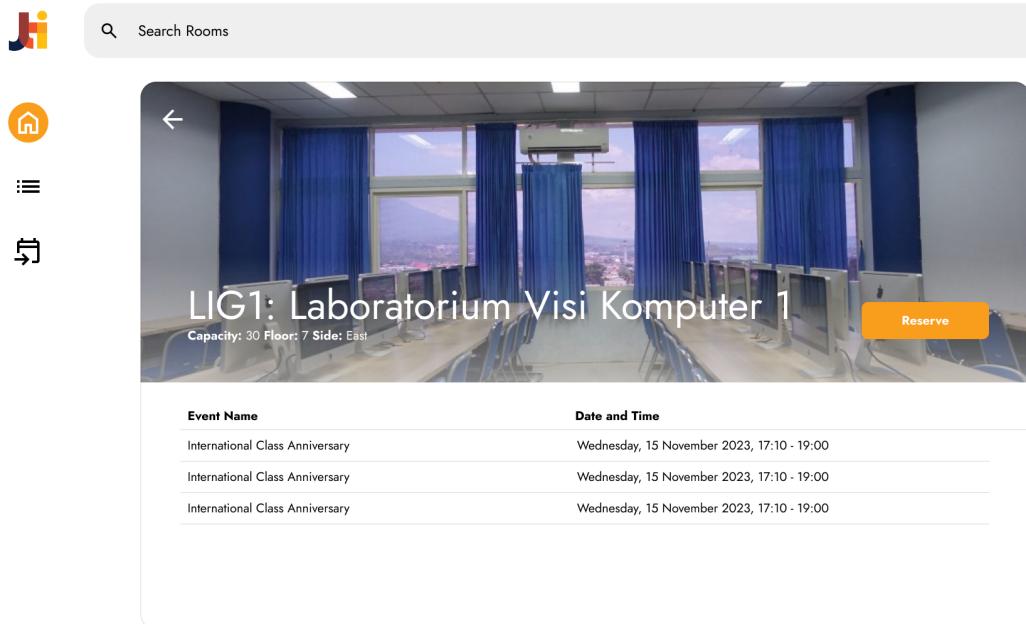
a. User



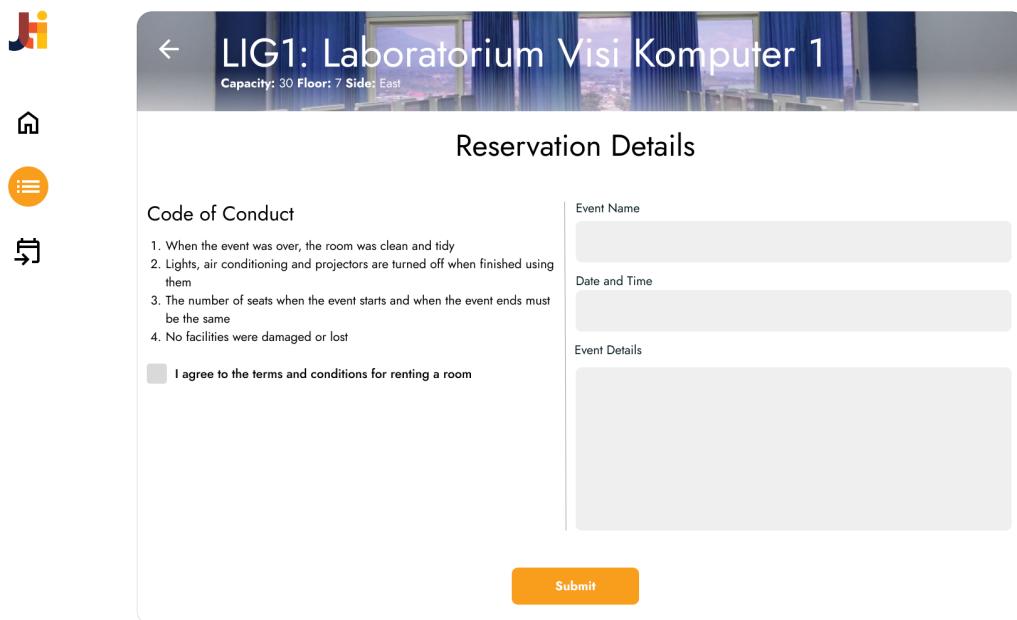
User login using their provided username and password then press the login button below

The image displays a high-fidelity design of the room reservation system's homepage. At the top left is a small logo. To its right is a search bar with the placeholder "Search Rooms" and a magnifying glass icon. On the far right is a circular profile picture of a person. The main content area is divided into two main sections. The first section, titled "Your Reserved Room", contains two cards, each showing a thumbnail of a room and details for "LSI 1". The second section, titled "Available Rooms for Today", also contains two cards, each showing a thumbnail of a room and details for "LIG 1". Each card includes a small image of the room, the room name, the date and time, the event type, and an approval status (checkmark). Navigation icons for home, menu, and refresh are located on the left side of the main content area.

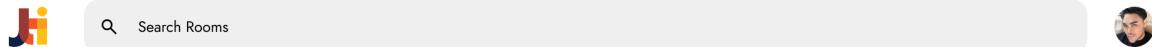
Upon logging in, user will be taken to homepage to see their reserved room and available room to reserved for today



if user select a room, they will landed to this page, where user can see what event is about to run and a button to reserve the room

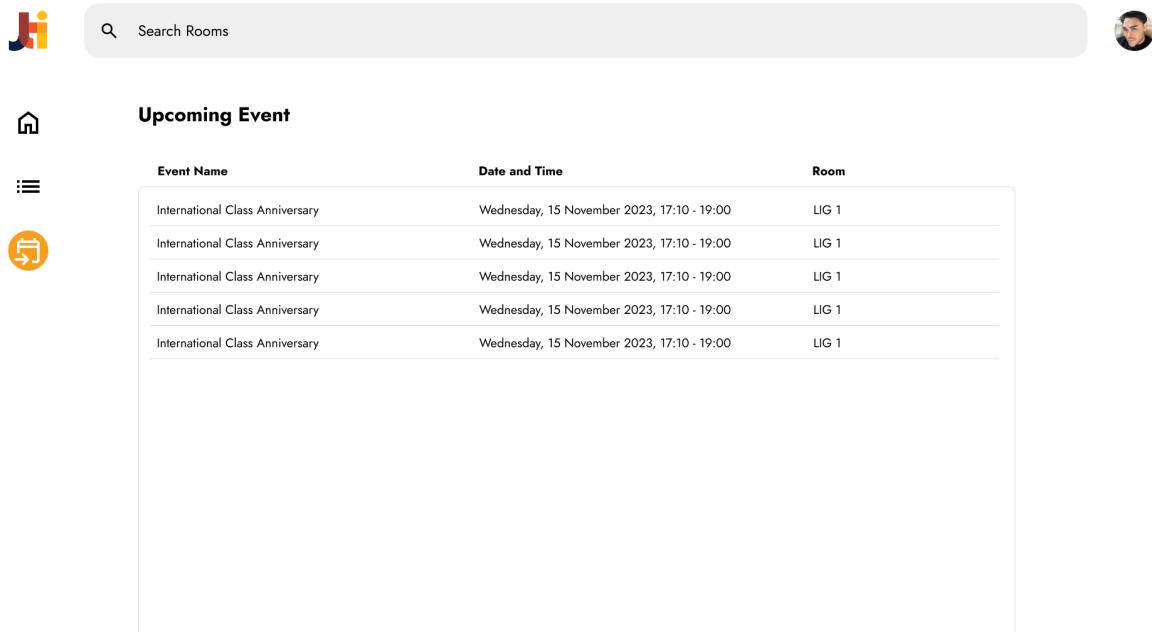


if user wanted to reserve a room, then user will be directed to this page where user must fill the event name, date and time, and the event details while also agreeing the code of conduct that is provided in the website, after that user can press submit to send the proposal to the admin



List of All Rooms

user also able to find the list of all room that contains the code, name, capacity, floor, and side of the room itself



lastly, user can see what upcoming event, user can see when and where the event will be held

b. Admin



admin landed in the login screen and login with provided username and password

Pending Approval

	LSI 1 Muhammad Baihaqi Sunday, 12 November 2023, 16:00 - 19:00 Event of International Class for 2023
--	--

Approved Room

	LIG 1 Steven Christian Monday, 13 November 2023, 19:00 - 22:00 Event of Keyboard Build
--	--

	LSI 1 Muhammad Baihaqi Sunday, 12 November 2023, 16:00 - 19:00 Event of International Class for 2023
--	--

	LIG 1 Steven Christian Monday, 13 November 2023, 19:00 - 22:00 Event of Keyboard Build
--	--

upon logged in admin will directed to the homepage where admin can view pending approval and list of approved room



if admin choose pending approval, then admin will see the details of approval, then admin will choose where and who the approval should be given to, since room tenant already has their own terms and service, where it can be changed anytime, we decided to make the approval is determined by the admin so that the user won't be confused where the proposal should be given to, then admin can accept or reject the approval

Code	Name	Capacity	Floor	Side		
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
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LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>
LSI2	Laboratorium Sistem Informasi 2	30	6	East	<button>Delete</button>	<button>Edit</button>

the next menu is the list of all rooms where admin can create, read, update, delete the room using the provided button

The screenshot shows the 'Add New Room' form. At the top left is a back arrow and the title 'New Room'. Below it are fields for 'Capacity', 'Floor', and 'Side'. The main section is titled 'Add New Room' with fields for 'Room Name' (a text input), 'Code' (a text input), 'Floor' (a dropdown), 'Side' (a dropdown), and 'Capacity' (a dropdown). Below these is a 'Cover Image' section with a file input field ('Select Image (.jpg, .png, .3gp, .jpeg)') and a 'Choose File' button. At the bottom are 'Cancel' and 'Save' buttons.

this is the page of adding a new room, admin can fill the room name, room code, floor, side, capacity, and add cover image for the room itself

The screenshot shows the 'Edit Room Details' form. At the top left is a back arrow and the title 'LIG1: Laboratorium Visi Komputer 1'. Below it are fields for 'Capacity', 'Floor', and 'Side'. The main section is titled 'Edit Room Details' with fields for 'Room Name' (a text input), 'Code' (a text input), 'Floor' (a dropdown), 'Side' (a dropdown), and 'Capacity' (a dropdown). Below these is a 'Cover Image' section with a file input field ('Select Image (.jpg, .png, .3gp, .jpeg)') and a 'Choose File' button. At the bottom are 'Cancel' and 'Save' buttons. A preview image of the room is shown at the top of the form.

on the other page, user can also edit the details of the existing room, containing the same details that is available in the adding new room



Search Rooms



Upcoming Event

Event Name	Date and Time	Room
International Class Anniversary	Wednesday, 15 November 2023, 17:10 - 19:00	LIG 1
International Class Anniversary	Wednesday, 15 November 2023, 17:10 - 19:00	LIG 1
International Class Anniversary	Wednesday, 15 November 2023, 17:10 - 19:00	LIG 1
International Class Anniversary	Wednesday, 15 November 2023, 17:10 - 19:00	LIG 1
International Class Anniversary	Wednesday, 15 November 2023, 17:10 - 19:00	LIG 1

c. Approver



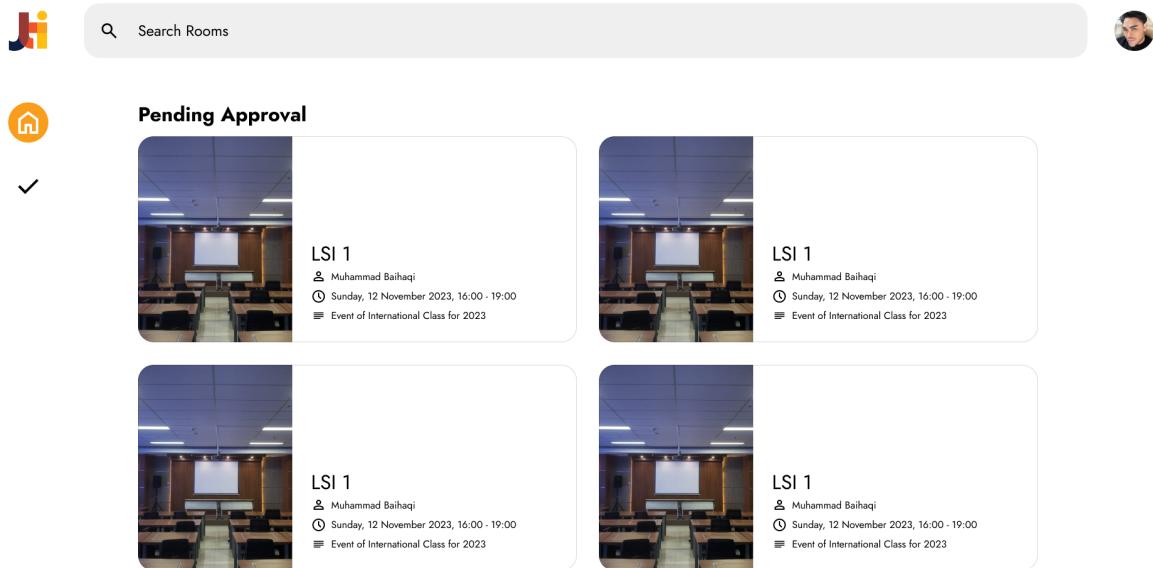
Room Reservation

Username

Password

Login

for approver, started from login like usual using provided username and password



upon landing in the homepage, approver can see list of pending approval



if the approver choose a list, they will directed to the approval page, where approver can approve or reject the approval

The screenshot shows a user interface for managing room bookings. At the top left is a logo with the letters 'JH'. Next to it is a search bar with the placeholder text 'Search Rooms' and a magnifying glass icon. On the far right is a circular profile picture of a man.

The main area has a header 'Approved' with a house icon to its left. Below this is a table with a yellow circular checkmark icon on the left. The table has three columns: 'Event Name', 'Date and Time', and 'Room'. All five rows in the table show the same information: 'International Class Anniversary' for Event Name, 'Wednesday, 15 November 2023, 17:10 - 19:00' for Date and Time, and 'LIG 1' for Room.

lastly, approver can see their approved events from the last menu

d. Prototype Link

User : <https://s.id/1YKyu>
Admin : <https://s.id/1YKyD>
Approver : <https://s.id/1YKyH>

Chapter 4

Risk Management

A. Team Coordination

a. Problem Description

Communication within the team has been inconsistent, leading to misunderstandings, delays, and a lack of clarity on project goals. Team members are not always on the same page, and this has resulted in decreased efficiency and productivity.

b. Solution

Develop a comprehensive communication management plan that outlines clear channels, frequency, and methods of communication within the team. This plan should also define roles and responsibilities for communication, ensuring that everyone understands their part in keeping the team informed and aligned.

B. Time Constraint

a. Problem Description

The project is currently grappling with significant time constraints, creating challenges in meeting deadlines, maintaining a sustainable work pace, and ensuring overall project quality. The existing timeline limitations risk causing bottlenecks and increasing stress among team members.

b. Solution

To address the time constraint challenge, we propose the creation of a dedicated, centralized role responsible for managing time-related aspects of the project. This time coordinator will focus on optimizing schedules, prioritizing tasks, and acting as a communication hub for time-sensitive issues. By clearly defining responsibilities, providing necessary training, integrating with project management tools, and establishing regular monitoring, this centralized role aims to enhance time management, reduce individual stress, and improve overall decision-making, ensuring the project stays on track and meets its goals within the specified time frame.

C. Mismatch Expectation

a. Problem Description

There have been instances where team members had differing expectations regarding project deliverables, timelines, and quality standards. This has led to confusion and rework, impacting the overall project timeline.

b. Solution

Utilize the developed communication management plan to ensure that expectations are aligned across all team members. Regular updates, clear documentation, and transparent communication will contribute to a shared understanding of project goals and individual responsibilities.

Chapter 5

Communication Management

A. Formulation of the Problem

The project has encountered significant challenges in both team coordination and managing expectations, revealing critical gaps in the current communication framework. These challenges, as outlined in the Team Coordination and Mismatched Expectations sections, highlight the need for a strategic approach to communication management.

a. Team Coordination:

In the absence of a structured communication strategy, team coordination has suffered. Inconsistent communication channels and undefined roles have led to a lack of clarity regarding individual responsibilities, resulting in a fragmented team environment. The consequence has been a decrease in overall team efficiency and productivity, with critical information being overlooked and a disconnect among team members.

b. Mismatched Expectations:

Mismatched expectations have emerged as a consequence of the inadequate communication structure. Differing interpretations of project deliverables, timelines, and quality standards have caused confusion and, in some instances, necessitated rework. The absence of a standardized communication plan has allowed discrepancies to persist, impeding seamless task execution and compromising the project timeline.

B. Solution

To address these challenges and enhance team coordination and expectation alignment, the proposed solution involves the creation and implementation of two essential tools: the RACI (Responsible, Accountable, Consulted, Informed) Chart and the Resource Allocation Histogram.

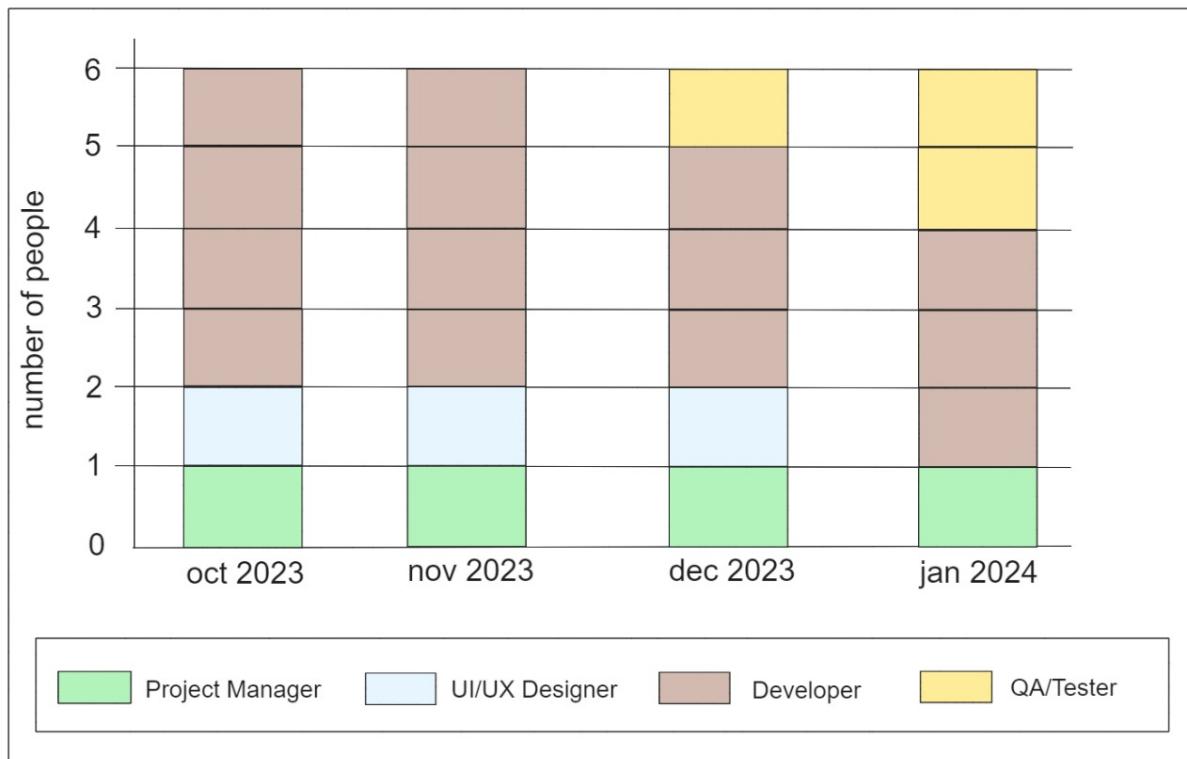
a. RACI Chart:

The RACI chart will clarify roles and responsibilities within the team. By clearly defining who is Responsible, Accountable, Consulted, and Informed for each task or process, the chart ensures that team members understand their roles in communication and decision-making. This will mitigate the issues of undefined roles and inconsistent communication channels, fostering a more organized and efficient team environment.

Task/Role	PM	Dev 1	Dev 2	UI/UX	QA 1	QA 2
Design Architecture: UX	A	C	C	R	I	I
Design Architecture: Wireframe	A	C	C	R	I	I
Design Architecture: Mapping UI	A	C	C	R	I	I
Web Structure: Frontend	A	C	R	I	I	I
Web Structure: Backend	A	R	C	I	I	I
Documentation	A	R	C	I	I	I
Control a scope creep	R	I	I	I	C	A
Change management processes	R	I	I	I	A	C
Quality Management: Unit Testing	A	C	C	I	I	R
Quality Management: System Testing	A	C	C	I	R	I
Lesson Learned	R	I	I	I	C	A
Project Report	R	I	I	I	A	C
Product Delivery	R	A	C	I	I	I
Project Close-out Meeting	R	C	A	I	I	I

b. Resource Allocation Histogram:

The Resource Allocation Histogram will serve as a visual representation of resource utilization over time. By graphically depicting the allocation of team members to specific tasks and projects, this tool ensures a balanced distribution of resources, preventing bottlenecks and overloads. This, in turn, contributes to smoother communication flows and enhances overall team coordination.



C. Evaluation

As we assess the effectiveness of the proposed solutions—RACI Chart and Resource Allocation Histogram—it becomes apparent that leveraging GitHub Issues and Pull Requests as communication records could have provided additional benefits and streamlined communication within the team.

a. Evaluation Criteria

i. Clarity and Accessibility

- RACI Chart and Resource Allocation Histogram: These tools enhance clarity regarding roles, responsibilities, and resource allocation. However, they may not provide real-time accessibility to detailed communication records.
- GitHub Issues and Pull Requests: GitHub's platform allows for the creation of detailed Issues and Pull Requests, providing a centralized and easily accessible repository for communication records. This promotes transparency and ensures that team members can review communication threads at any point in the project.

ii. Integration with Workflows

- RACI Chart and Resource Allocation Histogram: These tools may require manual updates and may not seamlessly integrate with existing project workflows.
- GitHub Issues and Pull Requests: GitHub Issues and Pull Requests are integrated into the development workflow. Team members can link discussions directly to code changes, making it an integral part of the development process. This ensures that communication is tightly coupled with the actual work being done.

iii. Documentation and Versioning

- RACI Chart and Resource Allocation Histogram: While these tools offer a level of documentation, they may lack versioning and detailed contextual information about specific decisions and changes.
- GitHub Issues and Pull Requests: GitHub provides detailed documentation of discussions, decisions, and changes made during the project. The versioning feature allows for a historical record of communication, providing context for future reference and audits.

b. Conclusion

While the RACI Chart and Resource Allocation Histogram contribute to improved team coordination and role definition, the integration of GitHub Issues and Pull Requests as communication records offers a more comprehensive solution. GitHub's platform not only facilitates real-time collaboration but also seamlessly integrates with development workflows, providing detailed documentation and versioning capabilities. Considering the dynamic nature of projects, the use of GitHub for communication records enhances transparency, accessibility, and collaboration, making it a more effective solution for comprehensive communication management within the team. Future project iterations may benefit from adopting GitHub as a central hub for communication and task management.