

# Dental Booking System

## Dental Booking System Requirements

### 1. User Authentication

- Login Functionality
  - Users can log in using their username and password.
  - Login is successful only if the username and password match an authorized user.
  - Status Codes:
    - 200 OK: Successful login.
    - 401 Unauthorized: Invalid username or password.
- Sign-Up Functionality
  - New users can create an account with a username, password, and phone number.
  - Accounts are created only if the username and phone number do not already exist.
  - Status Codes:
    - 201 Created: Successful account creation.
    - 409 Conflict: Username or phone number already exists.

### 2. Appointment Management

- Book Appointment
  - Users can book an appointment by selecting a date, start time, and end time.
  - Appointments must be at least 30 minutes long.
  - Appointments cannot overlap with existing appointments.
  - Bookings cannot be made for past dates and times.
  - Status Codes:
    - 201 Created: Appointment successfully booked.
    - 400 Bad Request: Invalid input, e.g., past date, overlapping appointment, duration less than 30 minutes.
    - 409 Conflict: Appointment slot already booked.

- Cancel Appointment
  - Users can cancel their appointments.
  - Canceled appointments are removed from the system.
  - Status Codes:
    - 200 OK: Appointment successfully canceled.
    - 404 Not Found: No matching appointment found for cancellation.

### 3. Data Management

- Data Storage
  - User information (username, password, phone number) and appointment details are stored in a data.txt file.
  - Data is read from and written to data.txt to persist user and appointment information.
  - File Format
    - The data.txt file is in JSON format, containing two arrays: users and appointments.

### 4. User Interface

- Login Page
  - Fields for username and password.
  - Login button
- Sign-Up Page
  - Fields for username, password, and phone number.
  - Sign-up button
- Main Page (After Login)
  - Form for booking an appointment, including fields for date, start time, and end time.
  - Button for booking an appointment.
  - Button for canceling an appointment.
- Messages
  - Display success and error messages based on the outcome of operations (e.g., login, sign-up, booking, canceling).
  - Success messages should be green.
  - Error messages should be red.

## Instructions

1. Write detailed test plan and test cases for all relevant scenarios.
2. Use the test cases to execute manual UI/API testing.
3. Convert your manual tests into automated tests.
4. Find all bugs in the system and create bug report.