1. Project Proposal

The Small Hospital Management System is a web-based application developed using ASP.NET MVC and Microsoft SQL Server. It automates patient registration, appointments, billing, inventory, and employee management, following the MVC structure.

Objectives:
- Automate hospital operations and improve efficiency.
- Provide secure access through role-based authentication.
- Manage billing, invoices, medications, and reports.
- Ensure reliable and easy deployment for small hospitals.

2. Project Plan (10 Weeks)

Team: 2 Backend Developers + 2 Frontend Developers
Tools: ASP.NET MVC, SQL Server, Visual Studio 2022, Entity Framework, Bootstrap, GitHub, IIS.

Gantt Chart (10 Weeks)

Week	Task	Start Date	End Date	Deliverables
1	Requirements & DB Design	2025-10-06	2025-10-12	ERD + Project Setup
2	Core Models & CRUD	2025-10-13	2025-10-19	Patient & Employee CRUD
3	Authentication & Roles	2025-10-20	2025-10-26	Login & Role System
4	Appointments Module	2025-10-27	2025-11-02	Appointments Scheduling
5	Medical Records	2025-11-03	2025-11-09	Medical Records UI
6	Billing & Invoices	2025-11-10	2025-11-16	Billing Module
7	Billing & Invoices (cont.)	2025-11-17	2025-11-23	Invoices Reports
8	Inventory & Medications	2025-11-24	2025-11-30	Inventory & Expiry Alerts
9	Testing & QA	2025-12-01	2025-12-07	QA & Bug Fixes
10	Deployment & Documentation	2025-12-08	2025-12-14	Deployed System + Docs

3. Task Assignment & Roles

Backend Dev 1 – Database & Core Logic (SQL Server schema, Entity Framework)

Backend Dev 2 – Billing, Invoices, Medications

Frontend Dev 1 – Razor Views for Patients, Appointments

Frontend Dev 2 – Billing & Inventory UI, Validation, Testing

4. Risk Assessment & Mitigation

- DB schema changes mid-project → Lock schema after Week 2

- Controller/View mismatch → Use shared ViewModels

- Authentication bugs → Test early with ASP.NET Identity

- Deployment issues → Test on IIS early

5. KPIs (Key Performance Indicators)

- Response time ≤ 2 seconds

- Uptime ≥ 99%

- Billing accuracy ≥ 98%

- Patient registration time ≤ 2 minutes

- Test coverage ≥ 80%

- On-time delivery ≥ 90%

6. MVC Architecture Breakdown

PatientsController → Manage patients (CRUD)

EmployeesController → Manage staff

AppointmentsController → Scheduling

MedicalRecordsController → Records

BillingController → Invoices & Payments

MedicationsController → Inventory & expiry

AccountController → Authentication

HomeController → Dashboard & reports

7. Deliverables

- ASP.NET MVC Solution (C#)

- SQL Server Database + Scripts

- Documentation (Word/PDF)

- Testing & Deployment Report

- Presentation Slides