Use Case 1

Title: Add Patient Health Data

Actor: Doctor
Goal: To add or update detailed information about the medical history of the patient.
Preconditions:

- The doctor is logged into the system.
- The patient is already registered in the system.

Main Flow:

1. The doctor searches for the patient by ID or name.
2. The system displays the patient's record.
3. The doctor selects the "Add Data" option.
4. The system prompts the doctor to select the type of illness from a predefined list (e.g., Diabetes, Hypertension, Asthma).
5. The doctor selects the illness type.
6. The system dynamically generates questions about the selected illness (e.g., for Diabetes: Blood Sugar Level, Medication Taken Today, Diet Details).
7. The doctor is presented with these questions.
8. The doctor answers the displayed questions and optionally adds additional notes.
9. The doctor confirms or edits the details.
10. The doctor submits the information.
11. The system updates the patient's record and logs the changes for future reference.

Alternative Flows:
- Patient Not Found:

- The doctor may ask the receptionist to register the patient.

Illness Type Not Available:

- If the required illness type is not listed, the doctor selects "Other" and enters illness details manually.

Postconditions:

- The patient's data is updated and logged for future reference.

Use Case 2

Title: Request Tests/Imaging

Actor: Doctor
Goal: To request diagnostic tests or imaging for a patient.
Preconditions:

- The doctor is logged into the system.
- The patient's record exists in the system.

Main Flow:

1. The doctor opens the patient's record.
2. The doctor selects the "Request Test/Imaging" option.
3. The doctor chooses the required tests or imaging from a predefined list or chooses a custom one if it doesn't exist.
4. The doctor provides any additional notes for the test or imaging department.
5. The doctor submits the request.

Alternative Flows:
- Urgent Request:

- For urgent cases, the doctor marks the request as high priority.
- The system sends an immediate notification to the relevant department.

Postconditions:

- The test or imaging request is sent to the respective department.
- The department is notified, and the request is queued for processing.

Use Case 3

Title: Generate Patient Reports

Actor: Doctor
Goal: Create a detailed report summarizing a patient's condition, diagnosis, and treatment plan.
Preconditions:

- The doctor is logged into the system.
- The patient's data is up-to-date in the system.

Main Flow:

1. The doctor searches for the patient by ID.
2. The doctor accesses the patient's record.
3. The doctor selects the "Generate Report" option.
4. The system displays a report template.
5. The doctor inputs observations, diagnoses, and treatment plans.
6. The doctor reviews and saves the report.

Postconditions:

- The report is saved in the patient's record and is accessible for future reference.

Use Case 4

Title: View Patient Records

Actor: Doctor
Goal: To view a patient's medical history and current information.
Preconditions:

- The doctor is logged into the system.
- The patient's record exists in the system.

Main Flow:

1. The doctor searches for the patient by ID.
2. The doctor accesses the patient's record.
3. The doctor reviews medical history, current condition, test results, and prescribed medications.
4. The doctor can optionally filter the data to focus on specific time periods or details.

Alternative Flows:
- Patient Record Not Found:

- If the record is missing, the system suggests alternative search criteria (e.g., name spelling variations).
- If not found the Dr ask the receptionist to add the patient.

Postconditions:

- The doctor has accessed the necessary patient information.

Use Case 5

Title: Prescribe Medication

Actor: Doctor
Goal: To prescribe medication for a patient.
Preconditions:

- The doctor is logged into the system.
- The patient's record exists in the system.

Main Flow:

1. The doctor searches for the patient by ID.
2. The doctor accesses the patient's record.
3. The doctor selects the "Prescribe Medication" option.
4. The doctor prescribes the appropriate treatment.
5. The doctor selects the option "Verify Medication".
6. The doctor specifies dosage, frequency, and duration.
7. The doctor submits the prescription.

Alternative Flows:
- Drug Interaction Warning:

- If the system detects a potential interaction with existing medications, it alerts the doctor.
- The doctor reviews and adjusts the prescription if needed.

Patient Allergies Detected:

- If the patient's record indicates an allergy to the prescribed drug, the system alerts the doctor, who selects an alternative.

Postconditions:

- The prescription is saved in the patient's record.
- The pharmacy is notified to dispense the medication.

Use Case 6

Title: Give Patient Access

Actor: Doctor
Goal: To grant a patient access to specific parts of their medical record.
Preconditions:

- The doctor is logged into the system.
- The patient is registered and has an account in the system.

Main Flow:

1. The doctor accesses the patient's record.
2. The doctor selects the "Manage Patient Access" option.
3. The doctor specifies which parts of the record that the patient can add data to.
4. The doctor saves the access settings.

Alternative Flows:
- Access Permissions Error:

- If the doctor does not have permission to modify patient access, the system denies the request and notifies the admin.

Access Settings Conflict:

- If access settings conflict with hospital policies, the system suggests permitted options to the doctor.

Postconditions:

- The patient is granted access to update their own records.

Use Case 7

Title: Update Patient Records with Limitation

Actor: Nurse
Goal: To update certain allowed criteria for a patient (BP, HR, Blood sugar, etc.).
Preconditions:

- The nurse is logged into the system.
- The patient is already registered in the system.

Main Flow:

1. The nurse searches for the patient by ID or name.
2. The system displays the patient's record.
3. The nurse selects the "Add Data" option.
4. The system opens the list of default things to log for the nurse to pick from (e.g., BP, HR, blood sugar).
5. The nurse confirms or edits the details.
6. The nurse submits the information.
7. The system updates the patient's record and logs the changes for future reference.

Alternative Flows:
- Patient Not Found:

- The nurse may ask the receptionist to register the patient.

Postconditions:

- The patient's data is updated and logged for future reference.

Use Case 8

Title: View Patient Records

Actor: Nurse
Goal: To view a patient's medical history and current information.
Preconditions:

- The nurse is logged into the system.
- The patient's record exists in the system.

Main Flow:

1. The nurse searches for the patient by ID.
2. The nurse accesses the patient's record.
3. The nurse reviews some medical history, current condition, and prescribed medications.
4. The nurse can optionally filter the data to focus on specific time periods or details.

Alternative Flows:
- Patient Record Not Found:

- If the record is missing, the nurse asks the receptionist to register the patient.

Postconditions:

- The nurse has accessed the necessary patient information.

Use Case 9

Title: Register New Patient

Actor: Receptionist
Goal: To create a new patient profile in the system.
Preconditions:

- The receptionist is logged into the system.
- The patient is not already registered in the system.

Main Flow:

1. The receptionist selects the "Register Patient" option.
2. The system displays the registration form.
3. The receptionist enters the patient's details, including but not limited to:
    - Full Name
    - National ID (It Will be the way to access his records)
    - Date of Birth
    - Gender
    - Contact Information
    - Address
4. The receptionist reviews and submits the form.
5. The system validates the information and creates a new patient record.

Alternative Flows:
- Duplicate Patient Found:

- The system alerts the receptionist to review potential duplicates.

Postconditions:

- A new patient record is created and stored in the system.

Use Case 10

Title: View Medication Requests

Actor: Pharmacy Staff
Goal: To view and process medication requests submitted by doctors.
Preconditions:

- The pharmacy staff is logged into the system.
- Medication requests have been submitted by doctors.

Main Flow:

1. The pharmacy staff selects the "View Medication Requests" option from the system menu.
2. The system displays a list of pending medication requests, sorted by priority or request time.
3. The pharmacy staff selects a specific medication request to view details.
4. The system displays the request details, including but not limited to:
    - Patient Information (Name, ID, Contact Details)
    - Prescribed Medications (Name, Dosage, Quantity)
    - Doctor's Notes or Special Instructions
    - Request Priority (Normal/Urgent)
5. The pharmacy staff reviews the request and marks it as "In Progress."

Alternative Flows:
- No Pending Requests:

- If there are no pending medication requests, the system displays a message indicating this.

Postconditions:

- The selected request is marked as "In Progress" for further processing.
- The system logs the activity for tracking purposes.

Use Case 11

Title: Verify and Dispense Medication

Actor: Pharmacy Staff
Goal: To verify and dispense medications based on a doctor's request.
Preconditions:

- The pharmacy staff is logged into the system.
- The medication request has been reviewed and marked as "In Progress."

Main Flow:

1. The pharmacy staff selects a medication request marked as "In Progress."
2. The pharmacy staff verifies the availability of the prescribed medications in stock.
3. If all medications are available, the pharmacy staff prepares the medications for dispensing .
4. The pharmacy staff updates the system with the dispensing details, including:
    - Quantity Dispensed
    - Dispensing Date and Time
    - Alternative used if any
5. The pharmacy staff generates a dispensing slip for the patient.
6. The pharmacy staff marks the request as "Completed" in the system.

Alternative Flows:
- Medication Not Available:

- If any medication is out of stock:
    - The pharmacy staff updates the request with an "Out of Stock" status.
    - The system notifies the doctor of the unavailability.
    - the Doctor send another request with an equivalent medicine and notes it on the system

Request Cancelled:

- If the request is cancelled by the doctor, the system removes it from the "In Progress" list and notifies the pharmacy staff.

Postconditions:

- The medications are dispensed, and the request is marked as "Completed."
- The system updates the patient's record with the dispensing details.

Use Case 12

Title: View Test Requests from Doctors

Actor: Lab Technician
Goal: The Lab Technician views test requests submitted by doctors for patients.
Preconditions:

- The doctor has submitted a test request in the system.
- The Lab Technician has logged into the system and has permission to view test requests.

Main Flow:

1. The Lab Technician logs into the system.
2. The Lab Technician navigates to the "Test Requests" section.
3. The Lab Technician selects the test request to view detailed information.
4. The Lab Technician can search for requests using the patient's name, test type, or date.
5. The Lab Technician confirms the test details so that preparation can proceed.

Alternative Flows:
- Test Request Not Found:

- If no test requests are found, the system displays an error message.
- The Lab Technician can attempt a new search using different criteria (e.g., patient ID or test type).
- If no request is found, the Lab Technician contacts the doctor for clarification or further instructions.

Postconditions:

- The Lab Technician successfully views the requested test details and is ready to proceed with the test preparation.

Use Case 13

Title: Show Patient Data Related to Tests

Actor: Lab Technician
Goal: The Lab Technician retrieves the necessary patient data to perform tests.
Preconditions:

- The patient is registered in the system.
- The Lab Technician is authorized to access patient data.

Main Flow:

1. The Lab Technician accesses the patient data system.
2. The Lab Technician enters the patient's ID or search criteria.
3. The system retrieves and displays the patient's medical records.
4. The Lab Technician reviews the patient's data to ensure accuracy and prepare for the test.

Alternative Flows:
- Patient Data Not Available:

- If the system cannot retrieve patient data, the Lab Technician is notified of the issue.
- The Lab Technician may contact the medical records department to retrieve the data.
- If data is still unavailable, the Lab Technician may consult with the doctor to proceed with alternative test plans.

Postconditions:

- The Lab Technician has the necessary patient information to perform the test accurately.

Use Case 14

Title: Perform and Upload Test Results

Actor: Lab Technician
Goal: The Lab Technician performs a test and uploads the results to the system for review by the doctor.
Preconditions:

- A test has been requested by the doctor.
- The necessary test equipment is available and functional.

Main Flow:

1. The Lab Technician enters the patient's ID or search criteria.
2. The Lab Technician records the test results into the system manually or uploads them via connected equipment.
3. The Lab Technician confirms the upload and submits the results.
4. The results are made available to the doctor for review.

Alternative Flows:
- Test Not Available:

- The Lab Technician writes a note for the doctor, and the doctor asks the patient to make the test in another place.
- The doctor will upload the results after the patient comes again.

Postconditions:

- The test results are uploaded and available for the doctor to access.

Use Case 15

Title: View Imaging Requests from Doctors

Actor: Radiology Technician
Goal: The Radiology Technician views imaging requests submitted by doctors for X-ray procedures.
Preconditions:

- The doctor has submitted the imaging request in the system.
- The Radiology Technician has logged into the system and is authorized to view the request.

Main Flow:

1. The Radiology Technician logs into the system.
2. The Radiology Technician accesses the "Imaging Requests" section.
3. The Radiology Technician views the list of requests or searches by patient name, test type, or imaging request ID.
4. The Radiology Technician selects an imaging request to view detailed information.
5. The Radiology Technician verifies the imaging request details before proceeding.

Alternative Flows:
- Imaging Request Incomplete or Invalid:

- If the imaging request is incomplete or unclear (e.g., missing patient data or test specifications), the Radiology Technician contacts the doctor for clarification.
- If no response is received in time, the Radiology Technician escalates the issue to a supervisor or manager for next steps.

Postconditions:

- The Radiology Technician has all the necessary information to proceed with performing the imaging.

Use Case 16

Title: Upload Imaging Results

Actor: Radiology Technician
Goal: The Radiology Technician performs the X-ray imaging as per the doctor's request.
Preconditions:

- The imaging request has been verified.
- The X-ray machine is functional and available.

Main Flow:

1. The Radiology Technician enters the patient's ID or search criteria.
2. The Radiology Technician checks the quality of the images for accuracy.
3. The Radiology Technician saves the X-ray images for upload.
4. The Radiology Technician uploads the image to the system.

Alternative Flows:
- Imaging Not Available:

- The Radiology Technician writes a note for the doctor, and the doctor asks the patient to make the imaging in another place.
- The doctor will upload the results after the patient comes again.

Postconditions:

- The X-ray images are uploaded into the system.
- The referring doctor is notified of the upload.
- The radiology order status is updated as completed.

Use Case 17

Title: Upload Radiology Report

Actor: Radiology Technician
Goal: Upload completed radiology images and reports for review by the referring doctor.
Preconditions:

- The X-ray or imaging has been completed.
- The patient record is accessible.

Main Flow:

1. The system displays pending radiology orders.
2. The Radiology Technician selects the appropriate patient order from the list.
3. The Radiology Technician enters report findings and observations.
4. The system saves the report to the patient's record with its images.
5. The system notifies the referring doctor.
6. The system marks the radiology order as completed.

Alternative Flows:
- Upload Error:

- If the upload fails, the system displays an error message.
- The Radiology Technician retries the upload or adjusts the file format/size as suggested by the system.

Postconditions:

- The radiology report is securely stored in the patient record.
- The referring doctor is notified of the upload.
- The radiology order status is updated as completed.
- The report is available for review in the system.

Use Case 18

Title: Share Patient Records

Actor: Administrator
Goal: Securely share patient records with another hospital to ensure continuity of care.
Preconditions:

- Admin has sharing permissions.
- Patient records are complete and exist in the system.
- The receiving hospital is registered in the system.

Main Flow:

1. Admin navigates to the patient record sharing section.
2. Admin searches for and selects the patient record(s) to share.
3. Admin selects the receiving hospital from the registered hospitals list.
4. The system validates sharing permissions and data completeness.
5. The system encrypts the selected records.
6. The system notifies the receiving hospital.
7. The system logs the sharing transaction.

Alternative Flows:
- Patient Record Not Found:

- The system displays “Record Not Found.”
- The admin modifies search criteria.

Postconditions:

- Patient records are securely shared.
- The receiving hospital is notified.

Use Case 19

Title: Manage User Roles and Permissions

Actor: Administrator
Goal: Manage and configure user roles and permissions to restrict data access appropriately.
Preconditions:

- Admin is logged into the system.
- Admin has user management permissions.

Main Flow:

1. Admin navigates to the user management section.
2. The system displays a list of current users.
3. Admin selects a user or creates a new user.
4. Admin assigns or modifies the user's role (e.g., Doctor, Nurse, Staff).
5. Admin saves the role configuration.
6. The system updates the user's access rights.

Alternative Flows:
- New User Creation:

- The admin enters user details.
- The system validates the email format.
- The system generates a temporary password.

Postconditions:

- User roles are updated.
- System access is aligned with new permissions.

Use Case 20

Title: Show Patient Reports

Actor: Administrator
Goal: Generate and view patient reports for hospital performance analysis and decision-making.
Preconditions:

- Admin has reporting permissions.
- Patient data exists in the system.

Main Flow:

1. Admin navigates to the reporting section.
2. Admin selects the type of report (e.g., Medical History, Treatment Plans).
3. Admin specifies report parameters and the time period.
4. The system validates data availability.
5. The system generates the report with visualizations.
6. The system displays a report preview.
7. Admin exports or shares the report.

Alternative Flows:
- Incomplete Data:

- The system shows a missing data warning.
- Admin generates a partial report.

Postconditions:

- The report is generated.
- The report is available for sharing or export.

Use Case 21

Title: Patient Health Data Logging

Actor: Patient
Goal: Record and monitor health metrics like blood pressure and sugar levels.
Preconditions:

- The patient has an active account.
- The patient is logged into the system.
- The patient has a condition requiring monitoring.

Main Flow:

1. Patient accesses their health portal.
2. The system displays condition-specific data entry forms.
3. The patient enters measurements with a timestamp.
4. The system validates data ranges.
5. The system saves the data to the patient record.
6. The system confirms the data entry.

Alternative Flows:
- Connection Issues:

- The system saves data locally.
- The system syncs data when the connection is restored.

Postconditions:

- Health data is recorded.
- The healthcare team is notified if necessary.