Name	Parthiban S
Roll no	7376222IT220
Seat no	325
Project ID	5
Problem Statement	Resource Management System

Technical Components

Component	Tech Stack
Frontend	Angular
Backend	Node.js, Express.js
Database	MongoDB

PROJECT-FLOW:

Purpose:

To develop a resource booking system that aims to facilitate the reservation of facilities such as classrooms, labs, auditoriums, and seminar halls. It will allow users to check availability, submit booking requests, receive confirmation notifications, and manage bookings. The system will have separate functionalities for both users and administrators to manage bookings efficiently.

Scope:

The resource booking system will include the following features:

- User authentication and authorization

- Venue availability checking

- Booking request submission

- Admin approval/modification/declination of booking requests

- Notification system for booking status updates

- User and admin dashboard for managing bookings.

Goals and Objectives:

- Provide an intuitive and user-friendly interface for booking resources.

- Ensure accurate and up-to-date availability information for all facilities.

- Improve communication between users and administrators regarding booking requests.

System Overview:

1. **Users:**

    They have the ability to check for the availability of venues with date and time and submit a form to request a venue for events by specifying the purpose of the booking.

2. **Admin:**

    Administrators should be able to view pending booking requests and review submitted forms, approve or reject it (with remarks).

Functional Requirements:

User Authentication:

- Users must be able to register an account and log in securely.

- Administrators must have access to an admin dashboard for managing users and bookings.

Venue Availability Checking

- Users should be able to check the availability of venues based on date and time.

- The system should display real-time availability status for each venue.

Booking Request Submission:

- Users should be able to submit booking requests specifying date, time, venue, purpose, and user information.

- Booking requests should be stored in the database for review by administrators.

Admin Functionality:

- Administrators should be able to view pending booking requests and take actions (approve, modify, decline).

- The system should send notification emails to users regarding the status of their booking requests.

Notification System:

- Users should receive email notifications when their booking requests are approved, modified, or declined.

- Administrators should receive notifications when new booking requests are submitted.

Non-Functional Requirements:

Performance:

- The system should be responsive and able to handle multiple concurrent users.

Usability:

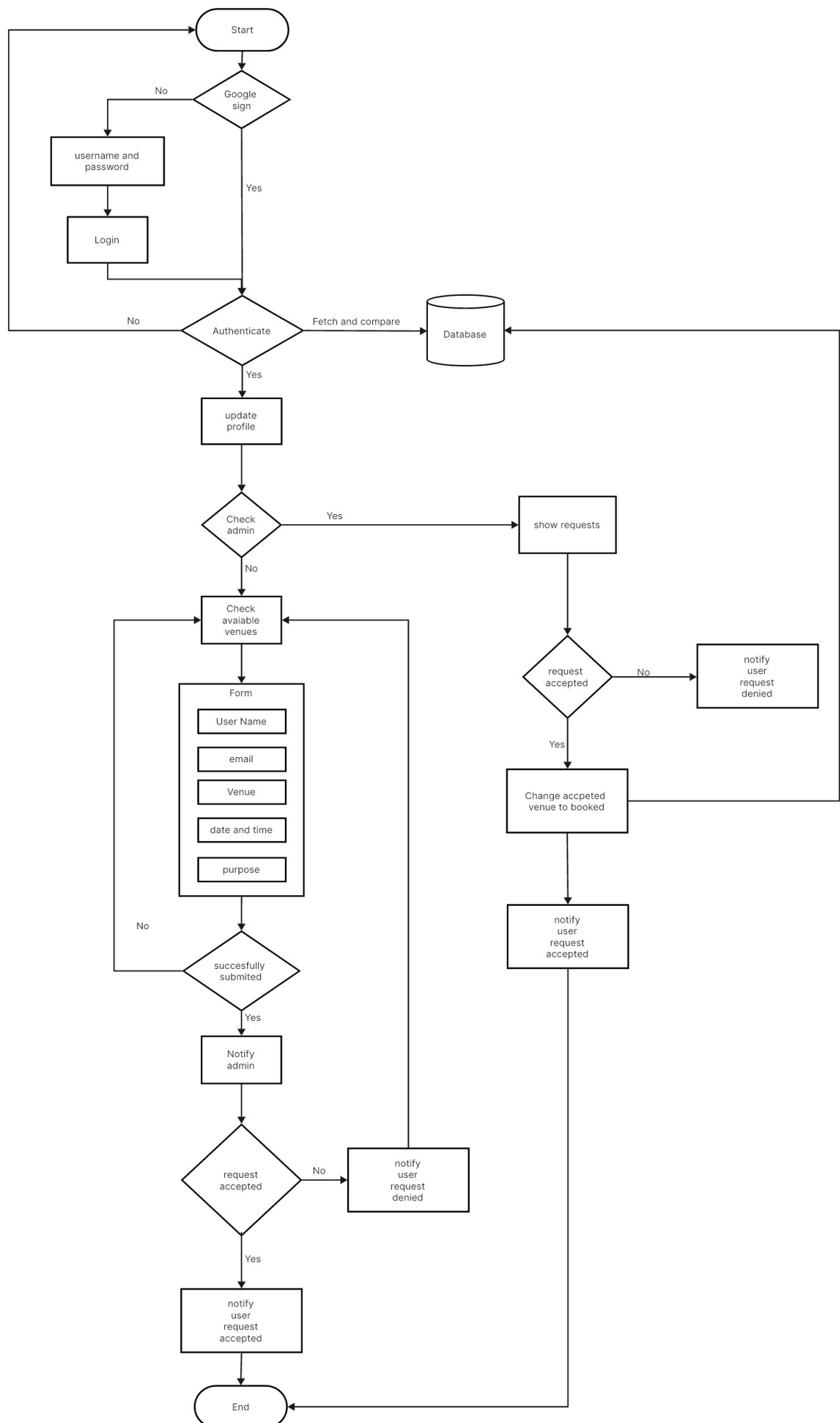- The user interface should be intuitive and easy to navigate.

Security:

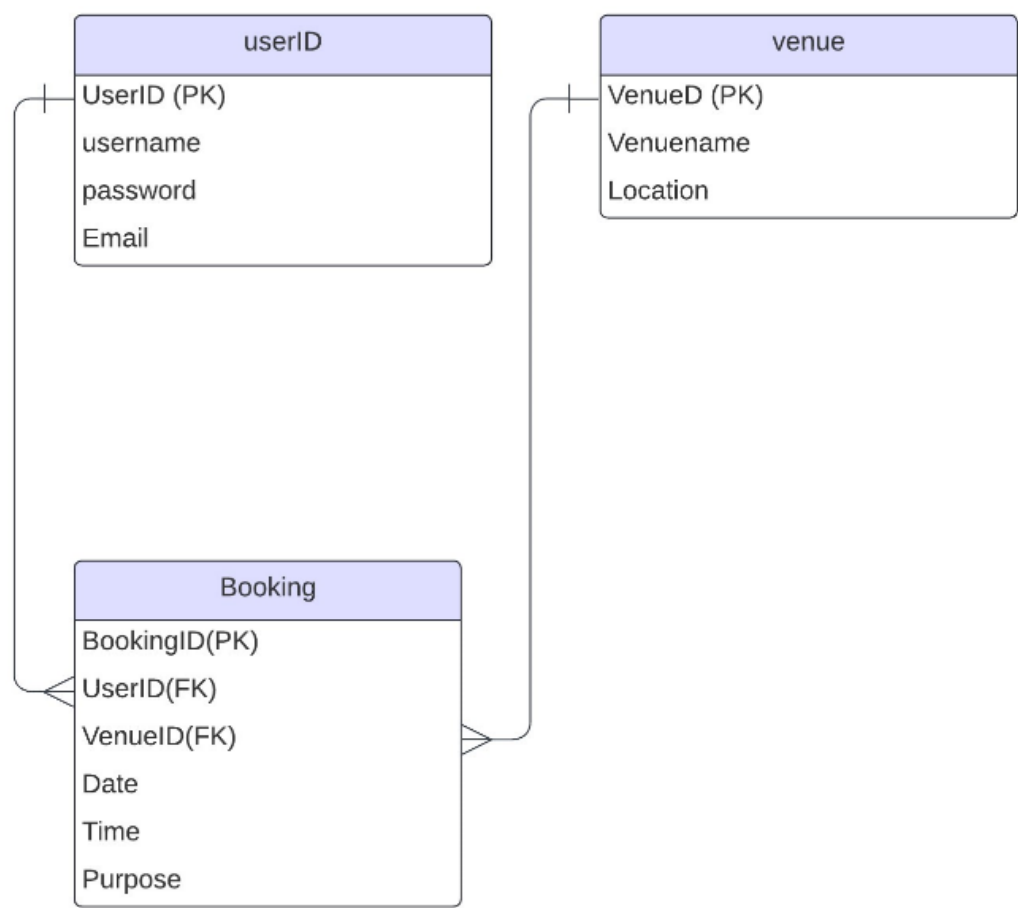- User data and booking information should be stored securely.

Reliability:

- The system should be available and reliable at all times.

FLOW CHART:

Start

Google sign

No → username and password

Login

Yes

Authenticate

No

Fetch and compare → Database

Yes

update profile

Check admin

Yes → show requests

No

Check avaiable venues

Form
- User Name
- email
- Venue
- date and time
- purpose

request accepted

No → notify user request denied

Yes

Change accpeted venue to booked

notify user request accepted

succesfully submited

No

Yes

Notify admin

request accepted

No → notify user request denied

Yes

notify user request accepted

End

ER DIAGRAM:

LOGIN FORM:

USER VIEW:

DATE   [   ]

TIME   [   ]

VENUE   [   ]

VENUE	LOCATION	STATUS
SF SEMINAR HALL-1	SUNFLOWER BLOCK BASEMENT	BOOKED
SF SEMINAR HALL-2	SUNFLOWER BLOCK BASEMENT	AVAILABLE
SF SEMINAR HALL-3	SUNFLOWER BLOCK 3RD FLOOR	BOOKED
VEDANAYAGAM AUDITORIUM	IB BLOCK 1ST FLOOR	AVAILABLE

<   1   >

REQUEST FORM:

NAME

[   ]

ROLL NUMBER

[   ]

EMAIL

[   ]

VENUE

[   ]

DATE AND TIME

[   ]

PURPOSE

[   ]

SUBMIT

PROFILE:

Welcome
PARTHIBAN S

VENUE	LOCATION	STATUS
SF SEMINAR HALL-1	SUNFLOWER BLOCK BASEMENT	DENIED
SF SEMINAR HALL-2	SUNFLOWER BLOCK BASEMENT	ACCEPTED
SF SEMINAR HALL-1	SUNFLOWER BLOCK 3RD FLOOR	REQUESTED
VEDANAYAGAM AUDITORIUM	IB BLOCK 1ST FLOOR	DENIED

< 1 >

RETURN TO HOME PAGE

LOGOUT

ADMIN VIEW:

☰ PARTHIBAN S

VENUE	USER	CONFORMATION
SF SEMINAR HALL-1	BALAJI S	✓ / X
SF SEMINAR HALL-2	PARTHIBAN S	✓ / X
SF SEMINAR HALL-3	NAVEEN K	✓ / X
VEDANAYAGAM AUDITORIUM	SIVA P	✓ / X

< 1 >

NOTIFICATION:

YOUR REQUEST HAS BEEN SUBMITTED

YOUR REQUEST HAS BEEN ACCPETED

YOUR REQUEST HAS BEEN DENIED