Seat Reservation System for Interns – Specification Document

1. Introduction

The Seat Reservation System for Interns is designed to allow interns to book available seats/desks at the office. The system ensures organized seat allocation, prevents double bookings, and helps management track office utilization.

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2. Objectives

- Allow interns to view available seats and reserve one for specific dates.
- Enable administrators to manage seating arrangements.
- Avoid double booking or overbooking.
- Track seat usage and generate basic reports.

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3. System Users

User Type	Role
Intern	View and reserve seats
Admin	Add/edit/remove seats, manage reservations, view reports

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4. Functional Requirements

4.1 Intern Features

- Register and login to the system. ✔
- View available seats by date.
- Book/reserve a seat. ✔
- View their current and past reservations. ✔
- Cancel or modify future reservations. ✔

4.2 Admin Features

- Login to admin dashboard. ✔
- Add/edit/delete seat entries. ✔
- View all reservations by date or by intern. ✔
- Manually assign seats if needed.
- Generate seat usage reports.

5. Non-Functional Requirements

- Web-based and mobile responsive.
- User-friendly interface.
- Secure authentication and authorization.
- Scalable for multiple office branches (if required in the future).

6. Data Requirements

6.1 Database Tables

- **Users (Interns & Admins)**: ID, Name, Email, Password, Role
- **Seats**: Seat ID, Seat Number, Location/Area, Status (Available/Unavailable)
- **Reservations**: Reservation ID, Intern ID, Seat ID, Date, Time Slot, Status (Active/Cancelled)

7. Validation Rules

- An intern can only reserve one seat per day.
- Seats cannot be reserved if already booked.
- Seats must be reserved at least 1 hour in advance.
- Past dates cannot be booked.

8. Technical Specifications

- **Frontend**: HTML, CSS, JavaScript
- **Backend**: PHP/Python/Node.js (any suitable option)
- **Database**: MySQL or PostgreSQL
- **Hosting**: Cloud-based or Local Server

9. Constraints

- System should support a maximum of 100 concurrent users.
- Only interns with valid office email addresses can register.
- Data retention of reservation records for 6 months.

10. Future Enhancements (Optional)

- QR code check-in for reserved seats.
- Email or SMS notification reminders.
- Integration with calendar apps (Google Calendar, Outlook).
- Facebook authentication
- Google authentication