

Healthcare Appointment & Management System

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Healthcare Appointment & Management System

Project Overview

SmartCare is an online system that allows:

- **Patients** to search doctors by specialty, book appointments, and track prescriptions.
- **Doctors** to manage appointments, write prescriptions, and view patient history.
- **Admin** to oversee users, appointments, and system configuration

Project Modules

Authentication (ASP.NET Core + Web API)

- Register/Login with roles: Patient, Doctor, Admin
- Role-based dashboard routing
- JWT secured APIs
- Razor Pages for authentication UI

Doctor Dashboard (ASP.NET Core MVC + Power BI)

- View today's appointments – Power BI
- View patient history – Power BI
- Write a prescription
- Add remarks / diagnosis

Patient Portal (ReactJS + Web API)

- Browse available doctors by specialty
- Book appointment
- View appointment history
- Download prescriptions (PDF or text)

Secure Coding Practices

- Input validation (ModelState)
- CSRF protection (Anti-forgery token)
- Use of HttpOnly and Secure cookies
- JWT claims-based authorization
- Avoid SQL injection (EF Core practices)

Healthcare Appointment & Management System

Technology Stack

Layer	Tech
Frontend	ReactJS (Patient & Doctor Dashboards, Booking, Profile Management)
Web API	ASP.NET Core Web API (with JWT Authentication, Role-based Access)
Admin UI	ASP.NET Core MVC or Razor Pages (for Admin Panel & Reports)
Auth DB	ASP.NET Identity + EF Core
DB	SQL Server (or SQLite for simplicity)

Breakdown

Day	Task
1	Project setup, Identity + Role setup
2	Razor Login + API Login with JWT
3	Doctor MVC – View appointments
4	MVC – Add prescription flow
5	API – Book appointment, get doctors
6	React UI – List doctors, book appointment
7	React UI – View history, download prescription
8	Security hardening & validation
9	Testing, polish UI, secure all flows
10	Final touch, documentation

Deliverables

- Full source code (GitHub link)
- README with setup steps
- Short demo video