Business Requirements Document

Introduction

This document outline the business requirements of HealthFirst Care to solve the problem of appointment scheduling, booking system and improve patient experience.

Project Overview	HealthFirst Care aim is solution to automate appointment scheduling system , reduce time to wait of patient, improve performance for decrease fault of administration.
Background And Problem Statement	Currently, The system of HealthFirst have many problem that affect to patient, doctor, nurse, administrative staff and IT teams. The main of problem is • Patient Patients waits long time to consultation and delayed notification of cancel appointment. • Doctor Doctors don't have enough time to examine a large number of patients.And have a problem of delayed lab results and fault of administrative Patient transfer to make confusing. • nurse Number between nurses and patients not balance Especially at night, problem of coordination with the emergency room during patient admission is ineffective, often delays in receiving diagnostic results from the radiology department affect patient triage decisions. • administrative staff The administrative system Often encounter duplicate bookings and Lack of real-time display of doctor availability. • IT teams

	The appointment system and medical records system are not implement resulting in data fragmentation and Hospital network downtime frequently affects online services Problem Statement HealthFirst Care is facing the integrated and automated performance problem of appointment scheduling system that effect to administration system is hospital not efficient, delayed of service and Personnel in hospital is work not full effectively. HealthFirst Care is need to modernized scheduling solution within existing budget constraints.
Project scope	**In-Scope** • Implement an automated appointment scheduling system with real-time updates to minimize double bookings. • Enable automated SMS/Email notifications for appointment confirmations, cancellations, and updates. • Integrate the appointment system with the medical record system to reduce data fragmentation. • Develop a dashboard to monitor patient volume, appointment trends, and average wait times. **In-Scope** • Resolving staffing challenges such as balancing the nurse-to-patient ratio • Addressing hospital network downtime issues.
stakeholder	• Patients: Expect reduced wait times and timely appointment notifications. • Doctors: Need manageable schedules, timely access to lab results, and efficient patient transfer processes.

	• Nurses: Require balanced staffing levels, effective coordination with the emergency department, and timely diagnostic results from radiology. • Administrative Staff: Need tools to prevent duplicate bookings and ensure real-time visibility into doctors' availability. • IT Teams: Require integration between the appointment and medical record systems, as well as reduced system downtime.
Business Objectives	• Reduce average patient wait times by 20% to improve patient satisfaction and overall experience. • Enhance the efficiency of appointment scheduling to ensure timeliness and minimize duplicate bookings. • Improve inter-departmental coordination by integrating appointment scheduling with medical record systems to reduce data fragmentation. • Provide actionable insights through dashboards that monitor patient volumes, appointment trends, and wait times. • Increase IT system reliability by minimizing downtime and ensuring stable access to hospital services.
Requirements	• Minimize patient wait times to improve overall service efficiency and patient satisfaction. • Eliminate duplicate bookings through an automated and reliable appointment scheduling system. • Provide automated notifications to both patients and doctors regarding appointment confirmations, cancellations, and updates.

	• Integrate the appointment scheduling system with electronic medical records to reduce data fragmentation and improve information accuracy. • Deliver a real-time dashboard for monitoring patient volume, appointment trends, and average wait times.
Functional Requirements	• The system shall allow patients to select and book appointment times in real time based on doctors' availability. • The system shall send automated notifications to patients and doctors for appointment confirmations, cancellations, and updates. • The system shall prevent duplicate bookings for both patients and doctors through validation and conflict-checking mechanisms. • The system shall provide a real-time dashboard to hospital staff displaying patient volumes, appointment schedules, and waiting time statistics. • The system shall integrate appointment scheduling with the medical record system to ensure accurate and centralized patient information.
Non-functional Requirements	• **Performance**: The system shall support concurrent usage by a large number of patients and doctors without performance degradation. • **Availability**: The system shall maintain high availability with a minimum uptime of 99.9% to ensure uninterrupted access. • **Usability**: The system shall provide a user-friendly interface that is intuitive and easy to navigate for patients, doctors, and administrative staff. • **Security**: The system shall ensure the confidentiality, integrity, and protection of patient

	information in compliance with healthcare data privacy standards. • **Scalability**: The system shall be scalable to support future growth in patient volume, additional departments, and expanded functionality.
Assumptions	• Patients and doctors will actively use the online system for scheduling and managing appointments. • The system will successfully deliver appointment notifications (confirmation, cancellation, and updates) to patients. • Existing IT infrastructurewill support the new scheduling system without requiring major upgrades.
Constraints	modernized scheduling solution within existing budget constraints.
Supporting Data Insights	• The average patient wait time is approximately 41.42 minutes, which exceeds the acceptable service standard and contributes to patient dissatisfaction. • The average patient feedback score is 6.31 out of 10, indicating a need for improvements in scheduling efficiency, communication, and overall service quality.
Conclusion	HealthFirst Care is currently facing challenges such as long patient wait times, inefficient appointment scheduling, poor patient communication, lack of system integration, duplicate bookings, and underutilization of medical staff resources.

	The goal of this project is to reduce patient wait times by 20%, integrate the appointment system with medical records, and enhance the overall patient experience. This initiative, developed within existing budget constraints, represents a critical step toward establishing a more reliable, efficient, and patient-centered healthcare service that benefits all stakeholders, including patients, doctors, nurses, administrative staff, and IT teams.