


Noakhali Science and Technology University

Institute of Information Technology

Software Engineering



Course Title: Software Testing and Quality Assurance

Course Code: SE3209

Assignment on: STLC for Hospital Management System



Submitted to

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1st Batch

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Introduction

Project Overview

It is a hospital management application.

1. Developed On:

- PHP
- MySQL Database
- Apache HTTP Servers

2. Can Use In:

- Linux Environments
- Microsoft Windows Environments
- Android Environment

3. Admin Modules:

- Listing Doctor/Patients/Employee/Users
- Adding Doctor/Patients/Employee/Users
- Removing Doctor/Patients/Employee/Users
- Configuring Bill
- Recording all information/logs

4. User Modules:

- Registration/Login
- Personal Information
- See Doctors Information (for patients)
- See Patients Information (for Doctors)
- See Billing (for authorized users)

Phase-1 **Requirement Analysis**

a. Patients

Registration:

- Patient Register
- Print Patient-card

Patient-card:

- Patient Details
- Doctor Assigned
- Department
- Application Number
- DOJ
- Bed Allocation

Bill:

- Day-wise Billing System

b. Admin

Patients:

- Update Patient Database
- Application Number
- Add/Update Patients Records
- Calculate Bill
- Print Bill
- Allotment/Departure Patients

Doctors:

- Schedule Time
- Specialty
- Fee
- Patient Visit
- Information Visible to the Authorize User
- Add Doctors
- Delete Doctors Record

End Users:

- Update Details

Hospital Managers:

- Inventory
- Room Management
- Bed Management
- Equipment
- Machines
- Medicines

Bill:

- Day-wise Billing System

S.No.	Req#ID	Scenario	No. of Test Cases
1	R-01	Patient can Register	1
2	R-01	Patient can check to have all mandatory fields to give patient details	1
3	R-02	Patient can fill all the mandatory fields of patient details	1
4	R-02	Patient can pay specific fee to be a registered patient	2
5	R-02	Patient can print the patient-card	2
6	R-03	Patient can check patient-card has information like patient details, doctor assigned, department, application number, DOJ, bed allocated	1

7	R-04	Admin can update patients details on the database after checkup	2
8	R-05	Admin needs to enter application number	2
9	R-05	Admin can add patient records in the database	1
10	R-06	Admin can control over doctors in the system	1
11	R-07	Authorized users can see doctor's details like their schedule, specialty, fee, patient visited	2
12	R-08	Admin can add new doctors	1
13	R-08	Admin can add new details of the doctors	1
14	R-09	Admin can update existing users' details	1
15	R-10	Admin can delete doctor's record from the system	1
16	R-11	Admin can calculate bill using patient's unique application number	2
17	R-12	Admin can generate hard copy of printed bill of patients	1
18	R-13	Authorized users can see total day-wise billing done	2
19	R-14	Admin can control over hospital inventory, room, bed management	1
20	R-15	Admin can keep the records of all the equipment, machines and medicines	1

21	R-15	Admin can update these records when these used or added to the system	1
22	R-16	Admin can keep records of rooms	1
23	R-16	Admin can check beds availability for patients	1
24	R-16	Admin can update based on their allotment and departure to patients	2

Table: Requirement of Test Scenario

Phase-2

Test Planning

Product Name	The Hospital Management System	Test Plan Version	1.0
Product Version	1.0	Test Plan Template Version	1.0

Revision History:

Author	Comments	Date and Time
Monu Mia	Initial Comment	16/03/2021 3:28 AM
Connor Kenway	Update Requirements	16/03/2021 6:05 AM

1. Test Plan Review/Approval:

Title		Date
Product Manager		
Program Manager		
QA Project Lead		
QA Team		
Review Team		

2. Objective:

The objective of Test Plan is to define scope of the testing, schedules and deliverables.

3. Reference Documents:

Functional Requirements Specifications (FRS)

4. Areas to be tested:

- Patients Module
- Registration Module
- Admin Module

- Add/Update Patients Records
- Calculate Bill
- Print Bill
- Day-wise Billing System
- Allotment/Departure Patients
- Add/Delete Doctors Record
- Update details of end users
- Hospital Managers Module

5. Areas not to be tested:

Other than the above

6. Environment Coverage:

Operating System: Windows 10 Home Single Language version 20H2

Browsers: 1. Microsoft Edge 2. Mozilla Firefox 3. Google Chrome

7. Automation Strategy:

We are going to use QTP/Selenium for automating test cases.

8. Testing Times Lines/Schedules:

Iteration No or Build No	Start Date	End Date
Iteration#1 or Build#1	14/03/2021	

Testing Strategy:

- Existing Functionalities will be validated as part of regressions
- New functionalities will be validated as part of progression tests
- Fixed defects will be validated

9. Resources:

- Human Resources:

QA team consists of following team members

- Monu Mia
- Nishad shaddy
- Mahbub Parker
- Piks Khair

- **Software/Hardware Resources:**

Host Server 3

Software Required: Windows 10

10. Risk and Mitigation:

Serial Number	Risk	Mitigation
1	Resource is on vacation	Maintain Backup Resources
2	Hardware Failure during Testing	Make ready its team, also maintain backup resources

11. Entry Criteria:

- Requirement Spec doc
- Test Plan
- Test Cases
- Unit test cases should P

12. Exit Criteria:

- Zero installer defects
- Completion of planned test cases Execution
- No p1/p2 functional defect from any iteration

Phase-3 & Phase-5
Test Case Development & Test Execution

Test Case ID	Project/Module Name	Req#ID	Test Scenario	Test Case Title	Test Steps	Test Data	Expected Results	Actual Results	P/F
T-01	Registration Module	R-01	Patient can Register	Verify that the portal for new patient registration has patient registration field.	1. Go to site www.thehospitals.com	N/A	Should have registration field for patients	As Expected	P
T-02	Registration Module	R-01	Patient can check to have all mandatory fields to give patient details	Verify that the portal for new patient registration has all the mandatory fields required for registering a patient.	1. Go to site www.thehospitals.com 2. Click on the Registration button	N/A	Should have registration field for patients	As Expected	P
T-03	Registration Module	R-02	Patient can fill all the mandatory fields of patient details	Verify that the patient fills the patient details	1. Click on Patient Information from the menu 2. Fill the required fields 3. Click on the submit button	N/A	Successfully Submitted	Error. Information is not getting	F
T-04	Registration Module	R-02	Patient can pay specific fee to be a registered patient	Verify that patient do a successful payment.	1. Pay fees for the Patient-Card	N/A	Should pay required fees.	As Expected	P

T-05	Registration Module	R-02	Patient cannot pay specific fee to be a registered patient	Verify that patient do an unsuccessful payment.	1. Don't pay fees for the Patient-Card	N/A	Should not pay required fees.	As Expected	P
T-06	Patient-Card	R-02	Patient can print the patient-card	Verify that after filling the patient details and successful payment a Patient-Card is printed	1. Print the Patient-Card	N/A	Should print the Patient-Card	As Expected	P
T-07	Patient-Card	R-02	Patient cannot print the patient-card because of unsuccessful payment	Verify that after filling the patient details and unsuccessful payment a Patient-Card is not printed	1. Print the Patient-Card	N/A	Message: You are not able to print the Patient-Card	Message: You can print your patient-card	F
T-08	Patient-Card	R-03	Patient can check patient-card has information like patient details, doctor assigned, department, application number, DOJ, bed allocated	Verify that card has information like patient details, doctor assigned, department, the application number, DOJ, bed allocated (if applicable) etc.	1. Click on the Patient-Card from the menu	Patient Details: Assigned Doctor: Firoz Ahmed Department: Cardiogram Application No: E09C1 DOJ: January 25, 2021 Bed Allocated: No	Should have these information	As Expected	P
T-09	Patient Details	R-04	Admin can update patient details on the database after backup	Verify that after patient backup based on the requirement the details are updated in the patient details database.	1. Click on the Patient Details Database from the menu 2. Enter Backup date 3. Enter Application Number 3. Click on the Submit Button	Date: 15 Jan, 2021 Application Number: HMS001	Should update patient information after backup	As Expected	P

					4. Update the patient details. 5. Click on the submit button.				
T-10	Patient Details	R-04	Admin cannot update patient details on the database after checkup	Verify that after patient checkup based on the requirement the details aren't updated in the patient details database.	1. Click on the Patient Details Database from the menu 2. Enter Checkup date 3. Enter wrong Application Number	Date: 15 Jan, 2021 Application Number: 1HMS001	Should not update patient information after checkup	As Expected	P
T-11	Patient Details	R-05	Admin enter application number	Verify that the admin enters the application number	1. Click on the Patient Details Database from the menu 2. Enter date of the checkup for patients. 3. Enter patient application number 4. Enter submit button	Date: 15 Jan, 2021 Application Number: HMS001	Should get access to the patient records according to their application number on the database	As Expected	P
T-12	Patient Details	R-05	Admin doesn't enter application number	Verify that the admin doesn't enter the application number	1. Click on the Patient Details Database from the menu 2. Enter date of the checkup for patients. 3. Blank the patient application number 4. Enter submit button	N/A	Should not get access to any patient records	As Expected	P
T-13	Patient Details	R-05	Admin can add patient records in the database	Verify that for existing patients based on the application number of the patient, their records are added/updated in the database.	1. Click on the Patient Details Database from the menu 2. Enter date of the checkup for patients. 3. Enter the application number of the patient 4. Click on the submit button	Date: 15 Jan, 2021 Application Number: 1HMS001	Should update patient records according to their application number on the database	As Expected	P

					5. Update Patients Records 6. Click on the submit button				
T-14	Doctors	R-06	Admin can control over doctors in the system	Verify that the system has an admin for doctors as well.	1. Click on the Doctors from the menu	N/A	Should have doctor module	As Expected	P
T-15	Departments	R-07	Authorized users can see doctor's details like their schedule, specialty, fee, patient visited	Verify that for each doctor's details like their timings, specialty, fee, patient visited etc is visible to the authorized users.	1. Click on the Department from the menu 2. Select a department 3. Select a doctor from this department	N/A	Should visible doctor's information, timings, specialty, fee etc	As Expected	P
T-16	Departments	R-07	Unauthorized users cannot see doctor's details like their schedule, specialty, fee, patient visited	Verify that for each doctor's details like their timings, specialty, fee, patient visited etc is not visible to the unauthorized users.	1. Click on the Department from the menu 2. Select a department 3. Select a doctor from this department	N/A	Should invisible doctor's information, timings, specialty, fee etc	Doctors information are visible	F
T-17	Doctors	R-08	Admin can add new doctors	Verify new doctors can be added to the system.	1. Click on the Doctors from the menu 2. Click on Add button to add a new doctor 3. Click on submit button	N/A	Should add new Doctor	As Expected	P
T-18	Doctors	R-08	Admin can add new details of the new doctors	Verify that new details of the new doctors can be added to the system.	1. Click on the Doctors from the menu 2. Click on Add button to add a new doctor 3. Give all the required information about the doctor 4. Click on submit button	N/A	Should add new Doctor and have required information about the doctor	As Expected	P
T-19	Account Settings	R-09	Admin can update existing users' details	Verify that the details of existing users can be	1. Click on the Account Settings from the menu 2. Select Edit option 3. Edit required fields	Name: Fahad Ahmed	Should update required information	As Expected	P

				updated in the system.	4. After finishing edit, click on the submit button	Address: Maijdee, Noakhali			
T-20	Department	R-10	Admin can delete doctor's record from the system	Verify that the doctor's record can be deleted from the system.	1. Click on the Department from the menu 2. Select a Department 3. Select a Doctor 4. Click on manage doctor 5. Select Delete button 6. Select Yes button from the popup box	N/A	Should delete a Doctor from the System	As Expected	P
T-21	Bill	R-11	Admin can calculate bill using patient's unique application number	Verify the billing admin of the system calculates the bill based on the patient's unique application number from the data generated from different systems.	1. Click on the Bill from menu 2. Select Create a New Bill for Patient's 3. Enter Application Number 4. Enter Patient's Bill information 5. Calculate total bill	Application No: E09C1 Bill Information	Should Calculate the Patient's Bill	As Expected	P
T-22	Bill	R-11	Admin cannot calculate bill using patient's unique application number	Verify the billing admin of the system calculates the bill based on the patient's wrong unique application number from the data generated from different systems.	1. Click on the Bill from menu 2. Select Create a New Bill for Patient's 3. Enter Application Number 4. Enter Patient's Bill information 5. Calculate total bill	Application No: 121E09C1 Bill Information	Should not calculate the any Patient's Bill	As Expected	P
T-23	Bill	R-12	Admin can generate hard copy of printed bill of patients	Verify that the hard copy of the bill can be generating by printing the bill.	1. Click on the Bill from menu 2. Enter Application Number 3. Click on the Print button	Application No: E09C1	Should print the bill	As Expected	P

T-24	Bill	R-13	Authorized users can see total day-wise billing done	Verify that authorized users can also see total day-wise billing done.	1. Enter User ID and Pword 2. Click Login 3. Click on the Bill from menu 4. Select a date 5. Click on the submit button	User ID: Firoj47 Pword: !073eq@b Date: 23 January, 2021	Can see total day-wise billing done	As Expected	P
T-25	Login	R-13	Unauthorized users cannot see total day-wise billing done	Verify that unauthorized users can not see total day-wise billing done.	1. Enter invalid User ID and Pword	User ID: Firoj97 Pword: !073ce@b	Cannot see total day-wise billing done	As Expected	P
T-26	Hospital Inventory	R-14	Admin can control over hospital inventory, room, bed management	Verify the admin for hospital inventory, room and bed management.	1. Select Hospital Inventory from the menu. 2. Select Room from the menu 3. Select Bed Management from the menu	N/A	Should have an admin who can manage Hospital Inventory, Room and Bed Management	As Expected	P
T-27	Hospital Records	R-15	Admin can keep the records of all the equipment, machines and medicines	Verify that the admin has the record of all the equipment, machines and medicines.	1. Select Hospital Records from the menu 2-a. Click on the Records of Equipment 2-b. Click on the Records of Machines 2-c. Click on the Records of Medicines	N/A	Should keep records to the system	As Expected	P
T-28	Hospital Records	R-15	Admin can update these records when these used or added to the system	Verify that admin get updated the equipment, machines and medicines when used or added to the system.	1. Select Hospital Records from the menu 2-a. Click on the Records of Equipment 3-a. Select add button 4-a. Enter new Equipment details	Equipment: 4 Beds Room: B-403 Cost: 8000	Should add new records to the system	As Expected	P

					<p>5-a. Click on the OK button</p> <p>2-b. Click on the Records of Machines</p> <p>3-b. Same as 3-a</p> <p>4-b. Same as 4-a</p> <p>5-b. Same as 5-a</p> <p>2-c. Click on the Records of Medicines</p> <p>3-c. Same as 3-a</p> <p>4-c. Same as 4-a</p> <p>5-c. Same as 5-a</p>				
T-29	Room Services	R-16	Admin can keep records of rooms, beds	Verify that the admin has a record of rooms and beds.	1. Select Room Services from the menu	N/A	a. Should keep records of rooms and beds	As Expected	P
T-30	Room Services	R-16	Admin can check beds availability for patients	Verify that the admin has a record of rooms and beds availability	<p>1. Select Room Services from the menu</p> <p>2-a. Select Rooms from the menu</p> <p>3-a. Enter Room number</p> <p>4-a. Select an available bed</p>	Room: B-403 Bed: B-5 Patient-Card No: 1234-5678-9	a. Should check an available bed for a patient	As Expected	P
T-31	Room Services	R-16	Admin can update based on their allotment and departure to patients	Verify that the admin has a record of rooms and beds availability and the same gets updated based on their allotment and departure to patients	<p>1. Select Room Services from the menu</p> <p>2-a. Enter Room number</p> <p>3-a. Select an available bed</p> <p>4-a. Enter Patient-Card number</p> <p>5-a. Click on the done button to allot the bed for the patient</p>	Room: B-403 Bed: B-5 Patient-Card No: 1234-5678-9	<p>a. Should allot a bed for a patient</p> <p>b. Should depart a patient</p>	As Expected	P

					2-b. Enter Patient-Card number 3-b. Click on the Depart button 4-b. Click OK button				
T-32	Room Services	R-16	Admin cannot update based on their allotment to patients	Verify that the admin has not an availability of rooms and beds and the same gets updated based on their allotment to patients	1. Select Room services from the menu 2-a. Enter Room number	Room: B-403	a. Should not allot a bed for a patient	As Expected	P

Phase-4

Test Environment Setup

Browser: Google Chrome

Server: Host Server 3

Operating System: Windows 10

Phase-5

Bug Report

QA									Dev		
Bug ID	Module Name	Build No	Description	Test Case ID	Steps to replicate bug	Severity	Priority	Reported By	Resolution	Status	Fixed Date
B-01	Registration Module	1	After click on the submit button show an error message: Information is not getting	T-03	1. Click on Patient Information from the menu 2. Fill the required fields 3. Click on the submit button	S2	P1	Monu Mia	Accepted	Open	
B-02	Patient-Card	1	After unsuccessful payment the patient can download the patient-Card	T-07	1. Print the Patient-Card	S2	P1	Monu Mia	Accepted	In progress	
B-03	Departments	1	Unauthorized users can see doctor's details like their schedule, specialty, fee, patient visited	T-15	1. Click on the Department from the menu 2. Select a department 3. Select a doctor from this department	S3	P3	Monu Mia	Accepted	In Progress	

Phase-6

Software Test Cycle Closure (if)

- All test cases executed and Passed
- All bugs have closed
- There is no P0, P1 & P2 bug

Test Cycle	No. of test Cases	Test case execute	Test case not execute	Test Case P	Test case F
Cycle-1	32	32	0	29	3
Cycle-2	32	32	0	29	3
Cycle-3	32	11	21	11	0
Total	96	75	21	69	6