

IT2020 – Software Engineering

Year 2, Semester II, 2023

Group Assignment

<<Online Hospital Management System>>

Group Details

Batch: Weekday

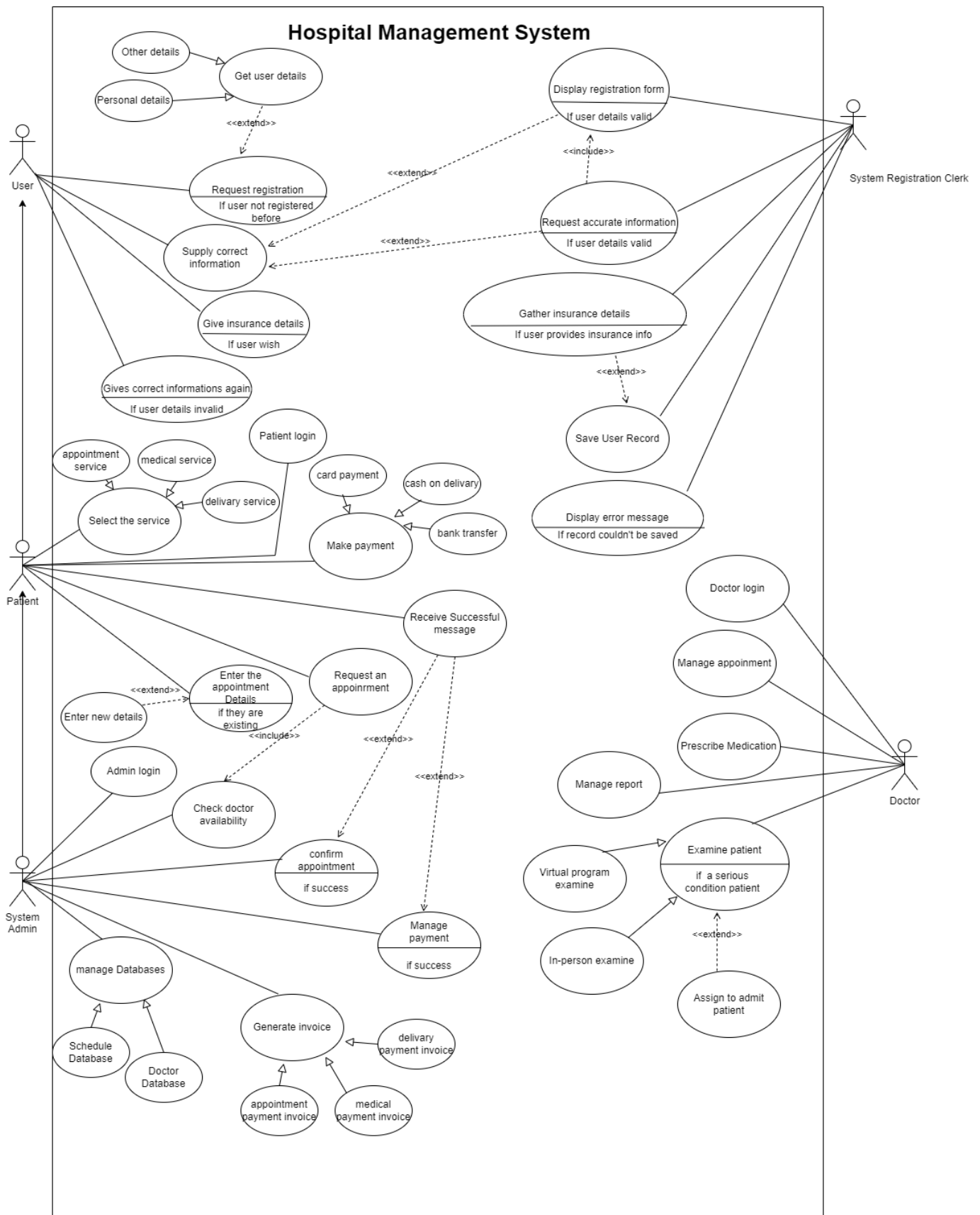
SE/OOP Group Number: MLB/WD/G225

	Student Registration Number	Student Name	Batch No.
1	IT22316486	HEWAGAMA A D	06.01
2	IT22336590	SIRIWARDANA B J A	06.01
3	IT22887108	KUMARAGE N D	06.01
4	IT22338334	SHEHARA I G D S	06.02

Introduction

- In the Hospital Management System, the registration process is the first step for users to access this system properly. In the beginning, users can easily obtain and fill out some forms if they were not registered before. In those forms, the user should fill in their personal information correctly. Then the system gets that user's details from the forms and verifies whether those are valid or not. If the personal details are valid, the system will display the registration forms which are related to the system. If it is not valid, then the system provides accurate information again to fill in and display an error message automatically. Then the user should supply correct information through the registration forms. If the user prefers to give their personal insurance details, then the system gathers those into the system and saves those records into the database. If all the records are saved successfully, the system will hand over the registration details and the unique ID with the user's login password which is filled out the beginning forms separately to the user. When the record cannot be saved successfully, then the system automatically displays an error message in the user interface of the system.
- After registering to the system, patient can click Appointment button, fill the form, and submit it. if the time or date already booked or not available. Then system send a message to re-enter details. After that patient re-enter details and submit it. Then system gives an appointment successful message. Then system make the schedule by adding all the appointments and show it to the Doctor User interface
- This usecase illustrates how doctor use an Online Hospital Management System to provide medical care to the patients, facilitates the prescription of medication and ensuring efficient access to patient medical records.
- After getting the service, patient need to pay to the service, then patient choose the service and submit the given form with payment details, then system confirm the payment for the selected service through the payment gateway, after that the system receive the success or unsuccess message to the patient.

High-level Usecase Diagram



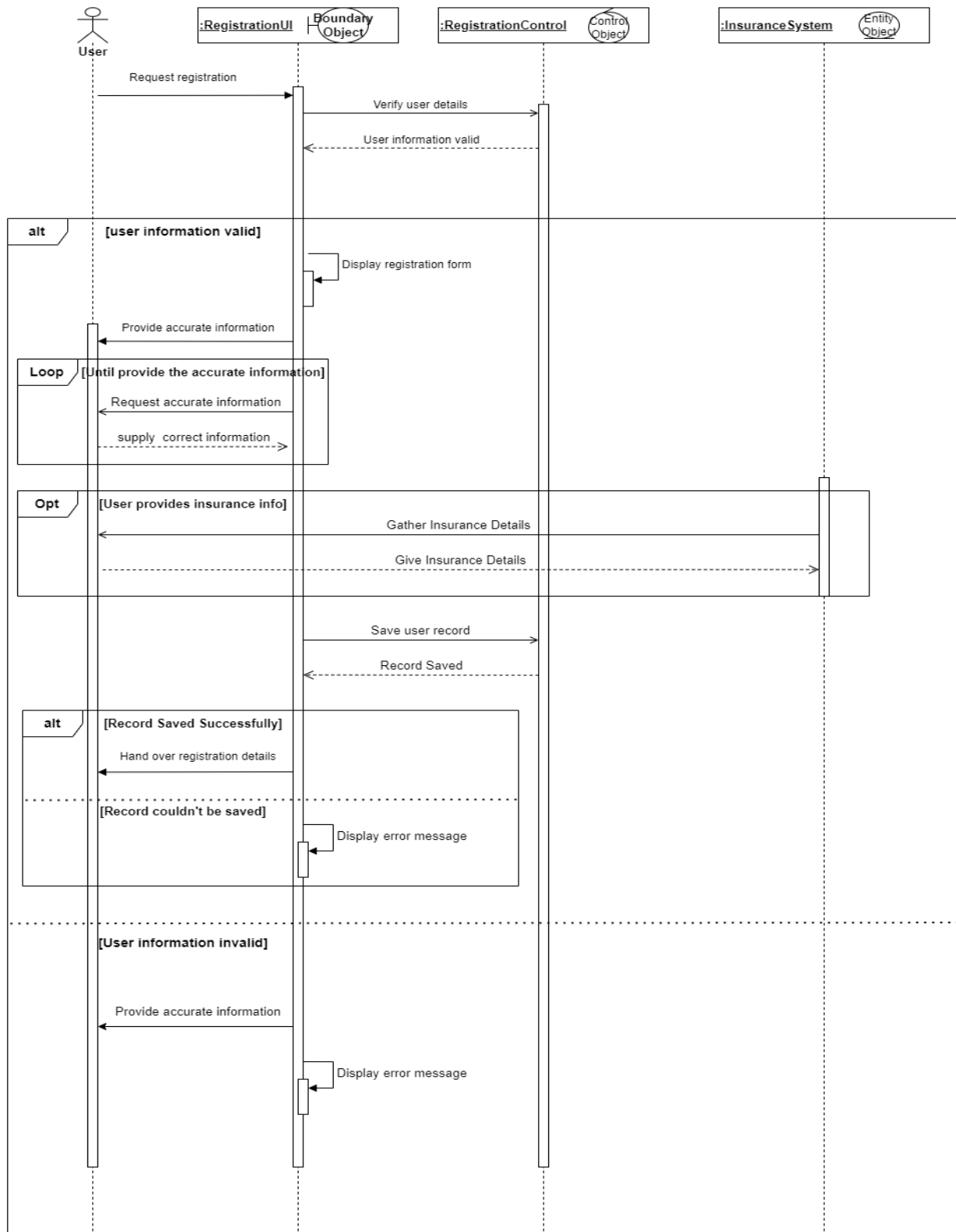
User Registration

Use Case Scenario – Registration (User)

Number	IT22338334	
Name	System Registration	
Summary	Generate all the details of the user through the system	
Priority	5	
Pre-Condition	1.The user should have access to the system 2.The user should not be registered in the system	
Post-Condition	1.The user's personal information is stored securely in the database of the system. 2.The user is able to login and access the system with their own credentials.	
Primary Actor	User	
Trigger	User has chosen to log in to the system	
Main Scenario	Step	Action
	1	The user opens the hospital management system application.
	2	The user selects the registration section of the application (Sign up button)
	3	The user enters personal information
	4	The user provides own identification
	5	The user creates login credentials for future login
	6	The user confirms the entered information and submits the registration form.
Extensions	Step	Action
	1a	User already registered.
	3a	User provides incomplete or invalid information.
	5a	The user's chosen password is not strong enough.
	6a	There is a technical issue with the system's server during the registration.
	6b	There are not sending a confirmation email to the user's provided email address because of the system's errors.

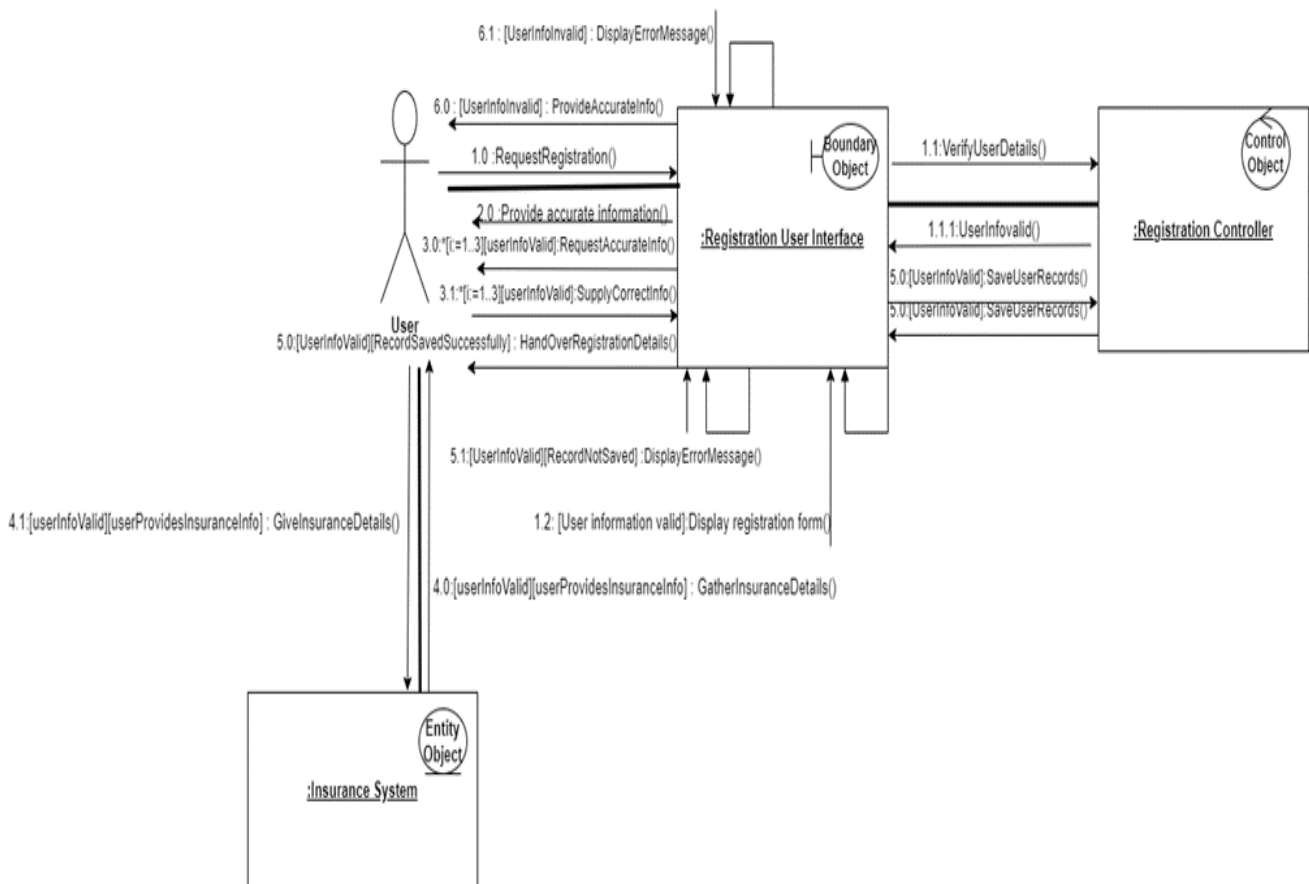
Sequence Diagram

SD REGISTRATION



Communication Diagram

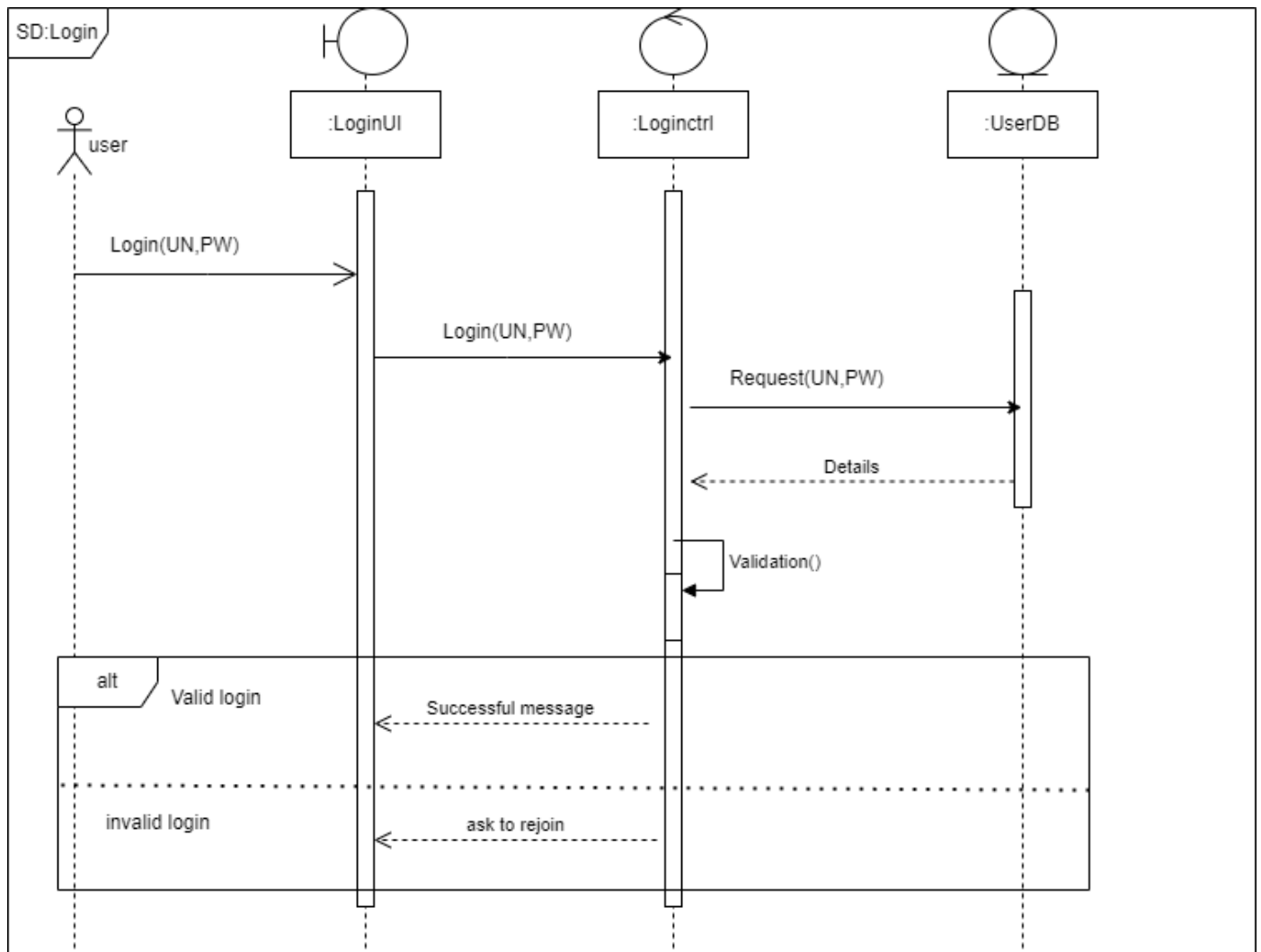
Interaction Registration



Assumptions

- In the sequence diagram of the registration function, the user(actor) also acts as a registrationUI and get the messages to the user.

User Login



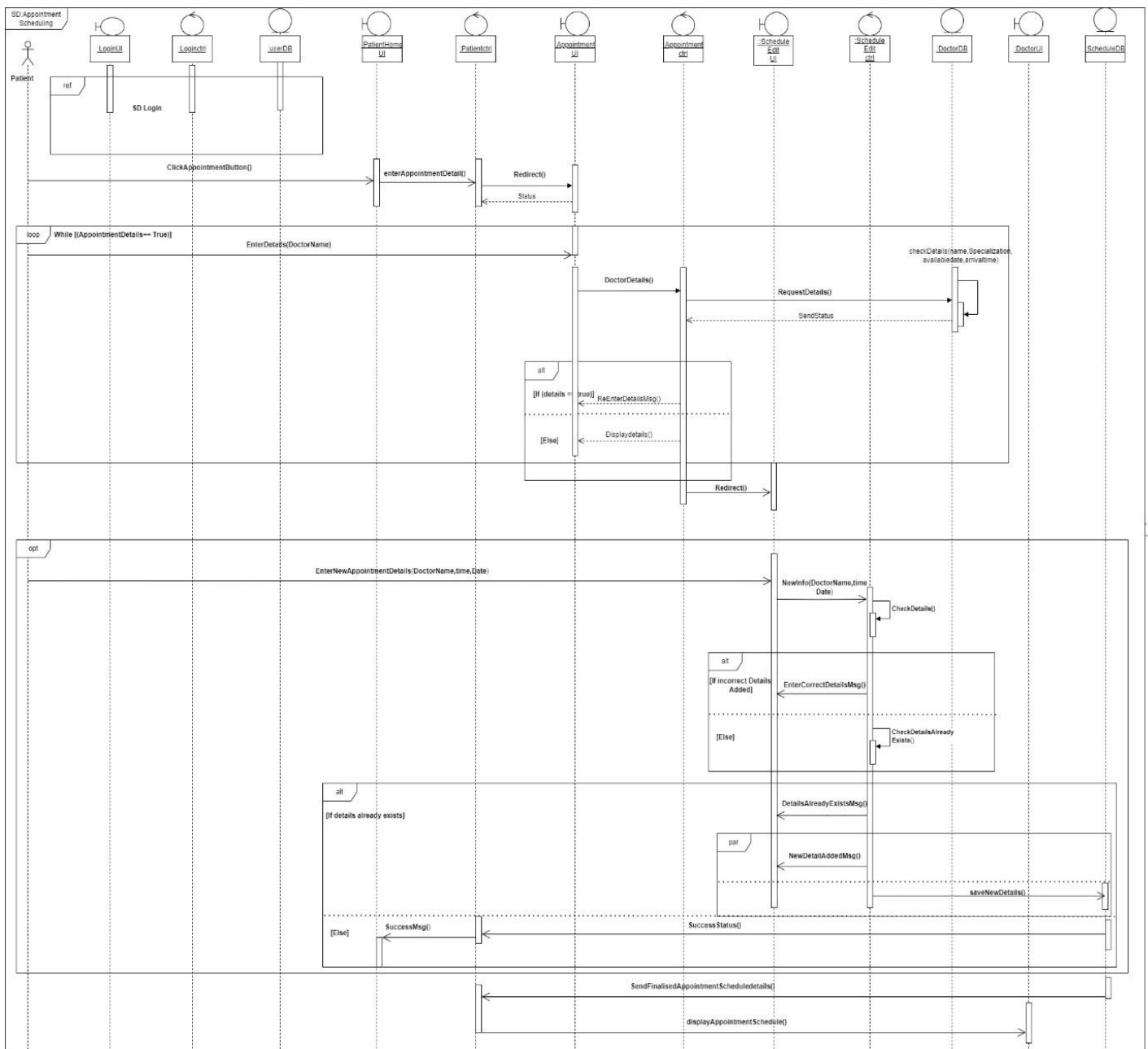
Appointment Scheduling

Use Case Scenario

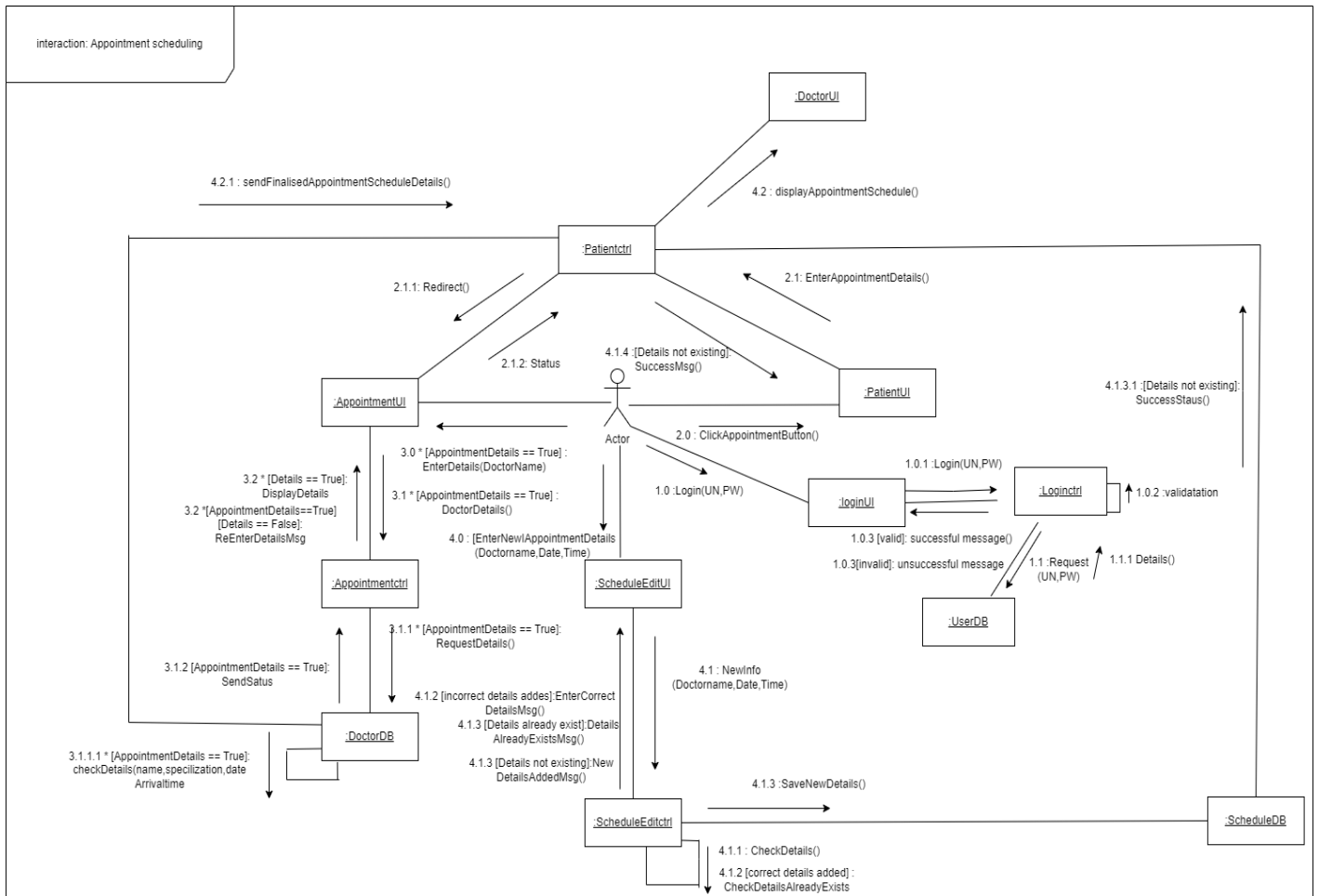
Number	IT22336590	
Name	Appointment Scheduling	
Summary	Patient inserts Appointment details (Doctor name, date, time)	
Priority	5	
Pre-condition	Patient must be logged into the system	
Post-condition	Appointment details are displayed	
Primary actor	Patient	
Main scenario	Step	Action
	1	Include: (Login)
	2	Use Case begins when the admin clicks the "Appointment" in the Patient Home UI
	3	System directs to the Appointment UI displaying current Appointment schedule with the Doctor names
	4	Patient enters the name of the doctor into the textbox provided
	5	System checks for the Doctor name and check current appointment date and time respectively
	6	System display Doctor details, time, date
	7	System redirects to the Appointment Schedule editing UI
	8	Patient enters the new information to editing UI, into relevant fields
	9	Patient clicks "Submit" button and submits the newly added details to the System
	10	System checks whether Appointment Details are Valid

		and does not overlap with other Appointment schedules
	11	System updates schedule database and store the new information
	12	System displays message "Successful"
	13	System displays finalized Appointment schedule on Doctor UI
Extensions	Step	Branching Action
	5a	System is Unable to find the details of the doctor
	5b	System displays message "unable to find entered Appointment details "Enter details again on the screen
	5c	System redirects to the Appointment details Update UI
	10a	System detects details are not valid
	10b	System display entered details are not valid message
	10c	System redirects to the Final Appointment UI

Sequence Diagram



Communication Diagram

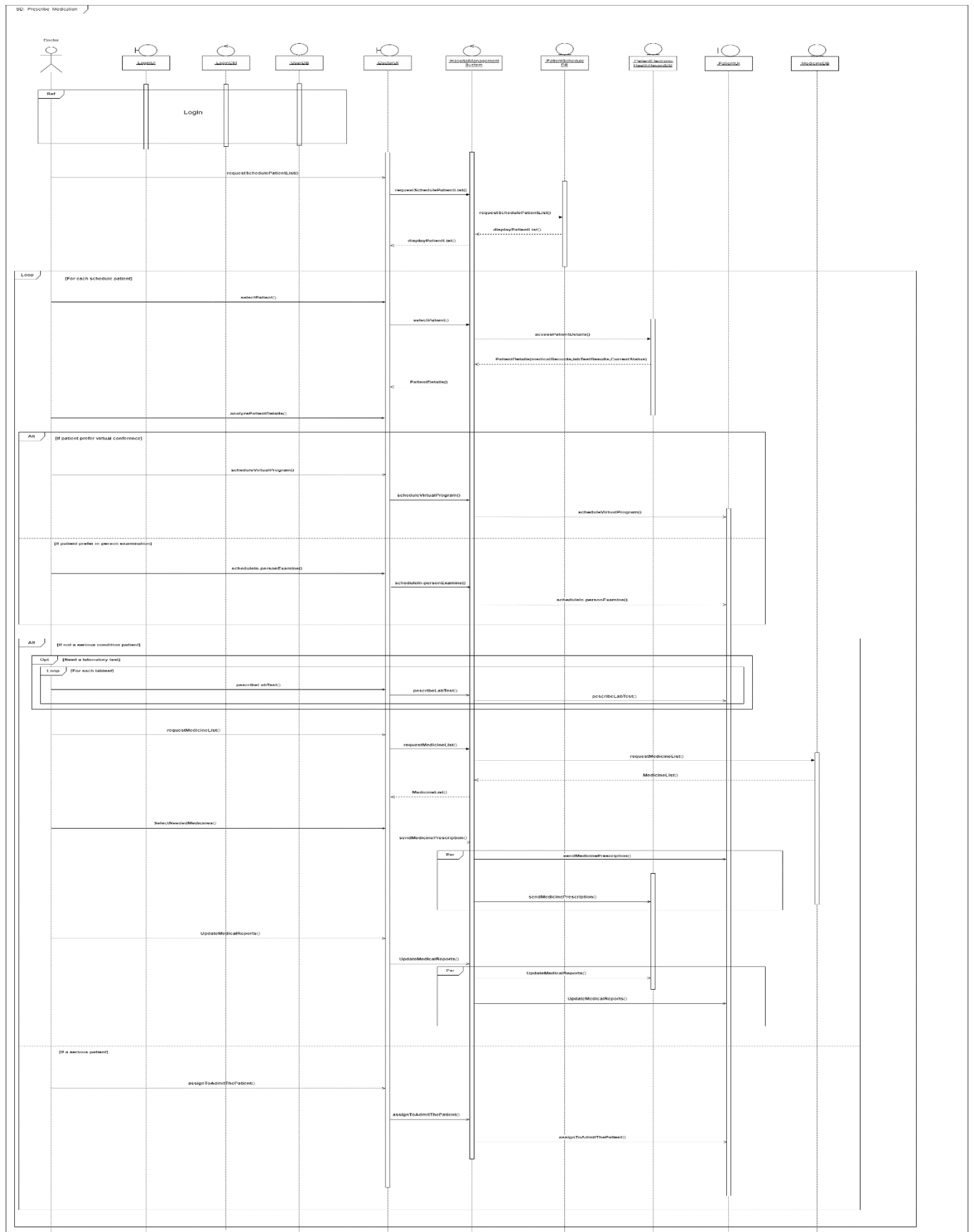


Prescribe Medication

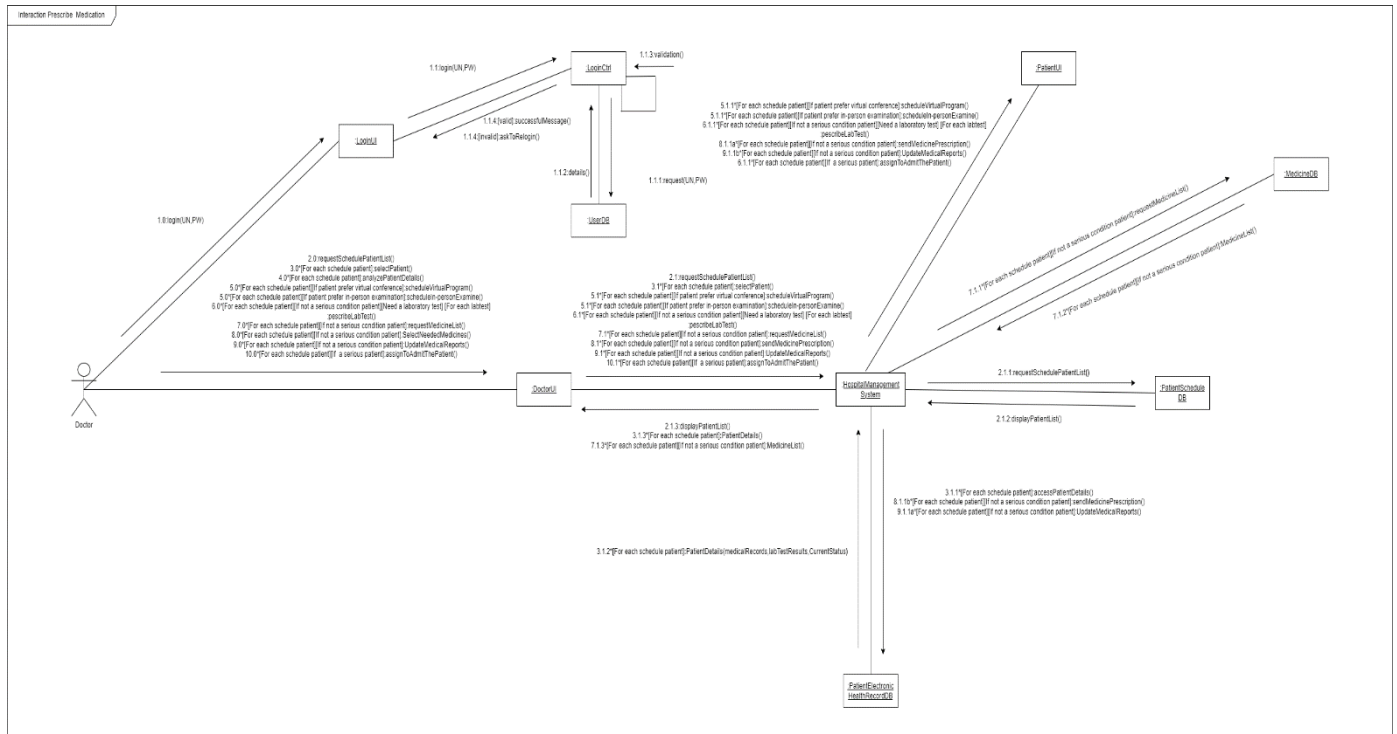
Use Case Scenario

Number	IT22316486	
Name	Prescribe Medication	
Summary	Manage medication prescription	
Pre-conditions	1. The doctor must be logged into the Online Hospital Management System. 2. Patient records and information must be available in the system.	
Post-conditions	The patient receives any necessary documents electronically or in print.	
Primary actor (s)	Doctor	
Main Scenario	Step	Action
	1	Doctor provides his/her login credentials into LoginUI to login into the system
	2	The system validates the user
	3	If valid login,show the “Login Success” message and directs to the DoctorUI
	4	The doctor selects a patient from their list of scheduled patients
	5	The system display the patient’s medical records,lab test results,current status
	6	If the patient prefer virtual conference,the doctor will send virtual program message to the PatientUI
	7	If not a serious condition patient, then the doctor prescribe lab test if necessary
	8	The doctor navigates to the prescription section of the system
	9	The system display prescription form
	10	Doctor request medicine list
	11	System display medicine list
	12	Doctor select needed medicine and send the medicine prescription to the PatientUI and Patient Electronic Health Record Database
	13	Doctor update medical reports and send it to the PatientUI and Patient Electronic Health Record Database
Extension	3a	If login unsuccessful,show “invalid login” message and ask to relogin
	6a	If the patient prefer in-person examination then the doctor will send in-person examination to the PatientUI
	7a	If a serious patient,the doctor assign to admit the patient message to the PatientUI

Sequence Diagram



Communication Diagram

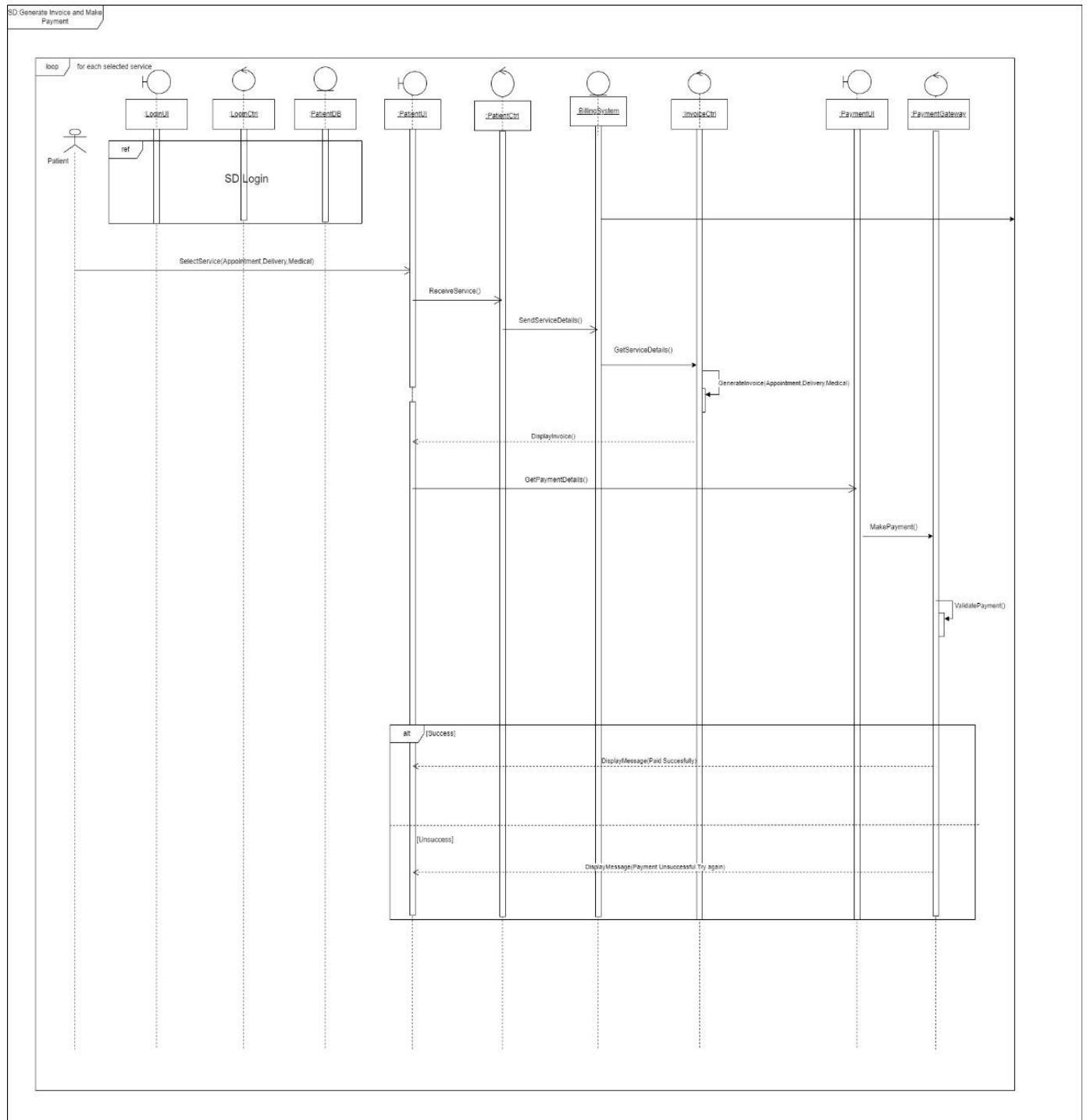


Make Payments

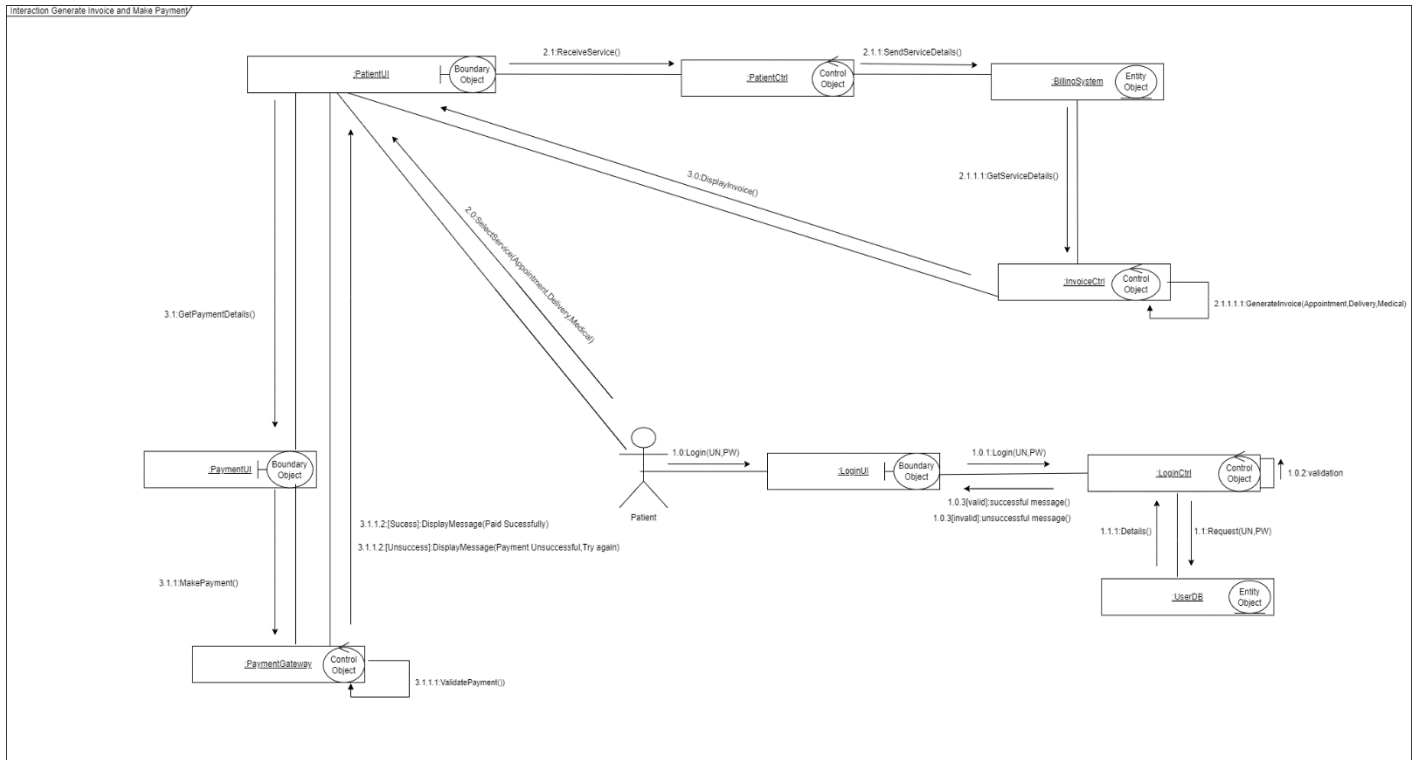
Use Case Scenario

Number	IT22887108	
Name	Generate Invoice and Make Payments	
Summary	Make Payments to the related invoice	
Pre-conditions	The patient receives service and sends service details to make payments	
Post-conditions	Sent a successful message to the user when payment is done	
Primary actor (s)	Patient	
Main Scenario	Step	Action
	1	System displays all the services
	2	Patient selects the service
	3	Patient receives the service
	4	System records the patient service details
	5	System generates invoice for the service received by the patient
	6	Patient receives the invoice and payment details
	7	Patient makes the payment
	8	System validates the payment
	9	Patient receives the message after the payment done
Extension	9a	System displays message "Paid Successfully"when payment is success
	9b	System displays message "Payment Unsuccessful, Try again"when payment is unsuccess

Sequence Diagram



Communication Diagram



Individual Contribution

Registration Number	Name	Function Name
IT22338334	SHEHARA I G D S	User Registration(Introduction,Usecase scenario,Usecase diagram,Sequence diagram,Communication diagram)
IT22887108	KUMARAGE N D	Make Payments(Introduction,Usecase scenario,Usecase diagram,Sequence diagram,Communication diagram)
IT22316486	HEWAGAMA A D	Prescribe Medication(Introduction,Usecase scenario,Usecase diagram,Sequence diagram,Communication diagram)
IT22336590	SIRIWARDANA B J A	Appointment Scheduling(Introduction,Usecase scenario,Usecase diagram,Sequence diagram,Communication diagram)