

Case Study Task: “SmartClinic 2.0 – Appointment & Patient Management System”

Overview

You are part of a software development team tasked with designing **SmartClinic 2.0**, a digital solution to replace a clinic’s paper-based appointment and patient-interaction workflow.

The task walks you through **all steps of software development fundamentals** taught in the training materials.

PART 1 — System Study

Task

1. Study the current system:
 - a. Paper-based appointment register
 - b. Phone-call based rescheduling
 - c. Manual reminders
2. Identify at least **6 problems/gaps** (e.g., delay, miscommunication, no history, loss of records).

Deliverable

A **1-page system study report** listing problems + impact.

PART 2 — User Objectives

Task

Interview (hypothetical) users:

- Receptionist
- Doctor
- Patients

From this, define **clear objectives** (NOT features), such as:

- Reduce waiting time
 - Automate reminders
 - Improve accuracy
 - Avoid double-booking
- (Examples aligned with the PPT SmartClinic sample)

Deliverable

A bullet-point list of 6–8 user objectives.

✓PART 3 — User Requirements

Break requirements into:

Functional Requirements

Examples:

- Book and reschedule appointments
- Send SMS/email reminders
- Maintain patient history
- Doctor availability calendar
(based on the training content)

Non-Functional Requirements

Examples:

- System should load within 2 seconds
- Data must be secured
- Mobile-friendly
- High reliability

Deliverable

A requirements document with:

- At least 10 functional requirements
- At least 6 non-functional requirements

✓PART 4 — Prepare the SRS (Software Requirements Specification).

Task

Create a **mini SRS** containing:

1. Purpose
2. Scope
3. Definitions
4. Functional requirements
5. Non-functional requirements
6. Inputs (ex: user details, appointment details)
7. Outputs (confirmation, calendar view, notifications)
8. Constraints (ex: clinic hours, authentication)

Deliverable

A **3–5 page SRS document.**

✓PART 5 — Feasibility Study

Technical

- Do interns know the required tech (React, Node, DB)?
- Required hardware/software?

Economic

- Cost of development vs. expected return
- Licensing tools

Operational

- Will staff adopt digital tools?
- Any training required?

Deliverable

A **feasibility report** with a simple “Feasible / Not Feasible” conclusion.

✓PART 6 — Time & Resource Estimation

Task

Create a **high-level project estimation**:

- UI: 1 week
- Backend APIs: 1.5 weeks
- Database + models: 0.5 week
- Notifications: 0.5 week

- Testing + deployment: 1 week

Include:

- Team structure (2 interns + 1 lead)
- Tools & technologies

Deliverable

A timeline (Gantt-style) + resource plan.

✓PART 7 — Final Workflow Diagram

Design the final workflow for SmartClinic 2.0:

Patient → Appointment Booking → Confirmation → Reminder → Consultation → Follow-up

Deliverable

A simple workflow diagram (can be drawn in Figma, PowerPoint, or even hand-drawn & scanned).