Business Requirements Document (BRD)

HealthFirst Care Initiative

1. Introduction

This Business Requirements Document (BRD) outlines the core business needs and technical requirements for the HealthFirst Care Initiative. The project aims to enhance patient experience and improve hospital operational efficiency through better appointment scheduling, improved resource management, and streamlined communication between departments.

2. Project Overview

HealthFirst Care is undertaking a digital transformation project to address significant inefficiencies in its current healthcare delivery systems. The project will focus on:

- Reducing patient wait times

- Improving appointment scheduling

- Enhancing inter-departmental communication

- Optimizing resource allocation

- Implementing integrated IT systems

3. Background and Problem Statement

HealthFirst Care has been receiving consistent feedback highlighting operational challenges such as:

- **Long patient wait times**, with frequent delays beyond scheduled appointments

- **Inefficient resource allocation**, leading to overbooked doctors and under-resourced nursing staff

- **Communication gaps**, especially between departments and with patients

- **Manual and error-prone scheduling systems**, causing double bookings and dissatisfaction

These challenges are resulting in poor patient experiences, overburdened staff, and increased administrative inefficiencies.

4. Project Scope

a. In-Scope:

- Development of a new integrated scheduling system

- Implementation of a centralized communication platform across departments

- Enhancement of patient communication via email/SMS

- Upgrade of resource tracking and availability systems

- Integration of a Hospital Information System (HIS)

b. Out-of-Scope:

- Construction or redesign of physical infrastructure

- Hiring of additional full-time medical staff

- Overhaul of entire legacy systems beyond core modules

5. Stakeholders

- **Patients** (e.g., Sarah Ayvazyan, Lak Ayer)

- **Doctors** (e.g., Dr. Aftab Khan, Dr. Robert Lee)

- **Nurses** (e.g., Santa Murmu, Jessica Gomes)

- **Administrative Staff** (e.g., Maria Carter, Ivan Walker)

- **IT Teams** (e.g., Rajesh Singh, Laura Simkow)

6. Business Objectives

- Improve appointment scheduling efficiency

- Reduce average patient wait times

- Increase patient satisfaction scores

- Achieve reduction in inter-departmental communication delays

- Provide real-time visibility into resource availability

7. Requirements

ID Requirement Description

R1 Develop an intuitive, user-friendly online scheduling platform

R2 Implement real-time appointment notifications for patients

R3 Provide doctors and nurses with visibility into diagnostic and scheduling updates

R4 Integrate HIS for seamless patient and resource data access

R5 Allow administrative staff real-time access to doctor availability

R6 Automate record management for improved efficiency

R7 Enable patients to receive post-visit instructions via email/SMS

8. Functional Requirements

- Online appointment booking with real-time calendar sync
- Automatic cancellation and rescheduling notifications
- Role-based dashboards for doctors, nurses, and admin staff
- Notification system for lab results and inter-departmental messages
- Patient communication templates (SMS/Email)
- Real-time resource inventory dashboard

9. Non-functional Requirements

- System availability: 99.9% uptime
- Response time: <2 seconds for user interactions
- Security: HIPAA-compliant data storage and access
- Scalability: Cloud-based architecture to support growth
- Usability: Simple UI/UX suitable for elderly users

10. Assumptions

- All departments will adopt and utilize the new systems

- Staff will receive adequate training on new platforms

- Existing legacy systems will support data migration

- Internet connectivity will be reliable across hospital locations

11. Constraints

- Limited budget allocation for system upgrades

- Integration challenges with legacy infrastructure

- Change management and user resistance from senior staff

- System downtime must not exceed 1 hour per month

12. Supporting Data Insights

- **appointment_data.csv** shows >35% of appointments were rescheduled due to conflicts

- **feedback_data.csv** indicates average wait time >30 minutes; patient satisfaction scores <60%

- **resource_data.csv**

  - Oncology and Pediatric departments are consistently under strain, indicating the need for better inventory management and resource planning.

  - Staff and equipment in General Medicine are overutilized, possibly contributing to long wait times and burnout.

  - Doctors and Nurses are the most unavailable resource types, this highlights scheduling and staffing gaps, especially during high-demand periods.

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13. Conclusion

The HealthFirst Care Initiative will address urgent operational inefficiencies impacting both patient experience and internal workflows. By leveraging modern technology to automate and streamline hospital operations, this BRD sets the foundation for a patient-centered and efficient healthcare system.