EQUIPMENT BOOKING SYSTEM

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PROBLEM STATEMENT

Organizations often face issues managing shared equipment like laptops or projectors due to lack of a centralized system, leading to conflicts and poor utilization. A web-based Equipment Booking System is needed to allow users to view, reserve, and manage equipment efficiently while preventing double bookings and maintaining proper records using Python and an RDBMS.

MODULES

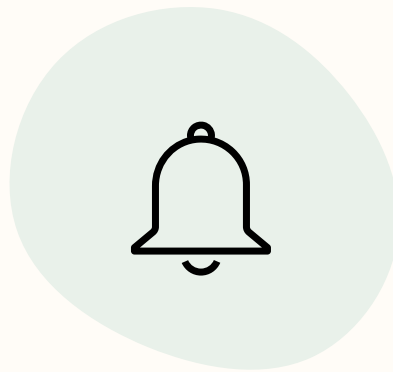**1** User Authentication Module

2 Equipment Management Module

3 Booking Module

4 Dashboard Module

4 Notification & History Module

NOTIFICATION & HISTORY

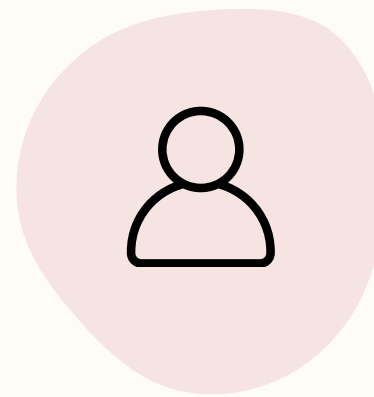**Alerts on booking, cancellation, return reminders**
Booking history for users

EQUIPMENT MANAGEMENT

Add, update, delete equipment (admin)
View available equipment (users)
Equipment status (Available, Booked)

USER AUTHENTICATION

Login and registration
Role-based access (User/Admin)
Session handling and security

BOOKING

View available time slots
Reserve equipment
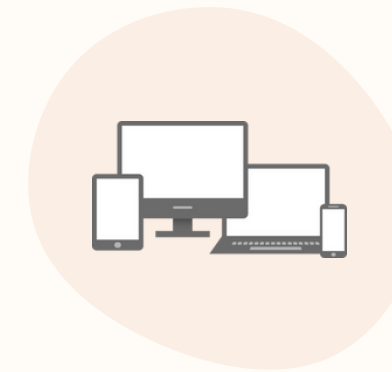**Prevent double booking**
Modify or cancel bookings

DASHBOARD

User Dashboard: Past bookings
Admin Dashboard: monitor all reservations, manage users

1 # USER TABLE

- **id** (**Primary Key**) – **int**
- **name** – **varchar**
- **email** (**Unique**) – **varchar**
- **phone** – **varchar** (**e.g.,** 'admin', 'user')
- **password** – **varchar**
- **gender** – **enum**

2 ADMIN TABLE

- **id (Primary Key) – int**
- **admin_id (Foreign Key → users.user_id) – varchar**
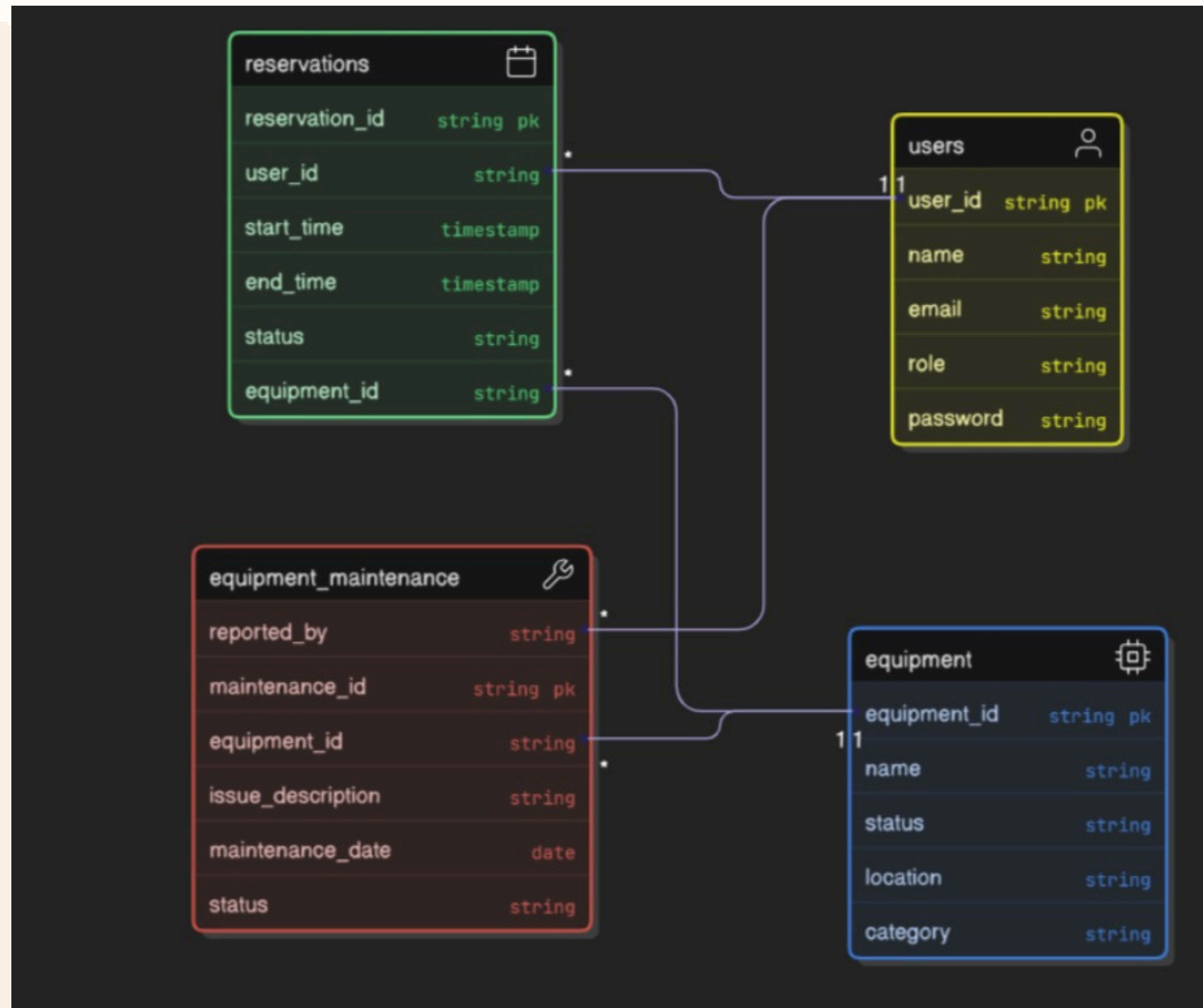- **password – varchar**
- **name – varchar**
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3 BOOK TABLE

- **book_id (Primary Key) – int**
- **user_id (Foreign Key → users.user_id) – int**
- **booking date – date**
- **equipment_id (Foreign Key → equipment.equipment_id) – varchar**

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4 **EQUIPMENT TABLE**

- Logs maintenance records for equipment.
- id AUTO_INCREMENT PRIMARY KEY - int
- name NOT NULL_ - varchar
- description - Text
- quantity INT (NOT NULL)- int
- category(NOT NULL) - varchar
- status – varchar(e.g., 'pending', 'resolved')

DATA MODEL

TOOLS USED

FRONTEND

Html , CSS , Bootstrap , JavaScript

BACKEND

Python , Flask , Mysql