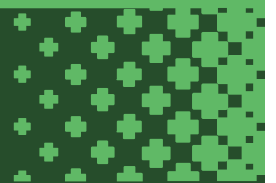




MEDI HUB

PROJECT PROPOSAL



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DETAILS OF PROJECT SUPERVISOR AND CO-SUPERVISOR

Proposed Project Supervisor (Academic Staff of UCSC):

Name of the supervisor: Mr. Kenneth Thilakarathna

Date: 25/05/2020

Proposed Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co-supervisor: Ms. Piyumi Seneviratne

Date: 25/05/2020



INTRODUCTION TO PROJECT

Although Sri Lanka's healthcare industry is hailed as being both universal and free, the current system is burdened with many flaws such as long waiting hours, limited ways to get access to doctors and drugs, etc.

In a developing world of digital healthcare, there are many ways in which providing healthcare facilities to the general public could be further improved in Sri Lanka.

The limited amount of centralized web portals for patients to access necessary medical facilities is a gap we have identified in the healthcare system in Sri Lanka.

It is essential to maintain centralized software to handle a healthcare system. Therefore, we propose an application that provides patients the opportunity to have access to basic medical functionalities through a centralized web application.

We have observed that in the existing healthcare industry,, maintenance of all patient details, doctor availability details, and stocks in a pharmacy are done manually. If a patient has to make an appointment to consult a doctor, the patient needs to check the availability of doctors by contacting hospitals that consume lots of time if done manually. We have also observed that there is an absence of proper search techniques to view patient information and medical history. These are some of the main disadvantages that we have identified in the current healthcare management system.

Few existing web applications provide basic functionalities that improve the current healthcare industry, such as <https://www.echannelling.com>. However, such applications are limited to very few features, such as e-channeling.

In our proposed system, we are hoping to provide solutions to address the problems mentioned above by automating some features of the healthcare system.

The proposed system provides one integrated view for patients to facilitate making appointments to consult a doctor, billing activities, and storing the medical history of patients. It also offers adequate search facilities to search for any type of information related to doctor availability via a hospital, and also provides services like purchasing pharmaceuticals from a pharmacy. Also, it offers features that would allow doctors to view a patient's medical reports on request that would make diagnosis much more comfortable. This system will automate specific actions such as sending notifications and reminders, which will be further discussed in the documentation.

Our primary intention of this system is to help eradicate difficulties that citizens of Sri Lanka are facing when accessing basic medical functionalities and improving the existing healthcare industry to uplift our society.

PROJECT GOAL

It's essential to understand the project goal, which will give an overall idea of the project. The goal defined for this project is as follows

A System for patients that connects pharmacies, hospitals, and doctors altogether to be constructed within one year.



Goal description

This application provides the pathway to integrate different entities in the healthcare industry and act as the bridge between the customers (patients) and the service providers(hospitals, doctors, and pharmacies) to provide efficient services and communication. To build the portal to connect different entities in the healthcare domain in a single ecosystem.

PROJECT SCOPE

This product is responsible for automating the process of patient interactions with hospitals, doctors, and pharmacies. First, let's identify the primary stakeholders who will be interacting with the system,

Stakeholder identification

This product will bring an impact and benefit on the following user groups

-
- Patient: The primary users will interact with the system.
 - Doctor: The doctors are responsible for updating the patient's medical history and prescribing medicine.
 - Pharmacy: Receives patient orders from the system and prepare them.
 - System admin: The user is in charge and maintains the system.
 - Hospital: Medical care service provider
-

Functional requirement analysis of the product

By fundamental requirement analysis, the following functions and features are founded that should be included in the system.

Stakeholder	Available features
Patient	<ul style="list-style-type: none">• Allow the patient to do E-Channeling according to his/her preference.• Allow the patient to buy medications online through connected pharmacies.• Notifies the patient when they need to take medication.• A patient can register with the system directly.• A patient can give a review for a doctor or hospital (e.g., 5-stars to 1-star rating, comments)

	<ul style="list-style-type: none"> • A patient can maintain a medical history consisting of a consulted doctor, prior medications, and reports. • The patient can select which doctor/s can view his/her specific reports • The system will provide the facility of reminding patients to take the medication as prescribed by the doctor. • A patient can upload the prescription. • The patient can select the pharmacy and send the prescription to place an order. • The patient can select to pay channeling fees through the system or on arrival. • Patients can cancel the appointment and will be refunded if payments were made online
Hospital	<ul style="list-style-type: none"> • The hospitals can select doctors and their time slots. • Hospitals can add doctors to the system directly.
Doctor	<ul style="list-style-type: none"> • Doctors can register with approval of the administrator • A doctor can upload the prescription. • Doctors can set medical reminders to patients
Administrator	<ul style="list-style-type: none"> • The administrator can modify all users and also add doctors, hospitals, pharmacies.
Pharmacy	<ul style="list-style-type: none"> • The pharmacy can get patient orders through the system. • The pharmacy notifies the customer about the order (Successful or some medicine not available etc.) (notify via SMS/Email)

A quality attribute analysis of the product

After analyzing the requirements of the system, the following attributes have been found out to ensure the quality of service of the system.

Quality attribute	How to achieve it
Privacy & Security	<ul style="list-style-type: none"> • Hashing passwords (sha256) • Role-based access control • Encrypted data storage • Penetration testing and validating • Secure data transfer (HTTPS)
Reliability	<ul style="list-style-type: none"> • Doctors, hospitals and pharmacies are verified • Proper and on-time updates according to feedbacks • Server availability with more than 99% of uptime
User-friendliness	<ul style="list-style-type: none"> • Use responsive layouts to support mobile platforms • Use proper design methodologies for UX/UI design • Google translate API
Performance	<ul style="list-style-type: none"> • Optimize the code as much as possible • Normalize the database and use efficient queries. • Decide the number of concurrent users allowed at once and define hardware requirements accordingly. (System supports upto 100 requests per second)
Portability	<ul style="list-style-type: none"> • Use technologies for the back end like Java and the front end are fully web-based. Hence it's platform-independent • Containerize using Docker for deployment purposes



Maintainability	<ul style="list-style-type: none">• Use coding conventions• Modularize system as much as possible
-----------------	--

Documents like the SRS and project proposal are covered in the scope, and the required presentations will be created in the scope of the project.

PROJECT OBJECTIVES

Understanding the objectives of a project is vital because it sets the base and gives clear guidance on how to achieve the project goal. For this project, the objectives are as follows.

- Requirement identification should be made within three weeks.
- Create the project proposal within two weeks.
- Create the SRS document for the project within two weeks.
- Product implementation front end and back end should be done within 17 weeks.
- Test and debugging of the product will be done in each phase.
- Complete a deployable system proposed hereby within one year.

PROJECT FEASIBILITY

This report contains the feasibility analysis done for this product. When it comes to making important business decisions, a feasibility study is crucial because it has all the necessary researched facts about what the product might be and whether achieving this product is realistic or not. This report is the factor that decides whether this product should be built or not. To get better clarity about the product, the feasibility study was carried under four primary studies.

1. Technical feasibility
2. Operational feasibility
3. Schedule feasibility
4. Economic feasibility
5. Ethical & legal feasibility

Under each of these sections, an in-depth analysis done about this product and concludes its findings in the end to make better business decisions.

Technical feasibility

This analysis demonstrates how this system is technically feasible for implementation.

-
- All the software components needed for the development are free and open source.
 - The hardware needed for the development of the system is provided by the developers.
 - Front End technologies that are being used for the development consist of HTML5, CSS3, and JavaScript.
 - HTML5 and CSS3 will be used as it caters to new & improved features for development such as descriptive & refined semantics, richer media elements, ability to produce cleaner and neater code, ability to add new styling features, etc. Also, the developers are well-versed in these technologies.
 - Back End technologies such as Java & MYSQL will be used.
 - The JAVA programming language is used because the developers are comfortable with the language and also because it has many features such as portability, platform independence, the availability of many usable libraries and the availability of community support.
 - MYSQL will be used as it facilitates the relational database functionalities needed for implementation and as it's relatively convenient to integrate with JAVA.
 - The system will be purely web-based; therefore, there will be no use of physical hardware such as servers.
 - The high-speed internet connection required by the developers for implementation and by the administrator for overseeing the system's operations.
 - To demonstrate the payment, process a sandbox will be used; however, once the system is commercially deployed, the developers would provide the necessary funds to purchase a payment portal.
 - We will be using API'S in order to send notifications to patients via e-mail and SMS.
 - REST API's will be used for state transfer for fast responses.
-

Thereby, it is evident that implementing this system is technically feasible as the developers are well-versed with every technology that is being used for the development and, like every other software and hardware used for development, are readily available.



Operational feasibility

With the implementation of the system, the end-users will be patients, doctors, hospitals, pharmacies, and admin as well

The primary target is the patients who can be able to make use of the system without the other users except for the admins.

The doctors and hospitals come under one category in a manner of service providers for the patients. Meanwhile, pharmacies will be depended on the endeavors of the patients, doctors as well as hospitals

When considering the outcome of the implementation of the system

-
- The development team is familiar with the technologies used in the system and build it efficiently.
 - The manpower is sufficient enough to complete the scope in the given time.
 - Team members are feasible in maintaining the system after the implementation.
 - The patients will be benefited by having access to information of different doctors in different hospitals that includes their specialization, schedules in hospitals, etc.
 - The location, contact, and payment details of the nearby hospitals will be available for the patients, which makes it easier to pick their desired destination.
 - Immediate or emergency service details will be listed in the system in case of emergencies.
 - Patients can schedule doctors from anywhere online and contact doctors through the system by chatting and get diagnosed online when not feasible to visit them.
 - The payment portal option will save time for the users instead of visiting.
 - The prescription handling can be done through the system, and a copy of that can be saved in the system, so it can be accessed anytime from anywhere
 - The patient medical history maintaining feature will help the patients when moving to another doctor.
 - Privacy maintenance features will allow patients to restrict and make visible their records only to certain doctors
 - The review system helps for identifying perfect doctors for patients as well as for doctors who are new to the zone and be picked corresponding to the rating
 - The pharmacies involve when a prescription is made, and patients can select their desired pharmacy to check for the availability of the medicines and prices to save time, where a member of a pharmacy will be responding to them.
 - The reminders will trigger the users through email/SMS according to the relevant needs, such as reminding doctor schedules, collection of medicine, etc.
-



There is a possibility of users becoming panicked about their privacy getting exposed where our privacy access features the active admins as well, who will respond asap to the complaints made by the users.

At earlier stages, after implementation of the system, it will be a long-term process for the users to adapt to the system for daily use and to get the public to use the system. Meanwhile, feedback will be collected from initial users, and the system will be updated efficiently as much as possible by the development team.

Schedule feasibility

Mainly the schedule feasibility discusses whether goals and objectives can be achieved on or before deadlines. To compare goals with the deadlines, we must calculate the schedule and compare and contrast it with the scope of whether we can achieve it by the given time limits or whether the scope should be altered to fit in according to the given time.

Schedule need for completion of scope

-
- Requirement identification = 85 hours
 - Project proposal = 30 hours (includes designing and documentation)
 - SRS document = 26 hours
 - Product implementation front end and back end = 481 hours
 - Test and debugging of product = 39 hours
 - Miscellaneous documentation = 30 hours
 - Total needed hours for project = 639 hours
-

The project team can allocate 639 man-hours to work on the project. So, we can say that this project schedule is feasible.

Economic feasibility

It's crucial to analyze the financial impact the product can bring. According to the research done on the business aspect of the product, we can summarize them as follows.

-
- For development purposes, there will not be any expenses for tools since free and open-source resources are used.
 - Costs for electricity and internet usage for development purposes which the project team will bear.
 - The team will facilitate their own server with a local machine for demonstration.
 - Since a sandbox is used for demonstration, an external payment portal is not needed.
 - Miscellaneous expenses might be needed for client meetings which the project team will bear.



- Recurrent costs are not barred by the team.
-

Hence the system development is economically feasible.

Ethical & legal feasibility

- Patients are given the basic knowledge of the field or the respective specialization of the doctor through the system in case they are unaware.
 - The system is designed in a manner that will ensure accurate transactions. (e.g., if a false transaction is made the payment will be refunded)
 - The system guarantees that personal information such as patient records and prescriptions, will not be stored or used for external purposes, which are out of system boundaries. (Eg: marketing purposes)
 - Any substantial changes of any occurrence in the system should be notified to the relevant person. (Eg: If a doctor is removed from the system, he will be reported with valid reasoning)
 - Privileges given for accessing medical records of patients will be limited for the respective patient and permitted doctors.
 - As prescription handling is done online, the system will ensure that they contain the required clauses which distinguish it as digital. (e.g., A watermark will be displayed in the prescription where it says "This prescription is digital")
 - Verified and approved payment gateways will be used for transactions.
 - Permission of SLMC, health ministry, private hospital authorities, food and drug ministry.
 - The system will be designed with best practices to ensure the security of the system.
 - The basic reports required for standard systems like this can be generated from the system.
 - Proper documentation and coding conventions will be maintained during development.
 - Doctors, hospitals, pharmacies existing in the system should have legal credentials and currently be active.
 - The whole system will be developed using free, and open-source resources, and any external code fragments will be acknowledged and give credits to its rightful owner.
-

These legal and ethical aspects can be handled by the team when developing the system. Hence we can safely say that this project is legally and ethically feasible



PROJECT DELIVERABLES

- Completed working system
 - System documentation
 - Source code
 - SRS report
 - Database design diagrams (ER Diagram)
 - System architecture diagrams (use case, component, activity)
 - Test cases
-

PROJECT CONSTRAINTS AND ASSUMPTIONS

Constraints

- Someone from the pharmacy has to respond manually for orders.
 - The doctors have to type the prescription manually. There won't be a selection option.
 - The storage of the entire system will be minimal unless spent on them. So, for many users, the documents uploaded will be increased. Considering that storage per person will be limited.
 - Prescription handling can be done only when the doctor is logged in the system and live.
 - No offline storage available for users (native app) unless they have a backup in the device.
 - Online chatting, consulting with doctors are not available.
 - The reports should be manually uploaded to the system by the relevant person to the system from the hospitals (not integrated with laboratories).
 - Hospital system or pharmacy system is not part of the scope of this project.
-

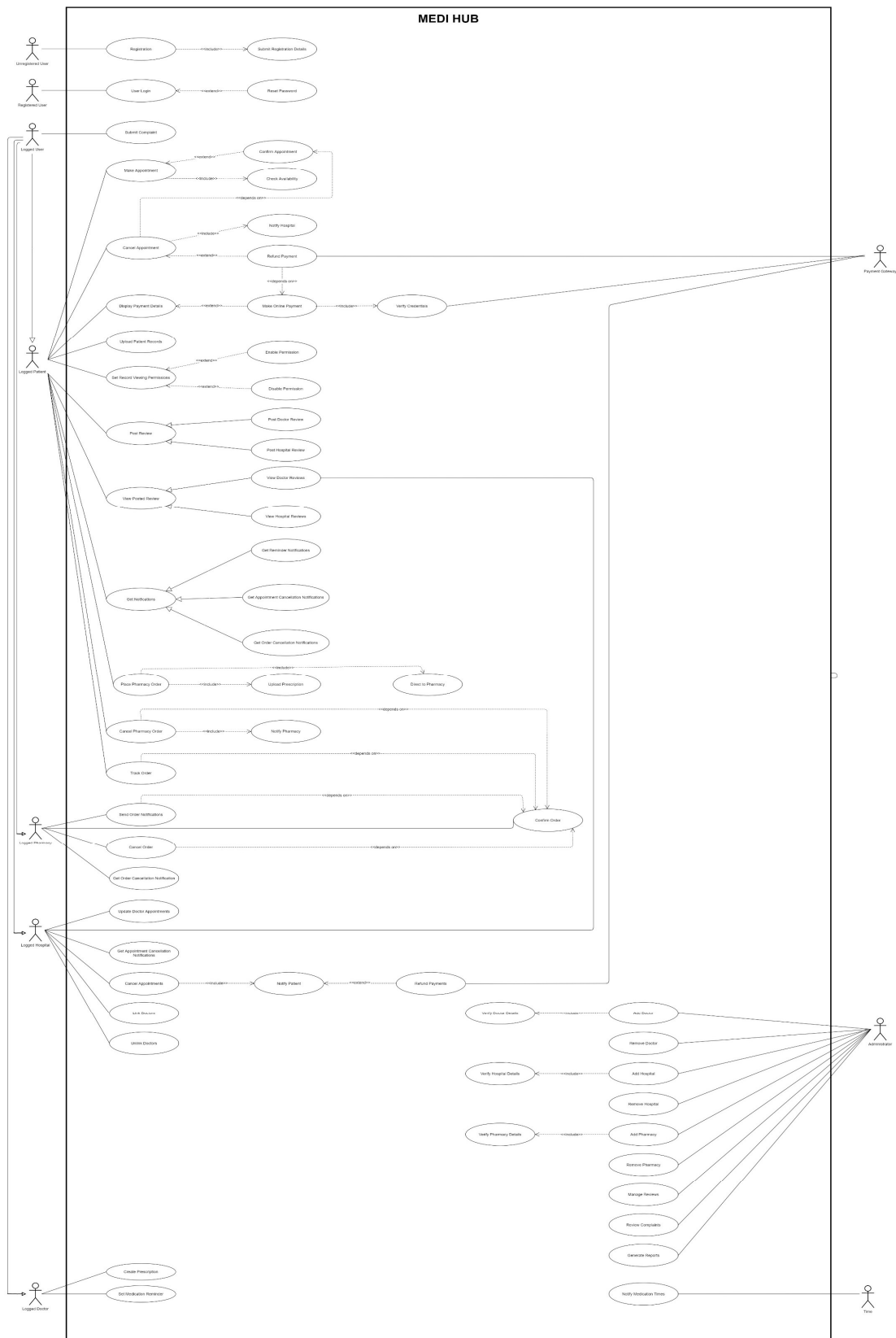
Assumptions

- The system will be approved by the relevant authorities for implementing commercially.
- Pharmacies and Hospitals have an existing system that provides an interface to communicate.

Component diagram



Use case diagram



Use Case ID:	01		
Use Case Name:	Registration		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Unregistered User (Unregistered Patients, Doctors, Pharmacies, Hospitals)
Purpose:	Allows an unregistered user register to the system by submitting a sign up form.
Preconditions:	None
Postconditions:	The Submit Registration Details use case must be triggered
Exceptions:	None
Special Requirements:	None
Assumptions:	The user submitting the form must be either a patient or doctor or pharmacy or hospital.
Notes and Issues:	None

Use Case ID:	02		
Use Case Name:	Submit Registration Details		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Unregistered User (Unregistered Patients, Doctors, Pharmacies, Hospitals)
Purpose:	Directs the sign up form to the system Administrator for further verification
Preconditions:	The User should fill the sign-up form
Postconditions:	The sign-up form must directed to the System Administrator
Exceptions:	If the registration is not successful the user has to resubmit the sign up
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None



Use Case ID:	03		
Use Case Name:	User login		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Registered user
Purpose:	Allows a registered user to login to the system : i. Enter Username & Password IF Username & Password is correct THEN Enter system ELSE Re-Enter details
Preconditions:	The user must be a registered user
Postconditions:	None
Exceptions:	None
Special Requirements:	The Reset Password option must be displayed and the Reset Password use case must be triggered if the user requests it
Assumptions:	None
Notes and Issues:	None

Use Case ID:	04		
Use Case Name:	Reset Password		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Registered user
Purpose:	Allows the User to reset password for a given a username: i. User Enters Username ii. User Enters Email or Telephone number for the respective account iii. Verify Details IF account details are correct THEN send a reset link to Email or Telephone Number Reset password Update database ELSE Re-enter details
Preconditions:	Registered user must be unable to login
Postconditions:	New password for the relevant user account must be updated if the reset was successful
Exceptions:	None
Special Requirements:	Reset link must be made available for only 24 hours
Assumptions:	None
Notes and Issues:	None

Use Case ID:	05		
Use Case Name:	Submit Complaint		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged user
Purpose:	Allows a Logged user to make a complaint
Preconditions:	None
Postconditions:	The complaint details must be directed to the system administrator
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the user has utilized the facilities with regard to the specific complaint
Notes and Issues:	None

Use Case ID:	06		
Use Case Name:	Make Appointment		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to make an appointment to a doctor: <hr/> i. Display Doctors details ii. Select Doctor & Hospital
Preconditions:	None
Postconditions:	The Check Availability use case must be triggered
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	A logged patient can access the doctor list :- <ul style="list-style-type: none"> By selecting a particular hospital and selecting the specialization By searching for a doctor by manually typing the name

Use Case ID:	07		
Use Case Name:	Check Availability		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	19/05/2020

Actors:	Logged Patient
Purpose:	Checks the availability of a selected doctor : <hr/> i. User selects a available date for the appointment ii. User selects a available time for the appointment
Preconditions:	User should select a specific doctor for the appointment
Postconditions:	None
Exceptions:	If the doctor is not available the user will be redirected to select a new hospital or doctor
Special Requirements:	None
Assumptions:	None
Notes and Issues:	Available time and date can be checked :- <ul style="list-style-type: none"> • By manually typing a date and time • By viewing the given available dates & time for a specific doctor

Use Case ID:	08		
Use Case Name:	Confirm Appointment		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to confirm an appointment
Preconditions:	The date and time for the particular doctor must be freely available
Postconditions:	The selected date/time slot must be updated in the database and removed from the application
Exceptions:	If the appointment is not confirmed that appointment should be made invalid
Special Requirements:	None
Assumptions:	None
Notes and Issues:	Optional : Text message or Email regarding the appointment should be sent to the registered patient

Use Case ID:	09		
Use Case Name:	Cancel Appointment		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged patient
Purpose:	Allows the patient to cancel an appointment made previously
Preconditions:	There must be an existing confirmed appointment
Postconditions:	The Notify Hospital function must be triggered If the payments were made online the Refund Payment use case must be triggered
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	10		
Use Case Name:	Notify Hospital		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Sends a notification to the hospital informing the cancellation
Preconditions:	An appointment must be cancelled by a logged patient
Postconditions:	If online payments were made, they must be refunded by triggering the Refund Payment function
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None



Use Case ID:	11		
Use Case Name:	Refund Payment		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	19/05/2020

Actors:	Payment Gateway
Purpose:	Refunds the online payment made if an appointment has been cancelled
Preconditions:	There must a paid appointment cancelled by a Hospital or Patient
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming the payment is an online payment
Notes and Issues:	None

Use Case ID:	12		
Use Case Name:	Display Payment Details		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to view payment amount
Preconditions:	The patient must have a confirmed appointment
Postconditions:	If the patient wishes to make an online payment, Online Payments use case must be triggered
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	13		
Use Case Name:	Make Online Payments		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to make an online payment <hr/> i. Display amount ii. Logged patient enters card credentials iii. Trigger Verify Payment Credentials use case
Preconditions:	The patient must confirm that he/she wants to make an online payment
Postconditions:	Must trigger the Verify Payment Credentials use case
Exceptions:	None
Special Requirements:	Confidentiality must be preserved
Assumptions:	None
Notes and Issues:	None

Use Case ID:	14		
Use Case Name:	Verify Credentials		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Payment Gateway
Purpose:	Validates the credentials provided by a patient <hr/> i. IF credentials were validated properly THEN the payment must be confirmed ELSE the payment must be cancelled
Preconditions:	The patient must enter credentials
Postconditions:	If payment was made the details must be updated to the system
Exceptions:	None
Special Requirements:	Confidentiality must be preserved
Assumptions:	None
Notes and Issues:	None

Use Case ID:	15		
Use Case Name:	Upload Patient Records		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged patient
Purpose:	Allows a logged patient upload patient records to the system
Preconditions:	None
Postconditions:	Uploaded patient records must be stored in the system
Exceptions:	None
Special Requirements:	These records must be sealed for every other user by default
Assumptions:	Assuming that the patient records are valid
Notes and Issues:	None

Use Case ID:	17		
Use Case Name:	Set Record Viewing Permissions		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to enable or disable permissions to a doctor in order set visibility for patient records
Preconditions:	There must be patient records uploaded to the system by the patient
Postconditions:	Either the Enable Permission or Disable Permission use case must be triggered upon Patient request
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	18		
Use Case Name:	Enable Permission		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to enable permission to a doctor in order to view patient records
Preconditions:	There must be patient records uploaded to the system by the patient
Postconditions:	The doctor must be able to view the particular record
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	19		
Use Case Name:	Disable Permission		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Registered user
Purpose:	Allows a logged patient to disable permission to a doctor in order to seal the relevant patient records
Preconditions:	The permissions for the patient records must be enabled
Postconditions:	The doctor must not be able to view the particular record
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None



Use Case ID:	20		
Use Case Name:	Post Review		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to post a review for a specific doctor or hospital
Preconditions:	None
Postconditions:	Either the Post Doctor Review or Post Hospital Review must be Triggered upon patient request
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the patient has visited the doctor or hospital
Notes and Issues:	None

Use Case ID:	21		
Use Case Name:	Post Doctor Review		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to post a review for a specific doctor
Preconditions:	None
Postconditions:	The posted review must be sent to the system administrator
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the patient has visited the doctor
Notes and Issues:	<p>A doctor can be selected by : -</p> <ul style="list-style-type: none">• The provided drop-down list• By typing the doctor's name <p>Review can be given by:-</p> <ul style="list-style-type: none">• The star rating method• Written review

Use Case ID:	22		
Use Case Name:	Post Hospital Review		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to post a review for a specific hospital
Preconditions:	None
Postconditions:	The posted review must be sent to the system administrator
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the patient has visited the hospital
Notes and Issues:	<p>(If multiple hospitals exists)</p> <p>A hospital can be selected by : -</p> <ul style="list-style-type: none"> • The provided drop-down list • By typing the doctor's name <p>Review can be given by:-</p> <ul style="list-style-type: none"> • The star rating method • Written review

Use Case ID:	23		
Use Case Name:	View Posted Reviews		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient view the reviews for a particular doctor or hospital
Preconditions:	None
Postconditions:	Either the View Doctor Review or View Hospital Review must be triggered upon patient request
Exceptions:	If no reviews were posted to the system this will displayed to the patient
Special Requirements:	None
Assumptions:	Assuming that users have posted reviews previously
Notes and Issues:	<p>The patient/Hospital can select a doctor by: -</p> <ul style="list-style-type: none"> • Manually typing the doctor's name • Selecting a doctor by using the drop-down list provided

Use Case ID:	24		
Use Case Name:	View Doctor Review		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient, Logged Hospital
Purpose:	Allows a logged patient view the reviews for a particular doctor
Preconditions:	None
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that users have posted reviews previously
Notes and Issues:	The patient/Hospital can select a doctor by: - <ul style="list-style-type: none"> Manually typing the doctor's name Selecting a doctor by using the drop-down list provided

Use Case ID:	25		
Use Case Name:	View Hospital Review		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient view the reviews of a particular hospital
Preconditions:	None
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that users have posted reviews previously
Notes and Issues:	If multiple hospitals exists the patient can select a hospital by: - <ul style="list-style-type: none"> Manually typing the hospitals name Selecting a hospital by using the drop-down list provided

Use Case ID:	26		
Use Case Name:	Get Notifications		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to receive notifications
Preconditions:	None
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming there are notifications to display
Notes and Issues:	The notifications can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	27		
Use Case Name:	Get Reminder Notifications		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to receive notifications for the reminders set for medication times
Preconditions:	Reminders for medication times must be set
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	28		
Use Case Name:	Get Appointment Cancellation Notifications		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to receive notifications in case a hospital cancels a previously scheduled appointment
Preconditions:	There must be a cancellation of a previously scheduled appointment
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	29		
Use Case Name:	Get Order Notifications		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to receive notifications that the pharmacy issues
Preconditions:	An order must be placed in advance
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	30		
Use Case Name:	Get Order Cancellation Notifications		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to receive notifications in case a pharmacy cancels an order
Preconditions:	There must be a cancellation of a previously confirmed order
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	31		
Use Case Name:	Place Pharmacy Order		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to place an order to a pharmacy
Preconditions:	None
Postconditions:	Trigger Upload Prescription use case
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the patient has attended an appointment
Notes and Issues:	None

Use Case ID:	32		
Use Case Name:	Upload Prescription		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	19/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to upload a prescription <hr/> i. Upload prescription to user account ii. IF patient wants to send the prescription to the pharmacy THEN trigger Direct to Pharmacy
Preconditions:	The user must place a pharmacy order
Postconditions:	Trigger Direct to Pharmacy if the patient needs to send the prescription to a pharmacy
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming that the patient has attended an appointment
Notes and Issues:	None

Use Case ID:	33		
Use Case Name:	Direct to Pharmacy		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to direct the uploaded a prescription to a pharmacy
Preconditions:	The user must have uploaded a pharmacy
Postconditions:	The details must be send to the pharmacy in order to be confirmed
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None



Use Case ID:	34		
Use Case Name:	Cancel Pharmacy Order		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows a logged patient to cancel an order given to a pharmacy
Preconditions:	The patient must have a confirmed pharmacy order
Postconditions:	Trigger the Notify Pharmacy function
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	35		
Use Case Name:	Notify Pharmacy		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Notifies the pharmacy about the cancelled order
Preconditions:	Logged patient must confirm a order cancellation
Postconditions:	The database must be updated accordingly
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming the order has not been delivered yet
Notes and Issues:	None



Use Case ID:	36		
Use Case Name:	Track Order		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	21/05/2020	Date Last Updated:	21/05/2020

Actors:	Logged Patient
Purpose:	Allows the patient to track an order that was made to a pharmacy
Preconditions:	Logged patient must have a confirmed order
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming the order has not been delivered yet
Notes and Issues:	None

Use Case ID:	37		
Use Case Name:	Cancel Order		
Created By:	Aysha Ifra	Last Updated By:	Aysha Ifra
Date Created:	21/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Pharmacy
Purpose:	Accepts order cancellation and Sends the notification to the patient informing refund payment.
Preconditions:	An order must be existed by a logged patient.
Postconditions:	I. Patient is notified. II. If online payments were made, they must be refunded by triggering the Refund Payment function.
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	38		
Use Case Name:	Send order Notification		
Created By:	Aysha Ifra	Last Updated By:	Aysha Ifra
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Pharmacy
Purpose:	Sends the notification to the patient informing confirm order
Preconditions:	1. An order must be existed by a logged patient 1. Ordered payment was successful
Postconditions:	1. Patient is notified. 1. An order must be placed in advance
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be sent via text-message to mobile device or Email based on user preference

Use Case ID:	39		
Use Case Name:	Get order Notification		
Created By:	Aysha Ifra	Last Updated By:	Aysha Ifra
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Pharmacy
Purpose:	Preparing the order using prescription of doctor
Preconditions:	Allows a logged patient to place an order to a pharmacy
Postconditions:	Sends the notification to Patient about confirming order
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be got via text-message to mobile device or Email based on user preference

Use Case ID:	40		
Use Case Name:	Confirm Order		
Created By:	Aysha Ifra	Last Updated By:	Aysha Ifra
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Pharmacy
Purpose:	Prepare order and issue it to patient
Preconditions:	The order must be confirmed by patient
Postconditions:	Send the notification to the patient about confirming order
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	The notification can be got via text-message to mobile device or Email based on user preference

Use Case ID:	41		
Use Case Name:	Cancel Appointment		
Created By:	Aysha Ifra	Last Updated By:	Priyatharshan
Date Created:	18/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Hospital
Purpose:	Sends a notification to the patient informing the refund payment
Preconditions:	An appointment must be existed by a logged patient
Postconditions:	1. Patient is Notified 2. If online payments were made, they must be refunded by triggering the Refund Payment function
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	42		
Use Case Name:	Update Doctor Appointments		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	21/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged hospital
Purpose:	Updates doctor schedule for channelling : 1.Updates available time for the appointment 1.Updates payments for the appointment
Preconditions:	Availability of doctor is confirmed internally
Postconditions:	Doctor schedule is updated in channelling
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	Available time and date can be checked :- <ul style="list-style-type: none"> By manually typing a date and time By viewing the given available dates & time for a specific doctor

Use Case ID:	43		
Use Case Name:	Add Doctor		
Created By:	Aysha Ifra	Last Updated By:	Priyatharshan
Date Created:	18/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged hospital, Administrators
Purpose:	1.Create doctor account 1.Allows to use the system to the doctor
Preconditions:	Filling the form and confirm the registration
Postconditions:	The particular doctor can modify account using username or password
Exceptions:	None
Special Requirements:	Verify the doctor registration number
Assumptions:	None
Notes and Issues:	1.Doctor in created with personal request or verified and approved previously submitted registration form 1.If the doctor is added into the system, the database will be updated automatically.

Use Case ID:	44		
Use Case Name:	Remove Doctor		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged hospital, Administrators
Purpose:	Remove the doctor form the system
Preconditions:	Existing doctor
Postconditions:	The doctor is removed from the system
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	If the doctor is removed from the system, the database will be updated automatically.

Use Case ID:	45		
Use Case Name:	Link Doctor		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged hospital, Administrators
Purpose:	Link doctors to hospital
Preconditions:	Doctor should exist
Postconditions:	That particular doctor is linked with the hospital
Exceptions:	None
Special Requirements:	Verify the doctor registration number
Assumptions:	None
Notes and Issues:	If the doctor is linked to the hospital, the database will be updated automatically.



Use Case ID:	46		
Use Case Name:	Unlink Doctor		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged hospital, Administrators
Purpose:	Unlink the doctor form the hospital
Preconditions:	Existing linked doctor
Postconditions:	The doctor is unlinked from the hospital
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	If the doctor is unlinked from the hospital, the database will be updated automatically.

Use Case ID:	47		
Use Case Name:	Review Complaints		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Administrator
Purpose:	Analysing the complaint
Preconditions:	Complaint should be submitted
Postconditions:	Response for the complaint
Exceptions:	None
Special Requirements:	Complaint should be reasonable
Assumptions:	None
Notes and Issues:	Done manually by the Admin



Use Case ID:	48		
Use Case Name:	Manage Reviews		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Administrator
Purpose:	Allow hide or delete reviews
Preconditions:	Review should be made by a patient
Postconditions:	Review is allowed or hidden or deleted
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	Manually done by the admin

Use Case ID:	49		
Use Case Name:	Get Appointment Cancellation Notifications		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Hospital
Purpose:	Viewing the cancellations of appointments
Preconditions:	An appointment should be a=cancelled by a patient
Postconditions:	Notification is viewed
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	Done manually by the hospital user

Use Case ID:	50		
Use Case Name:	Add Pharmacy		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	20/05/2020

Actors:	Administrator
Purpose:	1.Create pharmacy account 1.Allows to use the system to the pharmacy
Preconditions:	Filling the form and confirm the registration
Postconditions:	The pharmacy is added to the system
Exceptions:	None
Special Requirements:	Verify the pharmacy registration number
Assumptions:	None
Notes and Issues:	1.Pharmacy in created with personal request or verified and approved previously submitted registration form 1.If the pharmacy is added into the system, the database will be updated automatically.

Use Case ID:	51		
Use Case Name:	Remove Pharmacy		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	20/05/2020

Actors:	Administrator
Purpose:	Remove the pharmacy form the system
Preconditions:	Pharmacy should exist
Postconditions:	The pharmacy is removed from the system
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	If the pharmacy is removed from the system, the database will be updated automatically.

Use Case ID:	52		
Use Case Name:	Report Generating		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	20/05/2020	Date Last Updated:	20/05/2020

Actors:	Administrator
Purpose:	Generating reports of the system
Preconditions:	None
Postconditions:	Report generated for the logs of the system
Exceptions:	None
Special Requirements:	All logs should be maintained
Assumptions:	None
Notes and Issues:	Done manually by the admin

Use Case ID:	53		
Use Case Name:	Notify Patient		
Created By:	Aysha Ifra	Last Updated By:	Priyatharshan
Date Created:	18/05/2020	Date Last Updated:	22/05/2020

Actors:	Logged Hospital
Purpose:	Sends a notification to the patient informing the refund payment
Preconditions:	<ul style="list-style-type: none"> An appointment must be cancelled by a logged patient and hospital must accept it Check whether the payment was online
Postconditions:	Patient is Notified
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None



Use Case ID:	54		
Use Case Name:	Refund Payment		
Created By:	Yashithi Dharmawimala	Last Updated By:	Yashithi Dharmawimala
Date Created:	18/05/2020	Date Last Updated:	19/05/2020

Actors:	Logged Hospital, Payment
Purpose:	Refunds the online payment made if an appointment has been cancelled
Preconditions:	There must a paid appointment cancelled by a Hospital or Patient
Postconditions:	Payment is refunded
Exceptions:	None
Special Requirements:	None
Assumptions:	Assuming the payment is an online payment
Notes and Issues:	None

Use Case ID:	55		
Use Case Name:	Verify Doctor Details		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	22/05/2020	Date Last Updated:	22/05/2020

Actors:	Administrator
Purpose:	Verify and validate doctor
Preconditions:	Filling the form and confirm the registration
Postconditions:	The doctor becomes active in the system
Exceptions:	None
Special Requirements:	Valid credentials is entered
Assumptions:	None
Notes and Issues:	The database will be automatically updated



Use Case ID:	56		
Use Case Name:	Verify Hospital Details		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	22/05/2020	Date Last Updated:	22/05/2020

Actors:	Administrator
Purpose:	Verify and validate hospital
Preconditions:	Filling the form and confirm the registration
Postconditions:	The hospital becomes active in the system
Exceptions:	None
Special Requirements:	Valid credentials is entered
Assumptions:	None
Notes and Issues:	The database will be automatically updated

Use Case ID:	57		
Use Case Name:	Verify Pharmacy Details		
Created By:	Priyatharshan	Last Updated By:	Priyatharshan
Date Created:	22/05/2020	Date Last Updated:	22/05/2020

Actors:	Administrator
Purpose:	Verify and validate pharmacy
Preconditions:	Filling the form and confirm the registration
Postconditions:	The pharmacy becomes active in the system
Exceptions:	None
Special Requirements:	Valid credentials is entered
Assumptions:	None
Notes and Issues:	The database will be automatically updated



Use Case ID:	58		
Use Case Name:	Set medication reminder		
Created By:	Uvin Perera	Last Updated By:	Uvin Perera
Date Created:	20/05/2020	Date Last Updated:	20/05/2020

Actors:	Logged doctor
Purpose:	Set medication reminders to patient so that the patient will be notified
Preconditions:	None
Postconditions:	Medication times should be set accordingly by the doctor
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

Use Case ID:	59		
Use Case Name:	Notify medication time		
Created By:	Uvin Perera	Last Updated By:	Uvin Perera
Date Created:	20/05/2020	Date Last Updated:	20/05/2020

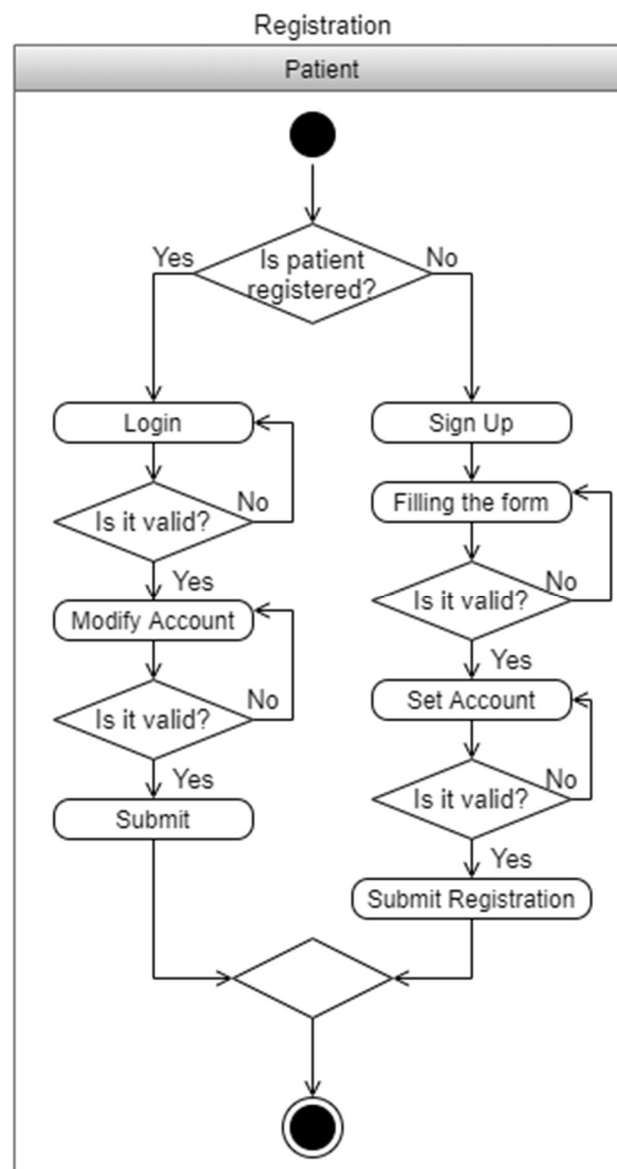
Actors:	Time
Purpose:	Notify the patient of their times to take their medication
Preconditions:	The doctor should set the medication reminder
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

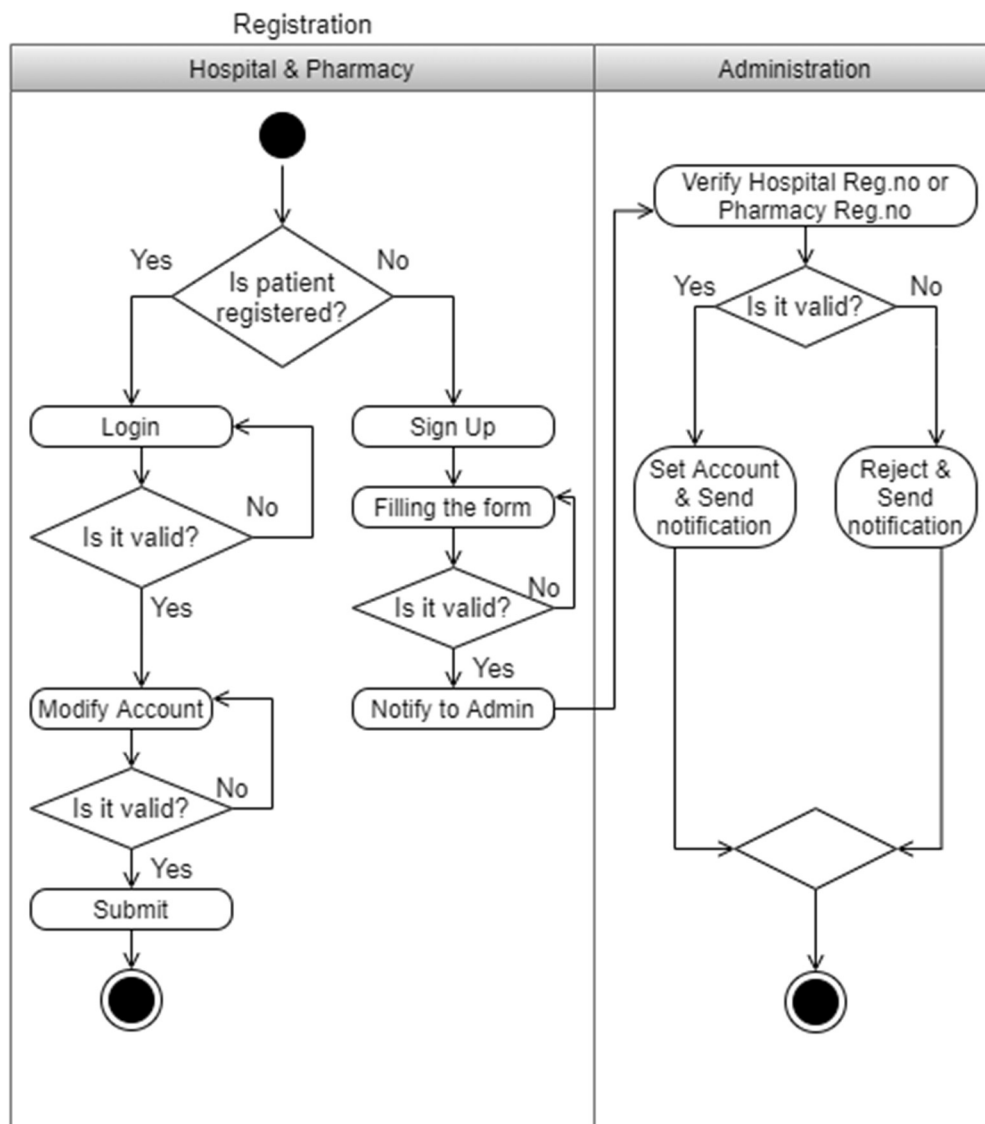


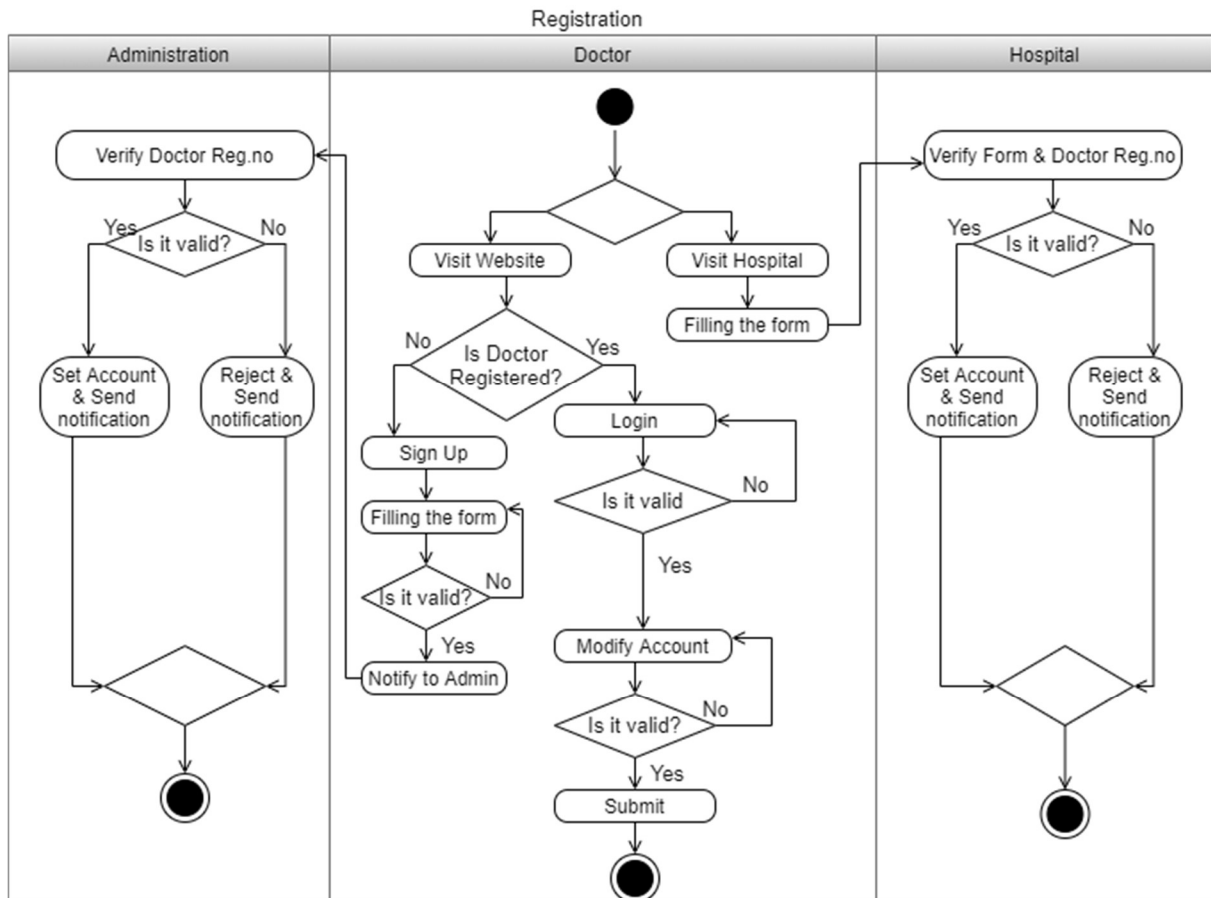
Use Case ID:	60		
Use Case Name:	Create Prescription		
Created By:	Uvin Perera	Last Updated By:	Uvin Perera
Date Created:	20/05/2020	Date Last Updated:	24/05/2020

Actors:	Logged Doctor
Purpose:	Allows a logged doctor create prescriptions for patients
Preconditions:	The doctor must have had an appointment with a patient
Postconditions:	None
Exceptions:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

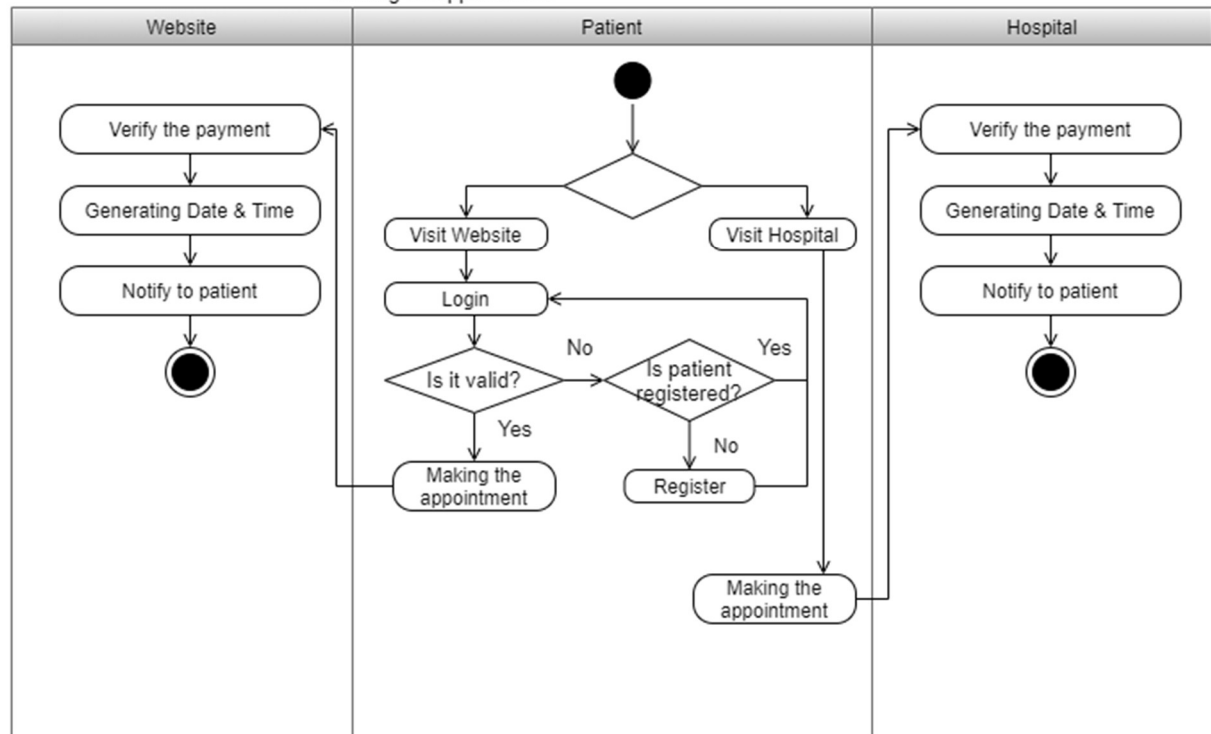
Activity diagrams



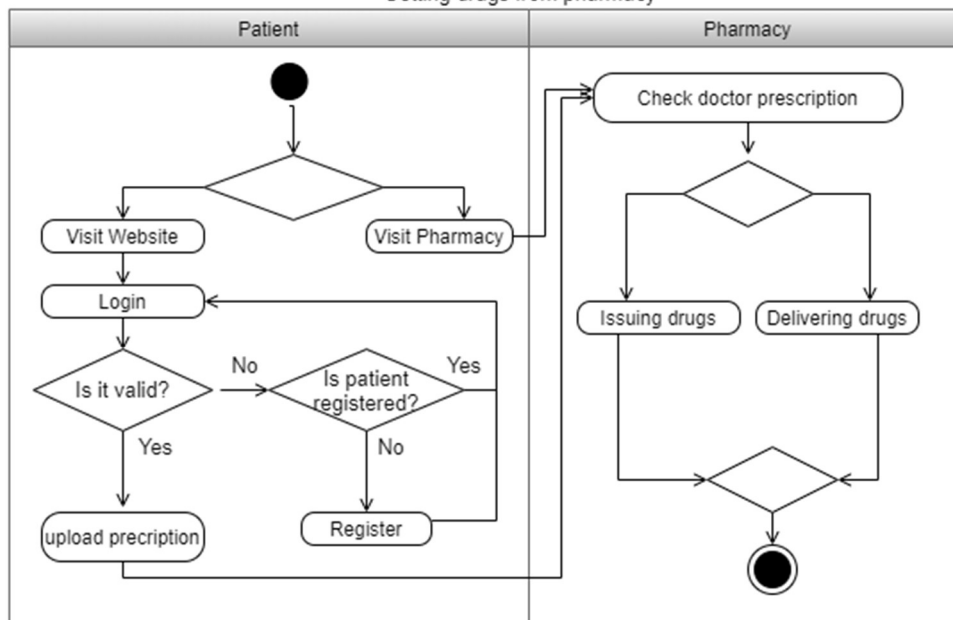




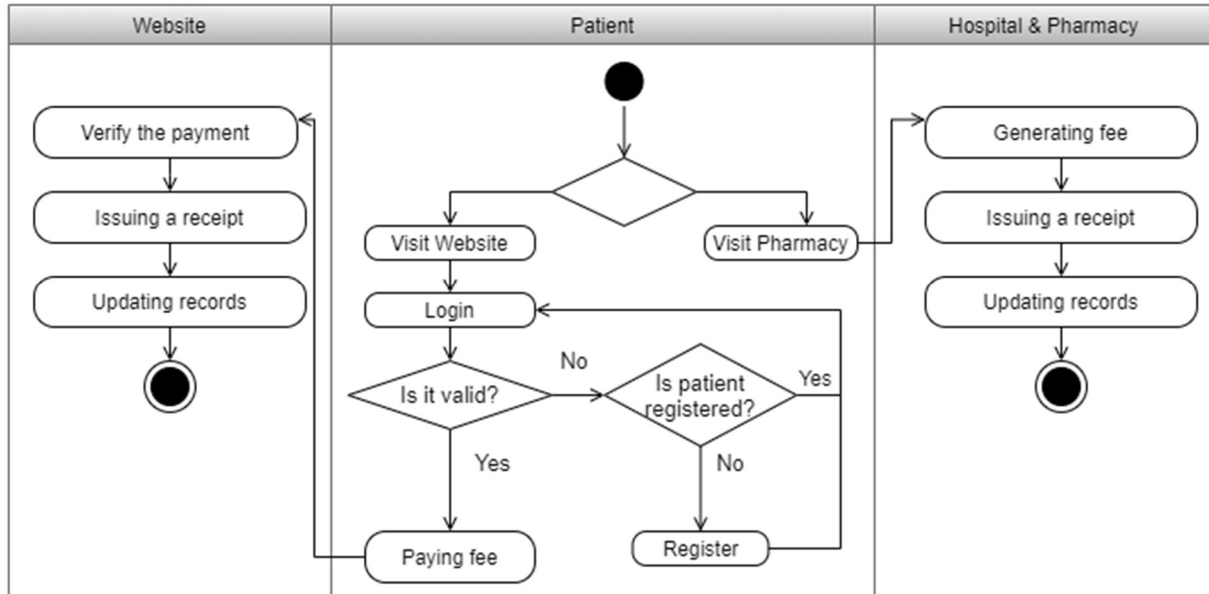
Making an appointment



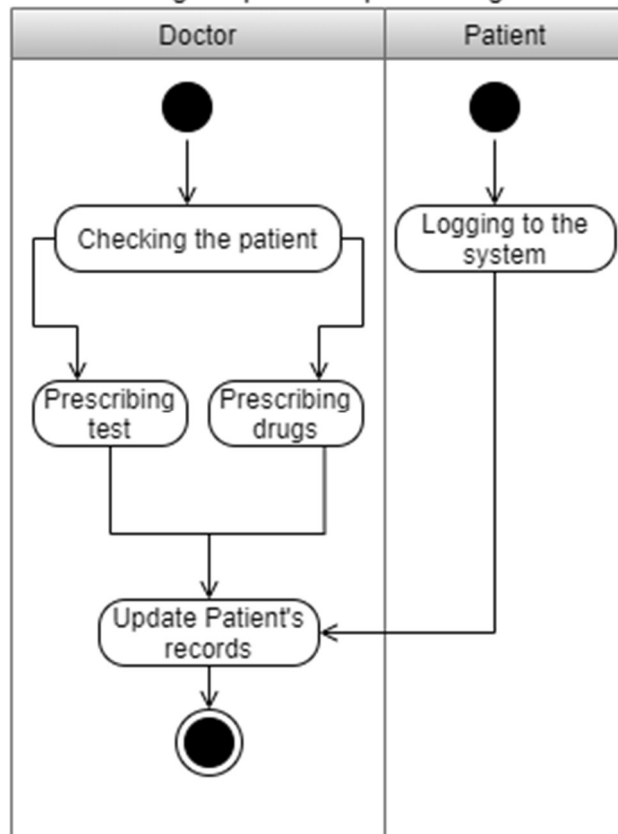
Getting drugs from pharmacy



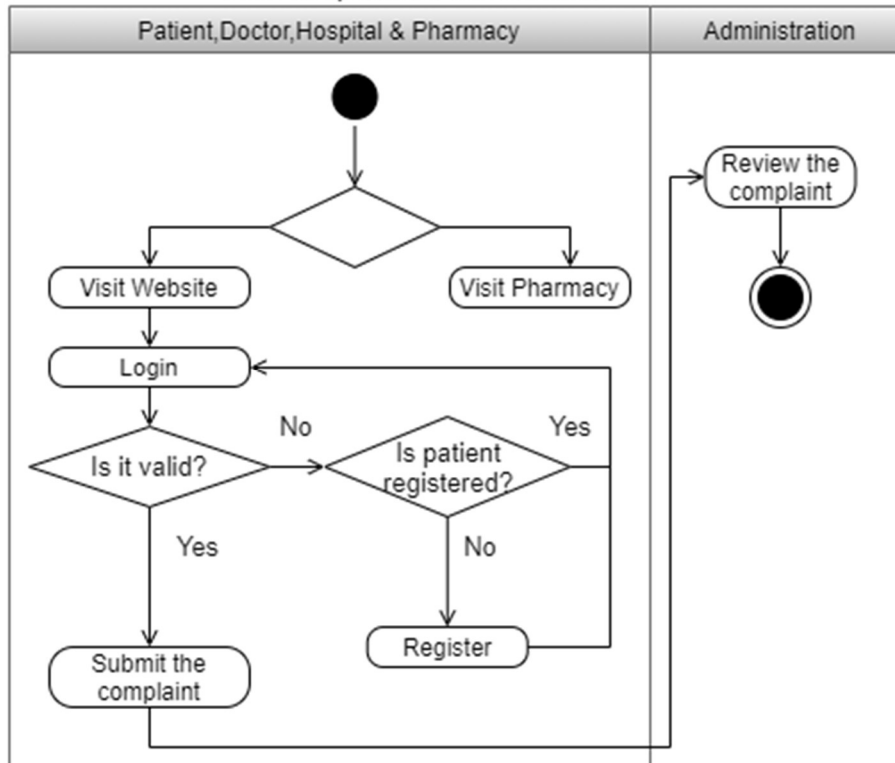
Paying bills (Appointment payment & medication payment)



Checking the patient & prescribing



Send complaint to Administration





TECHNOLOGIES TO BE USED

The technologies used to build this Web Application is as follows:

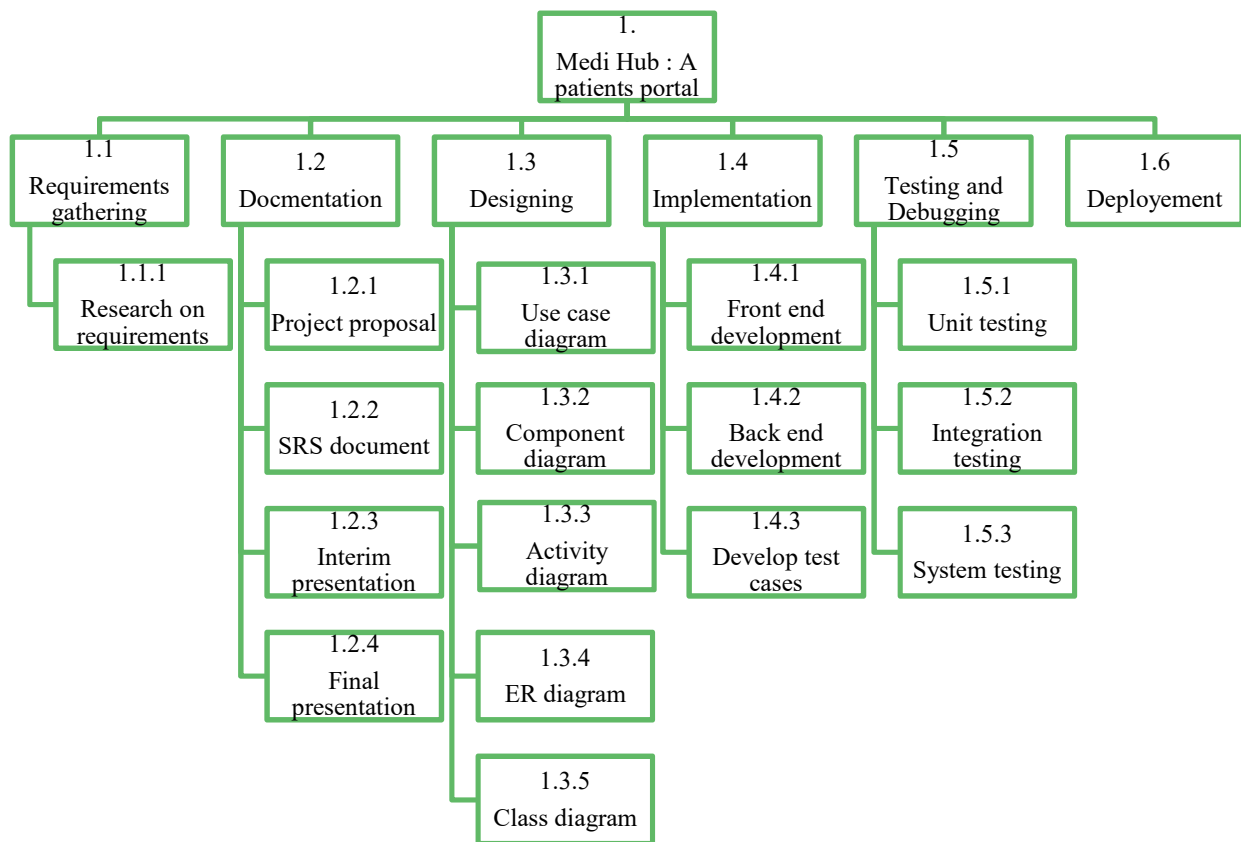
-
- Front End - HTML5, CSS3, JavaScript
 - Back End - Java
 - Relational database management system - MYSQL
-

The basic layout will be coded using HTML5, and the necessary styling features to the web application will be added using CSS3. The JavaScript scripting language will be used to enhance the static web page by adding interactive functionalities.

The necessary back-end functionalities will be coded using the Java Programming Language, and the database requirements will be satisfied by using the open-source relational database management system, MYSQL. API's will be used to implement features such as Emails and SMS. And REST APIs are used for state tranfering.

PROJECT TIMELINE

Work breakdown structure of the project



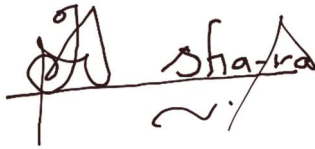


Time frame analysis

Task	Duration	Milestones
1.1.1 Gather requirements	One week	
1.2.1 Project proposal 1.3.1 Use case diagram 1.3.2 Component diagram 1.3.3 Activity diagram	Five weeks	Project proposal submission
1.2.2 SRS document	Two weeks	SRS document submission
1.3.4 ER diagram 1.3.5 Class diagram 1.4.1 Front end development 1.4.2 Back end development 1.4.3 Develop test cases 1.5.1 Unit test 1.5.2 Integration test 1.2.3 Interim presentation	20 weeks (Work was done iteratively)	Interim presentation
1.5.3 System test	1 week	
1.6 Deployment 1.2.4 Final presentation	1 week	Final presentation Viva and code examination

DECLARATION

We, as members of the project titled Medi Hub, Certify that we will carry out this project according to the guidelines provided by the coordinators and supervisors of the course as well as we will not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any university. To the best of our knowledge and brief, the project work will not contain any material previously published or written by another person or ourselves except where due reference is made in the text of appropriate places

Index Number	Name of student	Signature
1. 18000401	Y. R. Dharmawimala	
2. 18001262	B. Priyatharshan	
3. 18000665	M.B.A. Ifra	
4. 18001221	M.U.I. Perera	