

## *Doctor Finder*

### (Project Part 2)

#### Team

Kaiyue An, Sean Tranchetti, Shubham Mudgal, Tahani Almanie

#### Title

Doctor Finder Website

#### Project Summary

Doctor Finder is a web application that provides a service to help patients to find the right doctors for them based on criteria such as specialty, location, availability, and reviews.

##### Functionality

- ☐ Patients can create accounts and login
- ☐ Patients can search for a doctor based on search criteria
- ☐ Patients can sort the searching results
- ☐ Patients can view the doctors' info
- ☐ Patients can rate and write reviews for doctors
- ☐ Patients can locate a doctor's location on a map
- ☐ Patients can save favorite doctors
- ☐ Doctors can login
- ☐ Doctors can update information\contact info
- ☐ Admin can login
- ☐ Admin can add\delete doctors

#### Project Requirements

User Requirements		
ID	Description	Priority
UR-01	As a system administrator, I need to log in so I can monitor the system	Low
UR-02	As a system administrator, I want to be able to add\delete doctors so I can keep the system updated	Medium
UR-03	As a doctor, I need to login so I can update my information	Medium
UR-04	As a doctor, I want to be able to update my information so I can keep the patients up to date	High

UR-05	As a patient, I have to create an account and login so I can use the special features of the system	Medium
UR-06	As a patient, I want to search for a doctor based on doctor's specialty, location and insurance so I can find the suitable doctor	High
UR-07	As a patient, I want to sort the searching results based on doctor's rating so I can make the displayed results more convenient	Medium
UR-08	As a patient, I want to sort the searching results based on doctor's availability so I can make the displayed results more convenient	Medium
UR-09	As a patient, I want to view doctor's information so I can be informed with all details that I need	High
UR-10	As a patient, I want to locate doctor's location on a map so I can know the exact location	Low
UR-11	As a patient, I want to rate and write reviews for doctors so I can help other patients	Medium
UR-12	As a patient, I want to save my favorite doctors so I have a reference for good doctors	Medium

Functional Requirements		
ID	Description	Priority
FR-01	A notification email should be sent to the doctor upon a successful addition to/deletion from the system	Medium
FR-02	A notification should be sent to the admin if a doctor changes his information	Low
FR-03	A verification email should be sent to the patient to confirm his sign up for an account on the portal	Medium
FR-04	If patient chooses to use current location for a search, the location field (city, zip code) should be filled in automatically	Low

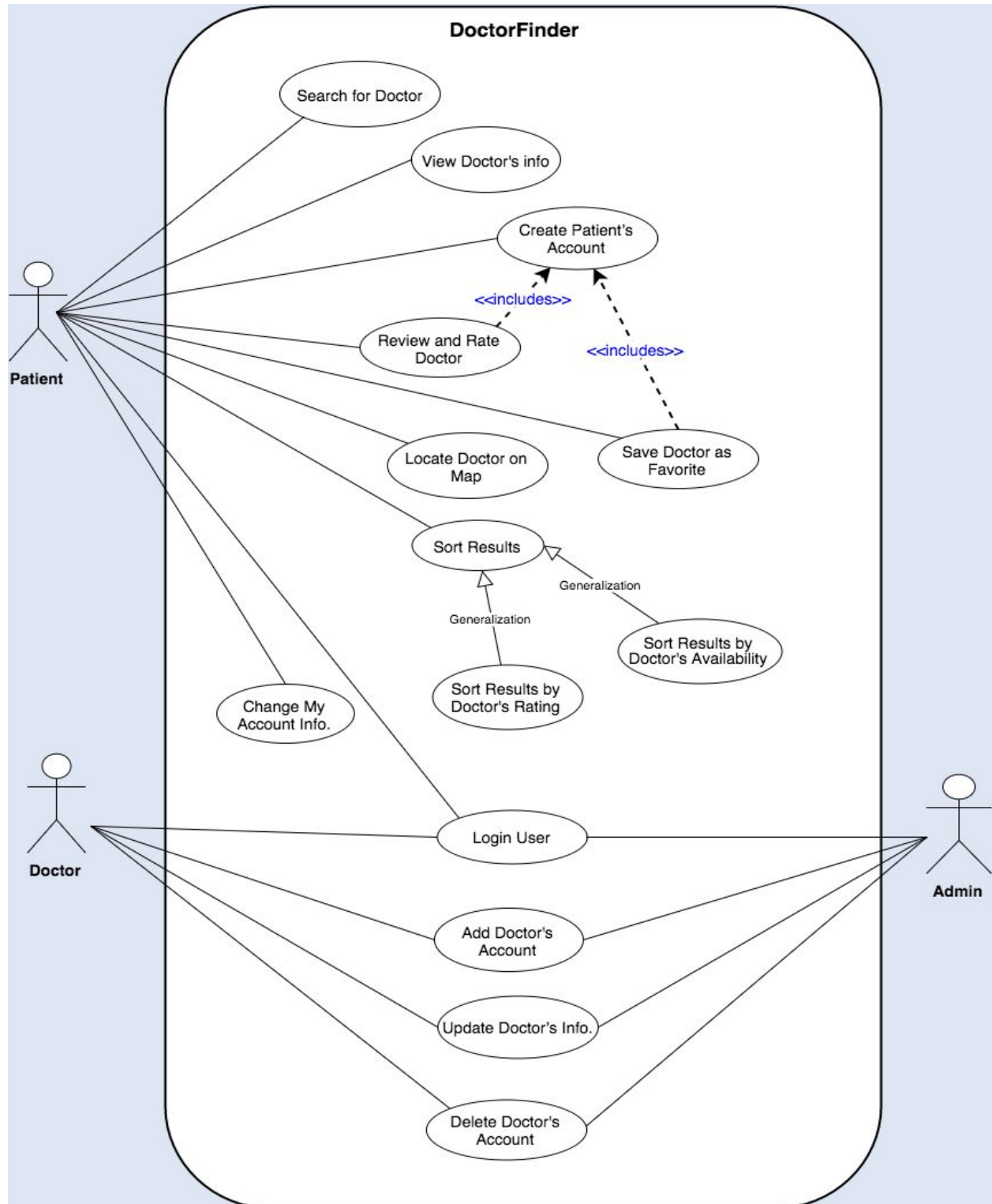
Non-Functional Requirements		
ID	Description	Priority
NFR-01	<u>Reliability</u> : Data entered by doctors must be stored in a persistent and reliable manner	High
NFR-02	<u>Security</u> : Storage of user accounts and password information must be done in a secure manner	Medium
NFR-03	<u>Performance</u> : Upon providing search criteria, patient shall be directed to the searching results within 10 seconds max	Medium
NFR-04	<u>Interface</u> : The system should interact with Google Maps to display locations	Low
NFR-05	<u>Platform Constraints</u> : System functionality shall behave the same on different platforms (Windows/Mac OS)	Low

**This project does not have any Business Requirements**

## Users and Tasks

Our system has **14** different tasks and **three** different types of users: Patient-Doctor-Admin

### Use Case Diagram



### Use Case Documents

<b>Use Case ID:</b>	UC-01
<b>Use Case Name:</b>	Login User
<b>Description:</b>	User can log into the system using his credentials

<b>Actors:</b>	Admin, Doctor, Patient		
<b>Pre-conditions:</b>	User has his right credentials to login.		
<b>Post-conditions:</b>	User is logged into the system.		
<b>Frequency of Use:</b>	Frequently		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	<b>1</b>	User enters his username and password and enters the system.	User is directed to a user-specific page (based on his entitlements)
<b>Variations:</b>	If the doctor is logging in for the first time, system prompts the doctor to change his password before logging in to the system.		
<b>Notes and Issues:</b>	User can be any one these three: Admin, Doctor or Patient		
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-02
<b>Use Case Name:</b>	Add Doctor's account
<b>Description:</b>	System Administrator can add a new doctor's account to the system

<b>Actors:</b>	Admin, Doctor		
<b>Pre-conditions:</b>	Doctor sends his primary info(name, specialty, location, phone number, and email id) to the admin to create his profile in the system. Admin has logged into the system.		
<b>Post-conditions:</b>	Doctor's profile is added to the system. An email is sent to the doctor providing his login credentials.		
<b>Frequency of Use:</b>	Based on requirement		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Admin selects the option to add a doctor.	
	2	Admin fills up the doctor's name, specialty, location, phone number and email id.	
	3	Admin activates the create function to add the doctor's account.	DoctorFinder saves the information and creates a new account.
	4		DoctorFinder sends an email to the doctor providing his username(email id) and temp-password for logging into the system.
<b>Variations:</b>			
<b>Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-03
<b>Use Case Name:</b>	Delete Doctor's account
<b>Description:</b>	System Administrator can delete an existing doctor's account from the system

<b>Actors:</b>	Admin, Doctor		
<b>Pre-conditions:</b>	Doctor sends his confirmation to the admin to delete his profile from the system. Admin has logged into the system.		
<b>Post-conditions:</b>	Doctor's profile is deleted from the system. An email is sent to the doctor notifying about his profile being deleted from the system.		
<b>Frequency of Use:</b>	Based on requirement		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Admin selects the option to delete a doctor's account.	DoctorFinder asks for entering a specific doctor.
	2	Admin selects the doctor using his username(email id) then activates the delete function.	DoctorFinder deletes the specified account.
	3		DoctorFinder sends a notification email to the doctor saying that his account has been deleted from the system.
<b>Variations:</b>	Admin may select to undo the deletion operation.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-04
<b>Use Case Name:</b>	Update Doctor's Info.
<b>Description:</b>	Doctor can update his information like profile, availability and contact information, so he keeps the patients up to date.

<b>Actors:</b>	Doctor, Admin		
<b>Pre-conditions:</b>	Doctor has logged into the system		
<b>Post-conditions:</b>	Doctor has updated his information. Admin has been notified by the changes.		
<b>Frequency of Use:</b>	Daily by doctors to update their next availability and occasionally to update other info.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Doctor views his information.	
	2	Doctor finds the part that needs to change and selects the edit function.	DoctorFinder responds by presenting the information in the editor form.
	3	Doctor changes the required info and selects the update function.	DoctorFinder saves the new information.
	4		DoctorFinder sends an email to notify the Admin by the changes.
<b>Variations:</b>	2. The Doctor does not find any information that needs to be updated.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			



<b>Use Case ID:</b>	UC-05
<b>Use Case Name:</b>	Create Patient's Account
<b>Description:</b>	Patient can create an account so he can use the special features of the system like rating and saving favorite doctors.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient wants to rate a doctor, write a review or save favorite doctors.		
<b>Post-conditions:</b>	Patient has created an account. Patient has received a confirmation email. Patient is able to rate, review and save favorite doctors.		
<b>Frequency of Use:</b>	Frequently by patients who want to use all the available features.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient selects the sign up function.	DoctorFinder responds by presenting a form to the Patient.
	2	Patient fills out the form by entering his name, email and password.	
	3	Patient submits the form.	DoctorFinder saves the patient's information and creates a new account.
	4		DoctorFinder sends a verification email to the Patient to confirm his registration.
<b>Variations:</b>			
<b>Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-06
<b>Use Case Name:</b>	Change My Account Info.
<b>Description:</b>	Patient can change his email, password and can remove a doctor from his favorite list, so he can control his account info.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has logged into the system.		
<b>Post-conditions:</b>	Patient has changed his password, email or favorite doctors' list.		
<b>Frequency of Use:</b>	Based on requirement.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient navigates to "My Account".	DoctorFinder responds by presenting patient's account page.
	2	Patient changes his email.	
	3	Patient changes his password.	DoctorFinder asks the patient to confirm his new password.
	4	Patient removes a doctor from his favorite list.	
	5	Patient submits the changes.	DoctorFinder removes the selected doctor from the list and saves the new information.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-07
<b>Use Case Name:</b>	Search for Doctor
<b>Description:</b>	Patient can search for a doctor based on doctor's specialty, location, and insurance accepted.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient wants to search for a doctor based on specific search criteria either or not he has an account. Patient's current location is chosen as the default location.		
<b>Post-conditions:</b>	A list of doctors has been displayed based on the provided search criteria.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	<b>1</b>	Patient selects the required specialty.	
	<b>2</b>	Patient chooses his current location.	DoctorFinder fills in location field (state, city, zip code) automatically.
	<b>3</b>	Patient selects his type of insurance.	
	<b>4</b>	Patient submits his selections.	DoctorFinder displays a list of doctors based on the provided search criteria.
<b>Variations:</b>	2. The Patient enters a specific location ( state, city or zip code).		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-08
<b>Use Case Name:</b>	Sort Results
<b>Description:</b>	Patient can get a sorted list of doctors.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has submitted his search criteria and got a list of doctors.		
<b>Post-conditions:</b>	Patient gets a sorted list of doctors.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient submits his search criteria.	DoctorFinder displays a sorted list of doctors based on the their rating (highest rating first) as the default sort option.
	2	Patient can choose to sort the results by rating or doctor's availability.	
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-09
<b>Use Case Name:</b>	Sort Results by Doctor's Rating
<b>Description:</b>	Patient can sort the searching results based on doctor's rating.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has submitted his search criteria and got a list of doctors.		
<b>Post-conditions:</b>	Patient gets a sorted list of doctors based on doctor's rating.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient activates the "Sort by doctors' rating" function.	DoctorFinder sorts doctors by their rating.
	2		DoctorFinder displays a sorted list of doctors based on their rating (highest rating first).
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-10
<b>Use Case Name:</b>	Sort Results by Doctor's Availability
<b>Description:</b>	Patient can sort the searching results based on doctors' availability.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has submitted his search criteria and got a list of doctors.		
<b>Post-conditions:</b>	Patient gets a sorted list of doctors based on next availability.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient activates the "Sort by doctor's availability" function.	DoctorFinder sorts doctors by their next availability.
	2		DoctorFinder displays a sorted list of doctors based on their availability (closest availability first).
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-11
<b>Use Case Name:</b>	View Doctor's Info.
<b>Description:</b>	Patient can view all the detailed information of a doctor.

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has got a list of doctors by searching.		
<b>Post-conditions:</b>	Patient gets the detailed information of a doctor.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	<b>1</b>	Patient chooses a specific doctor to view details and activates the "View Profile" option.	DoctorFinder responses by representing the detailed information on another web page.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-12
<b>Use Case Name:</b>	Locate Doctor on Map
<b>Description:</b>	Show location of doctor's office on a map

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has navigated to a doctor profile page.		
<b>Post-conditions:</b>	Map with location will be displayed.		
<b>Frequency of Use:</b>	Frequently throughout the day by patients.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	<b>1</b>	Patient selects "View on Map" function.	DoctorFinder displays the map containing the doctor's location.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			



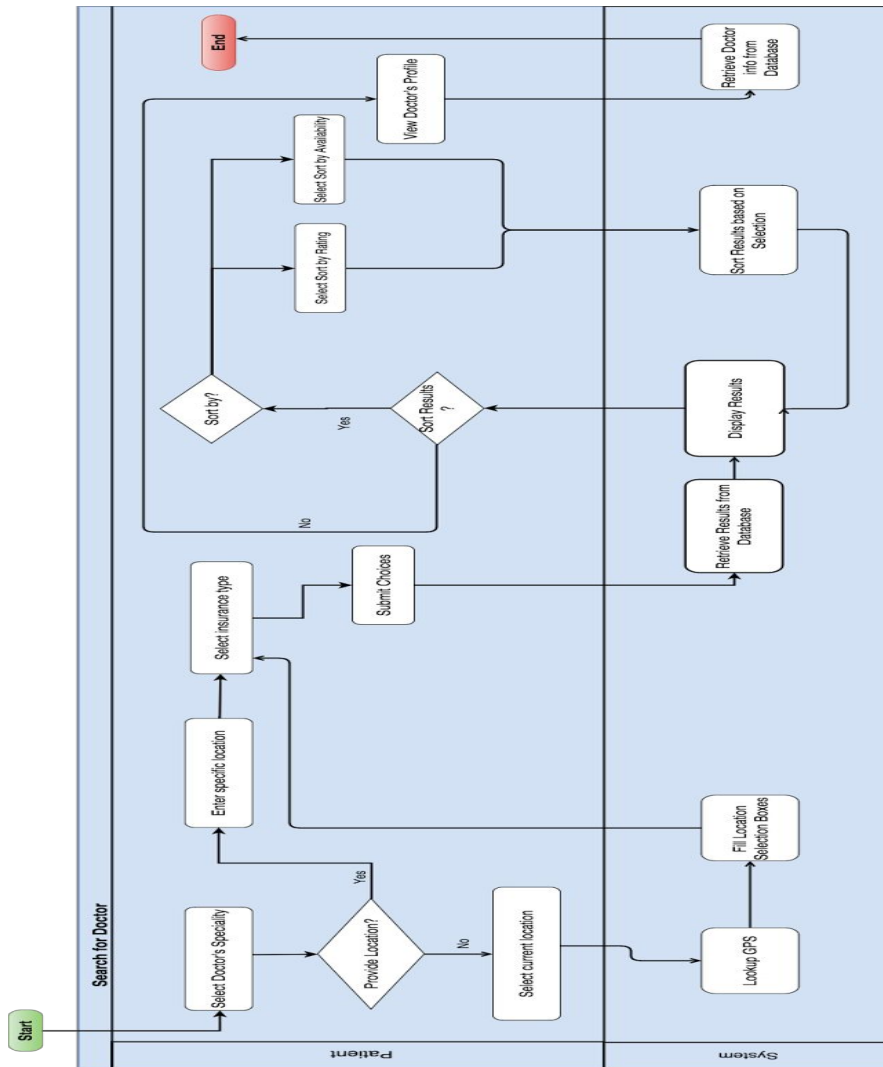
<b>Use Case ID:</b>	UC-13
<b>Use Case Name:</b>	Review and Rate Doctor
<b>Description:</b>	Allow patient to rate and post a review for the doctor on the doctor's profile page

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has previously created an account, is currently logged in, and has navigated to the appropriate doctor profile page.		
<b>Post-conditions:</b>	Rate and review have been added to the doctor's profile page.		
<b>Frequency of Use:</b>	Frequently by the patient.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	1	Patient selects "Write a Review" function.	DoctorFinder opens a dialog box for the patient to type in his review and provides options from 1 to 5 to select the doctor's rating.
	2	Patient types in the review.	
	3	Patient gives his rating to the doctor.	
	4	Patient selects "Submit" function.	DoctorFinder saves the review and rating and posts them to the Doctor's profile page.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-14
<b>Use Case Name:</b>	Save Doctor as Favorite
<b>Description:</b>	Saves a doctor to a patient's favorite list

<b>Actors:</b>	Patient		
<b>Pre-conditions:</b>	Patient has previously created an account, is currently logged in, and has navigated to the appropriate doctor profile page.		
<b>Post-conditions:</b>	Doctor has been added to the patient's list of favorite doctors.		
<b>Frequency of Use:</b>	Frequently by the patient.		
<b>Flow of Events:</b>		<b>Actor Action</b>	<b>System Response</b>
	<b>1</b>	Patient selects "Save as Favorite" function.	DoctorFinder adds the selected doctor to the patient's list of favorite doctors.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

## Activity Diagram




## Data Storage

We are using the Django web framework which comes with builtin support for MySQL databases to handle the storage of our persistent data. This database, like most others, can create files to handle storing the data that gets placed in the various tables. In order to access our database, we will have a class called DatabaseProxy that handles making queries and getting the results. The main function in this class is the query() method which makes use of two helper functions, makeQuery() and processResponse(). makeQuery() does what one would expect, actually handling the task of taking whatever SQL string we give it and passing it off to the database to get the results. processResponse() will take the raw results from the database and handle extracting/formatting the results to hand back to the client to use.

## UI Mockups

### 1.Main Screen:



# Doctor Finder

[Login](#)[Sign Up](#)[My Account](#)

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**Speciality**


**Location**  or [Use Current Location](#)

**State**  **ZIP**

**Insurance**

[Search](#)

### 2.Sign up Page



# Doctor Finder

[Home](#) > [Sign up](#)

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**Username**


**Name**

**Password**

**Conform Password**

[Register](#)

### 3.Login Page



## Doctor Finder

[Home](#) > Login


username

password

Login

New patient? [sign up](#)

### 4.Search Results




## Doctor Finder


[Home](#) > Search Results

Results for <specialty> near <location>

☒ Sort by rating  
☐ Sort by availability

	<Doctor Name> <Speciality> <Location> <Phone number> <Next Availability>	<div>★★★★☆</div> <div>View Profile</div>
And so on...		


## 5.Doctor Profile\Bio



### Doctor Finder

[Home](#) > [Search Results](#) > Doctor Profile

Edit button Only visible if you are the doctor and logged in



<Name>  
<Speciality>  
★★★★☆  
<Location>   <Phone number>  
<Office Hours>  
<Next Availability>

Save as Favorite


Bio   Reviews   Map   Insurance Accepted

**Education**

**Awards**

**Experience**


## 6.Doctor Profile\Reviews



### Doctor Finder

[Home](#) > [Search Results](#) > Doctor Profile

Edit button Only visible if you are the doctor and logged in



<Name>  
<Speciality>  
★★★★☆  
<Location>   <Phone number>  
<Office Hours>  
<Next Availability>

Save as Favorite

Bio   Reviews   Map   Insurance Accepted


Write a Review

★★★★★ Eloquent, beautiful, and glowing review goes here

Posted by <user name>

And so on...


## 7.Doctor Profile\Map



### Doctor Finder

[Home](#) > [Search Results](#) > Doctor Profile

Edit button Only visible if you are the doctor and logged in

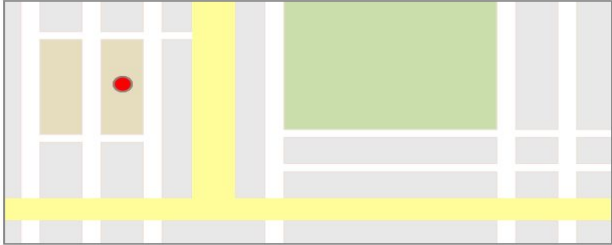


**<Name>**  
**<Speciality>**  
★★★★☆  
**<Location>**   **<Phone number>**  
**<Office Hours>**  
**<Next Availability>**


Save as Favorite

Bio   Reviews   Map   Insurance Accepted

**<Location>**   **<Distance>**




## 8.Doctor Profile\Insurance Accepted



### Doctor Finder

[Home](#) > [Search Results](#) > Doctor Profile

Edit button Only visible if you are the doctor and logged in



**<Name>**  
**<Speciality>**  
★★★★☆  
**<Location>**   **<Phone number>**  
**<Office Hours>**  
**<Next Availability>**


Save as Favorite

Bio   Reviews   Map   Insurance Accepted


**In-Network Insurances**

Option 1
Option 2
Option 3

## 9. Patient's Account



# Doctor Finder

[Home](#) > My Account 


**Email**


**New password**

Only visible if the edit button gets clicked and new password is entered

**Confirm new password**

**Favorite doctors**



<Doctor Name> <Speciality> 


<Location>

<Phone number> <Next Availability>

And so on...

Only visible if edit has been clicked

## 10. Admin Page\Add Doctor



# Doctor Finder

[Home](#) > Admin page

Add Doctor Remove Doctor

**Name**


**Address**

**Email ID**

**Speciality**

**Phone Number**

## 11. Admin Page\Remove Doctor



# Doctor Finder

[Home](#) > Admin page

Add Doctor Remove Doctor

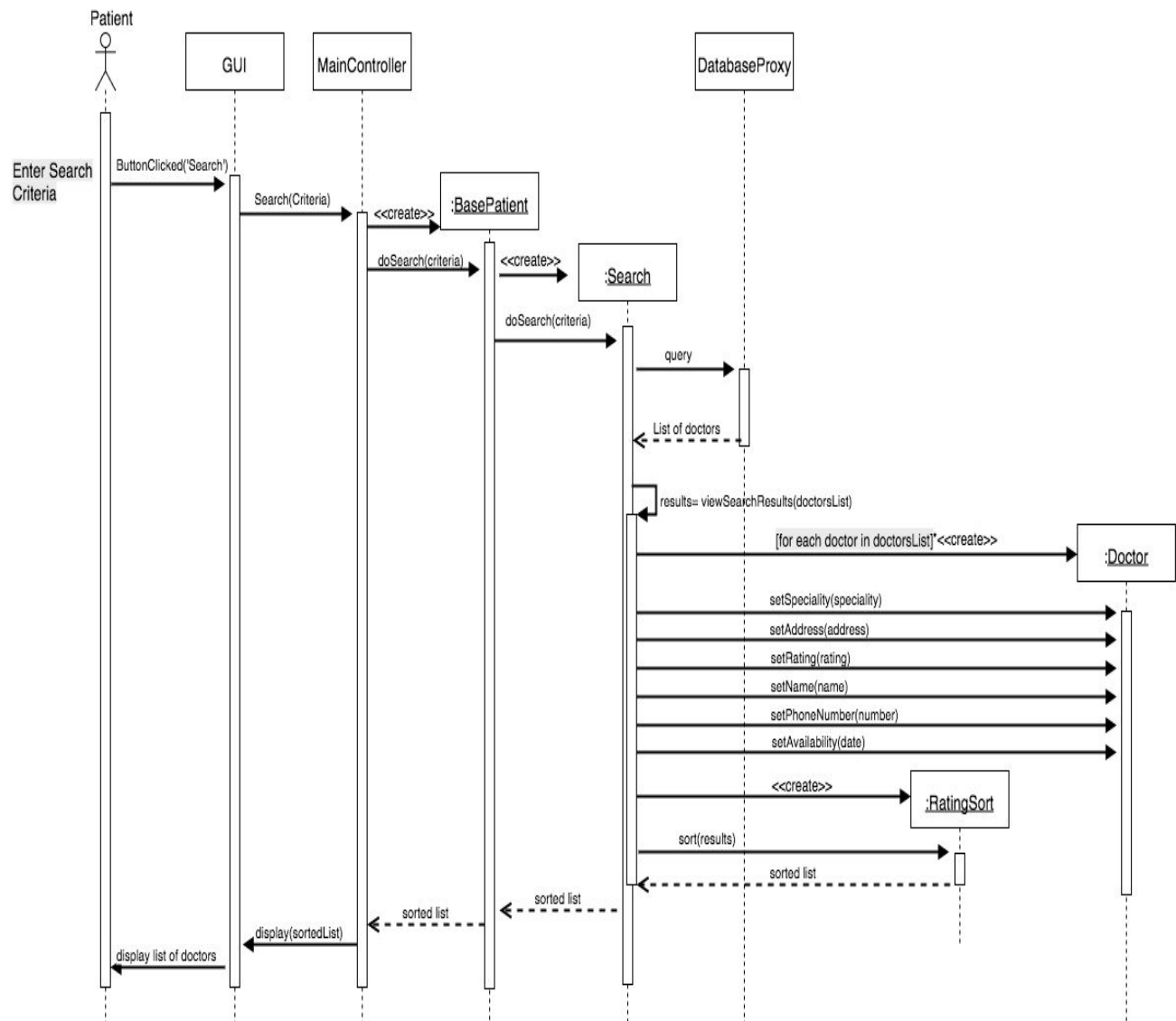
**Email ID**



## User Interactions

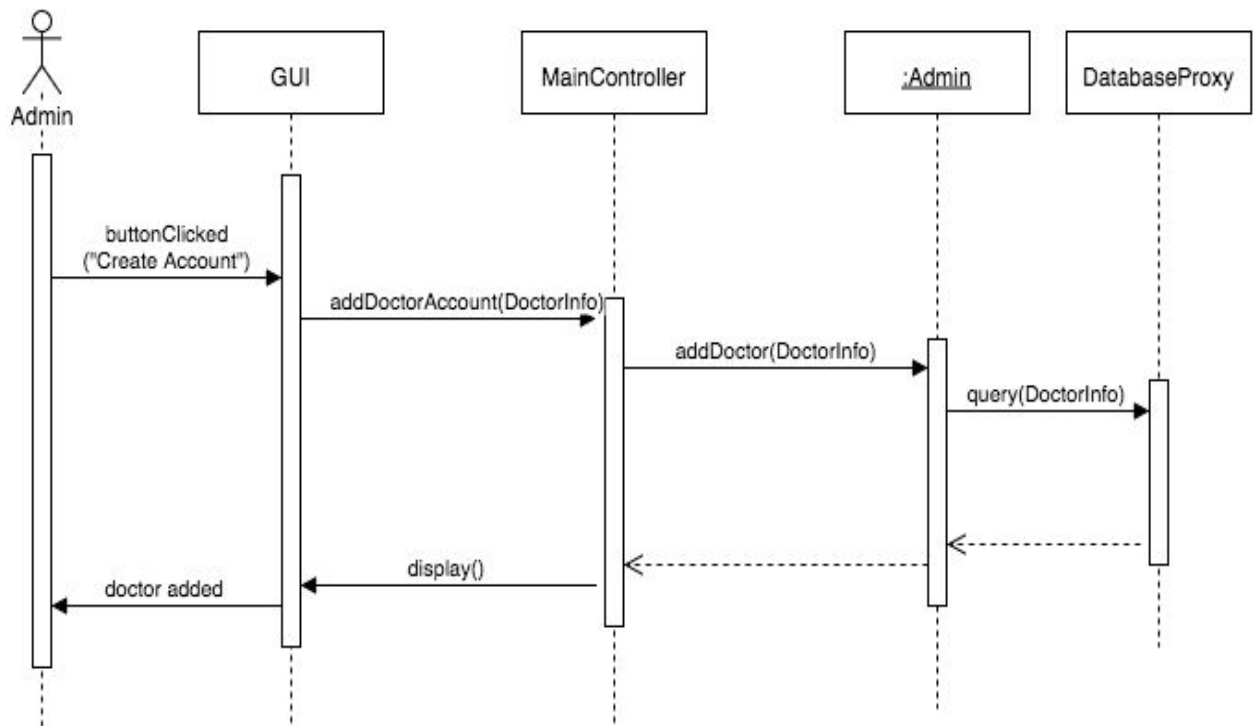
### 1. Search for Doctor:

When the patient has entered his search criteria which are doctor's specialty, location, and insurance and clicked the "Search" button, the system will search the database to find all doctors associated with the selected criteria. The system will then return a list of matched doctors. Then from the returned list, the system will create a list of Doctor objects and set them with the required information that should be presented in the search results. After that, the system will sort this list by doctor's rating as the default sort option for our system. Finally, the screen will be redrawn to reflect the sorted search result to the patient.



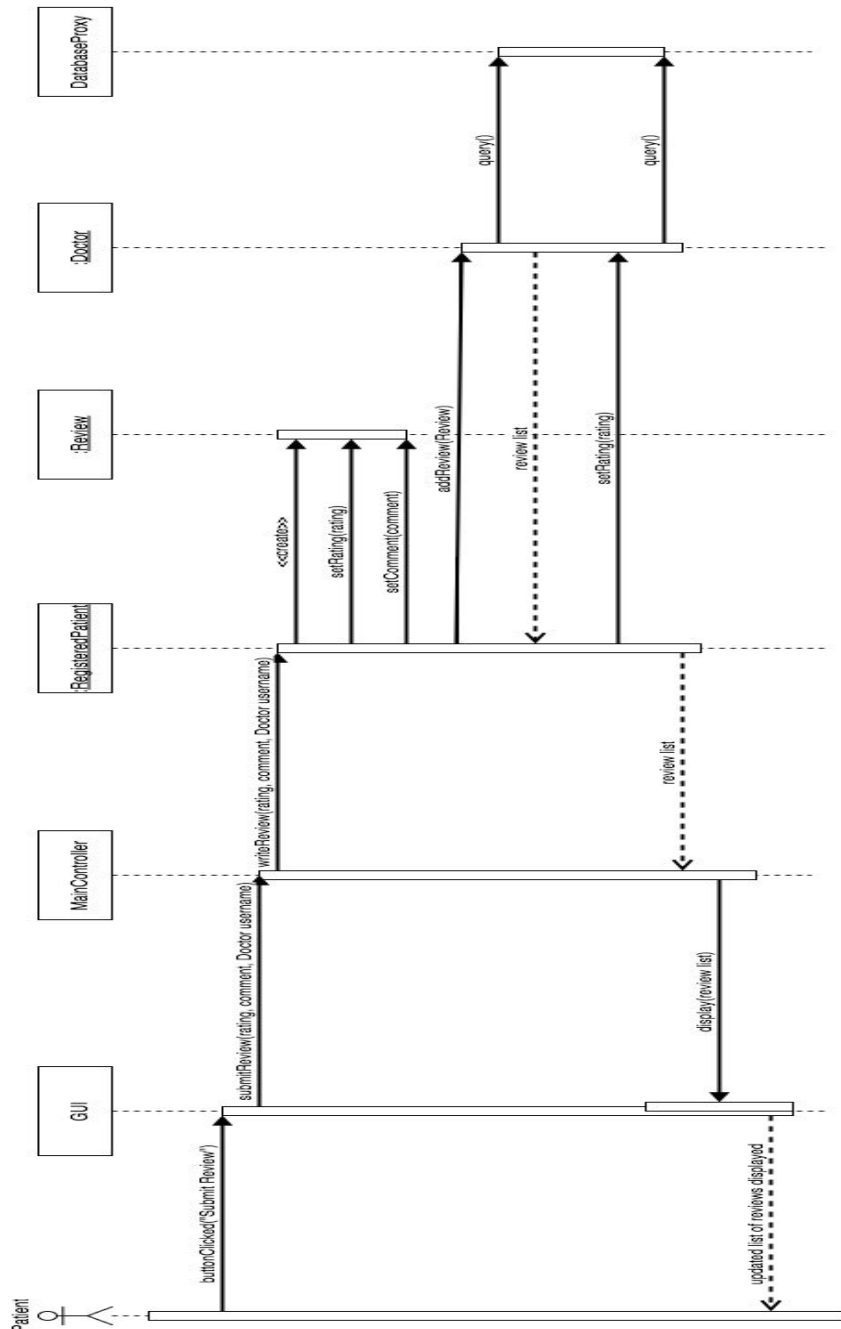
## 2. Add Doctor's Account:

When the admin has logged into the system and clicked the "Add Doctor" tab, he will type in the required information like doctor's name, address, email ID, speciality and phone number and then click the "Create Account" button. The system will take the inputted information and update our database with a new doctor record. Once this has completed, the admin should see a confirmation message like "Doctor added successfully!" from the screen.

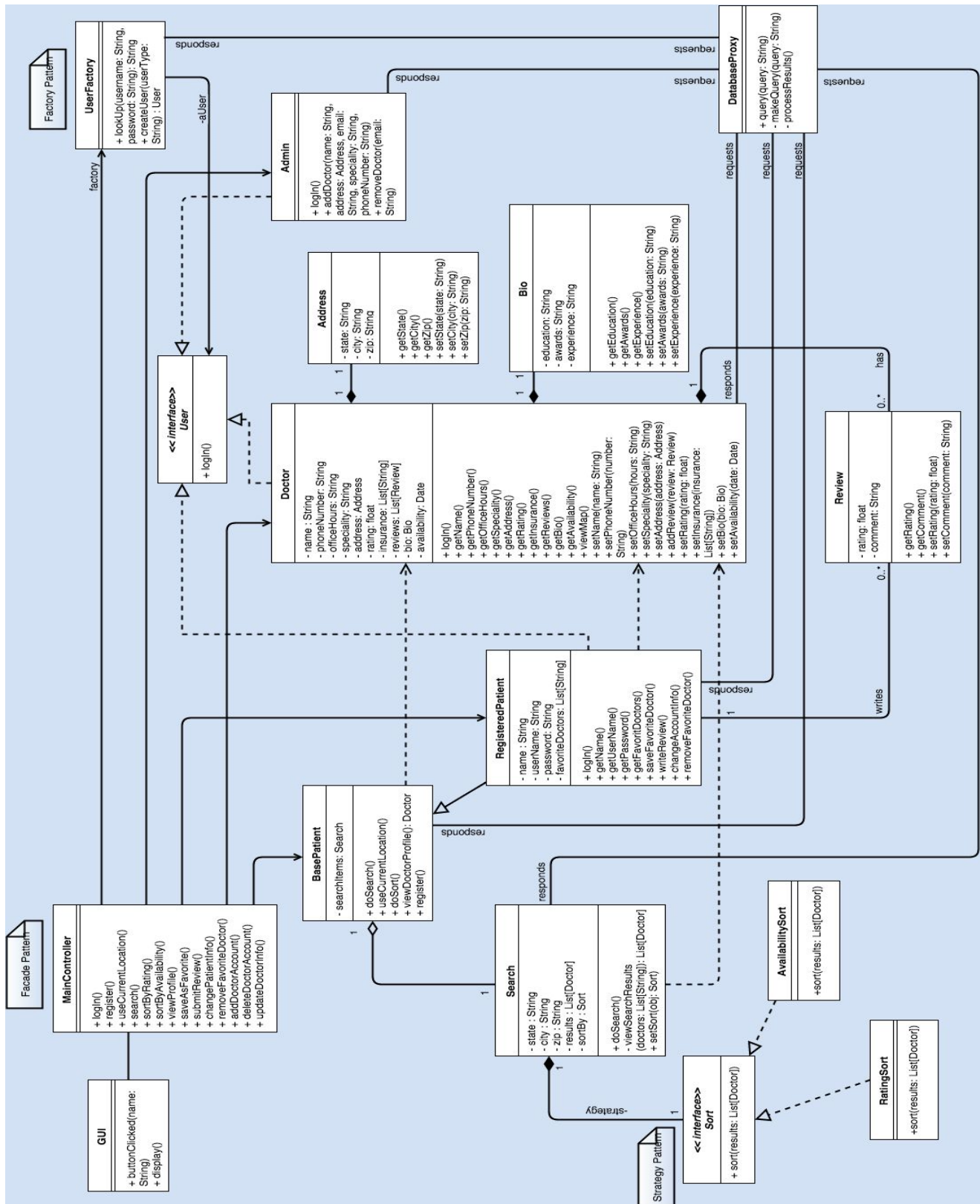


### 3. Review and Rate Doctor:

Once the patient has entered his review into a dialogue box and clicked the "Submit Review" button, the system will take the rating and review text he provided and update the database with a new review associated with the particular doctor the patient selects. The system will then update the doctor's average rating and add the patient's review to the list of reviews displayed on the doctor's profile page. Finally, the screen will be redrawn to reflect these new changes.



## Class Diagram



We have three design patterns (Facade, Factory, Strategy) as shown in the diagram