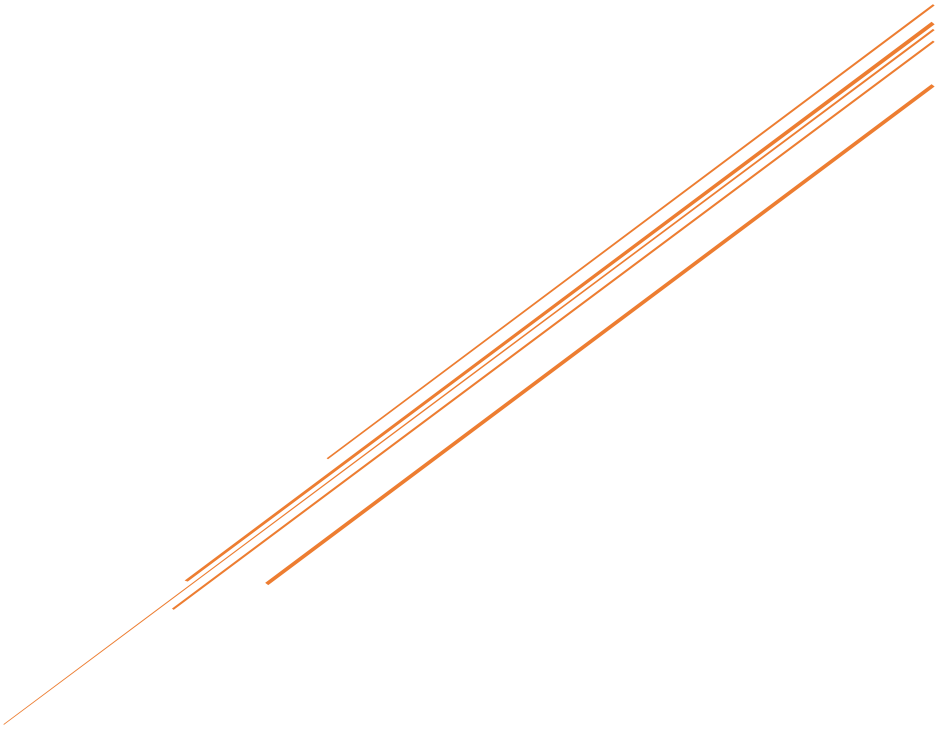
ONLINE APPOINTMENT FOR HEALTHCARE CLINIC

Business Requirements Document (BRD)



Author	Version	Date	Description
Zohaib Waqar	1.0		

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1. Author Change Control and Approvers

Role	Name	Organization	Signature	Date
Author	Zohaib Waqar	My Org		
Reviewer (IT Manager)	-	Healthcare Clinic		
Project Sponsor	-	Healthcare Clinic		
Approver (PO/Stakeholder)	Manager (IT Operations)	Healthcare Clinic		

2. Executive Summary

This project aims to automate the appointment booking system of a healthcare clinic to overcome the inefficiencies of the existing manual process. Issues like double bookings, poor reporting, and scheduling conflicts will be addressed. Automation will streamline operations, enhance user experience, and support better decision-making via reporting and data analytics.

3. Glossary

Term	Definition
MoSCoW	Must, Should, Could, Won't – prioritization framework
No-show	A patient who misses an appointment without prior cancellation
Rescheduling	Process of changing the date/time of a booked appointment
Role-Based Access	Access control based on user role (e.g., Doctor, Admin, Patient)
Audit Log	A system-generated record of changes or access for compliance purposes
UAT	User Acceptance Testing – the process where end users validate the system meets requirements
EMR	Electronic Medical Record – digital version of a patient's paper chart (mentioned in Out of Scope)
BPMN	Business Process Model and Notation – a standard for modeling business workflows
KPI	Key Performance Indicator – measurable value to track performance/success

4. User Personas

4.1. Tech-Savvy Patient

4.1.1. Age: 25-40

4.1.2. Comfortable with online bookings, expects smooth mobile experience

4.2. Elderly Patient

4.2.1. Age: 60+

4.2.2. May need a simple interface and clear guidance

4.3. Busy Doctor

4.3.1. Needs to view/edit schedule quickly and efficiently

4.4. Clinic Admin

4.4.1. Manages waitlists, reschedules, and no-shows daily

5. Business Goals

5.1. Eliminate manual appointment scheduling inefficiencies

5.2. Improve patient access and reduce booking-related frustration

5.3. Enable data-driven decision-making with automated reporting

5.4. Reduce operational overhead for administrative and medical staff

6. Project overview and Objectives

6.1. Overview

The project involves implementing a digital platform for scheduling and managing appointments.

6.2. Objectives

6.2.1. Automate booking, rescheduling, and cancellations

6.2.2. Display real-time doctor availability

6.2.3. Enable SMS/email reminders

6.2.4. Ensure secure, role-based system access

6.2.5. Track appointment data and generate reports

The system's high-level data flow and boundaries are illustrated in the System Context Diagram (**see Appendix 'A'**)

7. Project Scope

7.1. In Scope

- 7.1.1. Appointment scheduling and reminders
- 7.1.2. Manual override by doctors
- 7.1.3. Appointment audit trail
- 7.1.4. Role-based access
- 7.1.5. Reports (appointments, cancellations, no-shows)

7.2. Out of Scope

- 7.2.1. Patient billing automation

8. Success Criteria

8.1. 90%+ reduction in double bookings within 2 months

8.2. 70%+ reduction in missed appointments (no-shows) due to reminders

8.3. User satisfaction score of 8+/10 in post-deployment survey

8.4. System uptime of 99% in the first 6 months

9. Current State

9.1. Manual scheduling via phone and appointment book

9.2. Frequent double bookings and scheduling errors

9.3. No consistent reporting mechanism

9.4. Financial tracking is handwritten and error-prone

9.5. Waitlist and urgent request handling is ad-hoc

10. Target State

10.1. Online self-service appointment booking system

10.2. Centralized, digital schedule with real-time availability

10.3. Automated appointment reminders

10.4. Manual override for doctors with audit logs

10.5. Consistent reporting and analytics dashboards

10.6. Manual payment tracking continues (by policy)

The system's high-level data flow and boundaries are illustrated in the System Context Diagram (**see Appendix 'A'**)

11. RAID (Risks, Assumptions, Issues, Dependencies)

Type	Description
Risk	Resistance to change from staff used to manual processes
Risk	Peak time load on server causing lags
Assumption	Doctors will maintain availability in the system
Issue	Finance department prefers to retain manual payments
Dependency	Accurate doctor availability and room assignment schedules

12. Major Requirements

12.1. Must Have (Critical to system success)

Requirement	Source	Justification
Automated appointment booking	Stakeholder interviews	Core functionality which addresses the biggest pain points.
Avoid double bookings	All stakeholders	Major issue across doctors/admin. system must prevent this.
Appointment rescheduling and cancellation	Stakeholders	High frequency task. currently error-prone.
Real-time doctor availability view	Admin, Doctors	Necessary for scheduling and avoiding conflicts.
Automated appointment reminders (SMS/email)	Admin, Patients	High impact on reducing no-shows and admin load.
Manual override for doctors	Doctors, Manager (IT)	Needed flexibility for real-world situations.
Appointment audit logs	Manager (IT)	For accountability and compliance.
Role-based access (admin, doctor, patient)	Implied	Basic system integrity and security.

System-generated reports (appointments, no-shows)	Doctors, Finance	Needed for operational insights.

12.2. Should Have (Important but not vital on day 1)

Requirement	Source	Justification
Waitlist Management	Admin staff	Helpful for handling overflow; not immediately critical.
Urgent appointment tagging & prioritization	Admin, Manager	Not all clinics need this fully automated right away.
Doctor efficiency/performance reporting	Doctors, Manager	Useful for planning and reviews, but not urgent.
Analytics dashboard (e.g., time slot usage, patient trends)	Document analysis	Useful but can be part of phase 2.

12.3. Could Have (Nice to have If time/resources permit)

Requirement	Source	Justification
Patient rating/feedback post-visit	Not directly mentioned	Adds value but non-critical.
Chatbot for peak hour call handling	Document analysis	Addresses traffic but may require more tech support.
Patient self-registration and profile management	Implied	Enhances UX, can be added

		after core system is stable.
Multi-language support	Not mentioned	Depends on demographics, so optional.

12.4. **Won't Have (Out of scope for now)**

Requirement	Source	Justification
Integrated payment gateway	Finance, Manager	Manager explicitly stated manual payments will continue.
Patient diagnosis tracking	Doctors (optional)	Treads into EMR territory, not in initial scope.

The main user interactions and system functionalities are represented in the Use Case Diagram (**refer to Appendix 'B'**).

13. Business Rules

13.1. Doctors can manually adjust their schedule; all changes are logged

13.2. Patients cannot book overlapping appointments

13.3. Rescheduling must occur at least 24 hours in advance (configurable)

13.4. Only admins can manage waitlists and urgent requests

13.5. Access is restricted by role with granular permission levels

14. Data Privacy & Security Requirements

14.1. Ensure all patient data is encrypted in transit and at rest.

14.2. Implement HTTPS for all communications.

14.3. Comply with HIPAA (if applicable).

14.4. Role-based access to restrict sensitive info.

14.5. Data retention policy: Archive data older than 12 months, auto-delete after 24 months.

15. Accessibility Considerations

15.1. Follow WCAG 2.1 AA standards.

15.2. High contrast UI and screen reader compatibility.

15.3. Font resizing and keyboard navigation support.

16. Business Process Flow

The end-to-end process of appointment booking and management is depicted in the BPMN Diagram (see **Appendix C**).

17. Reports & KPIs (Expanded)

17.1. Operational Reports

17.1.1. Daily appointment summary (by doctor)

17.1.2. No-show rate per doctor/week

17.1.3. Top 5 time slots by demand

17.2. Admin KPIs

17.2.1. Call volume reduction (pre/post deployment)

17.2.2. Time saved per day by staff

17.3. System KPIs

17.3.1. System uptime (goal: 99%)

17.3.2. Avg. booking/rescheduling time

18. Reference Documents

18.1. Requirements Elicitation - Questionnaires – Manager (IT Operations)

18.2. Requirements Elicitation - Questionnaires - Stakeholders

18.3. Requirements Elicitation - Document Analysis

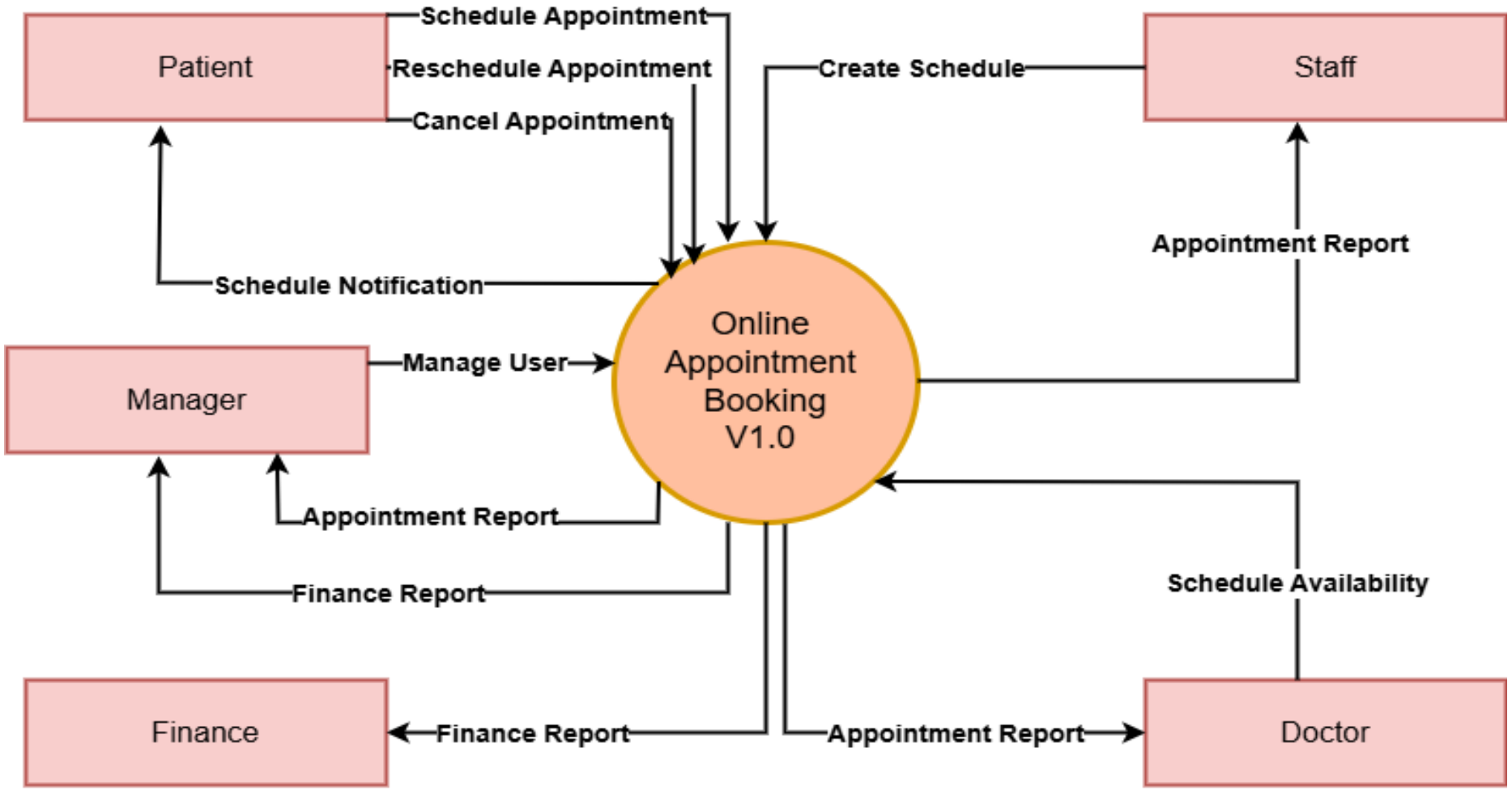
18.4. Requirement Prioritization - MoSCoW

19. Project Schedule (High-Level Milestones)

Phase	Timeline
Requirements Gathering	Completed
Design & Wireframing	
Development (MVP)	
UAT & Feedback	
Go-Live	
Post-Go-Live Support	

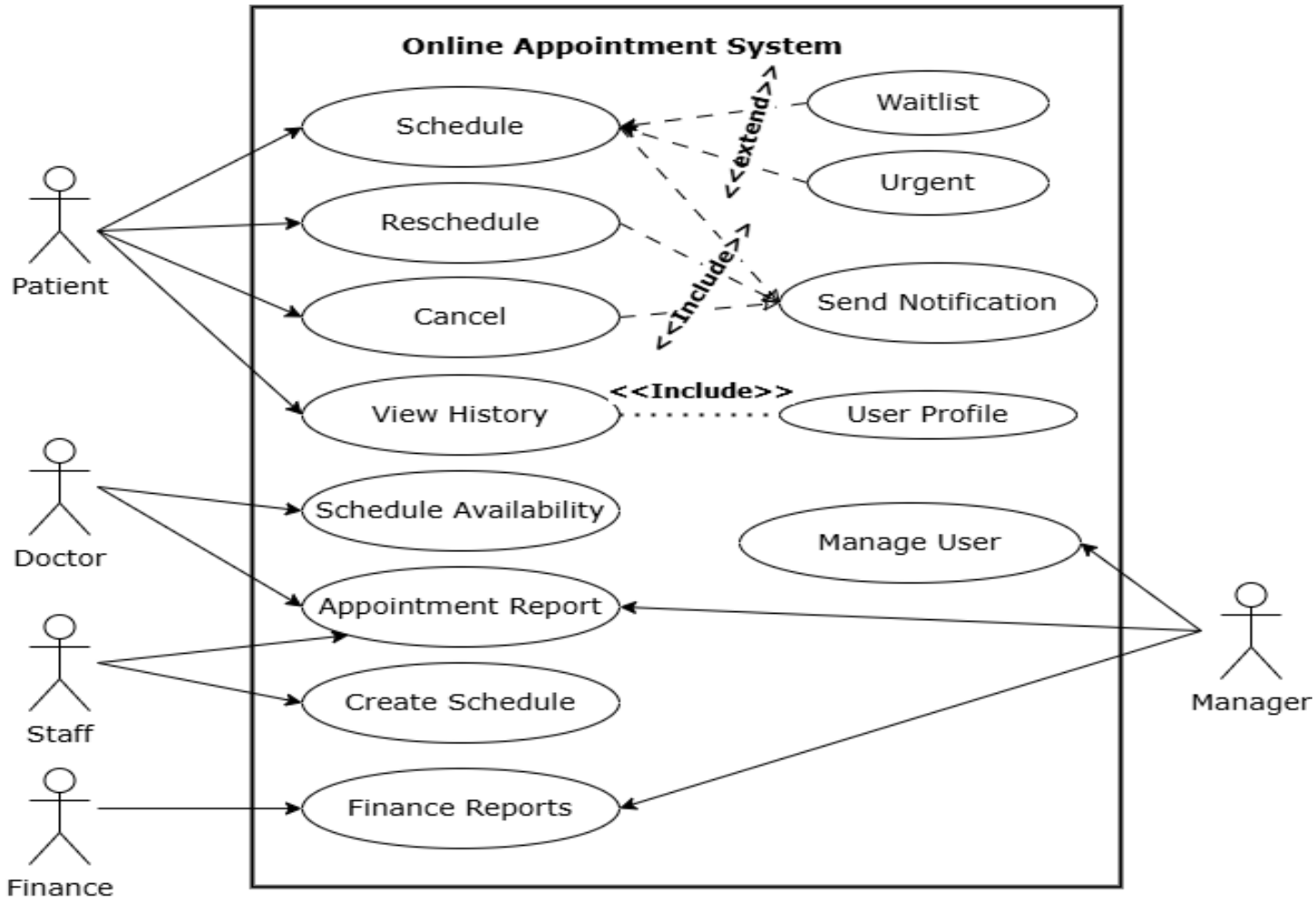
Appendix 'A'

System Context Diagram



Appendix 'B'

System Context Diagram



Appendix 'C'

Business Process Model and Notation