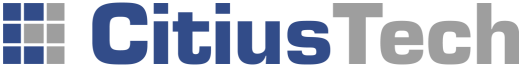


Business Requirement Document

**Practice Management System**

Version 1.0



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Revision History

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document Version # | Revision Date | Prepared By | Approved By | Approval Date | Summary of Changes |
| 1.0 | Click here to enter a date. |  |  | Click here to enter a date. | Initial version Depicting high level requirements and Scope of the development |

Stakeholders - Approval

|  |  |  |  |
| --- | --- | --- | --- |
| Role | Name | Approval Date | Comments |
| Business Owners |  |  |  |
| Project Manager |  |  |  |
| Stake Holder- Admin |  |  |  |

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# Introduction

Today most of the large hospitals have hospital management system but still lot of local practitioners lacks a sophisticated system for patient data management.

System should provide Physicians, Nurses and Patient a platform where they can capture and view the data.

The system should allow Nurses to capture the patient data using a tablet or mobile phone, in case of low internet connectivity it should allow to capture offline data and provide ability to Sync once you are back in network.

System should also have ability to schedule appointments and manage calendar.

A physician should be able to check his upcoming patient visits and able to re-schedule the same based on need. Physician should also have an ability to check patient history from his/her previous visits.

The system should also provide an interface to Patient to check his/her details and download the same in a CSV format. The system should also allow patient to request for appointment.

Patient can also propose any changes to his/her captured data and the data should go to physician for approval, before it reflects in the system.

The application should also allow Patient nominees to access patients details if formal acknowledgement is signed.

## Glossary

|  |  |
| --- | --- |
| Acronyms | Terms |
| DoB | Date of Birth |
| Admin | Administrator |

## Scope of Requirements

### In-Scope

* Inbox – All the tasks for a Physician or Nurse should appear in inbox, this is dashboard page or landing page for them. User should be able to traverse through this page to various modules like Scheduler, Visits, Notes etc.
* Patient Visit Module – Capture visit data in Online and Offline mode. For every visit, the patient vitals like height, weight, blood pressure will be recorded. Any new allergies would be added. Also, his/her medications and diagnoses for a visit are recorded. If any procedures are performed, then those are also recorded.
* Appointment Schedule Module – Allow Nurses and Physician to schedule appointment, show the calendar similar to the one we see in outlook. Patient should be able to schedule data collection appointment
* Patient Portal module – Patient to check his details and also download the same.
* Admin – Module for maintaining master data, User registration of hospital employees
* User – Login, Reset Password, Register

### Out-of-Scope

* Automation of upload, data capture functions
* Capturing personal identifiable information not included
* Integration of the three-dimensional relational database system for data migration

## Business Need

* To facilitate maintaining all the patient records and related data to local practitioners, who lacks a sophisticated system for patient data management
* To support patient data visualization and enhance patient care efficacy.
* To perform patient scheduling task
* Patient health record storage, retrieval and maintenance

## Modules

|  |  |  |
| --- | --- | --- |
| **MODULES** | **ROLES** | **Mode** |
| User Module | User Registration   * Provider’s Side User * Patient user   Login Screen  Change password screen  Forgot Password | Online |
| Patient Module | Patient Details Screen  Patient Visit Details  Inbox Module | Online/Offline |
| Scheduling Module | Add / Edit/ Delete Meeting  View Schedule | Offline/Online |
| Admin Module | User Management | Offline/Online |

### 

### Systems

|  |  |
| --- | --- |
| Name | Definition |
|  |  |
|  |  |

## Safety Impact Assessment

|  |  |  |
| --- | --- | --- |
| **S.no** | **Title** | **Impact** |
|  | Provider Side’s User Registration | High |
|  | Patient User Registration | High |
|  | Login Screen | High |
|  | Change Password Screen | Moderate |
|  | Forgot Password | Low |
|  | Patient Details Screen | High |
|  | Patient Allergy Details Subsection | High |
|  | Patient Visit Details | High |
|  | Patient Diagnosis Details section | High |
|  | Patient Procedure Details section | High |
|  | Patient Medication Details section | High |
|  | Hospital User Inbox | High |
|  | Patient Inbox | High |
|  | Hospital User - Schedule Appointment | High |
|  | Patient User Schedule Data Collection Appointment | High |
|  | View Schedule – For Physicians | High |
|  | Admin Patient User Management | High |
|  | Admin Hospital User Management | High |

## Assumptions

* Defined in respective functional usecase

## Risks

NA

## Requirement Change Management Process

|  |  |  |
| --- | --- | --- |
| **Requirements/Changes if any** | **Discussed by** | **Date** |
| 1. NA |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Specific Requirements - Practice Management System

## Abstract

Practice management System is a web application which provides multi device user interface and easy and efficient way to manage patient visits for local practitioner.

The application is currently catering to a single practice but should be extensible to cater to different practices.

The application allows day to day activities of practice through scheduling appointment, capturing data and allowing patient to access his or her data

## Functional Requirements/ Use Cases

**Stakeholders**

|  |  |
| --- | --- |
| **Stakeholders** | **High Level Project Flow** |
| Provider, Patient | The patient log-in / register in the system. Once register, patient adds basic demographic details. Patient schedules an appointment using scheduler module. |
| Provider, Patient | The scheduled appointment appears in doctor’s inbox and he/she can action on the same. A notification is also sent to Nurse based on accepted appointments. |
| Provider | On the day of visit, nurse captures patient’s vitals like blood pressure, sugar levels, weight, height. Also, notes the initial diagnosis. |
| Provider | For the first visit, Nurse also validates the data entered by patient while registration. |
| Provider | During doctor’s consultation, doctor capture details like, diagnosis, any procedure suggested like blood test, scans and also adds medications |
| Provider, Patient | When patient comes back, he can export the data for his visit and carry it with him for further procedures. Patient can also check details of his current as well as previous visit. |

**Modules – Use Cases (Work in progress)**

|  |  |
| --- | --- |
| **Module** | **Use Cases** |
| User Module | **User Registration**  There would be three types of registration, physician, nurse and patient. Physician and nurse registration will happen through admin module and the patient registration will happen through register user screen.  For Physician and Nurse below details are captured by admin, on click of save an email will be sent on the provided email with a default password  **Login Screen**  This is the default screen when application loads, post registration user can log-in. The log-in screen shows options for registration and forgot / change password  For first time login (For Nurses, Admin and Physician only) they should be automatically redirected to change password page.  Post 3 unsuccessful attempts the account will be locked and can be unlocked only by admin.  **Change password screen**  To update the password  **Forgot Password**  To update the password |
| Patient Module | This screen will capture all the patient specific data. Once a patient registers, he/she has to enter this data  **Patient Details Screen**  Patient Details Screen will allow Hospital Staff to add patient details that includes Patient demographic information, emergency details and patient’s allergy details.  **Patient Allergy Details Subsection**  This section allows the User to access expanded Allergy section in case Question “Patient has any known allergies?” is responded with Yes.  **Patient Visit Details**  This section allows Physician or Nurse to obtain patient details from data captured in Patient details screen that includes Patient demographic information, emergency details and patient’s allergy details. Physician or Nurse shall be able to capture Patients details in Patient Visit Section that includes Height, Weight, Blood Pressure (systolic / diastolic), Body Temperature, and Respiration Rate  **Patient Diagnosis Details section**  This section allows the User to access capture Patient’s Diagnosis details  **Patient Procedure Details section**  This section allows the User to access capture Patient’s Procedure details  **Patient Medication Details section**  This section allows the User to access capture Patient’s Medication details |
| Scheduling Module | **Hospital User - Schedule Appointment**  This functionality allows a Hospital User to add, delete, modify and view an appointment  **Patient User Schedule Data Collection Appointment**  It allows a patient to User to add a data collection appointment through this schedular module  **View Schedule – For Physicians**  Physicians shall be able to display of all his appointments similar to Microsoft Outlook. Then he can select individual appointment and then go for Editing or Deleting it. |
| Admin Module | **Admin Patient User Management**  This section outlines the Admin functionality for patient users. Upon Login the Admin shall see a patient user management screen  **Admin Hospital User Management**  This section outlines the Admin functionality for Hospital staff users. Upon Login the Admin shall see a Hospital user management screen |
| User Module | **Hospital User Inbox**  Hospital Staff (Physician and staff) shall be able to view the inbox module, which covers Upcoming appointment details and notes.  User should be able to traverse through this page to various modules like Scheduler, Visits, Notes |
| Patient Module | **Patient Inbox**  Patient Inbox module allows Patient to visualize its upcoming or declined appointments.  Patient’s Inbox – Show upcoming appointment, show if some appointment is declined by Physician |

## Interface Requirements

To be specified.

## Database Requirements

To be specified.

## Non-Functional Requirements

* Application should be hosted as HTTPS
* The application UI should be supported on google chrome and Edge
* The application should be responsive and should be able to access on Desktop, Mobile
* All the coding guidelines and code quality standards should be followed
* Unit Testing code coverage should be 80%
* Optional NFR o Should have endpoints to consume patient data (Optional)
* Tablet support is optional
* Unit Testing for UI is optional

## Key Highlights

* Business Logic Isolation: Each service implements business logic for a specific function.
* Scalable: Each microservice can scale independently.
* High Availability: Kubernetes cluster ensures that the entire application is highly available and adds auto scaling capabilities.
* Fault Isolation: Microservices architecture makes it possible to isolate failures through well-defined service boundaries.
* Maintainability and Deployment: Each microservice can be deployed and maintained independently.
* Cross Platform: The application will be compatible across different OS platform.

## Make-Buy-Reuse Evaluation

This is inhouse software development for Impact program. Hence no evaluation of any external tool is done in the process. It was decided to build this software in-house for training purposes.

## Files Referenced

FullstackProject\_V2.pdf