

**FALL SEMESTER 2023, BSE-5B**

**SOFTWARE CONSTRUCTION SEN-311**

**Lab-2 “Vision & Scope Document”**

**PROJECT TITLE: “HOSPITAL MANAGEMENT SYSTEM”**

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**Submission Date: October, 4, 2023**

Vision and Scope Document

for

HOSPITAL MANAGEMENT SYSTEM

Version 1.0

Prepared by Mutayyab Imran

October 4, 2023

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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Mutayyab Imran | 04-10-2023 | Initial Revision | 1.0 |

**Task No. 1:** Submit the complete document of Vision & Scope of your project.

**Solution:**

# Business Requirements

## Background

Patients often encounter challenges when navigating healthcare services, from scheduling appointments to accessing medical records. To address these issues, we aim to develop a comprehensive Hospital Management System. This system will serve as a one-stop platform for patients to access medical services, manage their appointments, and retrieve vital healthcare information.

## Business Opportunity

Hospital management systems can help hospitals save money and improve efficiency. They can also help hospitals provide better patient care. By automating tasks and providing real-time data, hospital management systems can help hospitals make better decisions and provide better care to their patients.

## Business Objectives and Success Criteria

**BO-1:** Enhance the accessibility of healthcare information for patients.

**BO-2:** Reduce patient waiting times and minimize administrative hassles.

**BO-3:** Expand the system's reach to international healthcare destinations in release 2.

**BO-4:** Foster an increase in healthcare utilization.

**BO-5:** Enable hospitals and clinics to offer tailored healthcare packages to patients.

**BO-6:** Provide a central place to store and manage patient data

## Customer or Market Needs

Patients currently face the challenge of navigating multiple healthcare service providers and information sources. This system aims to simplify their experience by providing a unified platform for accessing healthcare-related information, scheduling appointments, and managing their healthcare journey.

## Business Risks

There are a few business risks associated with hospital management systems, including:

* The cost of implementation
* The complexity of the system
* The need to train staff on how to use the system
* The risk of data breaches or security breaches

# Vision of the Solution

## Vision Statement

Our Hospital Management System envisions a healthcare ecosystem where patients in need of medical services can effortlessly access information, schedule appointments, and manage their healthcare journey within hospitals and clinics in a seamless and efficient manner. We also aim to incorporate features that assist patients in estimating their healthcare expenses. As the project evolves, additional enhancements may be identified.

## Major Features

**FE-1:** Concise area descriptions with highlights of medical facilities.

**FE-2:** Recommendations for healthcare providers with links to appointment booking.

**FE-3:** Information on healthcare services and treatment options.

**FE-4:** Guides to medical specialties, including hospitals and clinics.

**FE-5:** Tips for preparing for medical appointments.

**FE-6:** Estimated healthcare expense calculations.

**FE-7:** Hospital and clinic maps and guides.

**FE-8:** Language assistance for medical terminology.

**FE-9:** Public transport information to reach healthcare facilities.

**FE-10:** Hospital and clinic contact details and emergency information.

## Assumptions and Dependencies

**AS-1:** Access to relevant healthcare information is available.

**AS-2:** Patients can book appointments with healthcare providers if needed.

**AS-3:** Accessibility from anywhere for patients seeking healthcare services.

**AS-4:** Future releases may include international healthcare destinations.

**AS-5:** The hospital has a budget to implement the system.

**AS-6:** The hospital has staff who are willing and able to be trained on how to use the system.

**AS-7:** The hospital has a reliable internet connection.

# Scope and Limitations

## Scope of Initial and Subsequent Release

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Release-1** | **Release-2** | **Release-3** |
| **FE-1** | Basic patient information and medical history. | Enhanced patient information with medical history updates. | No changes (Content remains the same). |
| **FE-2** | Appointment scheduling. | Integration with insurance providers for real-time coverage checks. | Enhanced appointment scheduling with AI-driven recommendations. |
| **FE-3** | inventory management for medical supplies. | Advanced inventory management, including tracking expiration dates. | Automated reordering of medical supplies based on usage. |
| **FE-4** | Basic billing and invoicing. | Improved billing with support for insurance claims. | Integration with electronic health insurance claims processing**.** |
| **FE-5** | Basic electronic medical records (EMR). | **Fully Implemented** | **Fully Implemented** |
| **FE-6** | Not implemented | Available telemedicine features for remote consultations. | Implementation of a patient portal for secure access to medical records and telehealth appointments. |
| **FE-7** | Not Implemented | Available telemedicine features for remote consultations. | Advanced data analytics for predictive healthcare trends. |
| **FE-8** | Basic reporting and analytics. | Integration of translation services for patients with language barriers. | Multilingual support and cultural sensitivity training for staff. |
| **FE-9** | User access control and security. | Advanced user access control with role-based permissions. | Enhanced security measures with biometric authentication. |
| **FE-10** | Basic pharmacy management. | Expanded pharmacy management with prescription tracking. | integration with pharmaceutical manufacturers for real-time drug availability. |

## 

## Limitations and Exclusions

**LI-1:** The system collects and stores patient data, including medical records and personal information, which may raise privacy concerns. Strict security measures are in place to protect this data.

**LI-2:** The system is primarily designed for non-emergency appointments and services. In the case of emergencies, users are advised to contact the hospital directly or call emergency services.

**LI-3:** The system primarily supports a specific set of languages, and information may not be available in all languages.

**LI-4:** Translation services for non-supported languages are not integrated into the system.

# Business Context

## Stakeholder Profiles

Stakeholders within the Hospital Management System project are individuals, groups, or organizations who play an active role in the project, are influenced by its outcomes, or possess the ability to impact the project's success. These stakeholder profiles aim to identify the primary users and other stakeholders, outlining their core interests in the system. The purpose is to comprehensively understand the needs of various user groups, target market segments, and business-level customers. This helps in minimizing the emergence of unexpected requirements that may become challenging to address due to scheduling or scope constraints.

For each category of stakeholders, the profiles encompass:

**Value or Benefits:** The primary advantages or benefits that stakeholders anticipate from the Hospital Management System, such as enhanced productivity, cost savings, streamlined processes, or automation of manual tasks.

**Attitudes:** The likely attitudes and expectations of stakeholders toward the system, including their level of enthusiasm, concerns, or skepticism.

**Key Features and Characteristics:** The specific system features and attributes that are of particular interest to each stakeholder category. This includes functionalities they consider crucial to achieving their goals.

**Constraints:** Any known limitations or restrictions that must be considered and accommodated to ensure the successful implementation and use of the system.

Examples of stakeholder value include:

* Improved efficiency in hospital operations.
* Reduction in administrative errors and rework.
* Cost savings through optimized resource allocation.
* Streamlined patient management and billing processes.
* Automation of previously manual administrative tasks, such as appointment scheduling.
* Ability to perform new functions, such as telemedicine services.
* Compliance with healthcare standards and regulations.
* Enhanced user-friendliness, reducing frustration compared to existing systems.

Example:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Major Value** | **Attitudes** | **Major Interests** | **Constraints** |
| executives | Anticipate increased revenue. | View the product to achieve a 25% increase in market share. | Seek a richer feature set compared to competitors and emphasize the importance of time-to-market. | Limited budget, capped at $1.4 million. |
| editors | Expect fewer errors in their work. | Highly receptive to the system but demand high usability. | Value automatic error correction, ease of use, and high reliability. | Require the system to run efficiently on low-end workstations. |
| legal aides | Desire quick access to data. | Initially resistant unless the product is keystroke-compatible with the current system. | Emphasize the ability to handle a significantly larger database than the current system and easy learning curve. | Limited budget available for retraining and system implementation. |

## Project Priorities

Describe the priorities among the project’s requirements, schedule, and budget. The table below may be helpful in identifying the parameters around the project’s key drivers (top priority objectives), constraints to work within, and dimensions that can be balanced against each other to achieve the drivers within the known constraints.

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Driver (state objective)** | **Constraint (state limits)** | **Degree of Freedom (state allowable range)** |
| Schedule | Release 1.0 to be available by 10/1, release 1.1 by 12/1. |  | Flexibility in managing the project schedule to meet the release deadlines, considering potential trade-offs with other dimensions. |
| Features | Ensure that 70-80% of high-priority features are included in release 1.0. |  | 70-80% of high priority features must be included in release 1.0 |
| Quality |  |  | 90-95% of user acceptance tests must pass for release 1.0, 95-98% for release 1.1 |
| Staff |  | maximum team size is 6 developers + 4 testers |  |
| Cost |  |  | budget overrun up to 15% acceptable without executive review |

## Operating Environment

Describe the environment in which the system will be used and define the major availability, reliability, performance, and integrity requirements. This information will significantly influence the definition of the system’s architecture. Consider questions such as:

* Are the users widely distributed geographically or located close to each other? How many time zones are they in?
* When do the users in various locations need to access the system?
* Where is the data generated and used? How far apart are these locations? Does the data from multiple locations need to be combined?
* Are specific maximum response times known for accessing data that might be stored remotely?
* Can the users tolerate service interruptions or is continuous access to the system critical for the operation of their business?
* What access security controls and data protection requirements are needed?