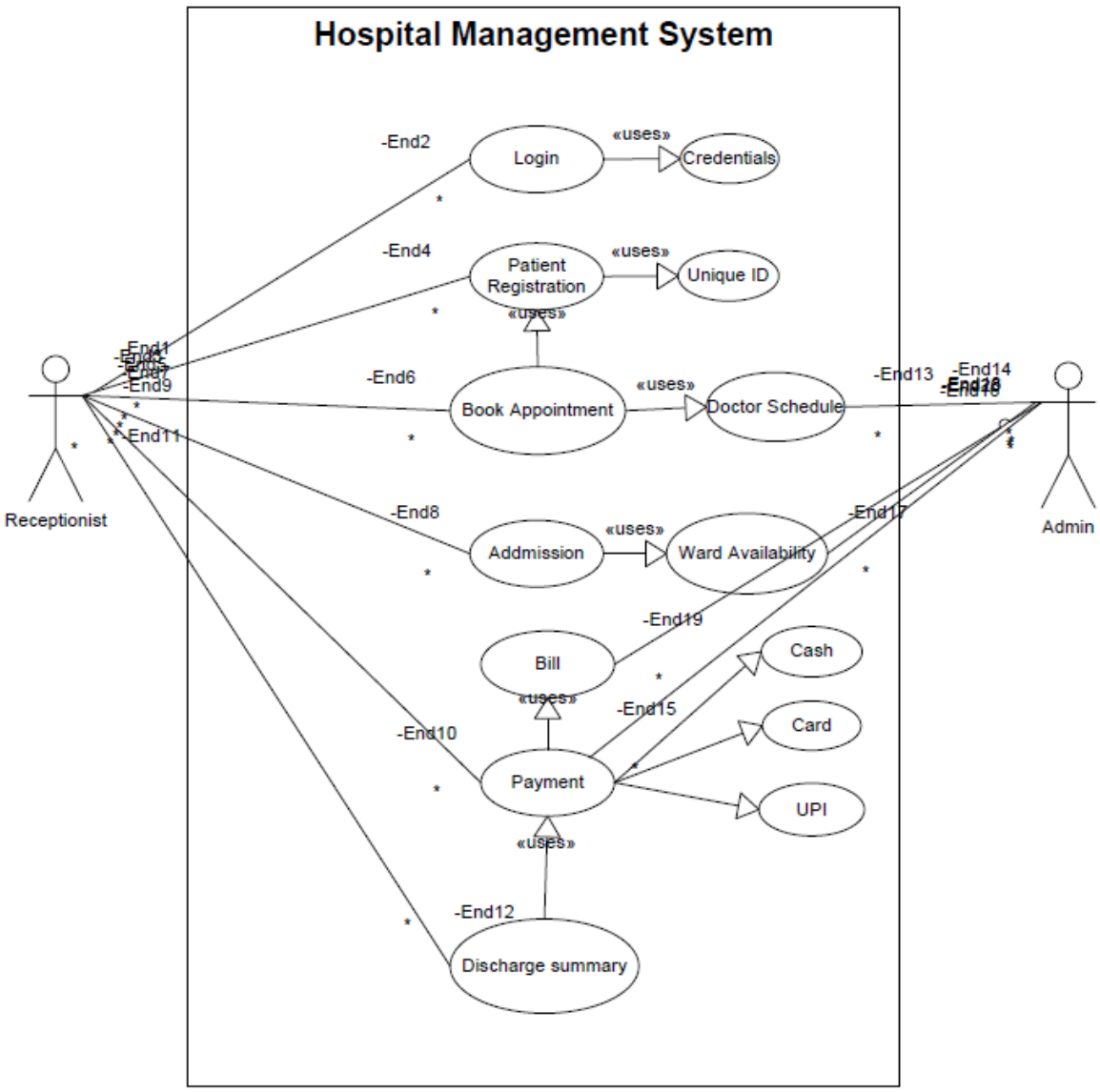
Part 2/2 Evaluation
Document 6- Please prepare a use case diagram, activity diagram and a use case specification document.
Document 7- Screens and pages
Document 8- Tools-Visio and Axure
Document 9- BA experience My experience as BA in following phases:
1. Requirement gathering:
2. Requirement Analysis:
3. Design:
4. Development:
5. Testing:
6. Deployment:

Document 6- Please prepare a use case diagram, activity diagram and a use case specification document.
1. Use case Name
2. Use case Description
3. Actors Primary Actors Secondary actors
4. Basic Flow
5. ALTERNATE FLOW
6. Exceptional flows
7. Pre-Conditions
8. post-conditions
9. Assumptions
10. Constraints
11. Dependencies
12. Inputs and Outputs
13. Business Rules
14. Miscellaneous Information

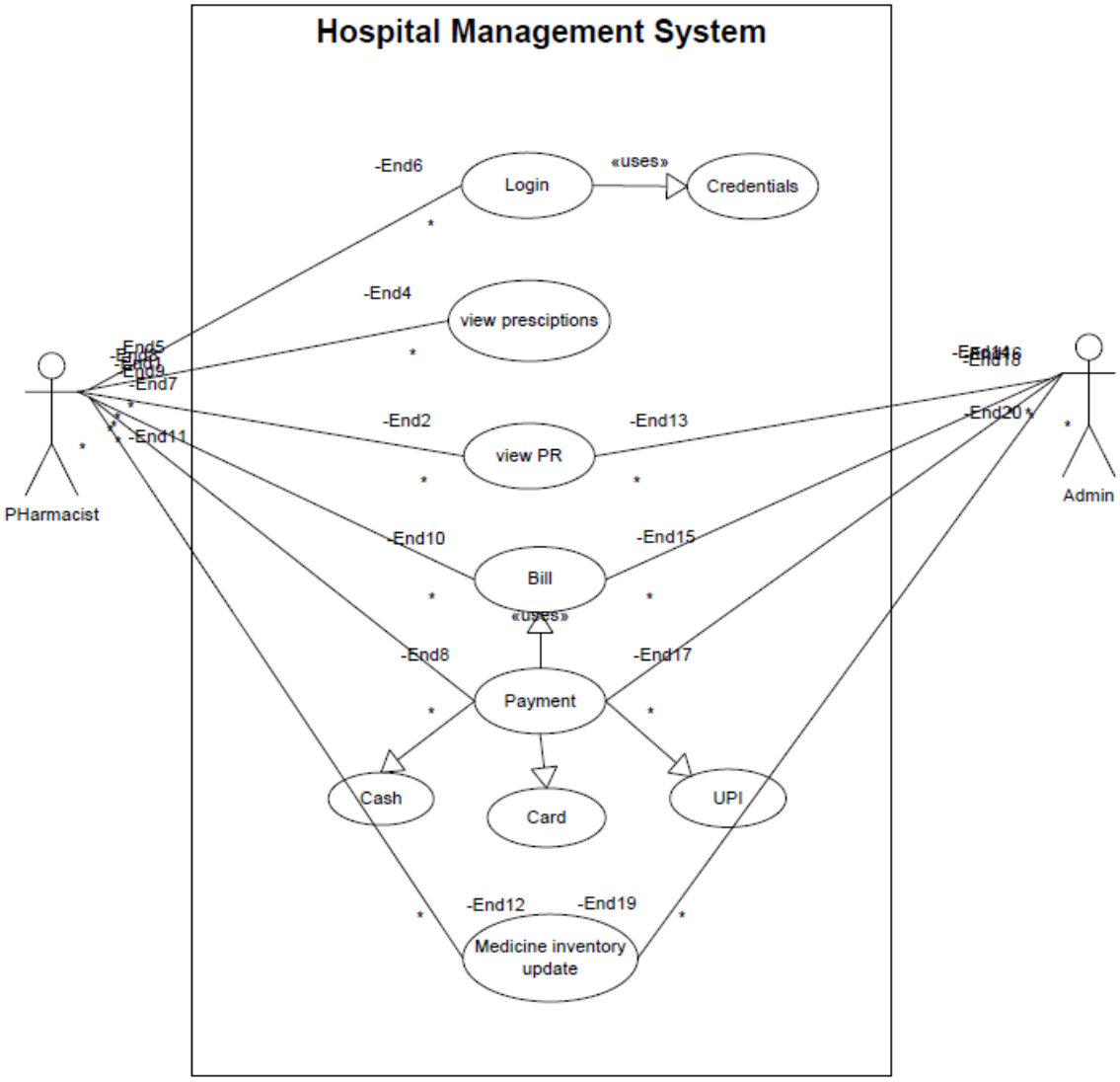
Use case diagram

Reception: Patient Registration

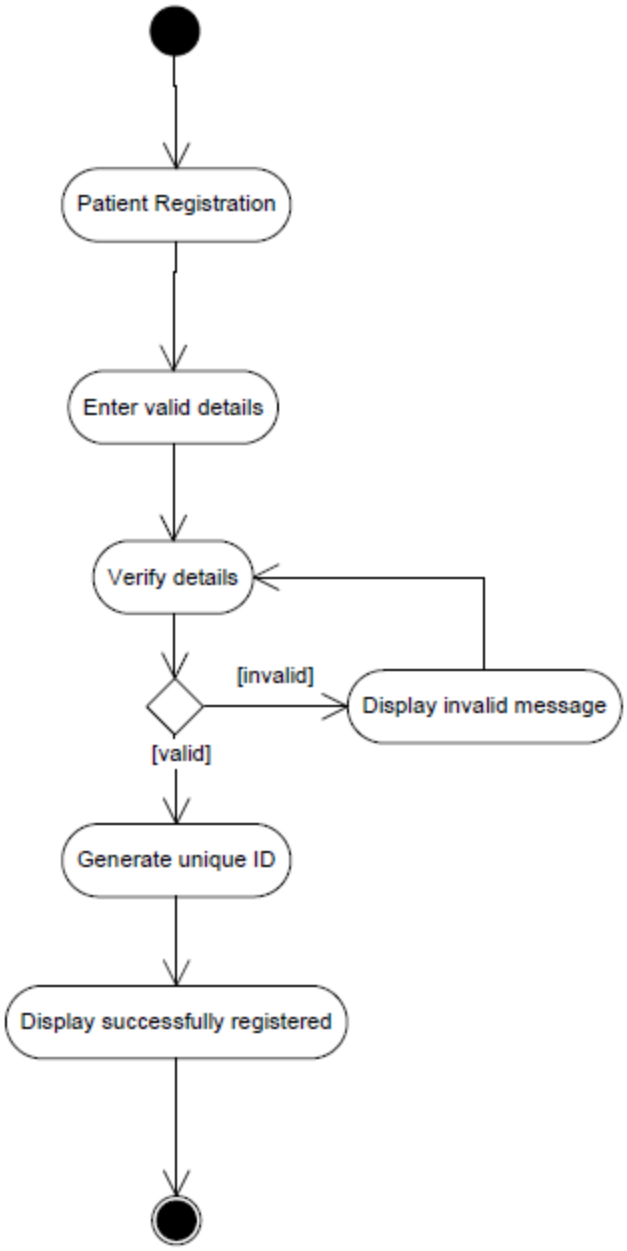


Lab: View/Upload Test Records

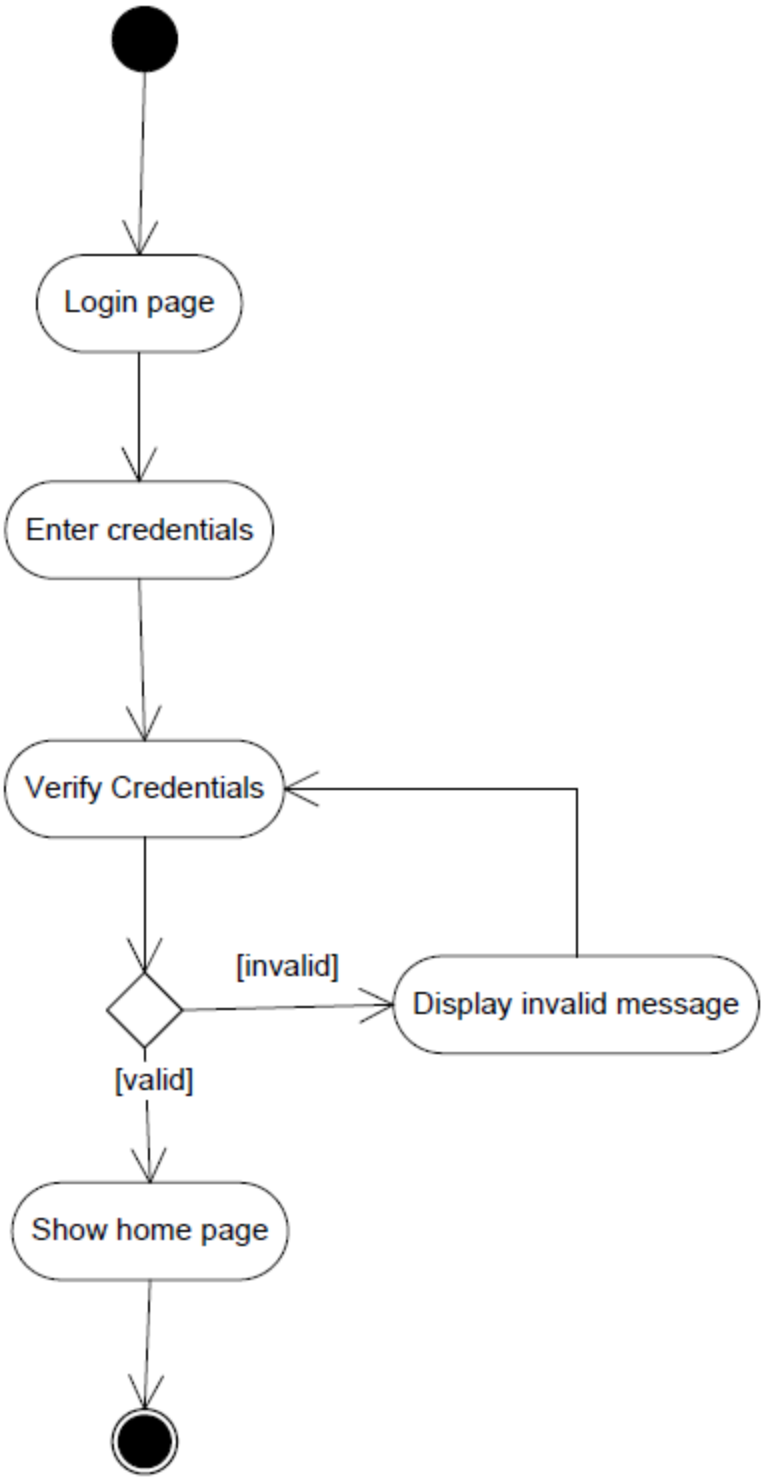
Pharmacy: View prescription,bill ,payment



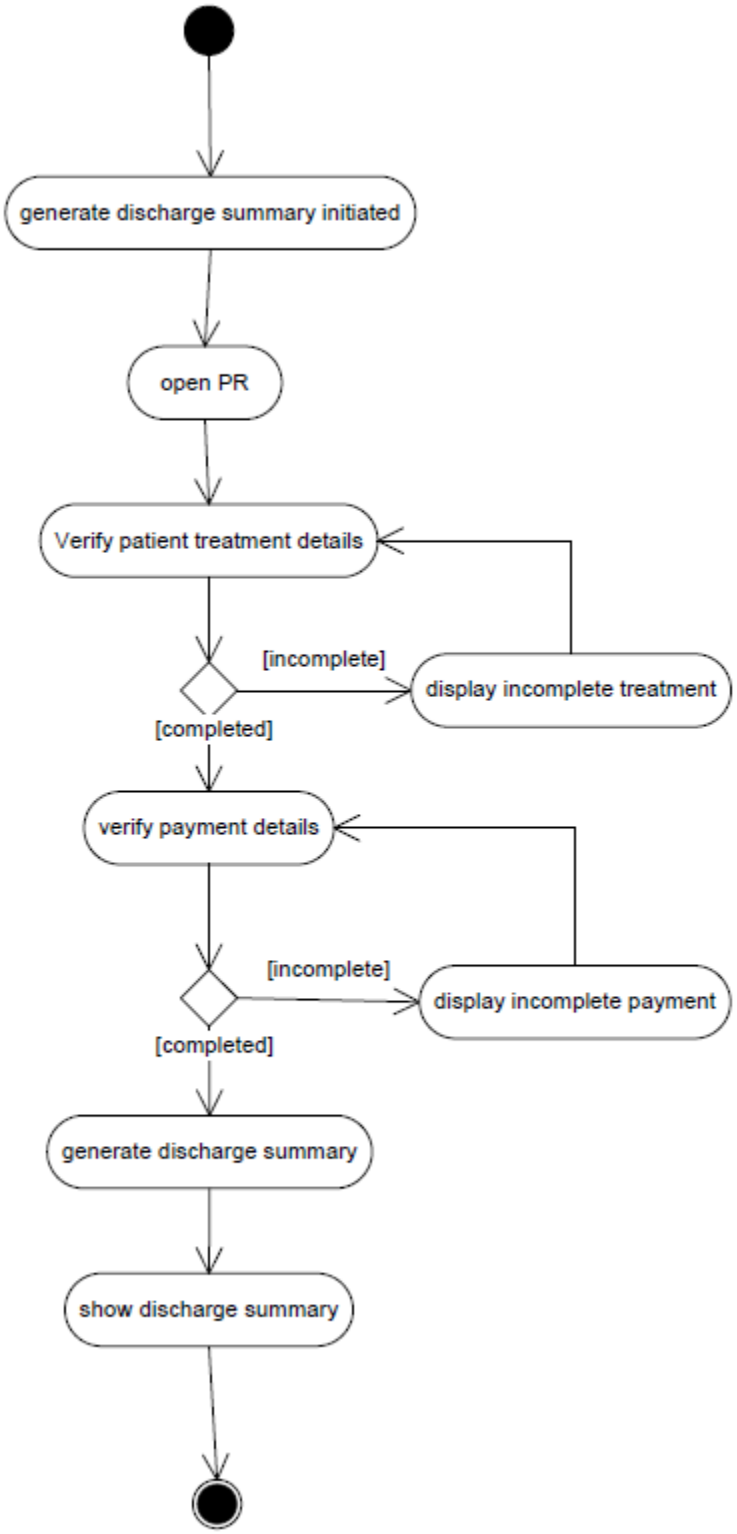
Activity Diagram
Patient Registration


Patient Registration
Enter valid details
Verify details
[invalid]
Display invalid message
[valid]
Generate unique ID
Display successfully registered

Login



Discharge Summary


generate discharge summary initiated
open PR
Verify patient treatment details
[incomplete]
display incomplete treatment
[completed]
verify payment details
[incomplete]
display incomplete payment
[completed]
generate discharge summary
show discharge summary

Use case specification

Use case Name	**Book Patient Appointment**
Use case Description	This use case describes how a Receptionist schedules an appointment for a patient with a doctor based on the doctor's availability. The receptionist enters patient details, selects the department and doctor, and confirms the appointment slot.
Actors	Actors involved in performing the action
Primary Actors	Receptionist
Secondary actors	Patient, Doctor ,Admin
Basic Flow	1. The receptionist logs into the HMS. 2. Selects "Book Appointment" from the dashboard. 3. Enter patient's details (new or existing). 4. Select the department and doctor. 5. View available slots from the doctor’s calendar. 6. Selects preferred date and time slot. 7. Confirms and saves the appointment. 8. The system generates an appointment ID and confirmation message.
ALTERNATE FLOW	If the selected doctor is unavailable, the system prompts to choose another doctor or another date.
Exceptional flows	If the HMS crashes during data entry, no information is saved, and the receptionist is notified to retry. If mandatory fields are left blank or the data format is invalid (e.g., wrong phone number), the system prompts for correction. If a slot is already booked, the system displays an error and prompts to choose another slot.

Pre-Conditions	The receptionist must be logged into the system with valid credentials. The doctor's schedule must be updated in the HMS. Internet or intranet connectivity must be active.
post-conditions	A valid appointment is created and stored in the system. Appointment details are available for the doctor and patient. The system sends confirmation if communication channels are configured.
Assumptions	The patient provides correct and complete details. Doctor schedules are regularly updated by the administration. The receptionist is trained to use the HMS.
Constraints	Appointments cannot be booked beyond the doctor’s working hours. System can only book appointments within the current scheduling period (e.g., next 30 days). One appointment per time slot per doctor.
Dependencies	Doctor availability module must be up-to-date. Patient registration module must be integrated. Notification service (SMS/email) should be functional if confirmations are automated.
Inputs and Outputs	**Inputs:**

	Patient details (Name, Age, Contact, etc.) Doctor and department selection Preferred date and time **Outputs:** Appointment confirmation ID Confirmation screen/message Notification to patient (optional)
Business Rules	Appointments cannot overlap. Only registered or newly entered patients can be scheduled. Patient can be booked only once per doctor per day unless overridden by admin. Cancellation or rescheduling must go through a separate use case.
Miscellaneous Information	The receptionist interface should be user-friendly and responsive. Reports of daily appointments can be generated from the receptionist module. If SMS/email notifications fail, manual communication is expected. Data privacy rules (e.g., PHI regulations) must be adhered to.

Use case Name	Patient Registration
Use case Description	This use case describes the process of registering a new patient into the hospital system by the receptionist. The information collected includes patient name, age, gender, contact details, address, and purpose of visit. Once registered, a unique patient ID is generated.
Actors	Actors involved in perform the action
Primary Actors	Receptionist
Secondary actors	Patient
Basic Flow	Receptionist selects "Register New Patient" option in the system. 2. System displays the registration form. 3. Receptionist enters patient's personal and contact information. 4. Receptionist verifies the entered data. 5. Receptionist submits the form. 6. System generates a unique Patient ID. 7. System confirms successful registration and displays Patient ID. 8. Receptionist provides the ID to the patient.

ALTERNATE FLOW	If the system finds a match with existing patient data, it alerts the receptionist. Receptionist verifies and may choose to update existing record instead of creating a new one.
Exceptional flows	If the system is unavailable, receptionist notes patient details manually. Details will be entered into the system once it is back online.
Pre- Conditions	Receptionist is logged into the system. System is online and operational.
post-conditions	Patient is successfully registered in the HMS. Patient ID is generated and stored. Patient is now eligible for appointments, lab tests, etc.
Assumptions	Receptionist is trained to use the HMS. Patient provides accurate information.
Constraints	Mandatory fields (e.g., name, age, contact number) must be filled. Unique phone number or national ID per patient.
Dependencies	Depends on functioning patient registration module. Depends on database connectivity for storing patient records.

Inputs and Outputs	Inputs: Patient details (name, age, gender, contact info, etc.) Outputs: Patient ID, registration confirmation
Business Rules	A patient must not be registered more than once with the same national ID. All required fields must be validated before submission.
Miscellaneous Information	The registration timestamp is logged for auditing. Receptionist's ID is linked to each registration for traceability.

Use case Name	Upload Test Results to Patient Record
Use case Description	This use case describes how a pharmacist (or lab technician, if more appropriate) uploads laboratory or diagnostic test results into a patient's electronic health record. The test results are linked to the respective patient's ID and made available for doctors to review.
Actors	Actors involved in perform the action
Primary Actors	Lab Technician
Secondary actors	Patient (indirectly involved), Doctor (views results later)

Basic Flow	1. Pharmacist logs into the Hospital Management System. 2. Pharmacist selects the “Upload Test Results” option. 3. Pharmacist searches for the patient using Patient ID or name. 4. System displays patient details. 5. Pharmacist selects the relevant test and uploads the result file or inputs data manually. 6. Pharmacist verifies the data and submits. 7. System confirms successful upload and updates the patient’s record. 8. The results are now available to the concerned doctor for review.
ALTERNATE FLOW	If no matching patient ID is found, the system displays an error. Pharmacist re-checks or contacts the registration desk. After correction, the pharmacist reattempts the upload. Pharmacist can cancel and reselect the correct test before submission.
Exceptional flows	If the system fails during upload, an error message is displayed. Pharmacist retries or contacts IT support.
Pre- Conditions	Pharmacist has valid login credentials and access rights. Test has been completed and results are available. Patient is already registered in the HMS.
post-conditions	Test results are stored and visible in the patient’s medical record. Doctor is notified (if automated notifications are enabled).

Assumptions	Pharmacist uploads accurate and authorized test results. The test was ordered by a doctor and is associated with a patient visit.
Constraints	Only authorized personnel can upload or modify test results. File formats may be restricted (e.g., PDF). Upload size may have a limit.
Dependencies	Functional patient record and lab module in HMS. Network and database connectivity.
Inputs and Outputs	**Inputs:** Patient ID, test type, test result data or document **Outputs:** Updated patient record, confirmation message
Business Rules	Each uploaded result must include test name, date, and uploader ID. Uploaded results are time-stamped and version-controlled. Only verified staff can upload or update test results.
Miscellaneous Information	The system logs the pharmacist's user ID and timestamp for each upload. Alerts may be generated for abnormal results for doctor review.

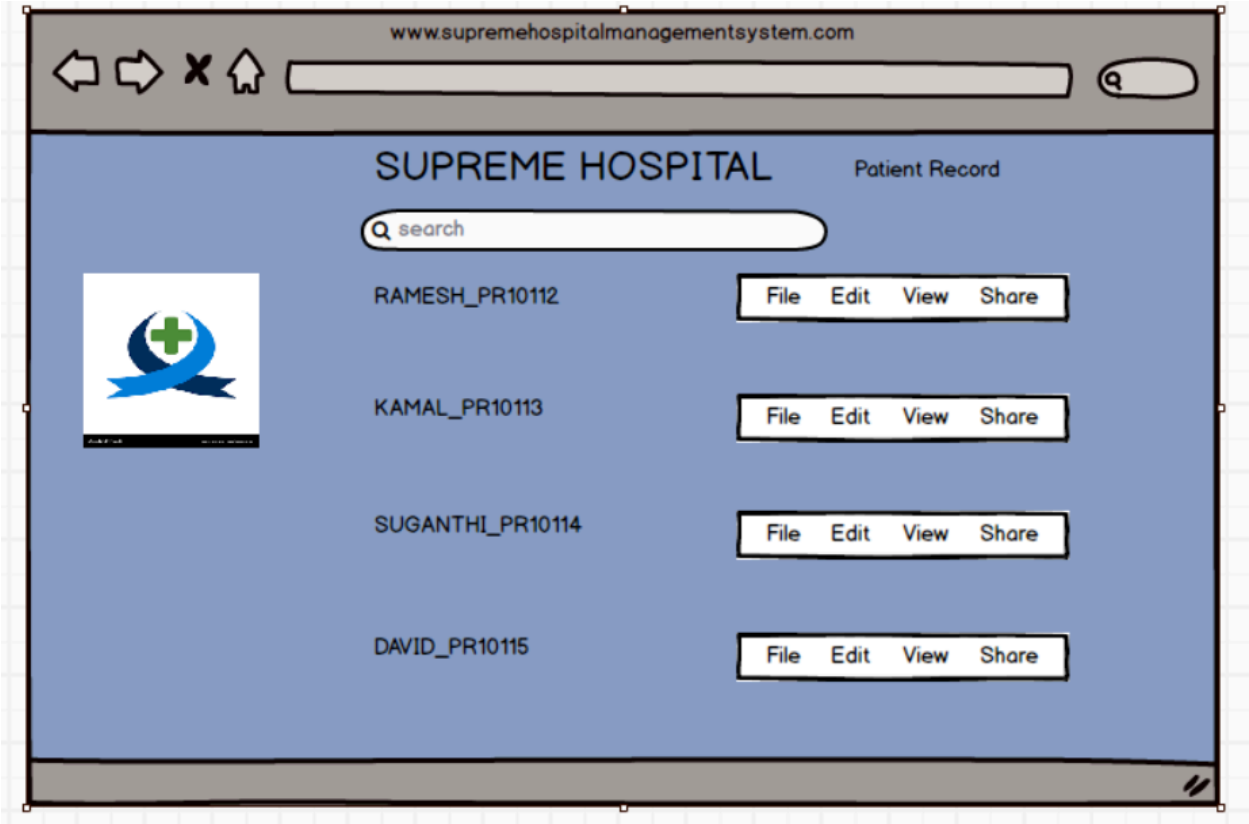
Document 7- Screens and pages

Please follow the following steps to create the mock-ups

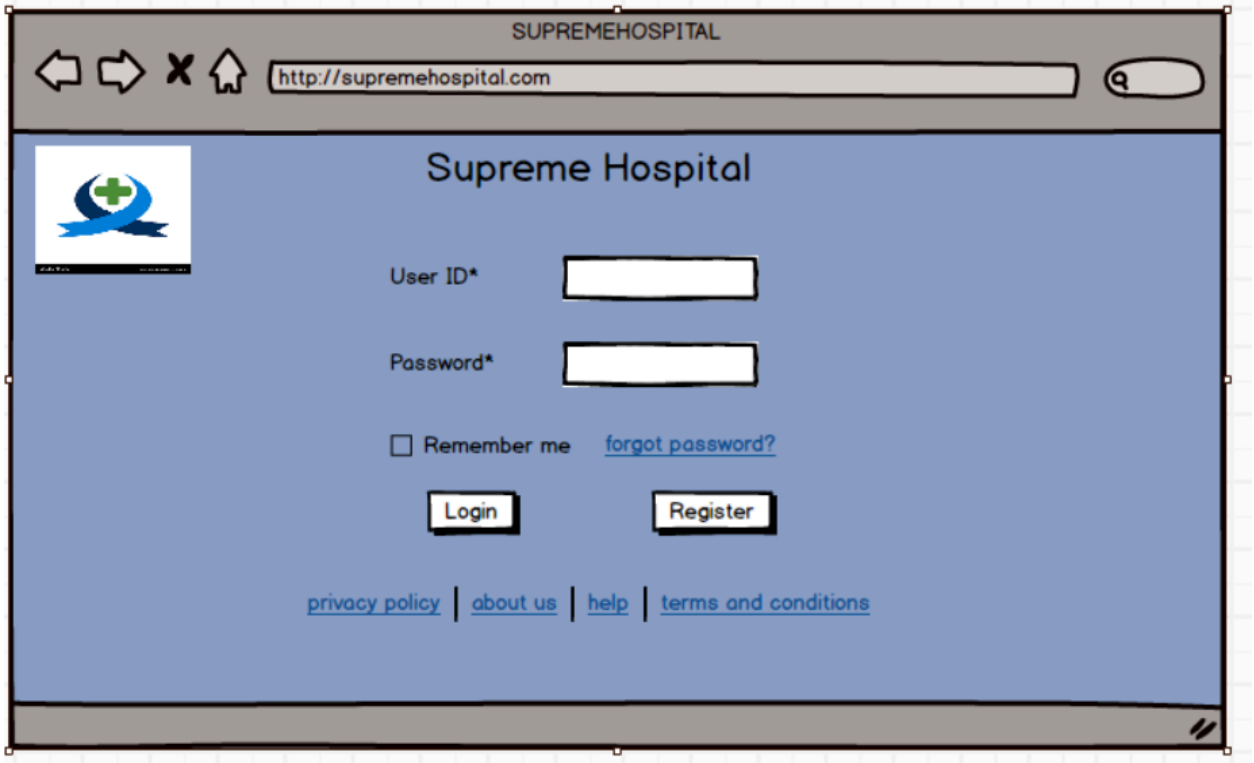
1. Kindly use balsamic or Axure.
2. Always start with a home page of an application.
3. Take a feature and follow it to the end

a. Eg: Home page of SCRUM Foods
b. Select Login- Create a login page
c. Let's assume, you want to search a restaurant
d. Search page- Type the restaurant name and select the dish
e. Add to cart page
f. Payment page
g. Logout page

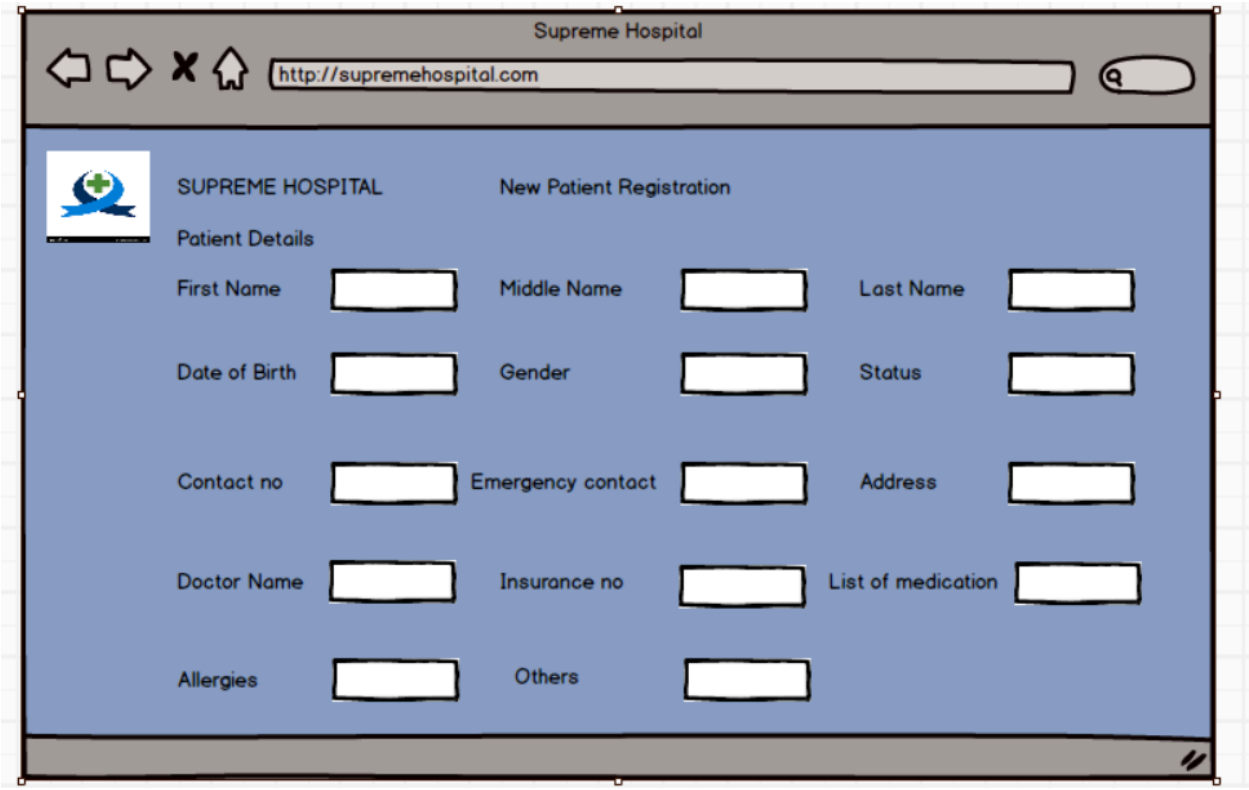
Patient record



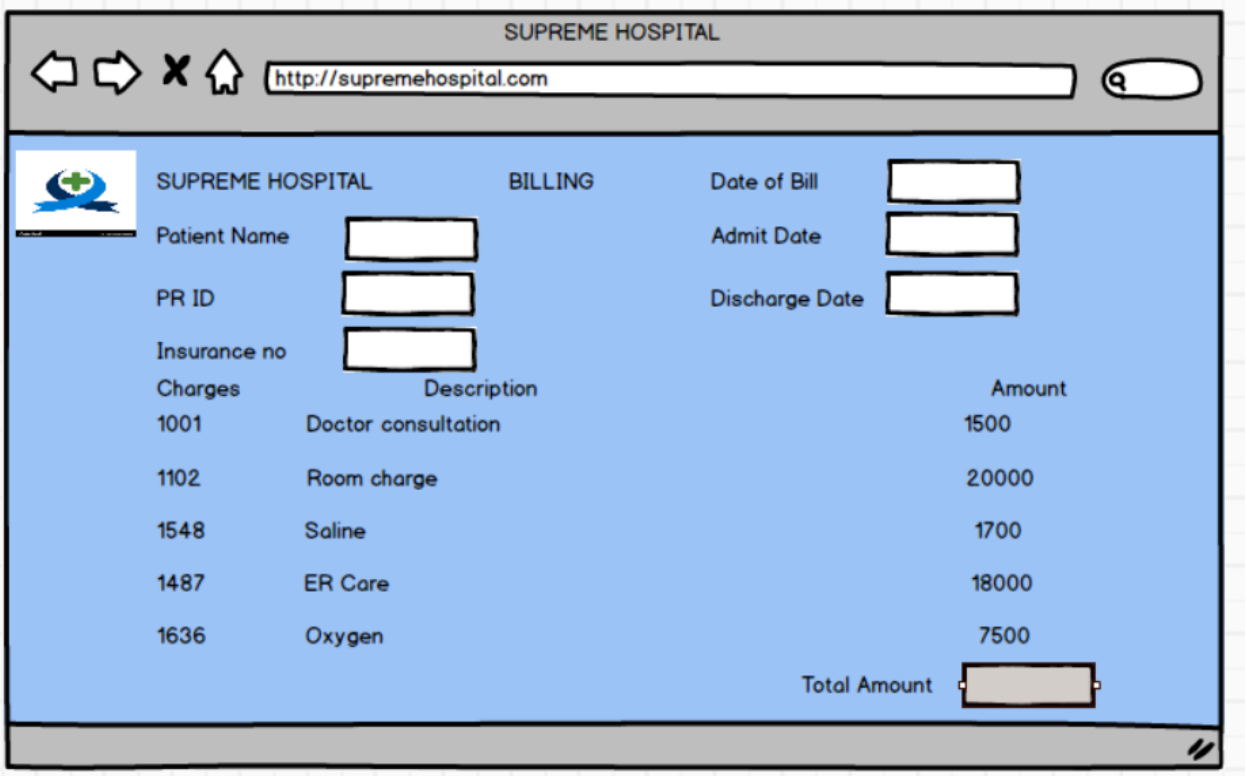
Login page



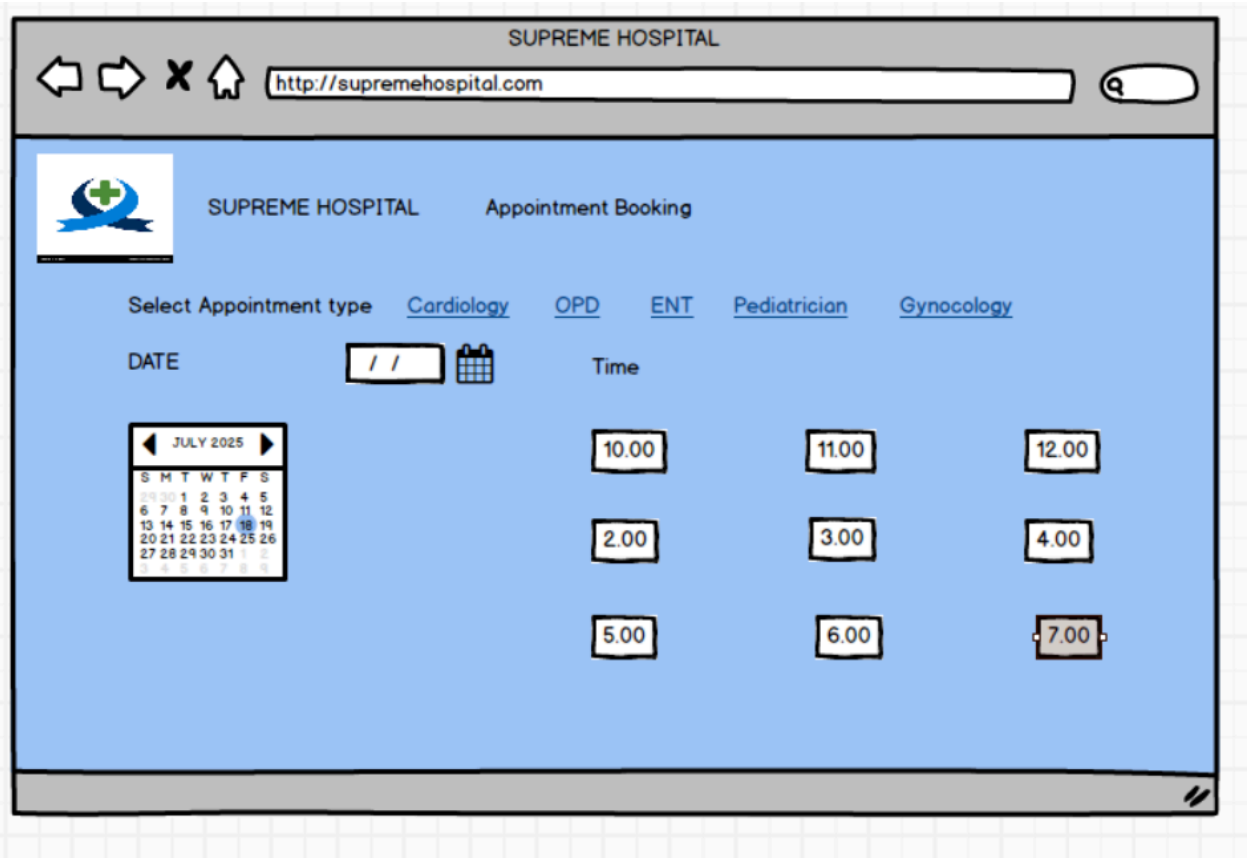
Patient Registration


Supreme Hospital
http://supremehospital.com
SUPREME HOSPITAL
New Patient Registration
Patient Details
First Name
Middle Name
Last Name
Date of Birth
Gender
Status
Contact no
Emergency contact
Address
Doctor Name
Insurance no
List of medication
Allergies
Others

Billing



Appointment



Document 8- Tools-Visio and Axure

Write a paragraph on your experience using Visio and Axure for the project.

What is Microsoft Visio?

Microsoft Visio is a powerful diagramming and vector graphics application used primarily for creating flowcharts, process diagrams, organizational charts, network diagrams, and other types of visual representations. It helps business analysts, project managers, and IT professionals to visually communicate complex information clearly and effectively. Visio offers a wide range of built-in templates and shapes, making it easier to map out business processes, system architectures, and workflows. Its integration with other Microsoft Office tools also allows for seamless collaboration and sharing across teams. Overall, Visio is widely used in business analysis and project documentation to improve

understanding and decision-making.It is a professional diagramming tool used to create visual representations such as flowcharts, process diagrams, system models, and data flows. Business Analysts (BAs) use Visio to communicate requirements and workflows effectively with stakeholders, developers, and testers.

Business Analyst experience using Visio in a Hospital Management System (HMS) project:

As a Business Analyst on the Hospital Management System (HMS) project, I used Microsoft Visio to create clear and structured diagrams that supported requirements gathering and stakeholder communication. I developed use case diagrams to illustrate user interactions with the system, activity diagrams to show workflows such as patient registration and discharge, and process flow to map out hospital workflow and processes. These visual models helped both technical teams and healthcare staff understand the current processes and proposed solutions. Visio also allowed me to document “as-is” and “to-be” process flows, which were crucial during gap analysis and process improvement discussions and essential for explaining complex workflows to both technical and non-technical stakeholders. The diagrams created in Visio were included in the Business Requirement Document (BRD) and supported better collaboration and decision-making throughout the project lifecycle.

What is Axure:

Axure RP is a leading prototyping and wireframing tool used by UX designers, business analysts, and product teams to create interactive prototypes and specifications for websites and applications. Unlike simple mockup tools, Axure allows users to build dynamic, high-fidelity prototypes with interactive elements such as buttons, forms, conditional logic, and animations. This helps stakeholders visualize the user experience before development begins, enabling better feedback and refinement. Axure also supports collaboration and generates detailed documentation, which can serve as a blueprint for developers. It is especially valuable in agile and user-centered design processes where rapid iteration and clear communication of design intent are essential.Axure RP (Rapid Prototyping) is a professional wireframing, prototyping, and documentation tool used to design interactive, high-fidelity prototypes of web and mobile applications. It helps Business Analysts, UX designers, and developers visualize system behavior before development begins.

Business Analyst experience using Axure in a Hospital Management System (HMS) project:

As a Business Analyst, I have used Axure RP to create interactive wireframes and prototypes that helped visualize the user interface and functionality of systems such as patient registration, appointment booking, and billing before development began. These wireframes helped stakeholders—including doctors, receptionists, and pharmacists—visualize how the system would function from their perspective. I created clickable prototypes that simulated real-time user interactions like form filling, dropdown selections, and navigation between screens. This allowed early validation of requirements and helped uncover usability issues before development.Axure allowed me to translate business requirements into clickable mockups, which made it easier for stakeholders to understand the user experience and provide early feedback. I used it to design screens for web and mobile applications, incorporating features like dynamic panels, conditional logic, and form inputs to simulate real user interactions. This was especially valuable during requirement validation and user acceptance planning. The ability to generate specification documents and share prototypes with development teams also improved clarity and reduced rework during the development phase.

Document 9- BA experience

My experience as BA in following phases:

As the Business Analyst, I acted as a bridge between the client (hospital stakeholders) and the technical team, ensuring that the solution delivered met the needs of both users and the business.

Project Initiation & Planning

- Conduct enterprise analysis like Gap analysis,risk analysis ect
- Understood the hospital's core business processes (manual patient handling, registration, handwritten prescriptions, lab orders).
  Identified inefficiencies such as:
- Long waiting times
- Manual data duplication
- Paper-based lab results and billing
- Defined the goals of automation, including:
- Improved patient service
- Centralized data management
- Faster billing and appointment processing

Documents Created:
Business Case
Initial Stakeholder List

1. Requirement gathering:

- **Conducted stakeholder interviews with:**
- Admin, Receptionist, Patient, Doctor, Lab Technician, Pharmacist
- Created RACI Matrix to define roles and responsibilities clearly.
- Used different type of elicitation techniques to gather requirements such as,

Interviews
One-on-one meetings with doctors, reception, lab staff to understand how they work.
Observation
Watch how patients are registered or how reports are managed to understand the current process.
Document Analysis
Review hospital forms, billing records, admission slips, test reports, etc.
Questionnaires
Share forms with multiple staff members to get input quickly.
Brainstorming
Group sessions to discuss the problems, solutions, and ideas with different departments.
Prototyping
Create UI screens wireframes like patient registration, doctor schedule to share and discuss with the stakeholders

● The gathered requirements are prioritized using the MOSCOW technique.
● Client is not available for some period of time during this phase. So as a BA i need to source out point of contacts from his side and get the information ASAP.
● I validate the requirements using FURPS technique
● Many requirements are duplicated or repeated. We need to remove them immediately
● Captured business needs are translated them into clear, actionable, functional and non-functional requirements.

Functional Requirements: e.g., “The system shall allow a receptionist to schedule an appointment.”
Non-functional Requirements: e.g., “System should load pages within 2 seconds.”

2. Requirement Analysis:

- We need to draw UML diagrams to visually describe the requirements
- Activity diagrams also used to describe the process flow
- Communicate the diagrams to team. Some team members might not agree with them and might make changes. As a BA we need to consider the points and make modifications
- Created the following documents:
    - Business Requirements Document (BRD)
    - Software Requirements Specification (SRS)
    - Use Case Specifications for each module
    - RTM (Requirements Traceability Matrix) to map requirements through design, development, and testing
    - Used standard BA templates and version-controlled documents for traceability.
    - Designed UML Diagrams:
    - Use Case Diagrams for actors like Patient, Receptionist, Doctor
    - Activity Diagrams for workflows like patient registration and lab testing
    - Sequence Diagrams for system-level interactions

3. Design:

- From the use case diagrams, we prepare test cases
- Communicate with client on design and solution documents
- Write negative test cases as well along with positive test cases.
- Do not miss a single test case. It might have huge impact on project development in later stages
- Prepare test data for testing
- Update RTM. This is just as we need to make sure that all the requirements are met
- Work with technical team to design:
- Database structure (patient, doctor, reports, bills)
- User interface layout (screens for reception, lab, pharmacy, admin)
- Prepare RTM,End User manual
- Create Use Case Diagrams,Sequence Diagram,Data Flow Diagrams,Mockups,Wireframes

4. Development:

- Organized JAD sessions

- Clarifying queries of the tech team during coding
- There might be some team members who don't agree with the concept or who don’t cooperate during JAD sessions. As a BA, I handled the situation gently and had on one discussion with them. Explained how their actions are going to affect the project. Set up a healthy environment within the team.
- Referenced diagrams to code the Unit
- Conduct regular meetings with the technical team and the client, which is challenging. Some team members might not be available for the meeting. Recording the session and providing that to the missed one, and having to one a discussion later with that missed person is all I need to do
- Communicate requirements using UML diagrams(Patient registration, lab reports,bill)
- Update RTM,End User manuals

- Clarified functional and non-functional requirements for the development team.
- Reviewed technical design documents to ensure alignment with business needs
- Ensured traceability of requirements through tools like RTM (Requirement Traceability Matrix).
- Collaborated with QA team to help create test scenarios based on acceptance criteria.
- Facilitated communication between stakeholders and technical teams to maintain alignment.
- Managed scope changes or enhancements by initiating and documenting change requests.
- Monitored progress to ensure features delivered met the intended business objectives.

5. Testing:

- Collaborated with the QA team to:
- Prepare test scenarios and test cases from use cases
- Verify test case coverage against requirements using the RTM
- Perform high-level testing
- Test data is requested by the BA from the client
- Updated RTM
- Take signoff from client
- Prepare the client for UAT
- Participate in User Acceptance Testing (UAT) sessions with hospital staff
- Captured feedback and logged issues for refinement.
- Recorded **test results**, issues, and feedback
- Facilitated **bug reporting** and re-validation

- UAT Sign-Off Document
- Updated RTM with Pass/Fail status

6. Deployment:

● Forwarded RTM to client which should be attached to project closure document
● Coordinates to complete and share end user manuals
● Plans and organizes training sessions
● Make sure all the candidates attend the meeting
● Forward RTM,End User manual to client
● Conduct training sessions for users
● Assist deployment and implemenetation