

# **User Requirement Specification**

Hospital Management System

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## Table of Contents

1 Purpose of the document.....	3
2 Business Overview.....	3
3 Stakeholders.....	3
4 Scope.....	4
5 Requirement Statements.....	5
5.1 For Registration/admission desk executive.....	5
5.1.1. Login Screen: <common function for any hospital administration staff>.....	5
5.1.2. Create Patient Screen (Patient Registration):.....	5
5.1.3. Update Patient Screen:.....	5
5.1.4. Delete Patient Screen:.....	6
5.1.5. View Patients Screen:.....	6
5.1.6. Search Patient Screen:.....	6
5.1.7. Patient Billing Screen:.....	7
5.2 For Pharmacist.....	7
5.2.1. Get patient Details Screen:.....	7
5.2.2. Issue Medicines Screen:.....	8
5.3 Diagnostics service executive.....	8
5.3.1. Get patient Details Screen:.....	8
5.3.2. Diagnostics Screen:.....	9
5.4 Validations.....	9

## 1 Purpose of the document

This document intends to specify and layout the functional requirements of a new software system required for **Hospital Administration staff** for the IT team to design and deliver web based User Interface.

## 2 Business Overview

*Hospital management System* is one of the most widely used application management functions in medical field and health systems. This document specifies requirements, in a way, where in terms of both hospital admin staff and Patients, there will be distinct set of functions. These should be made available through well-defined User Interface.

**<ABC> Hospital** is a corporate hospital which serves Patients, treating for various diseases through in-Patients . Key requirements of the system is the ability to register Patient, update and delete (discharge) Patient, manage the diagnostics and pharmacy for billing. Also, to be able to view Patient information and get the complete billing information.

## 3 Stakeholders

Hospital administration staff

- Registration/Admission desk executive
- Pharmacist
- Diagnostic services executive

## 4 Scope

The System needs to be able to handle primary functions that can be grouped into three set of activities, with detailed requirement of each group explained in the requirement section.

### **Registration/Admission desk executive**

- Create, Update, Delete Patient
- View Patient details
- Billing details of the Patient/Raise the bill for all the services rendered to the Patient
- 

### **Pharmacist**

- Manage medicines issued to the patients. Which include the following tasks
- Get Patient details along with the data of the previous medicines issued (if any)
- Issue the new medicines to the patient

### **Diagnostic services executive**

- Manage the diagnostic services rendered to the Patient. Which include the following tasks
- Get Patient details along with the previous diagnostics(tests) conducted (if any)
- Add the new diagnostics(tests) conducted to the patient

## 5 Requirement Statements

### 5.1 For Registration/admission desk executive

#### 5.1.1. Login Screen: <common function for any hospital administration staff>

To allow only hospital administration staff to be able to login to the system

Login can be alphabetical or both alphanumeric with maximum n characters

Password can be alphabetical or both alphanumeric with maximum n characters

Database table for login and password validation

- Maintain your own RDBMS table for login and password
- Create table “userstore” with login, password and timestamp column(s)
- Read login and password information from table and based on verification, options to allow user to continue to next pages or error message

#### 5.1.2. Create Patient Screen (Patient Registration):

To allow admission desk executive to create new patient

Input fields on screen:

Patient SSN ID, Patient Name, Age, Date of admission, Type of bed(From drop down list with values General ward, semi sharing, single room),Address, City, State

Output message on screen after user clicks submit:

“Patient creation initiated successfully” Or Relevant error message to be displayed

Implement proper validations on input fields on the screen

Database table for Patients

- Patient SSN ID, Patient Id(Auto generated),Patient Name, Age, Date of admission, Type of bed(From drop down list with values General ward, semi sharing, single room),Address, City, State, Status(Active/Discharged)

#### 5.1.3. Update Patient Screen:

To allow admission desk executive to update existing Patient information

Before admission desk executive can update anything, he/she should be able to query for existing Patient

a. Query/Pull existing Patient:

Input fields on screen:

Patient ID as a mandatory field

Display following fields on screen: Patient ID, Name, Age, Date of admission, Type of bed, Address, state and city

Allow editing of fields, except Patient ID, by having update/edit button and editable fields.

After editing of one or multiple fields, user can submit updated data

Output message on screen after user clicks submit:

“Patient update initiated successfully” Or Relevant error message to be displayed

#### 5.1.4. Delete Patient Screen:

To allow admission desk executive to delete existing patient.

Before admission desk executive can delete Patient, he/she should be able to query for existing patient by using query/pull existing patient screen.

Display following fields on screen: Patient ID, Name, Age, Date of admission, Type of bed, Address, state and city

Allow admission desk executive to delete patient, with a delete button

Output message on screen after user clicks submit:

“Patient deletion initiated successfully” Or Relevant error message to be displayed.

#### 5.1.5. View Patients Screen:

To allow admission desk executive view all the existing patients currently joined in the hospital

This screen will display all the patients current active I.e not yet discharged as a grid

#### 5.1.6. Search Patient Screen:

To allow the hospital administration staff to search any patient based on the patient ID

Input fields on screen:

Patient ID which is a mandatory field

Output fields:

Display following fields on screen: Patient ID, Name, Age, Date of admission, Type of bed, Address, state and city

Output message on screen after user enter patient ID to search and clicks submit:

“Patient found” Or Relevant error message to be displayed.

#### 5.1.7. Patient Billing Screen:

This screen is used to raise the bill for the patient who is getting discharged.

Input field: Patient Id

Output:

1. Patient details I.e Patient Name, Age, Address, Date of admission, Date of discharge(Current date), Type of room, and number of days in the hospital
2. Based on the type of room, calculate the room bill as per the rates and display it

Example:

General ward : Rs. 2000 per day

Semi sharing : Rs. 4000 per day

Single Room : Rs. 8000 per day

3. Billing for the medicines

Item wise medicines issued to the patient with amount and the grand total of medicines

4. Billing for Diagnostics

All the diagnostics conducted for the patient with amount and the grand total

Grand Total I.e the total of the amounts of room bill, medical bill and diagnostics bill

Set the status of the patient to “Discharged”, once the button “Confirm” is clicked, with a proper confirmation

## 5.2 For Pharmacist

### 5.2.1. Get patient Details Screen:

To allow pharmacist to pull information for a specific patient and issue the medicines

Input fields:

Patient ID

Output fields:

Displays relevant patient information – Patient ID, patient name, age, address, date of admission and the list of previous medicines issued with Medicine name, quantity issued, rate of the medicine and amount (rate\*quantity)

This screen will contain a button “Issue Medicines”, which will lead to another screen “Issue Medicines”

### 5.2.2. Issue Medicines Screen:

Input fields:

Medicine Names

When medicine name is entered, it need to show the availability(Available/Not Available) .

Quantity of the medicine issuing

Output fields:

Rate of the medicine

Amount for each medicine

Option to add next medicine

Status message: “Medicines issued successfully” on clicking the Update button

Database tables for medicines

Table 1 For tracking medicines issued to the patients

Patient ID, ID of Medicine issued, Quantity issued

Table 2 Medicines master file

Medicine ID, Medicine name, Quantity available, Rate of the medicine

Quantity available is to be updated when ever medicines are issued to the patients

## 5.3 Diagnostics service executive

### 5.3.1. Get patient Details Screen:



To allow diagnostic service executive to pull information for a specific patient

Input fields:

Patient ID

Output fields:

Displays relevant patient information – Patient ID, patient name, age, address, date of admission and the medicines issued

This screen will contain a button “Add Diagnostics”, which will lead to another screen “Diagnostics”

### 5.3.2. Diagnostics Screen:

Input fields:

Diagnosis(Test) name to be carried out (Select from the list)

Output fields:

The charges of the diagnostic test

Option to add another diagnosis(test)

Status message: “Diagnostics added successfully” on clicking the Update button

Database tables for diagnostics

Table 1 For tracking diagnostics(tests) conducted to the patients

Patient ID, ID of Test conducted

Table 2 Diagnostics master file

Test ID, Test name, Charge for the test

## 5.4 Validations

Validations required for input.

1. SSN and patient ID should be 9 digit
2. Date should be of the format CCYY-MM-DD

Patient			
Input	SSN	ws_ssn	9 digit numeric

	Patient id	ws_pat_id	9 digit numeric
	Patient Name	ws_pat_name	alphabet
	Address	ws_adrs	alphanumeric
	Age	ws_age	3 digit numeric
	Date of Joining	ws_doj	Date format
	Room type	ws_rtype	General, Semi, Single

<b>medicines</b>			
Input	Patient id	ws_pat_id	9 digit numeric
	Medicine Name	ws_med_name	alphabetical
	Quantity	ws_qty	number

<b>diagnostics</b>			
Input	Patient id	ws_pat_id	9 digit numeric
	diagnosis	ws_diagn	alphabetical