**Case Study 1**

Problem Statement

Develop a Healthcare Appointment Management System using React that enables patients to book appointments with doctors and provides doctors with tools to manage their schedules. The application should streamline the appointment process, improve patient engagement, and enhance overall efficiency.

Key Features

User Authentication:

Implement user roles (patients and doctors) with secure login and registration processes.

Use JWT (JSON Web Tokens) for authentication.

Appointment Booking:

Allow patients to view available appointment slots for different doctors.

Enable patients to book, reschedule, or cancel appointments.

Doctor's Dashboard:

Provide doctors with a dashboard to view their upcoming appointments.

Allow doctors to mark appointments as completed and add notes.

Patient Profile:

Enable patients to manage their profiles, including personal information and medical history.

Notifications:

Send email or SMS notifications to patients for appointment confirmations, reminders, and cancellations.

Responsive Design:

Ensure the application is mobile-friendly for patients accessing it on their phones.

Technology Stack

Frontend: React, React Router, Redux (for state management), Axios (for API calls)

Backend: python and some database

Authentication: JWT for securing API routes

Styling: SASS