SOFTWARE REQUIREMENT SPECIFICATION

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Project Id:	12
Project Title:	Venue Management

1. TOOLS AND TECHNOLOGIES:

MERN STACK

COMPONENTS	TECH STACK
Frontend	React
Backend	Node.js with Express.js
Database	MongoDB
API	OpenAI

2. PROBLEM STATEMENT:

The management of venues for events, meetings, and functions can be a complex task involving scheduling conflicts, resource allocation, and coordination between multiple parties. Traditional methods of managing these processes are often manual, time-consuming, and prone to errors, leading to inefficient utilization of resources and dissatisfaction among clients. An integrated solution is needed to streamline the booking and management of venues, enhance communication, and provide a seamless experience for both venue managers and clients.

3. PURPOSE:

The purpose of the Venue Management and Booking Software is to provide a comprehensive, user-friendly platform that facilitates the efficient scheduling, management, and booking of venues for various events. This software aims to automate and streamline the entire process, from venue availability checking to booking confirmation and payment processing. By doing so, it seeks to reduce administrative burden, prevent scheduling conflicts, enhance resource utilization, and improve the overall experience for both venue managers and clients.

Key Objectives

1. **Automate the Booking Process:**
   - Streamline the booking process by providing an intuitive platform where clients can search for available venues, make reservations, and receive instant confirmations.
2. **Enhance Resource Management:**
   - Provide tools for venue managers to efficiently manage venue availability, facilities, and resources, ensuring optimal utilization and minimizing idle time.
3. **Prevent Scheduling Conflicts:**
   - Implement robust scheduling features that prevent double bookings and handle overlapping requests, ensuring that venues are booked without conflicts.
4. **Improve Communication:**
   - Facilitate better communication between venue managers and clients through automated notifications, reminders, and updates regarding bookings and changes.
5. **Enable Secure Payment Processing:**
   - Integrate with secure payment gateways to handle online payments, invoicing, and receipts, ensuring a smooth financial transaction process.

4. SCOPE:

- **User Management:** Manage user profiles, roles, and permissions for venue managers and clients.
- **Venue Management:** Create, update, and manage venue details including availability, capacity, facilities, and pricing.

- **Booking Management:** Allow clients to search for available venues, request bookings, and manage their reservations.
- **Calendar and Scheduling:** Provide a visual calendar for tracking bookings, availability, and conflicts.
- **Notifications and Alerts:** Send automated notifications and reminders for bookings, cancellations, and upcoming events.
- **Payment Integration:** Facilitate secure online payments for venue bookings.
- **Reporting and Analytics:** Generate reports on venue usage, booking trends, and financial performance.
- **Customer Support:** Provide a support system for handling inquiries and issues related to bookings and venue management.

5. FUNCTIONAL REQUIREMENTS:

1. **User Authentication and Authorization:**
   - Users must be able to register, log in, and reset passwords.
   - Role-based access control for administrators, venue managers, and clients.
2. **Venue Management:**
   - Add, edit, and delete venue details (name, location, capacity, facilities, images).
   - Set venue availability, pricing, and booking policies.
3. **Booking System:**
   - Search and filter venues based on date, capacity, location, and facilities.
   - Request and confirm bookings.
   - View and manage existing bookings.
   - Prevent double bookings and handle overlapping requests.
4. **Calendar and Scheduling:**
   - Display a calendar view of bookings and availability.
   - Provide tools for managing scheduling conflicts.
5. **Notifications and Alerts:**
   - Send email and SMS notifications for booking confirmations, cancellations, and reminders.
   - Alert venue managers of new booking requests and changes.

6. **Payment Processing:**
   ○ Integrate with payment gateways to process online payments.
   ○ Handle invoicing and receipt generation.

7. **Reporting and Analytics:**
   ○ Generate reports on booking statistics, revenue, and customer demographics.
   ○ Provide data visualizations for easy analysis.

8. **Customer Support:**
   ○ Implement a ticketing system for customer inquiries and support requests.
   ○ Provide FAQs and a knowledge base.

6. NON-FUNCTIONAL REQUIREMENTS:

1. **Performance:**
   ○ The system should handle concurrent users efficiently.
   ○ Booking and search operations should be processed within acceptable time limits.

2. **Scalability:**
   ○ The software should be scalable to accommodate increasing numbers of users and venues.

3. **Security:**
   ○ Ensure data security with encryption for sensitive information.
   ○ Implement secure authentication and authorization mechanisms.

4. **Reliability:**
   ○ The system should have high availability and minimal downtime.
   ○ Ensure data backup and recovery mechanisms.

5. **Usability:**
   ○ The user interface should be intuitive and user-friendly.
   ○ Provide accessible design features for users with disabilities.

6. **Maintainability:**
   ○ The software should be easy to maintain and update.
   ○ Use modular design principles to facilitate changes and improvements.

7. ADDITIONAL CONSIDERATIONS:

Integration with External Systems:

● Consider integrating with other event management or calendar applications for extended functionality.

Mobile Application:

● Develop a mobile version of the application for on-the-go access to venue management and booking.

Regulatory Compliance:

● Ensure compliance with relevant regulations such as GDPR for data protection.

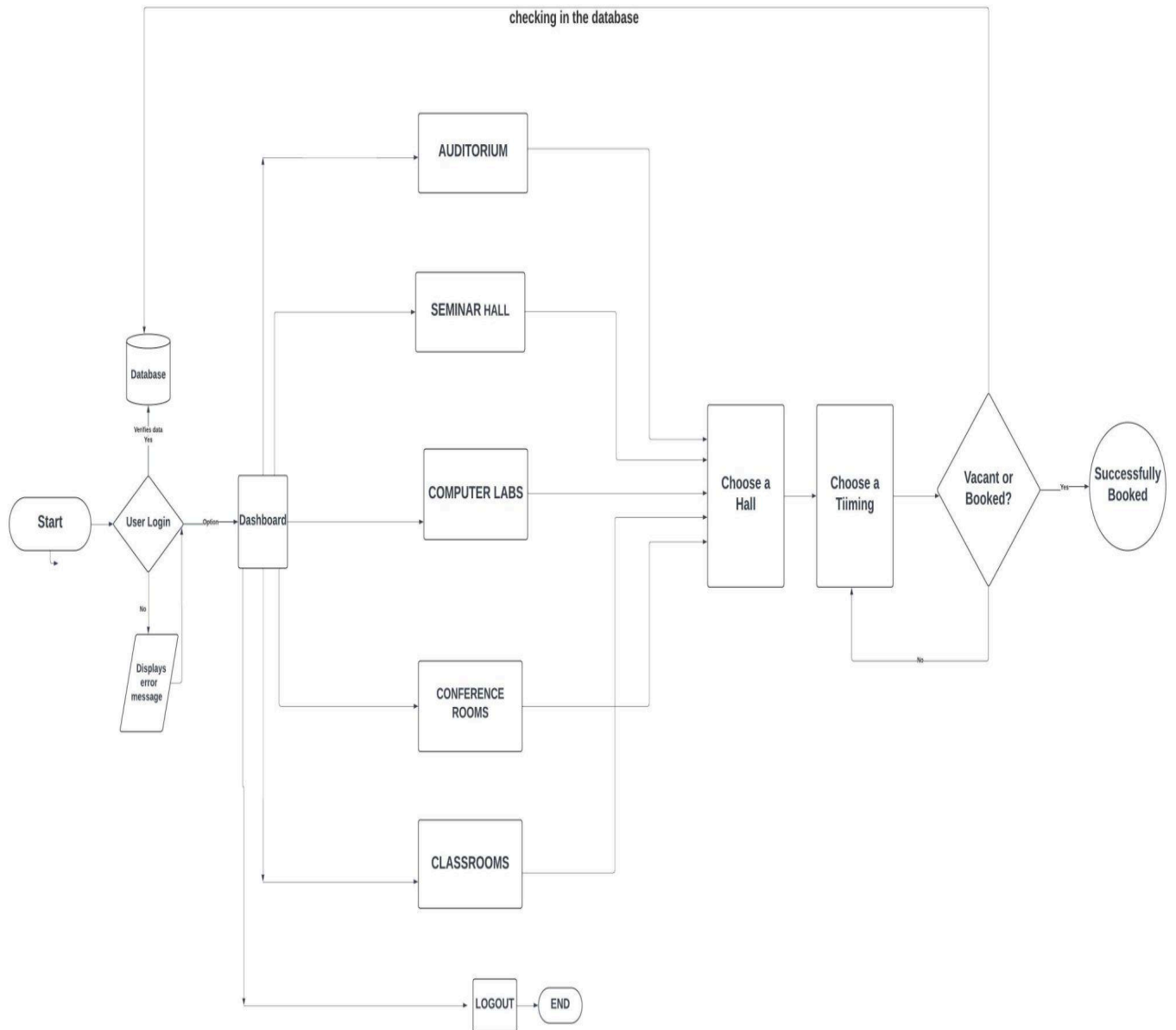**Feedback Mechanism:**

● Implement a system for collecting user feedback to continuously improve the software.

Customizability:

● Allow customization of the software to fit different types of venues and client needs.

FLOWCHART

checking in the database

Start → User Login → Dashboard

User Login — Verifies data Yes → Database

User Login — No → Displays error message

Dashboard — Option

Dashboard → AUDITORIUM

Dashboard → SEMINAR HALL

Dashboard → COMPUTER LABS

Dashboard → CONFERENCE ROOMS

Dashboard → CLASSROOMS

AUDITORIUM, SEMINAR HALL, COMPUTER LABS, CONFERENCE ROOMS, CLASSROOMS → Choose a Hall → Choose a Tiiming → Vacant or Booked?

Vacant or Booked? — Yes → Successfully Booked

Vacant or Booked? — No → Choose a Tiiming

Dashboard → LOGOUT → END

PROTOTYPE OF THE PROJECT:

Welcome back!
Please enter your details

Email

Password 👁

☐ Remember for 30 days   Forgot password?

Log In

Log In with Bitsathy Credentials

Don't have an account? **Register Here**