Computer Science Department

CSC343 Project

Report #3: Final Report

Medications Tracker System

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Course: System Analysis & Design
Section: 58273

Group: 7
Submission Date: 20 April 2025

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Table of contents

Team Contribution

Group 7		
ID	**Name**	**Contribution**
444200593	Hessa Aldekhiel	- Problem statement - Functional REQ 12-16 - Nonfunctional REQ 33–34 - Stakeholders - Actors and goals - Use cases UC 8-9-10 - On-Screen Appearance Requirements - Fully-Dressed Description UC-8 - Interaction diagram UC-8 - Object diagram - System behavioral diagrams - Unit testing TC 12-16 - Integration testing
444200172	Raghad Baselm	- Glossary of Terms - Functional REQ 1-4 and REQ 17-22 - Nonfunctional REQ-35 - Functional requirements refinement and modifying for enhancement. - Actors and goals - Use cases UC 1 to 3 And UC 11 to14 - Fully-Dressed Description UC 1,2 - Interaction diagram UC-1 - Architectural diagram - Unit testing TC 1-5 & TC 18-22 - Acceptance testing
444200512	Saja Alzahrani	- Functional REQ 5-11 - Nonfunctional REQ 26-32 - Actors and goals - Adjusted text alignment and font size. - Use cases UC 4-5-6-7 - On-Screen Appearance Requirements - Fully-Dressed Description UC- 7 - System sequence diagram - Interaction diagram UC-7 - Class diagram - Formatted the report text - Table of contents - Unit testing TC 26-32
444200839	Lama Alarfaj	- Use case diagram - Nonfunctional REQ 36-37 - Functional REQ 14-16 And Req23 - Use cases UC12-15-16 - Fully-Dressed Description UC-13 - Interaction diagram UC-2 - Description of the methods - Unit testing TC 6-11, 23-25 - Interaction diagram UC-2 - References - Object diagram

1. Customer Statement of Requirements (CSR)

A. Problem Statement

As someone who takes daily medication to manage a chronic condition, I often find it difficult to stay on top of my prescribed doses, especially with my busy schedule. There are times when I forget to take my medicine, which could lead to health complications, or I take the wrong dose by mistake. This problem is even more critical for older adults, like my grandparents, who manage multiple prescriptions and have more difficulty remembering to take their medications consistently.

The issue becomes even more challenging when traveling or dealing with unexpected events, like a sudden schedule change. Current reminder systems, such as phone alarms, don't fully address the problem. They simply alert me at a designated time but don't offer any tracking or confirmation that I've taken the right medication. It's easy to forget or miss a dose, which can negatively impact my health.

I need an application that can help me track my medication doses, remind me when it's time to take my medicine, and allow me to mark doses as taken or missed. The Medicine Tracker application would provide me with a simple and effective way to monitor my medications, ensuring that I take the correct amount at the right time. This would help prevent mistakes, reduce the chance of health complications, and ultimately improve my health outcomes.

In addition, it's important for the person who supervises me such as doctors, to access my medication schedule, and update my prescriptions as needed. This seamless connection between myself and my healthcare providers would enable more effective monitoring and support, ensuring timely adjustments to my treatment plan.

With a system like this, I could more easily manage my medications, avoid missed doses, and ensure that my health is always properly monitored, even when I am unable to do it alone.

B. Glossary of Terms

TERM	DESCRIPTION
Patients	Individuals who take medications regularly and may need help remembering doses, particularly those with chronic conditions or multiple prescriptions.
Supervisor	People who help manage patients' medication schedules, including doctors, caregivers, and family members. ensuring medication adherence and timely doses.
System Administrators	Individuals responsible for maintaining the Medicine Tracker application, managing system updates, data security, and user access.
Medication Adherence	The extent to which patients follow their prescribed medication regimen, ensuring correct dosage and timely intake.
Login	The process where a user enters the National ID and password to access the system.
Sign up	The process where a new user registers an account by providing details such as role, full name, National ID, password, email, and phone number.

2. System Requirements

A. Enumerated Functional Requirements

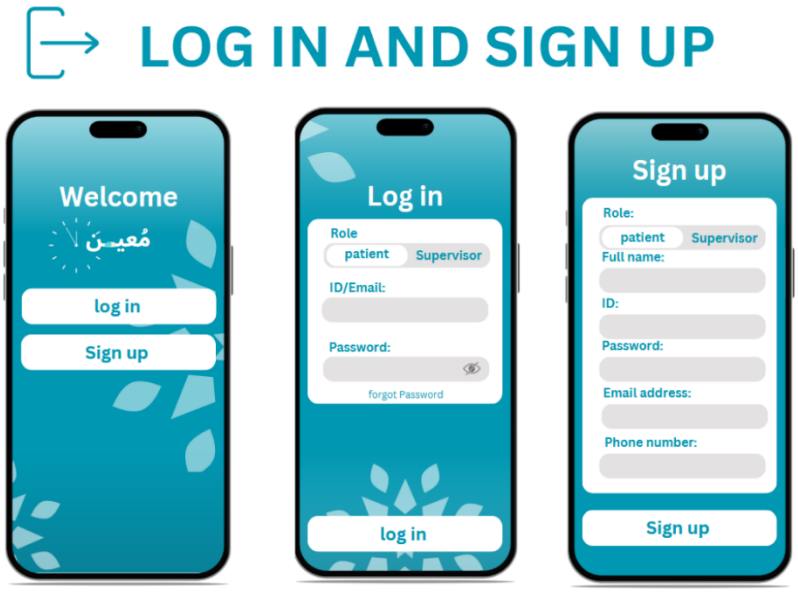
REQ-x	Description
	Sign up
REQ-1	The user shall be able to sign up by providing the following information: Role selection (Supervisor or patient), Full name, National ID, Password, Email address, Phone number.
	Login
REQ-2	The user shall be able to log in as a supervisor or as a patient.
REQ-3	The user shall be able to log in using (National ID or Email) and Password.
REQ-4	The user shall be able to reset the password.
	Patient's Home page
REQ-5	The system shall display all the medicine doses for the day, sorted by time, with the earliest dose appearing first.
REQ-6	The system shall display medicines based on their pill shape.
REQ-7	The patient shall be able to view detailed information about a medicine, including medication name, notes from their personal doctor, and image of the medication.
REQ-8	The patient shall be able to select any side effects.
REQ-9	The system shall allow the patient to mark a medicine as "taken" after consuming the dose.
REQ-10	The system shall visually indicate whether a medicine dose has been taken or is still pending.
REQ-11	The patient shall get a notification when it's time to take a scheduled dose.
	Supervisor's Home Page

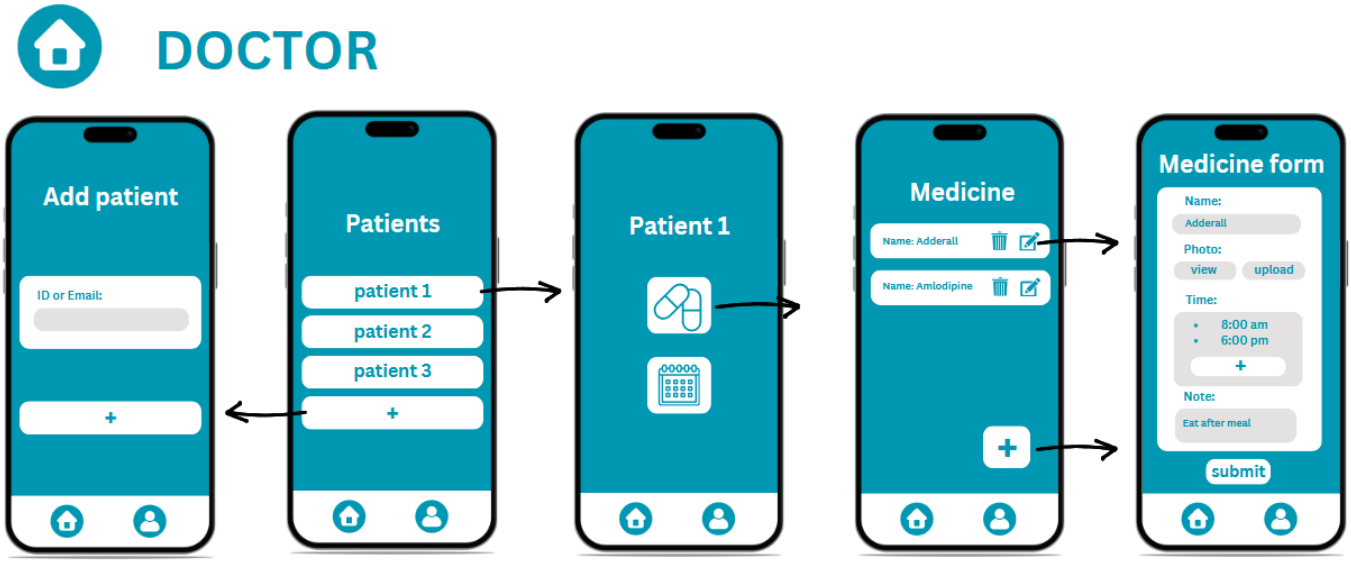
REQ-12	The Supervisor shall be able to view their patients.
REQ-13	The supervisor shall be able to add new patients to supervise by entering their Id or email.
Calendar Page - Supervisor	
REQ-14	The supervisor shall be able to view the medication information of a specific patient for specific date.
REQ-15	The supervisor user shall be able to generate a medication report for a specific patient within a selected date range which includes Medication name, Dosage, Scheduled intake time, Status (taken/missed) for each intake time and any side effects.
REQ-16	The supervisor shall be able to export the generated report in a downloadable format (e.g., PDF or CSV).
Medication page	
REQ-17	The supervisor shall view all the medicines associated with a specific patient with the following information for each medicine: Medicine name and Scheduled times of the intake
REQ-18	The system shall enable the Supervisor to add new medicine for a specific patient by entering the Medicine name, Medicine intake time, and Medicine notes.
REQ-19	The supervisor shall be able to upload a photo for the medicine.
REQ-20	The supervisor user shall be able to view a photo for the medicine.
REQ-21	The supervisor shall be able to edit the information of a specific medicine associated with a specific patient.
REQ-22	The supervisor shall be to delete medicine.
Personal Profile Page	
REQ-23	The user shall be able to view their profile information.
Calendar Page - Patient View	
REQ-24	The system shall display a Calendar in a month-view format, with the current day selected.
REQ-25	The patient user shall be able to view the medication information of a specific date, including Medication name, Dosage, Scheduled intake time, Status (taken/missed) for each intake time.

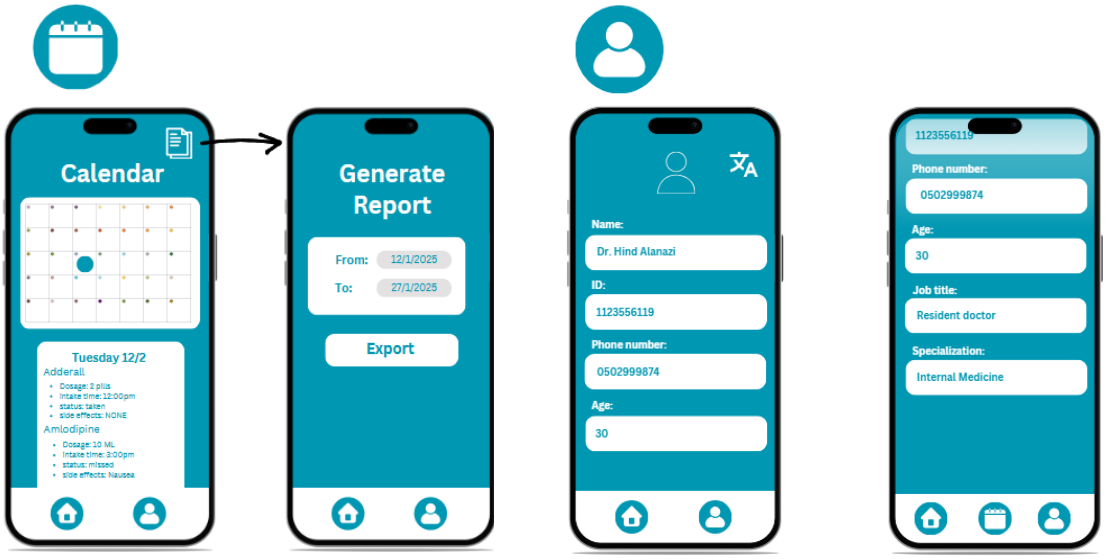
B. Enumerated Nonfunctional Requirements

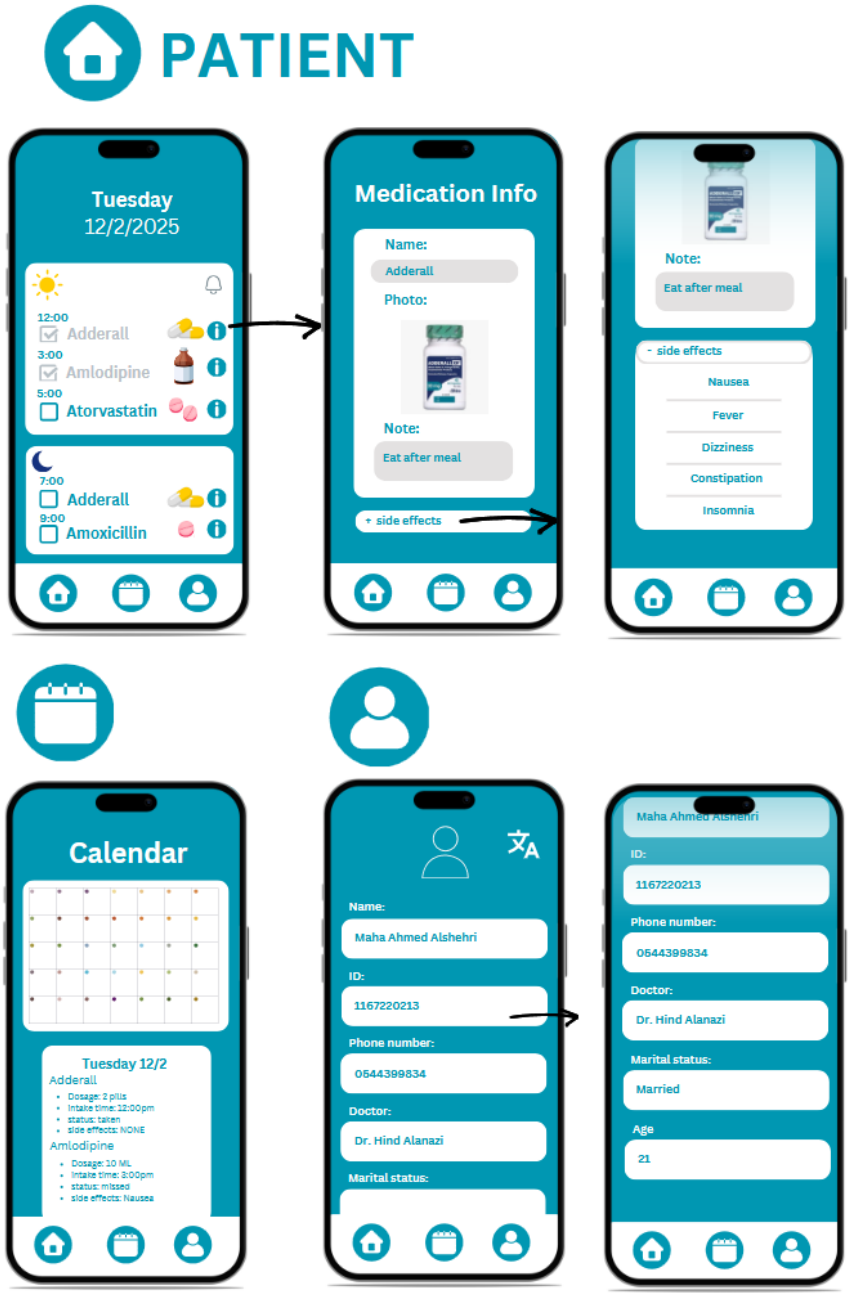
REQ-x	Description
REQ-26	The system should have a user-friendly interface that is easy to navigate, especially for older adults.
REQ-27	The app should provide instant reminders and real-time tracking without noticeable delays.
REQ-28	It must handle multiple users and prescriptions efficiently without slowing down.
REQ-29	Notifications and reminders must work reliably even in low-network conditions.
REQ-30	Access to medical records should be restricted to authorized users only (e.g., the user, doctors).
REQ-31	The system shall maintain logs of all medication actions (taken, missed, updated).
REQ-32	The system should generate user medication reports **within 5 seconds** for standard queries.
REQ-33	The system should ensure data privacy by encrypting sensitive information, such as login credentials and medical records, during transmission and storage.
REQ-34	The application should be compatible with various devices and screen sizes, including smartphones and tablets.
REQ-35	Error messages should be clear and informative, guiding users to resolve issues easily.
REQ-36	The application should support at least two languages (e.g., English and Arabic) to accommodate users from different linguistic backgrounds.
REQ-37	The application should have low power consumption to preserve battery life when running on smartphones.

C. On-Screen Appearance Requirements








PATIENT
Tuesday
12/2/2025
12:00
Adderall
3:00
Amlodipine
5:00
Atorvastatin
7:00
Adderall
9:00
Amoxicillin
Medication Info
Name:
Adderall
Photo:
Note:
Eat after meal
+ side effects
Note:
Eat after meal
- side effects
Nausea
Fever
Dizziness
Constipation
Insomnia
Calendar
Tuesday 12/2
Adderall
Dosage: 2 pills
Intake time: 12:00pm
status: taken
side effects: NONE
Amlodipine
Dosage: 10 ML
Intake time: 8:00pm
status: missed
side effects: Nausea
Name:
Maha Ahmed Alshehri
ID:
1167220213
Phone number:
0544399834
Doctor:
Dr. Hind Alanazi
Marital status:
Maha Ahmed Alshehri
ID:
1167220213
Phone number:
0544399834
Doctor:
Dr. Hind Alanazi
Marital status:
Married
Age
21

3. Functional Requirements Specification

A. Stakeholders

- **Patients**

Patients are individuals who take medications regularly and may struggle with remembering their doses, especially in the case of older adults or those managing multiple prescriptions. They use this application to track their medication schedules, receive reminders to take their medicine on time, and report any health changes or side effects. The application helps them stay on track with their doses, ultimately leading to better health outcomes and preventing complications.

- **Supervisors**

Supervisors are individuals who help manage or assist patients with their medication schedules. This group includes healthcare professionals like doctors, as well as caregivers and family members. Supervisors use the application to ensure patients take their medications on time, help track medication adherence and receive notifications if a dose is missed. The app allows all supervisors to stay informed and support the patient in managing their health, improving medication adherence and overall health outcomes.

B. Actors and Goals

Actor	Type	Goal
Patient	Initiating	People who use the application to keep track of their medications.
Supervisor	Initiating	People who use the application to Monitor patient adherence and modify prescriptions if necessary.
user	Initiating	(can be either a supervisor or a patient)

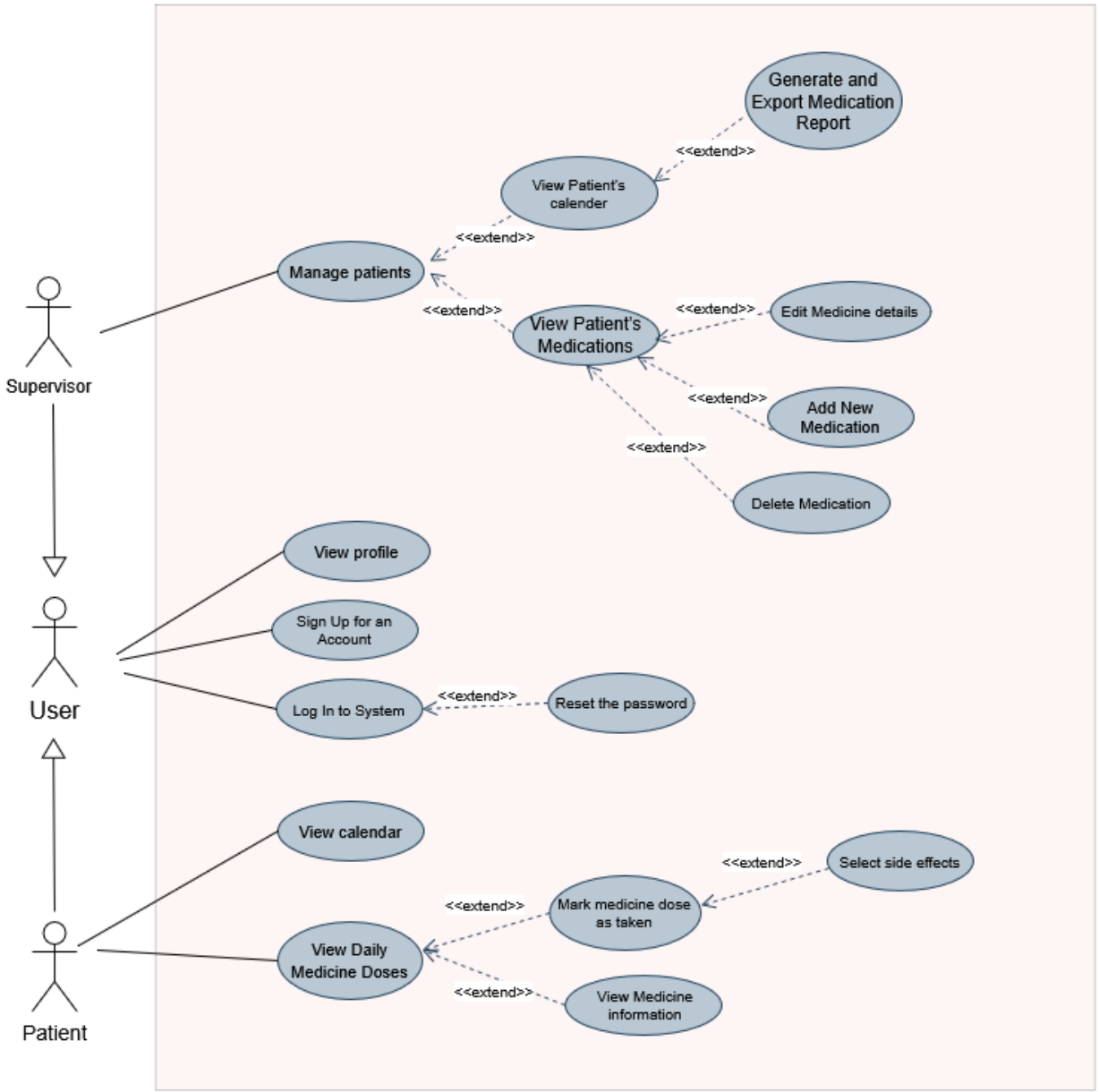
C. Use Cases

i. Casual Description

Use Case ID	Name	Short Description	Corresponding REQ-id
UC-1	Sign Up for an Account	Allow a new user to register an account	REQ-1
UC-2	Log In to System	Allow the user (whether a supervisor or a patient) to login and access the system	REQ-2, REQ-3
UC-3	Reset the password	Allow the user to reset the password	REQ-4
UC-4	View Daily Medicine Doses	View daily medicines and their doses based on their pill shape for easy identification and sorted by time.	REQ-5, REQ-6
UC-5	View Medicine Information	Allows the patient to view detailed medicine information including warnings, usage instructions.	REQ-7
UC-6	Select side effects	Allow the patient to select any side effects related to a certain dose.	REQ-8
UC-7	Mark medicine dose as taken	Allows the patient to mark the medicine dose as "taken" and receive reminders.	REQ-9, REQ-10, REQ-11
UC-8	Manage patients	Allow the supervisor to view a list of assigned patients, add new patients.	REQ-12, REQ-13
UC-9	View Patient's calendar	Allow the Supervisor to view the detailed medication information (Medication name, Dosage, Scheduled intake time, Status) of a specific patient for specific date.	REQ-14

UC-10	Generate and Export Medication Report	generate a medication report for a specified date range and export it in a downloadable format such as PDF or CSV.	REQ-15, REQ-16
UC-11	View Patient's Medications	The supervisor can view all the medicines associated with a specific patient (Medication name, scheduled times).	REQ-17
UC-12	Add New Medication	Allow the supervisor to add a new medication with all details and upload a photo for the medication.	REQ-18, REQ-19, REQ-20
UC-13	Edit Medication Details	Allow the user to edit medicine by opening the medicine form with pre-filled details and modifying the information.	REQ-21
UC-14	Delete Medication	Allow The supervisor can remove a medication from the list.	REQ-22
UC-15	View profile	Allow users to view their personal details, such as name, and contact information.	REQ-23
UC-16	View Calendar	Allow patients to see detailed medication information (Medication name, Dosage, Scheduled intake time, Status) for specific date.	REQ 24, REQ 25

ii. Use Case Diagram



iii. Fully-Dressed Description

Use Case ID:	UC-1
Use Case Name:	Sign Up for an Account
Actors:	System, user
Description:	Allow a new user to register an account.
Trigger:	The new user accesses the system and chooses to sign up.
Pre-conditions:	• The email and ID related to the user are not related to an existing account.
Post-conditions:	A new account is created, and the user is redirected to the Login Page.
Normal Flow:	1. The user navigates to the Sign-Up Page. 2. The system presents a registration form with the following mandatory fields: •Role selection (Supervisor or Patient) •Full Name •National ID •Password •Email Address •Phone Number 3. The user fills in all required fields and clicks the Sign-Up button. 4. The system displays a confirmation message: "Account successfully created." 5. The user is redirected to the Login Page.
Alternative Flows (Extensions):	The system will show error message and the sign-up process won't be confirmed if: 1. ID or Email Already Exists. 2. Missing Required Fields
Corresponding Requirements:	**REQ- 26, REQ. 33-37**

Use Case ID:	UC-2
Use Case Name:	Log In to System
Actors:	User (Patient or Supervisor)
Trigger:	The user accesses the system and presses the login button
Description:	Allow the user (whether a supervisor or a patient) to login and access the system
Stakeholders and Interests:	**Patient**: Want to access their medication and track them. **Supervisor**: Want to access patient data and monitor medication adherence.
Pre-conditions:	The user must already have an account.
Post-conditions:	The user is redirected to their respective home page (Supervisor Home Page or Patient Home Page).
Normal Flow:	The user navigates to the login page: 1. The system prompts the user to enter an ID or email and password. 2. The user enters their credentials and clicks the Login button. 3. The system validates the credentials against stored user data. 4. The system redirects the user to their respective home page.
Alternative Flows (Extensions):	The system will display an error message in the following cases: 1. Invalid Login Credentials 2. The ID or password field is left empty
Corresponding Requirements:	**REQ-26, REQ-33, REQ-35**

Use Case ID:	UC-7
Use Case Name:	Mark medicine dose as taken
Created By:	Saja
Actors:	Patient
Description:	This use case allows the patient to track the status of their medicine doses, mark them as "taken," and receive reminders for scheduled doses.
Stakeholders and Interests:	1. **Patient:** Needs to ensure they take their medicine on time and track their doses accurately. 2. **System:** Ensures timely notifications and accurate tracking of medicine dose.
Trigger:	The patient accesses the system to view their medication schedule or receives a notification to take a scheduled dose.
Pre-conditions:	• The patient is logged into the system. • The system has an updated list of prescribed medicines and schedules.
Post-conditions:	• The system updates the status of the medicine dose (marked as "taken" if confirmed by the patient). • The system adjusts future reminders based on patient actions. • The patient receives confirmation that the dose has been recorded.
Normal Flow:	1. The patient logs into the system. 2. The system displays a list of scheduled medicine doses for the day. 3. The patient selects a dose to mark as "taken." 4. The system updates the dose status. 5. If a scheduled dose is approaching, the system sends a reminder notification.
Alternative Flows (Extensions):	Patients do not mark the medicine as "Taken.": 1. The system keeps the dose status as "pending" and then marks it as "Missed". 2. The system may send additional reminders after a specified time.
Priority:	High
Technology and Data Variations List:	• Mobile Application (Touch Interface) • Database
Special Requirements:	**REQ-26, REQ-27, REQ-29, REQ-31**

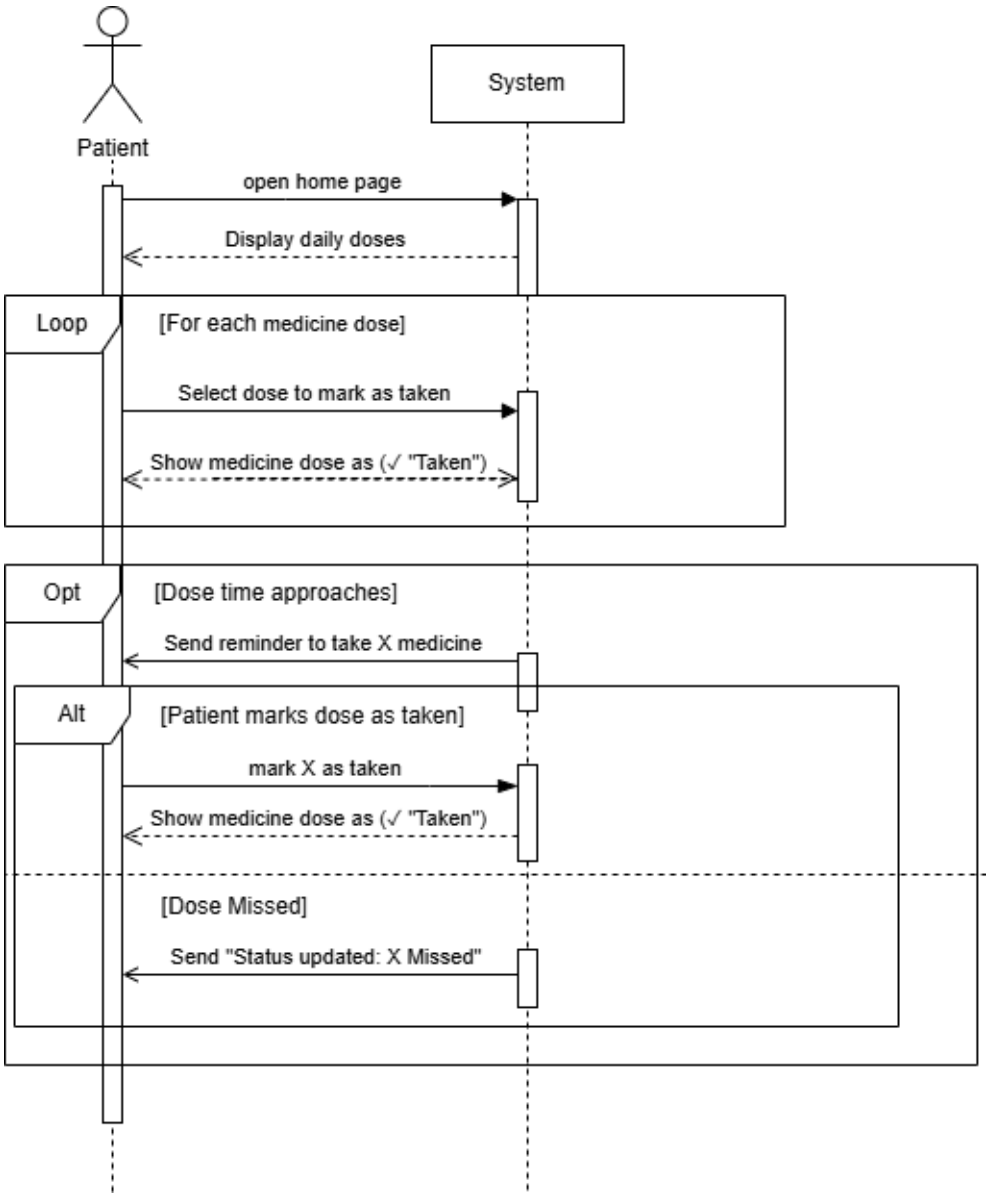
Use Case ID:	UC-8
Use Case Name:	Manage Patients
Created By:	Hessa
Actors:	Supervisor
Description:	This use case allows the supervisor to view a list of assigned patients, add new patients through the home page of the application.
Stakeholders and Interests:	**Supervisor:** Needs to efficiently view and manage a list of assigned patients and add new patients easily. **System:** Ensures accurate display of patient lists and seamless addition of new patients. **Patients:** Indirectly benefit by having their information managed accurately and updated promptly.
Trigger:	The supervisor logs into the system and accesses the home page.
Pre-conditions:	• The supervisor must be logged into the system. • The supervisor has appropriate permissions to manage patients.
Post-conditions:	• The supervisor can view the updated list of patients. • New patients can be added.
Normal Flow:	1. The supervisor logs into the system. 2. The supervisor accesses the home page. 3. The system displays a list of assigned patients. 4. The supervisor adds new patients by entering the relevant data. 5. The system updates the patients list. 6. The supervisor navigates away from the home page.
Alternative Flows (Extensions):	• If the supervisor attempts to add a patient with incorrect data, the system displays an error message. • • If no patients are assigned, the system displays an empty list.
Priority:	High
Technology and Data Variations List:	• Mobile Application (Touch Interface) • Database
Special Requirements:	**REQ-2**6**, REQ-2**8**, REQ-3**0**, REQ-3**3**, REQ-3**5

Use Case ID:	UC-13		
Use Case Name:	Edit Medication Details		
Created By:	Lama	**Last Updated By:**	Lama
Actors:	Supervisor		
Description:	The supervisor can click the “Edit” button t details and modify the		
Stakeholders and Interests:	• Supervisor: Needs the ability to edit medicine details easily. • System: Must ensure all required data is available and up-to-date during editing. • Patients: Depend on the accuracy of medicine information entered the system.		
Trigger:	• The supervisor clicks the “Edit” button next to a medicine entry in the list.		
Pre-conditions:	1. The user must be a authorized doctor to make modifications. 2. There must be medicines existing in the system.		
Post-conditions:	1. The medicine information is successfully updated after submission. 2. The supervisor is redirected to the medication page, displaying the updated details.		
Normal Flow:	1. The supervisor opens the medication page and sees a list of medicines. 2. The supervisor clicks the “Edit” button of medicine they want to modify. 3. The system opens the medicine form, displaying all previously saved details. 4. The supervisor updates the required fields, such as medicine name, images, intake times, and notes. 5. The supervisor clicks the “Submit” button to save the changes. 6. The system validates the inputs to ensure mandatory fields (medicine name + at least one intake time) are provided. 7. If the data is valid, the changes are saved successfully.		
Alternative Flows (Extensions):	• If the medicine name field is left empty, the system displays an error message prompting the user to enter it. • If no intake time is provided, the system displays an error message requiring at least one intake time. • If the user clicks “Cancel”, the form closes without saving changes.		
Priority:	High		
Technology and Data Variations List:	• When uploading a medicine image, the system opens the file explorer to allow the user to select and upload an image. • The system allows adding multiple intake times using the ”+” button to add additional input fields.		
Special Requirements:	**REQ26-REQ31, REQ-35**		

4. System Design

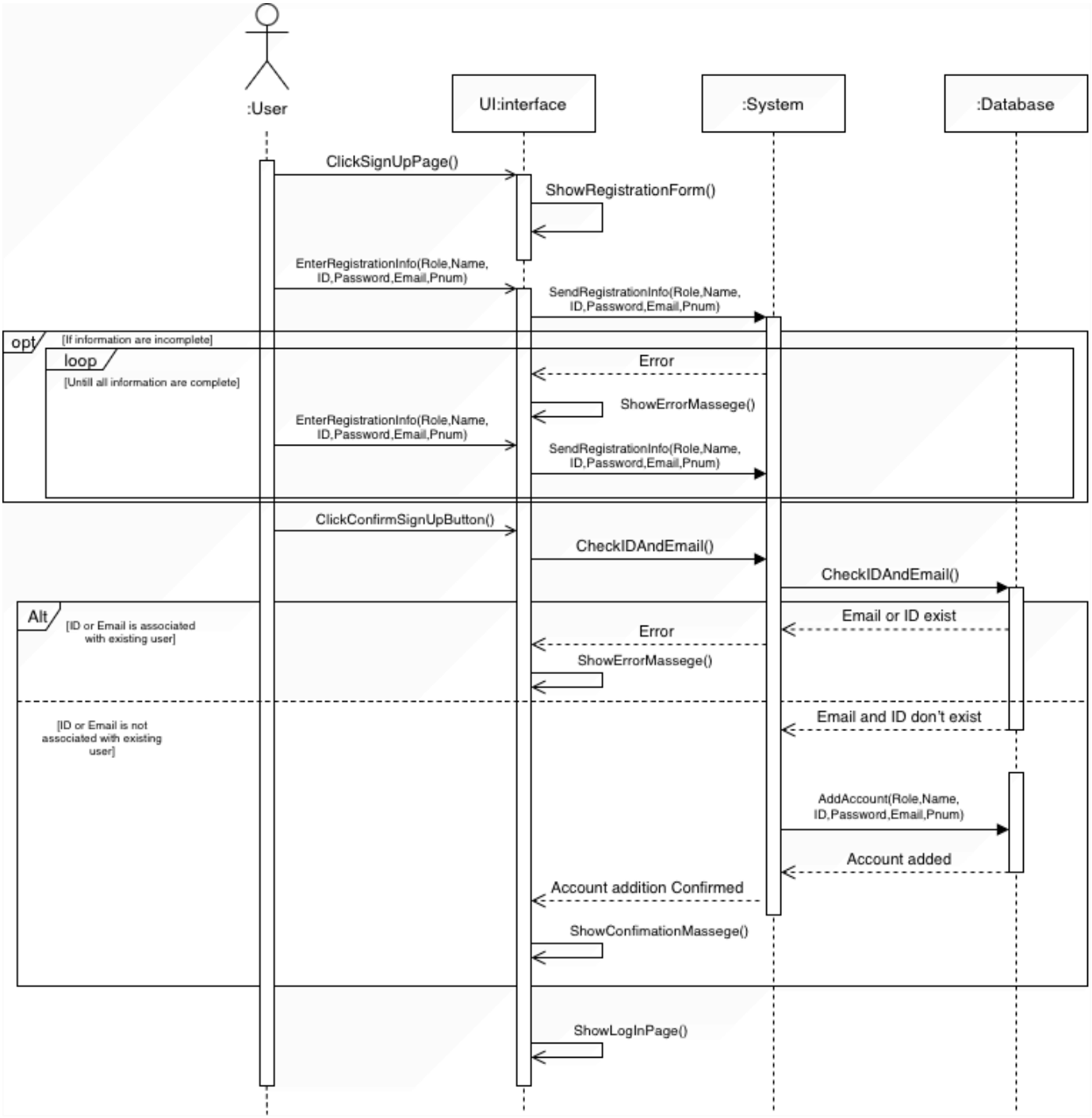
1. Interaction Diagrams

1.1 System sequence diagram:

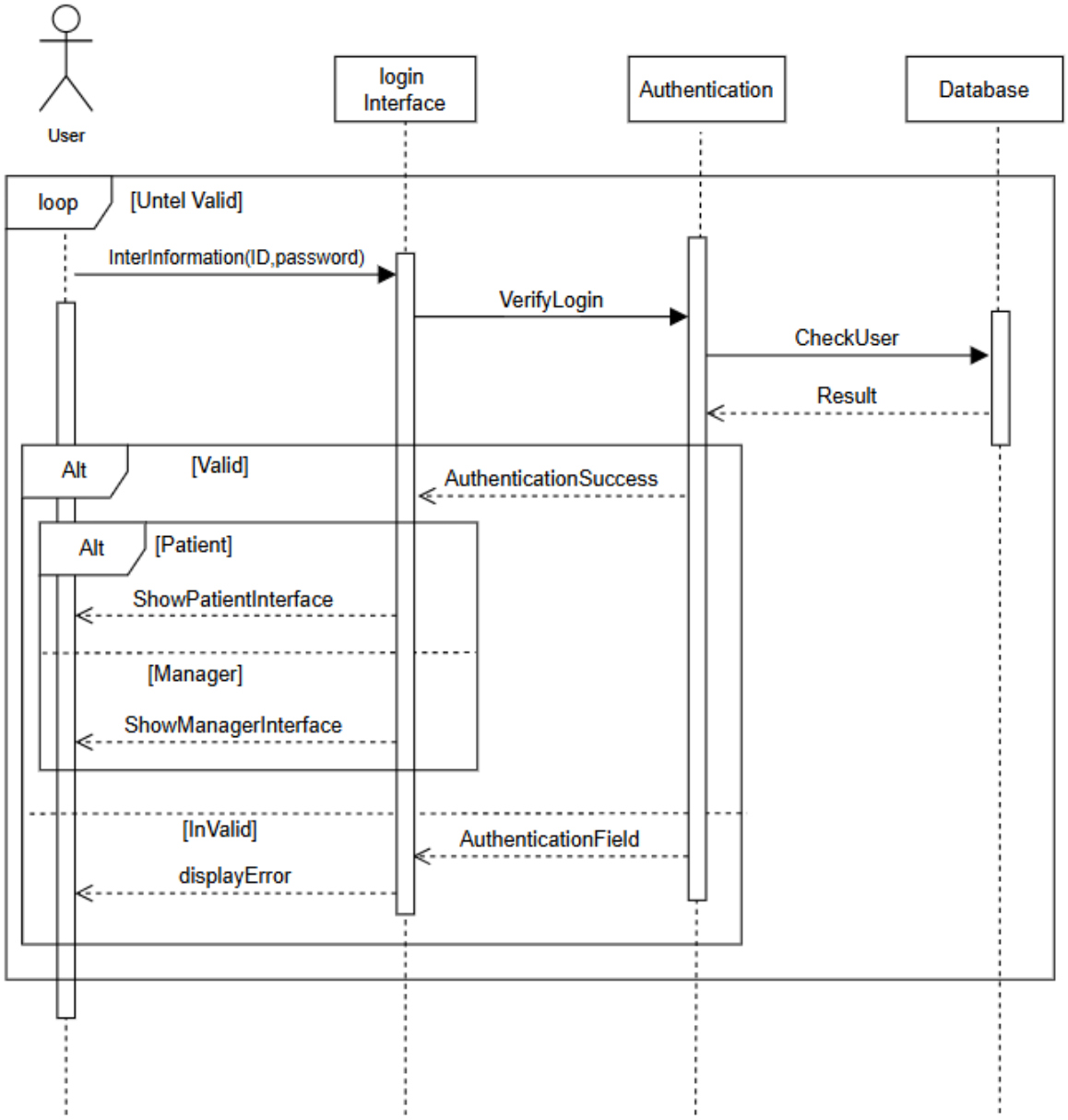


1.2 Sequence diagram:

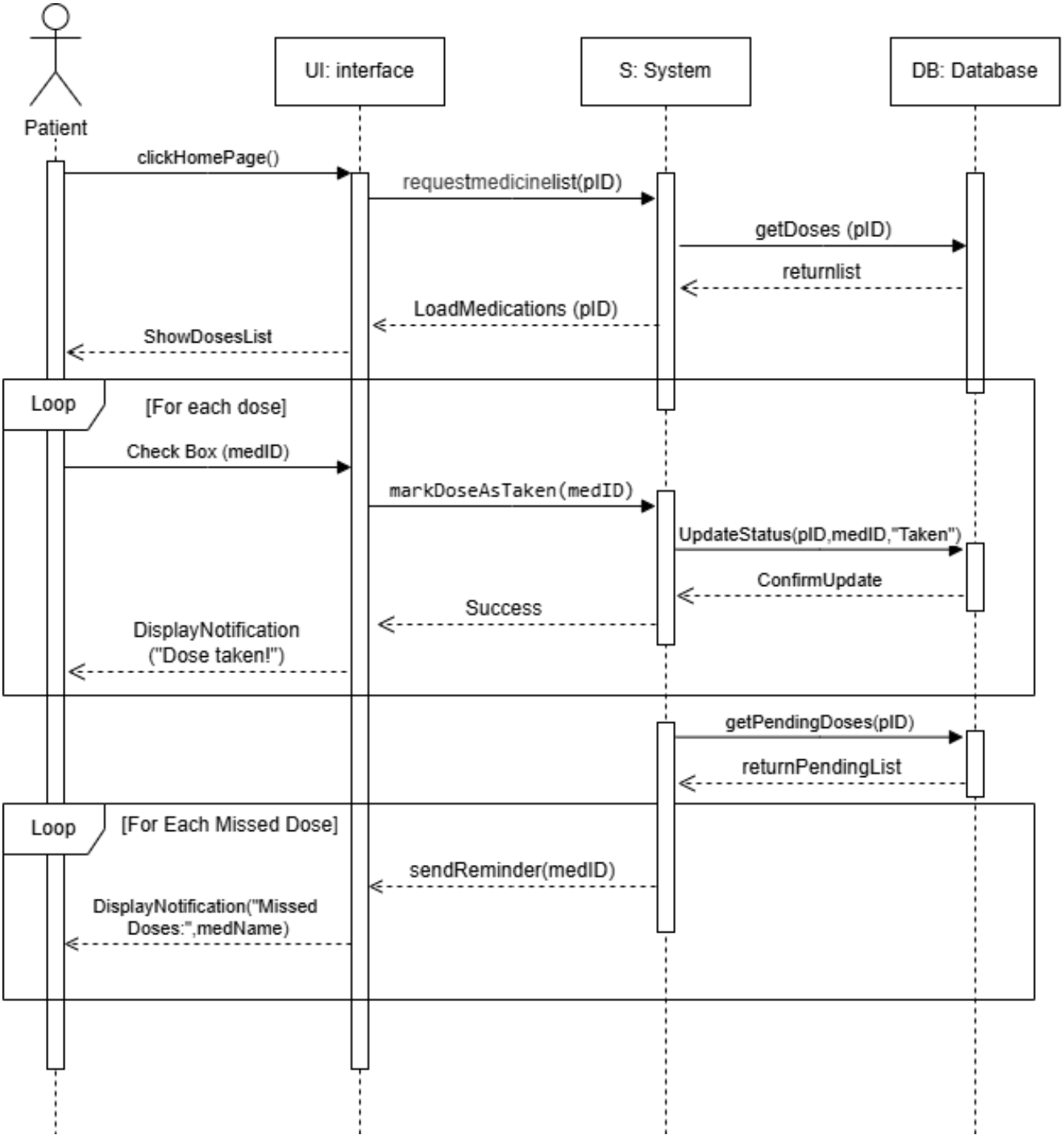
A. UC1< Sign Up for an Account>



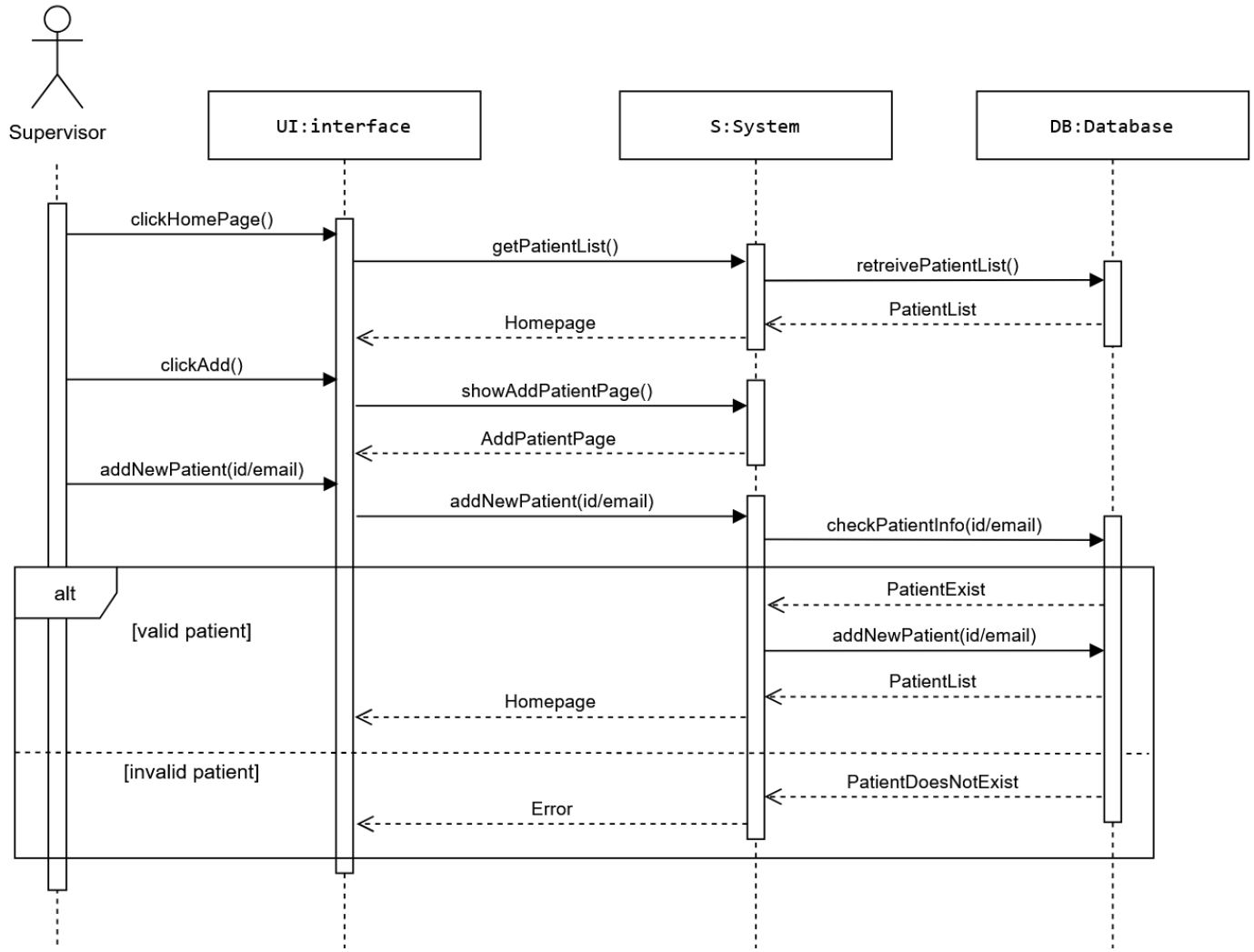
B. UC2< Log in to System>



C. UC7< Mark medicine dose as taken >*:*

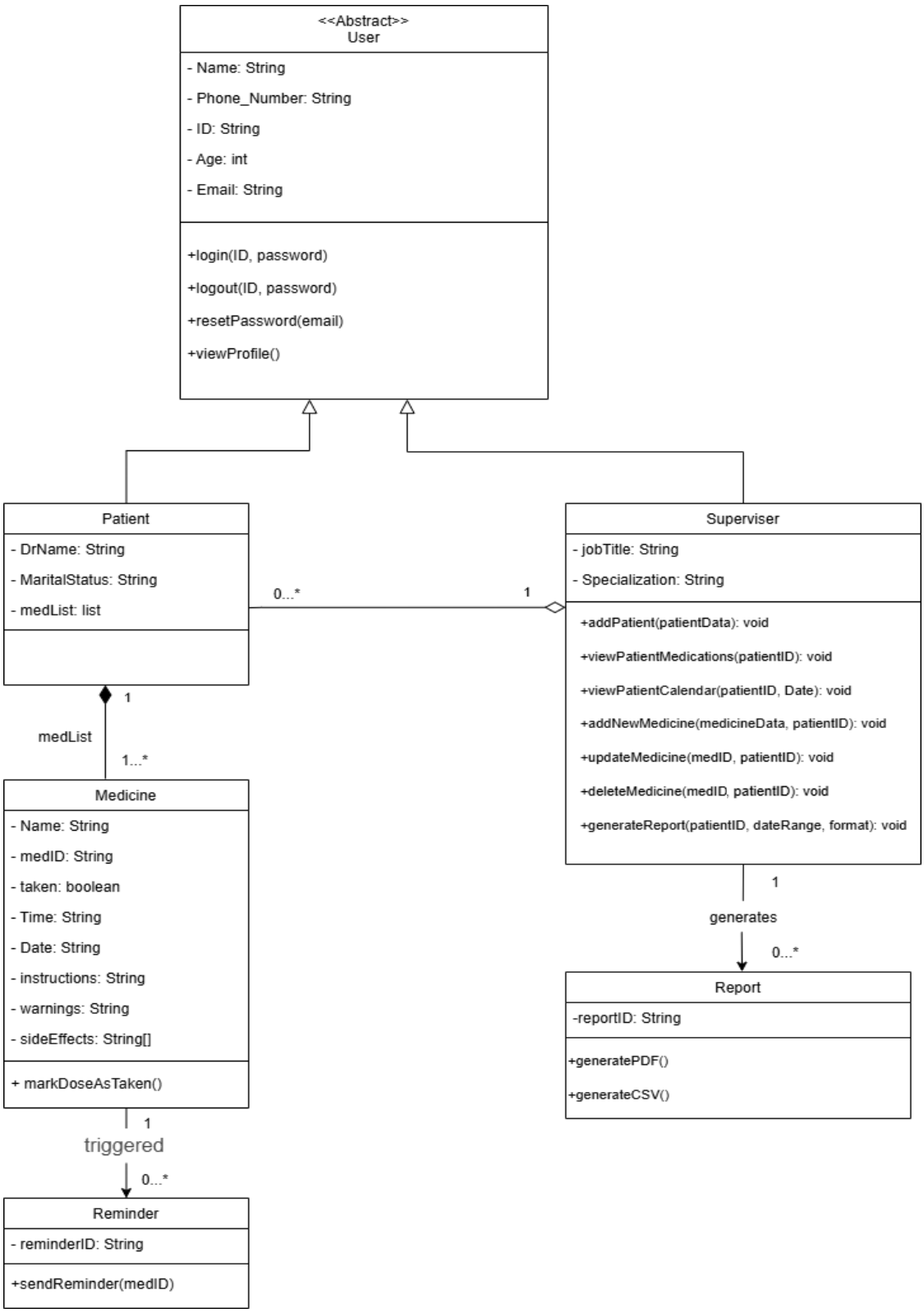


D. UC8< Manage Patients >:



2. System Architecture and System Design

2.1: Class diagram:



Note:

The setter and getter methods are not included in the class diagram as they are considered implicit and standard in object-oriented design.

2.2 Attributes and Methods description for each Class:

A. User (Abstract Class)

1- Attributes:

- Name: String
  Stores the full name of the user.
- Phone_Number: String
  Holds the contact phone number of the user.
- ID: String
  Unique identifier for the user account.
- Age: int
  Represents the user's age.
- Email: String
  Stores the email of the user.

2- Methods:

- login(ID, password): void
  Authenticates the user and initiates a session using their ID and password.
- logout(ID, password): void
  Ends the user’s session using their ID and password.
- resetPassword(email): void
  Sends a password reset link to the user's registered email.
- viewProfile(): void
  Displays the personal information of the user.

B. Class Patient (Inherits User)

1- Attributes:

- DrName: String
  Stores the name of the patient's primary doctor.
- MaritalStatus: String
  Indicates whether the patient is single, married, etc.
- medList: list
  Contains all the medications assigned to the patient.

C. Class Supervisor (Inherits User)

1- Attributes:

- jobTitle: String
  Describes the supervisor’s role or job title (e.g., Doctor, Caregiver).
- Specialization: String
  Indicates the area of expertise (e.g., cardiology, pharmacy).

2- Methods:

- addPatient(patientData): void
  Adds a new patient to the system with their personal and medical details.
- viewPatientMedications(patientID): void
  Displays the list of medications prescribed to a specific patient.
- viewPatientCalendar(patientID, date): void
  Shows the medication schedule of a patient for a selected date.
- addNewMedicine(medicineData): void
  Adds a new medicine to the patient's list.
- updateMedicine(medID, patientID): void
  Updates an existing medicine's information for the specified patient.
- deleteMedicine(medID, patientID): void
  Removes a medicine from the system using its unique ID.
- generateReport(patientID, dateRange, format): void
  Creates a summary report for a patient in a specified format (PDF/CSV).

D. Class Medicine

1- Attributes:

- Name: String
  The name of the medication.
- medID: String
  Unique identifier for the medicine.
- taken: boolean
  Tracks whether the dose has been taken (true) or not (false).
- Time: String
  Specifies the time the medicine should be taken.
- Date: String
  Specifies the date the medicine should be taken.
- instructions: String
  Contain guidelines on how to take the medicine.
- warnings: String
  Lists any warnings or precautions associated with the medicine.
- sideEffects: String[]
  An array of side effects caused by the medication.

2- Methods:

- markDoseAsTaken(): void
  Updates the medicine status to show that the dose has been taken.

E. Class Reminder

1- Attributes:

- reminderID: String
  Unique identifier for the reminder.

2- Methods:

- sendReminder(medID): void
  Sends a notification to the user to take a specific medicine.

F. Class Report

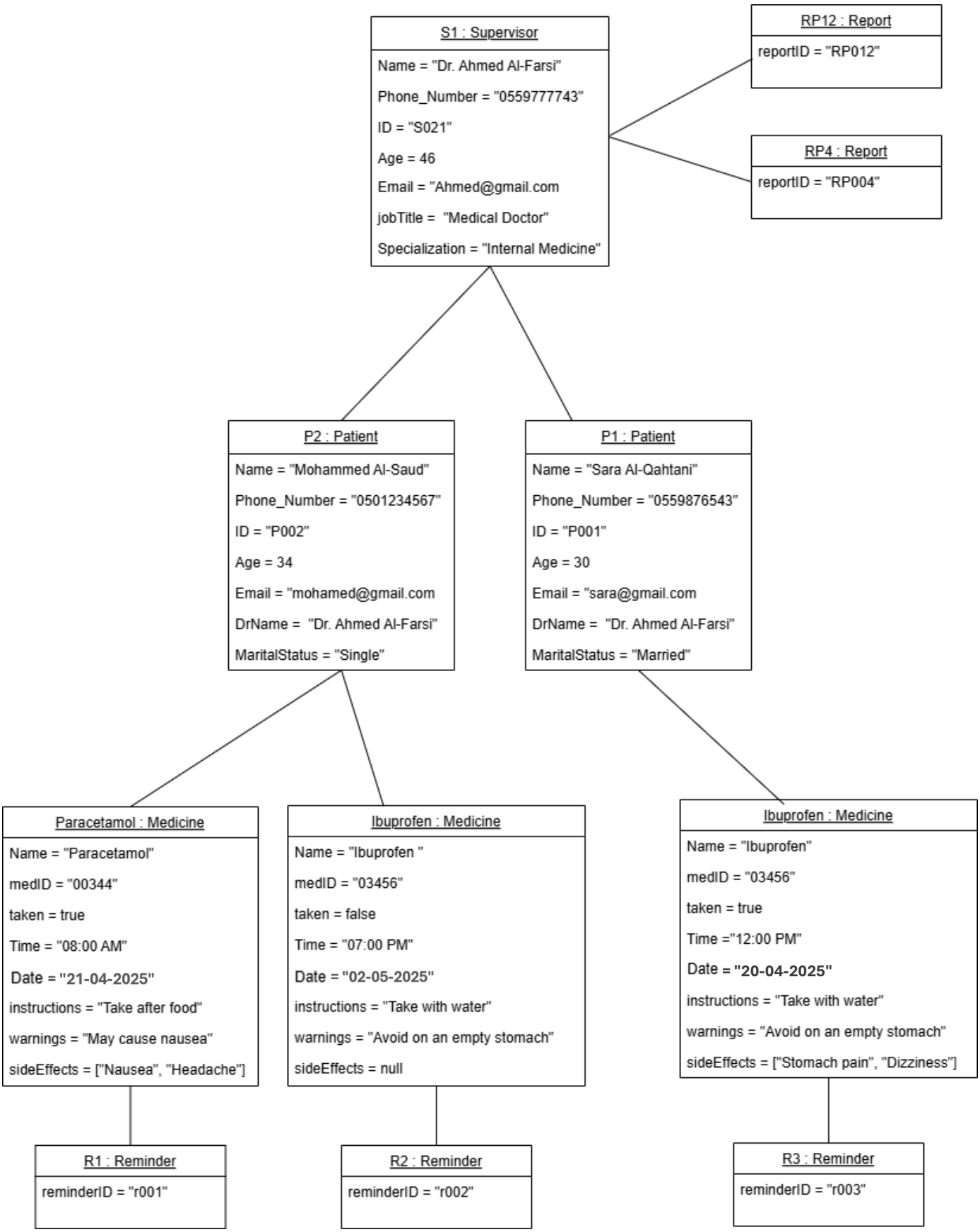
1- Attributes:

- reportID: String
  Unique identifier for each generated report.

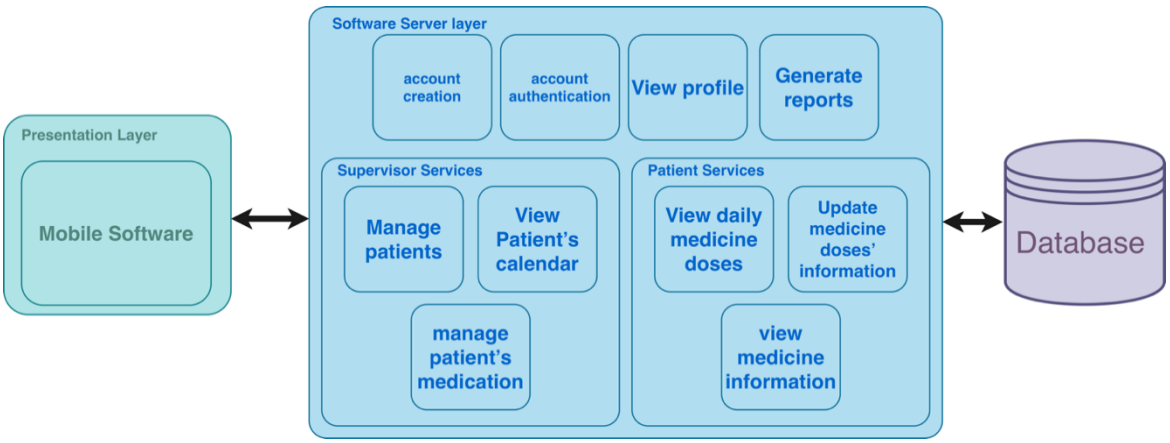
2- Methods:

- generatePDF(): void
  Generates a report in PDF format.
- generateCSV(): void
  Generates a report in CSV format.

2.3 Object diagram:



2.4 Architectural diagram:



We have used 3-tier system architecture which provides clean separation of each component. **The first layer** is **the presentation layer** which has the application that the users interact with directly, and where patients and supervisors perform actions like logging in, viewing medication schedules or managing patient data.

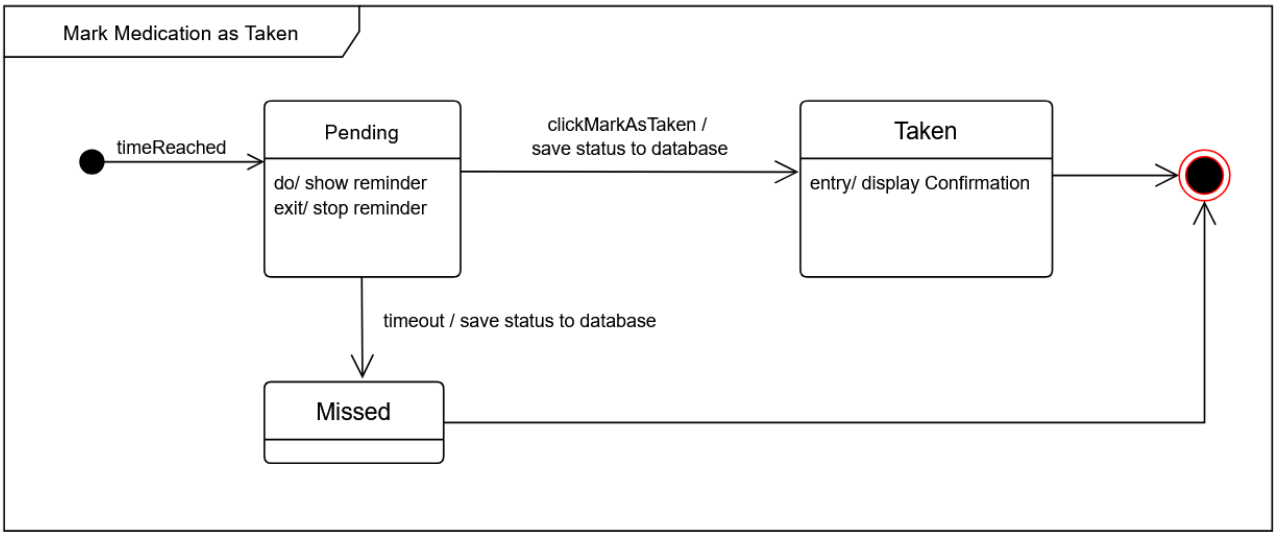
The second layer is **the application layer -the software server-** which handles all the core logic such as user authentication, profile management, generating reports, and executing supervisor or patient specific services.

The last layer is the data layer which is database storing all users, medication, and scheduling information. By separating these layers, we've made it easier to edit each part independently. The 3-tier architecture provides maintainability and better data security for the system.

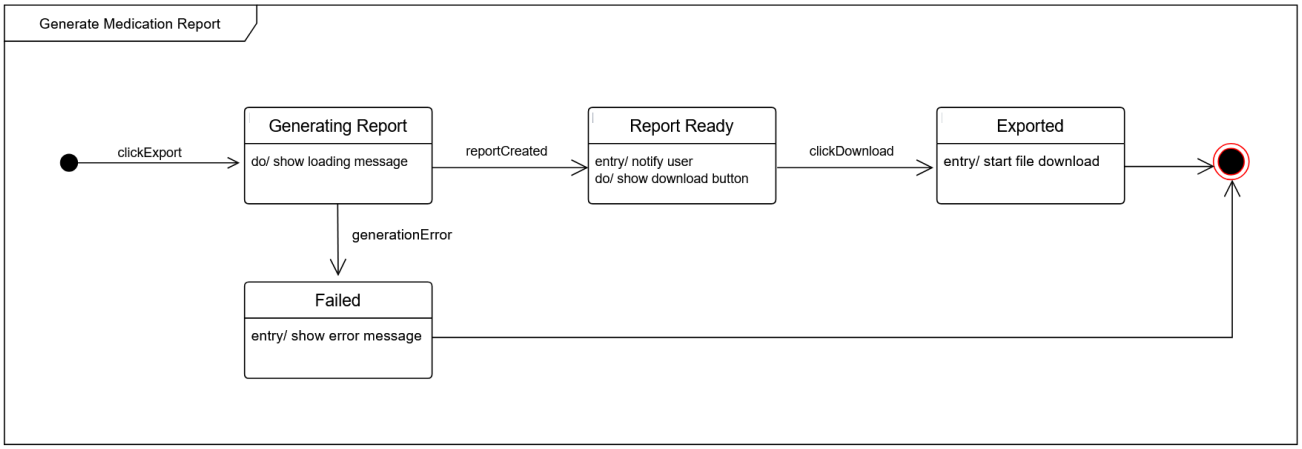
3. System behavioral diagram:

3.1 State Diagrams:

1. Mark Medication as Taken



2. Generate Medication Report



3.2 Design of Tests

1. Unit testing

Test Case ID	Description	Test data/input	Expected Output	When it considered pass/fail	Any comments
TC-1	Test Signing up as a supervisor	From the welcome page, select Sign up button, then enter the user information. **Data:** Role: Supervisor, Name: "Ali Ahmedi", ID: 1234567890, Email: ali@example.com, Phone: 0551234567, Password: Test@123	A success massage shows up and Account Created Successfully	Test **Passes** if the account is saved as Supervisor account and success message appeared. Test **Fails** if account has not been saved	Use an email and an ID that are not associated with any existing account.
TC-2	Test Signing up as a Patient	From the welcome page, select Sign up button, then enter the user information. **Data:** Role: Patient, Name: "Sara Khalid", ID: 1098765432, Email: sara@example.com, Phone: 0569876543, Password: Sara@123	A success message shows up and Account Created Successfully	Test **Passes** if the account is saved as patient account and success message appeared. Test **Fails** if account has not been saved	
TC-3	Test if user can Log in with ID	From the welcome page, select Log in button, then enter the user information. **Data:** Role: Supervisor ID: 1234567890, Password: Test@123	If credentials match, then redirect to home page. But if credentials don't match an error message will appear	Test **passes** if credentials match and user is logged in. And **fails** if credentials match but the user is not logged in.	Test different roles
TC -4	Tests if user can Log in with email	From the welcome page, select log in button, then enter the user information. **Data:** Role: Patient Email: sara@example.com, Password: Sara@123	If credentials match, then redirect to home page. But if credentials don't match an error message will appear	Test **passes** if credentials match and user is logged in. And **fails** if credentials match but the user is not logged in.	Test different roles

TC-5	Reset password	From the welcome page, select Log in button, then enter the user information. **Data:** Email: sara@example.co	If the email is associated with an existing account, a password reset will be sent to the email	Test **passes** if a password reset email message is sent. And **fails** if the password reset email message has not been sent	
TC -6	Test displaying medicines (by pill shape)	Open medicine list from homepage	Medicines grouped/displayed by shape (e.g., pill icon)	**Pass** if medicines appear with correct shape; **Fail** if not displayed or shape is wrong	
TC -7	View medicine details (name, image, doctor notes)	Tap on any medicine (e.g., Adderall)	Medicine info page opens with name, image, and note	**Pass** if correct details show; **Fail** if data is missing or mismatched	
TC -8	Test selecting side effects	On medicine info page, tap "side effects" then select (e.g., Nausea, Dizziness)	Selected side effects are visually highlighted or stored	**Pass** if selection is reflected/stored correctly. **Fail** if there is no response or wrong data	
TC -9	Mark medicine as "taken"	On today's dose list, tap "check" or tick icon for medicine	Status changes to "taken" (e.g., icon changes color)	**Pass** if dose status updates; **Fail** if stays unchanged	
TC -10	Check dose status visually (taken/pending)	View today's medication list	Doses appear with visual cue (e.g., green for taken, red for pending)	**Pass** if status indicators match actual state. **Fail** if indicators are wrong	

TC -11	Notification for scheduled dose	Wait for scheduled time (e.g., 12:00pm)	Notification pops up with dose reminder	**Pass** if notification arrives on time; **Fail** if no alert is shown	
TC -12	Test if the system allows the supervisor to view their patients.	The supervisor logs in and opens the home page.	A list of all patients under their supervision is displayed.	**Pass** if all supervised patients are listed. **Fail** if the list is empty or shows incorrect data.	Check for accurate and complete patient data.
TC -13	Test if the system allows the supervisor to add a patient using ID or Email.	On the Add Patient page, enter a valid Patient ID or Email.	Patient is added and appears in supervisor's list.	**Pass** if patient is successfully added and listed. **Fail** if no change occurs or error message appears.	Check if the system prevents adding the same patient more than once.
TC -14	Test if the supervisor can view medication info of a specific patient for a specific date.	From the Home page, select a patient, then navigate to the Calendar page and click on a specific date.	Display the patient's medication list for the selected date, including dosage, intake time, status and side effects.	**Pass** if correct medication data for the selected date is shown. **Fail** whether the wrong date's data appears or if nothing is displayed.	Check that the system displays data for the selected date and handles situations when missing data.
TC -15	Test if the supervisor can generate a medication report for a specific patient for a date range.	From the Home page, select a patient, navigate to the Calendar page, click on "Generate Report", select a date range, then click "Export".	A report showing medication name, dosage, intake time, status and side effects for the selected date range.	**Pass** if the report includes complete and accurate info. **Fail** whether the report is incomplete or empty.	Check that the system displays data for the selected date range correctly.

TC -16	Test if the system allows exporting the generated report in downloadable format.	On the Generate Report page, after clicking "Export" and generating the report, select "Export as PDF" or "Export as CSV".	File is downloaded in the correct format with valid data.	**Pass** if file downloads and opens correctly with all required info. **Fail** if file is missing, empty, or incorrectly formatted.	Test both PDF and CSV options.
TC -17	Test if the supervisor can View patient's medicines	From the Home page, select a patient, then navigate to the medication page.	List of medicines with name	**pass:** if medications associated with patient are displayed correctly. Test **Fails** if medications are missing or displayed incorrectly.	
TC -18	Test if the supervisor can Add medicine for patient	From the Home page, select a patient, then navigate to the medication page, then click on the "+" button, then enter the medication information. **Data:** Name: "Paracetamol", File: paracetamol.jpg, Time: "9:00 AM", Notes: "After food"	Medicine added to patient's medications list	Test **pass** if medicine has been added and displayed patient's medications list, **fails** otherwise.	
TC -19	Test if the supervisor can Upload Photo for a medicine.	From the Home page, select a patient, then navigate to the medication page, then click on the edit button for a specific medication, then click on the Upload button and upload the photo. **Data:** File: paracetamol.jpg	Photo is stored and linked to the medicine	Test **Passes** if photo is stored, **fails** otherwise.	Test valid image format options.
TC -20	Test if the supervisor can View an uploaded photo of a medicine	From the Home page, select a patient, then navigate to the medication page, then click on edit button for a specific medication, then click on View button.	The photo is displayed correctly	Test **passes** if Photo is displayed correctly, **Fails** otherwise.	Test valid image format options.

TC -21	Test if the supervisor can edit the information of a medicine	From the Home page, select a patient, then navigate to the medication page, then click on edit button for a specific medication, then edit the information. **Data:** New name: “Aspirin”, New photo file: Aspirin.jpg, New time: “8:00 AM” New note: “Before breakfast”	Medicine updated successfully.	Test **passes** if changes are saved, **fails** otherwise.	
TC -22	Test if the supervisor can delete a medicine.	From the Home page, select a patient, then navigate to the medication page, then click on the delete button.	Medicine is deleted successfully.	Test **Pass** if medicine is deleted and not retrievable, **fails** otherwise.	
TC -23	Test deleting a medicine (Supervisor only)	Login as supervisor, go to medicine list, tap delete on a medicine	Medicine is removed from the list and no longer appears	**Pass** if medicine is deleted. **Fail** if it remains or error shown	Validate that all fields (e.g., name, ID, doctor) match the logged-in user’s actual data.
TC -24	View profile information	Go to profile page	User details (name, ID, doctor, etc.) are shown correctly	**Pass** if correct user profile info displayed. **Fail** if missing or wrong	
TC -25	Display calendar with current day highlighted	Open calendar view	The calendar shows full month current day is highlighted	**Pass** if calendar is correct and day is highlighted. **Fail** otherwise	

2. Integration testing

Test Case ID	Description	Test data/input	Expected Output	When it considered pass/fail	Any comments
TC -26	Test if the **supervisor** can add a patient, generate a report, and export it.	Add a new patient (valid ID or email), generate a medication report for that patient, and export the report to PDF/CSV.	Patient added, report generated and successfully exported.	Pass if the patient is added, report is generated correctly, and export is successful.	Combines patient addition, report generation, and export functionality for supervisors.
TC -27	Test if the patient can view today's scheduled medications, mark a dose as taken at the correct time, and receive notifications for upcoming doses.	Access today's medication list, mark a dose scheduled for the current time as "taken."	Dose is marked as taken, status updates, and a notification is sent when it's time for the next scheduled doses.	Pass if the dose is marked correctly and the next dose triggers a notification on time.	Combines medication management, status update, and notification system for patients.
TC -28	Test if the **supervisor** can view patients, manage medication, and upload photos.	View list of patients, add/edit medication, upload a photo for the medication.	Patient list is displayed, medication is added/edited, photo is viewable.	Pass if the patient list is shown, medication is updated, and photo available.	Combines viewing patients, medication management, and photo upload for supervisors.
TC -29	Test if the **patient** can view detailed medication information and doctor's notes.	View detailed info of a medication including name, image and doctor's notes.	Medication details (name, image, notes) are displayed correctly.	Pass if all medication details are shown correctly	Combines medication details and image viewing for patients.

3. Acceptance testing

A user tested our software and gave his feedback about his experience as a patient. The patient admired the clean layout of the daily medication page and found the pill icons extremely helpful, and he also complimented the system's reminder feature as it helped him stay on track with his medication. But he mentioned that the side effects selection was confusing and suggested adding brief description for each symptom.

And another user tested the software as a supervisor and was happy about the ability to manage multiple patients and impressed with the photo upload and export report features as it would simplify documentation and reporting. However, the supervisor suggested adding a feature to allow adding multiple medications for a specific patient by uploading a formatted file that contains the medications information, to allow fast and smooth medications addition for patients who take multiple medications without spending too much time adding them one by one.

References:

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