



AI-Assisted Requirements Candidates – Clinic Appointment System

Elicitation:

- Manual spreadsheet-based scheduling
- Doctors require buffer time between appointments
- Patients want SMS/email reminders
- IT team requires audit logs
- Medical details cannot be shared via SMS

Section-2

1) Key problems from the elicitation notes

- **Scheduling is inefficient and error-prone** because appointments are managed in a **manual spreadsheet**.

- **Appointment timing needs clinical realism** because **doctors need buffer time** between appointments, which basic scheduling often fails to enforce.
 - **Missed appointments are likely** because patients want **reminders (SMS/email)** and the current process likely does not provide them reliably.
 - **Traceability and accountability gaps** exist because the IT team requires **audit logs**, implying current tracking of changes is insufficient.
 - **Privacy/compliance risk in communications** because **medical details cannot be shared via SMS**, creating constraints on what reminder messages may contain.
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2) "The system shall..." requirements candidates

1. The system shall allow authorized staff to create, view, update, cancel, and reschedule clinic appointments.
2. The system shall maintain a centralized appointment calendar that replaces spreadsheet-based scheduling.
3. The system shall prevent booking conflicts by disallowing overlapping appointments for the same doctor.
4. The system shall support configurable buffer time rules between appointments per doctor (and optionally per appointment type).
5. The system shall enforce buffer times by preventing bookings that violate the configured buffer rules.
6. The system shall send appointment reminders to patients via SMS and email based on configurable timing rules.
7. The system shall allow patients to choose preferred reminder channels (SMS, email, or both), if enabled by the clinic.
8. The system shall generate and store audit logs for appointment lifecycle events and administrative actions (create/update/cancel/reschedule).
9. The system shall record in the audit log who performed each action, what changed, and when it changed.

10. The system shall ensure SMS reminder messages do not include medical details (such as diagnosis, treatment, or sensitive clinical notes).
 11. The system shall allow reminder templates to be configured separately for SMS and email.
 12. The system shall restrict access to appointment scheduling and audit logs to authorized roles only.
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3) Classification (FR / NFR / Constraints)

Functional Requirements

- (1) Create/view/update/cancel/reschedule appointments
- (2) Centralized appointment calendar replacing spreadsheets
- (3) No overlapping appointments per doctor
- (4) Configurable buffer rules
- (5) Enforce buffer rules during booking
- (6) SMS/email reminders with configurable timing
- (7) Patient reminder channel preferences (if supported)
- (8) Audit logging for key events and actions
- (9) Audit log includes actor, timestamp, and change details
- (11) Separate reminder templates for SMS and email
- (12) Role-based access to scheduling and audit logs

Non-Functional Requirements

- (9) Auditability/detail level can be treated as a **quality attribute** as well (traceability), but it is already captured above as a functional logging capability.

Constraints

- (10) SMS reminders shall not include medical details (content/privacy constraint)

- (4) Buffer time requirement can also be interpreted as a **policy constraint** the system must enforce, but it is implemented through functional behavior (configure + enforce).