

Summary

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Title of the Project : SpotTheDoc

Project Summary : An integrated health management portal to manage appointments for the patients and doctor so as to meet the medical needs of patients through consultation with specialized doctors. The portal also manages health records of the patient so that the patient can view his health record. The admin helps in managing the doctors in the system by adding and deleting existing doctors.

Actors : Patient, Doctor, Admin

Project Requirements

| Business Requirements | | | | |
|-----------------------|---|----------------|-----------------------------|----------|
| ID | Requirement | Topic Area | Actor | Priority |
| BR-001 | A username must be alphanumeric for registration | Authentication | Patient, Doctor, Pharmacist | High |
| BR-002 | A password must contain at least 8 characters. | Authentication | Patient, Doctor, Pharmacist | High |
| BR-003 | All doctors must have a location. | User Account | Doctor | High |
| BR-004 | A Doctor can have none or multiple specializations | User Account | Doctor | Medium |
| BR-005 | All actors must have a name. | User Account | Patient, Doctor, Pharmacist | High |
| BR-006 | An appointment with a doctor is of 30 minutes duration. | Scheduling | Patient, Doctor | Medium |
| BR-007 | A Doctor must have office hours.(week granularity) | User Account | Doctor | High |
| BR-008 | All Patient can schedule only one | Scheduling | Patient, | Medium |

| | | | | |
|--------|--|---------------|---------|--------|
| | appointment with a particular Doctor on a particular day. | | Doctor | |
| BR-009 | The permission should not be allowed to edit his health record. | Documentation | Patient | High |
| BR-010 | A Doctor must inform the admin to approve his registration outside the system. | User Account | Doctor | Medium |

| User Requirements | | | | |
|-------------------|---|---------------|-----------------|----------|
| ID | Requirement | Topic Area | Actor | Priority |
| UR-001 | As an admin,I should be able to approve a new Doctor request | User Account | Admin | High |
| UR-002 | As an admin, I should able to delete a Doctor. | User Account | Admin | High |
| UR-003 | As a Doctor, I should be able to register to the system. | User Account | Admin | High |
| UR-004 | As a Patient, I should be able to search for doctors by their name, specialization and location so that I can choose the a doctor according to my needs | Scheduling | Patient | Low |
| UR-005 | As a Patient, I should be able to schedule an appointment with the doctor so that I can consult the doctor. | Scheduling | Patient | High |
| UR-006 | As a Patient, I should be able to view my appointment schedule so that I can keep track of my appointments | Documentation | Patient, Doctor | High |
| UR-007 | As a Doctor, I should be able to view the pending appointment requests from all the patients so that I can choose to approve/ reject the appointments. | Scheduling | Doctor, Patient | Medium |
| UR-008 | As a Doctor, I should be able to view the approved appointments so that I can take a look at upcoming appointments | Scheduling | Doctor | Medium |
| UR-009 | As a Doctor, I should be able to update | Documentation | Doctor | Medium |

| | | | | |
|--------|---|---------------|---------|--------|
| | the Patient's health record for an appointment so that patient can get the diagnosis and prescription. | | | |
| UR-010 | As a Patient, I should be able to view my records so that I can keep a track of my health | Documentation | Patient | Medium |
| UR-011 | As a Patient, I should be able to view available slots before booking an appointment. | Scheduling | Patient | Low |
| UR-012 | As a new Patient, I should be able to register on the system so that I can access the system | User Account | Patient | High |
| UR-013 | As an Admin, I should be able to view all the registered doctors to the system so that i have a collective view of all the doctors. | User Account | Admin | Medium |
| UR-014 | As an admin, I should be able to delete a doctor so that i can remove them from the system. | User Account | Admin | Medium |

| Functional Requirements | | | | |
|-------------------------|--|----------------|-----------------------------|----------|
| ID | Requirement | Topic Area | Actor | Priority |
| FR-001 | As a system, a time slot for a doctor is blocked for further appointments if another patient has already taken that slot | Scheduling | Patient, System | Medium |
| FR-002 | The system should mark the initial status of all the appointments as "pending" | Scheduling | Patient, Doctor | High |
| FR-003 | As a system, access should be granted only for actors who login. | Authentication | Patient, Doctor, Pharmacist | High |
| FR-004 | The system marks the final status of the appointment as "Completed" when the records are updated. | Scheduling | Doctor, Patient | Medium |

| Non-Functional Requirements | | |
|-----------------------------|---|----------|
| ID | Requirement | Priority |
| NFR-001 | Reliability -All the data entries must be stored in a persistent and reliable manner | High |
| NFR-002 | Security - User account information and password must be stored in a secure manner | Medium |
| NFR-003 | Performance - The search results should be displayed within 10 seconds upon providing the search criteria. | Medium |
| NFR-004 | Platform constraints - Functionality of the system should be same on all the platforms(Windows/Mac OS) | Low |

Data Storage

We will be using MySQL Database Management System to store and retrieve messages. The database will contain entries for every user, doctor, patients, appointments, records, admin and all their details.

UI Mockup

1. Login Screen

SPOTTHEDOC

LOGIN

Username :

Password :

Submit

2. Register Patient

SPOTTHEDOC

Register Patient

Username :

Password :

Confirm Password :

Name :

Password :

Confirm Password :

Submit

3. Patient Homepage

SPOT THE DOC

Patient Home Page

Schedule Appointment

View Records

View Appointment Schedule

4. Search Doctor

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Search Doctor

Name :

Speciality :

| | |
|--------------|---|
| All | ▼ |
| Speciality 1 | |
| Speciality 2 | |

Location :

| | |
|------------|---|
| All | ▼ |
| Location 1 | |
| Location 2 | |

Search

5. Search Result

SPOT THE DOC

Search Result

| | |
|--|------------------------------|
| Name : D1 Specialization : Specialization1, Specialization2, Specialization3, Address : 20 th Street, ABC, CO- 80302 | View Profile |
|--|------------------------------|

| | |
|--|------------------------------|
| Name : D2 Specialization : Specialization1, Specialization2, Specialization3, Address : 26 th Street, XYZ, CO- 80202 | View Profile |
|--|------------------------------|

And so on

6. Doctor Profile

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Doctor Profile

Name : D1

Specialization :

- Specialization1
- Specialization2
- Specialization3

Address : 20th Street, ABC, CO- 80302

Office Hours : 9:00 – 17:00

[Schedule Appointment](#)

7. Select Appointment Date

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Select Date For Appointment

Enter Date in DD/MM/YYYY :

Show Available Slots

8. Select Time Slot

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Select Time Slot

Time Slot :

| | |
|-------------|---|
| Time Slot 1 | ▼ |
| Time Slot 2 | |
| Time Slot 3 | |

And So on

Select Time Slot

9. View Records

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View Records

| |
|---|
| Record ID : R1 Appointment ID : A1 Doctor Name : D1 Date : 15/6/2017 Prescription : <ul style="list-style-type: none">• Medicine 1, 200mg• Medicine 2, 100ml Comments : Right knee ligament is damaged |
|---|

| |
|---|
| Record ID : R2 Appointment ID : A11 Doctor Name : D3 Date : 1/5/2017 Prescription : <ul style="list-style-type: none">• Medicine 1, 10 pills Comments : Ulcers are developed in Stomach |
|---|

And so on

10. Patient Schedule

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Patient Schedule

| |
|---|
| Doctor Name : D1 Date : 15/6/2017 Time : 13:00 Status : Approved |
|---|

| |
|--|
| Doctor Name : D3 Date : 20/6/2017 Time : 15:00 Status : Pending |
|--|

And so on

11. Doctor Home Page

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Doctor Home Page

[View Appointment Request](#)

[View Schedule](#)

12. View Appointment Request

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View Appointment Requests

| | | |
|--|------------------------|-----------------------|
| Appointment ID : A1 Patient Name : P1 Date : 20/6/2017 Time : 15:00 | Approve Appointment | Reject Appointment |
| Appointment ID : A3 Patient Name : P3 Date : 30/7/2017 Time : 12:00 | Approve Appointment | Reject Appointment |

And so on

13. Doctor Schedule

SPOT THE DOC

Doctor Schedule


| | |
|--|------------------|
| Patient Name : P1 Date : 15/6/2017 Time : 13:00 Status : Approved | Update Record |
| Patient Name : P3 Date : 20/6/2017 Time : 15:00 Status : Pending | |

And so on

14. Update Record

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Update Record

| | |
|------------------|---|
| Add Comment : | <input type="text" value="Right knee ligament is damaged"/> |
| Add Prescription | <input type="text" value="Medicine 1 , 200mg"/> |
| | <input type="text" value="Medicine 2, 100 ml"/> |
| |  |
| | <input type="button" value="Update"/> |

15. Register Doctor

SPOTTHEDOC

Register Doctor

Username :

Password :

Confirm Password :

Name :

Address :

Contact :

Specialization :

Specialization 1

Specialization 2

+

Register

16. Admin Home Page

SPOTTHEDOC

Admin Home Page

Approve Doctor Request

View All Doctors

Delete Doctor

17. Approve Doctor Request

SPOT THE DOC

Approve Doctor Request

| | | |
|---|------------------------|-----------------------|
| Name : D1 Specialization : Specialization1, Specialization2 Address : 20 th Street, ABC, CO- 80302 | Approve Add Request | Reject Add Request |
| Name : D2 Specialization : Specialization1, Specialization2 Address : 26 th Street, XYZ, CO- 80202 | Approve Add Request | Reject Add Request |

And so on

18. Doctor List

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Doctor List

| | |
|--|-----------------|
| Name : D1 Specialization : Specialization1, Specialization2, Specialization3, Address : 20 th Street, ABC, CO- 80302 | View Profile |
| Name : D2 Specialization : Specialization1, Specialization2, Specialization3, Address : 26 th Street, XYZ, CO- 80202 | View Profile |

And so on

19. Delete Doctor

SPOT THE DOC

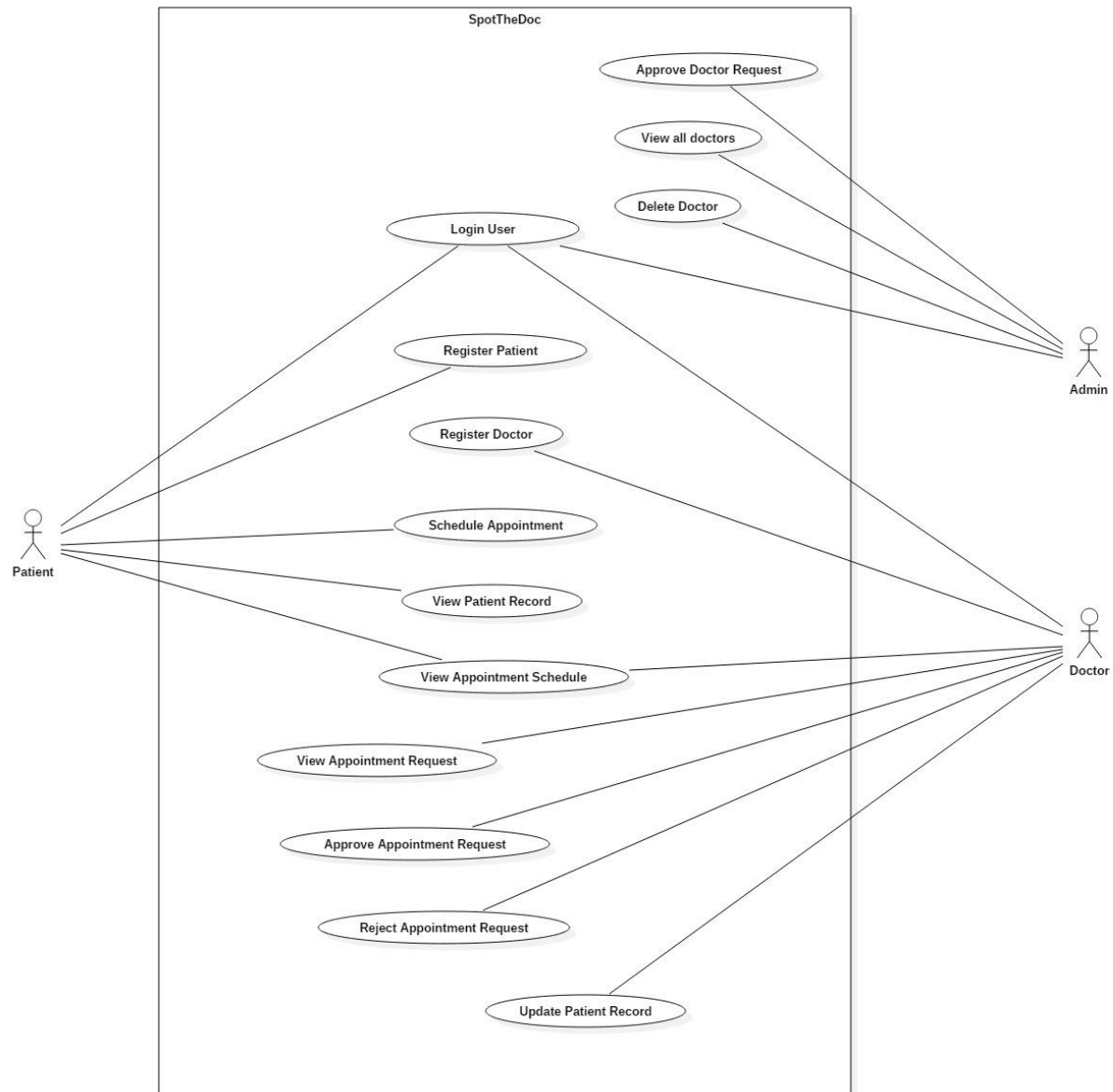
Delete Doctor

Doctor Username :

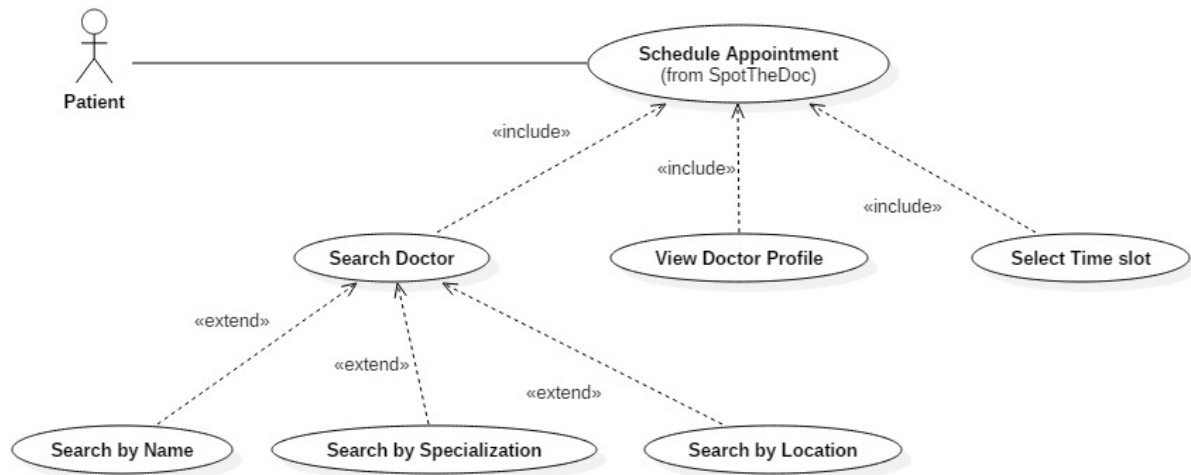
Use Case

Use Case Diagram and Sub Diagrams

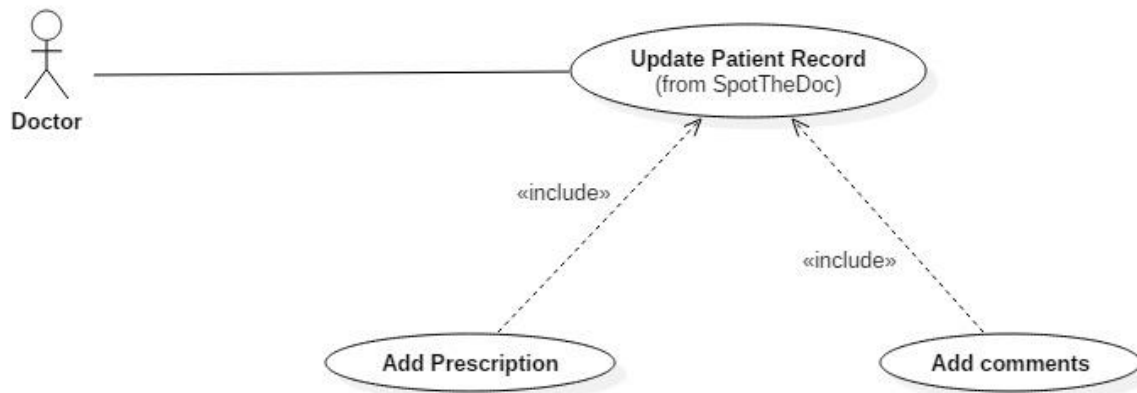
We have one major use case and 2 sub diagrams.



Main Use Case Diagram



Update Patient Record Subdiagram



Update Patient Record Subdiagram

Use Case Descriptions

| | | | |
|-------------------|---|--|--|
| Use Case ID: | UC - 01 | | |
| Use Case Name: | Schedule Appointment | | |
| Description: | Patient can schedule an appointment with the Doctor | | |
| Actors: | Patient | | |
| PreConditions: | Patient is logged in to the system. | | |
| PostConditions: | Appointment is Scheduled | | |
| Frequency of Use: | Whenever the user wants to schedule an appointment. | | |
| Flow of Events | | Patient | System |
| | 1 | Searches for the doctor by name,location and specialization. | Shows the list of doctors matching the criteria selected. |
| | 2 | Selects a doctor's profile to view from the list | |
| | 3 | | Show the doctor's profile and option to schedule the appointment |
| | 4 | Enter the date for an Appointment to be scheduled | |
| | 5 | | Show available time slots for the entered date |
| | 6 | Chooses a time slot. | |
| | 7 | | Schedule Appointment and send an appointment request to the doctor |
| Variations: | 4. When the date entered by the Patient is previous to the current date or is in an incorrect format, prompt the patient to provide the date again. | | |

| | |
|-------------------|---|
| | 5. If no time slots are available for the entered date, prompt patient to provide a different date again. |
| Notes and Issues: | |
| Developer Notes: | |

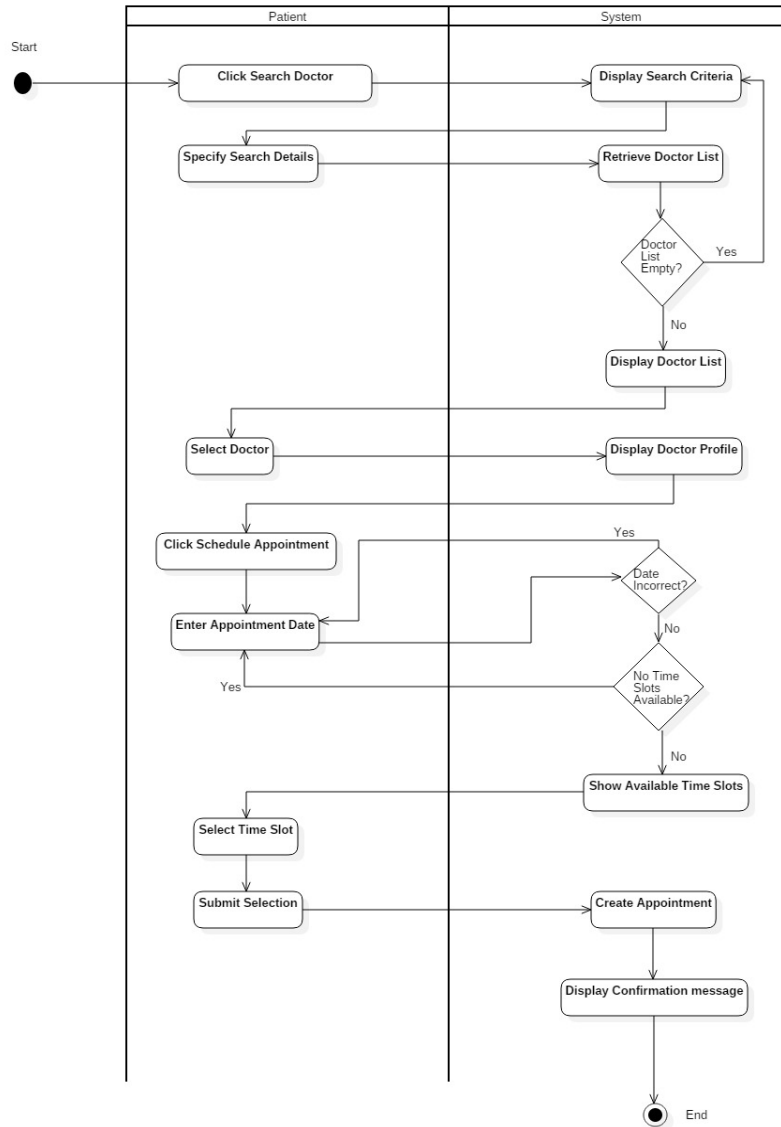
| | | | |
|-------------------|--|--|---|
| Use Case ID: | UC - 02 | | |
| Use Case Name: | Update Patient Record | | |
| Description: | Doctor can update the health record of a patient for an appointment | | |
| Actors: | Doctor | | |
| PreConditions: | 1. Doctor should be logged in to update the record. 2. Doctor should have approved a patient's appointment in order to update the record. | | |
| PostConditions: | Patient's records is updated in the system. | | |
| Frequency of Use: | Whenever an appointment is approved. | | |
| Flow of Events | | Doctor | System |
| | 1 | Selects the appointment for which the record needs to be updated | |
| | 2 | | Prompt doctor to add comment and prescription |
| | 3 | Enter comments and prescription for the appointment | |
| | 4 | | Update Records |

| | |
|-------------------|--|
| Variations: | |
| Notes and Issues: | |
| Developer Notes: | When no prescription is provided by Doctor, only the comments are updated in the patient's record. |

Activity Diagram

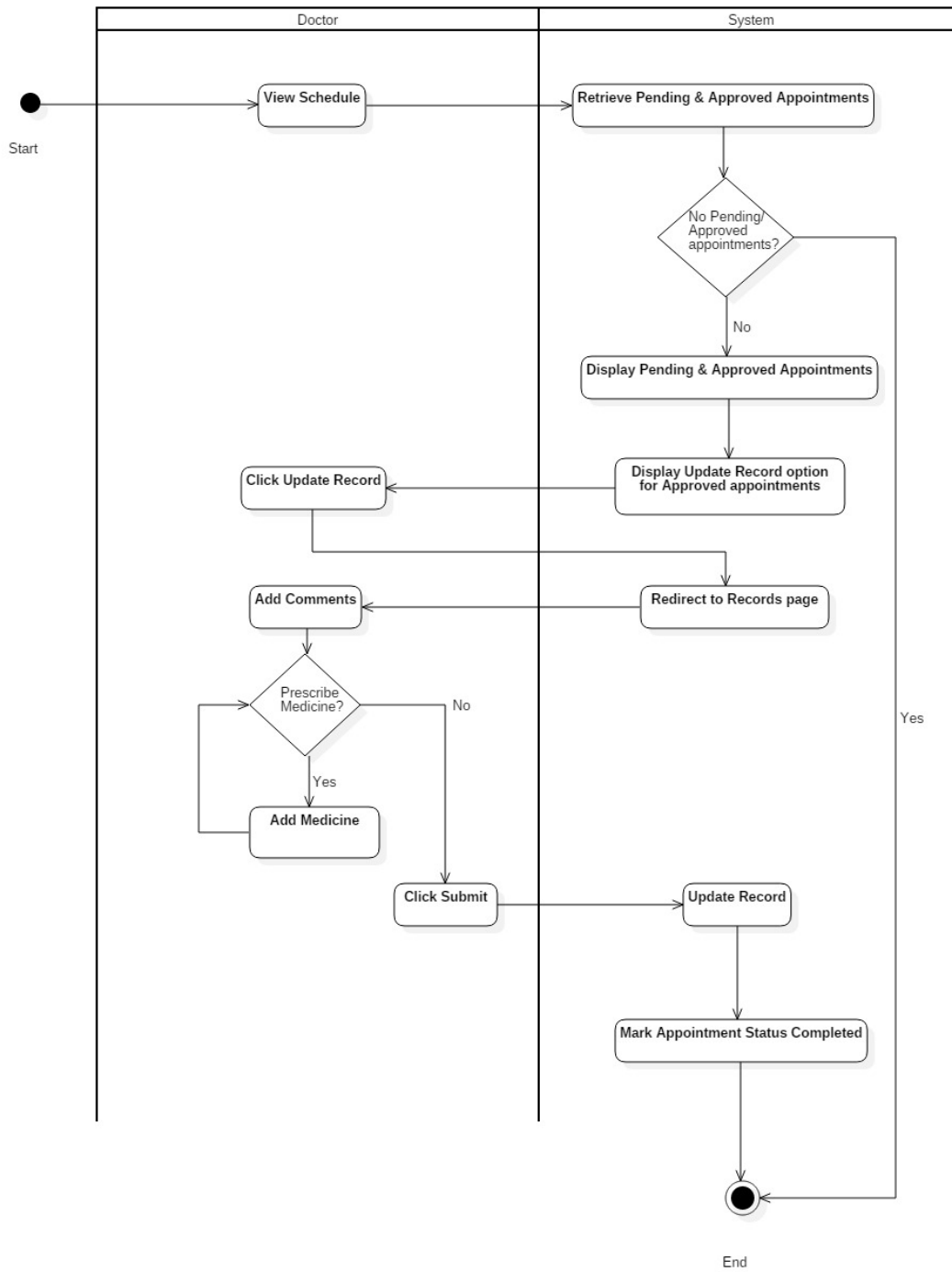
The Activity diagram shows scheduling of the appointment by the patient.

Requirement ID: UR-005
UseCase ID: UC-001
UseCase Name: Schedule Appointment



The below activity diagram shows updation of the patient record by the doctor.

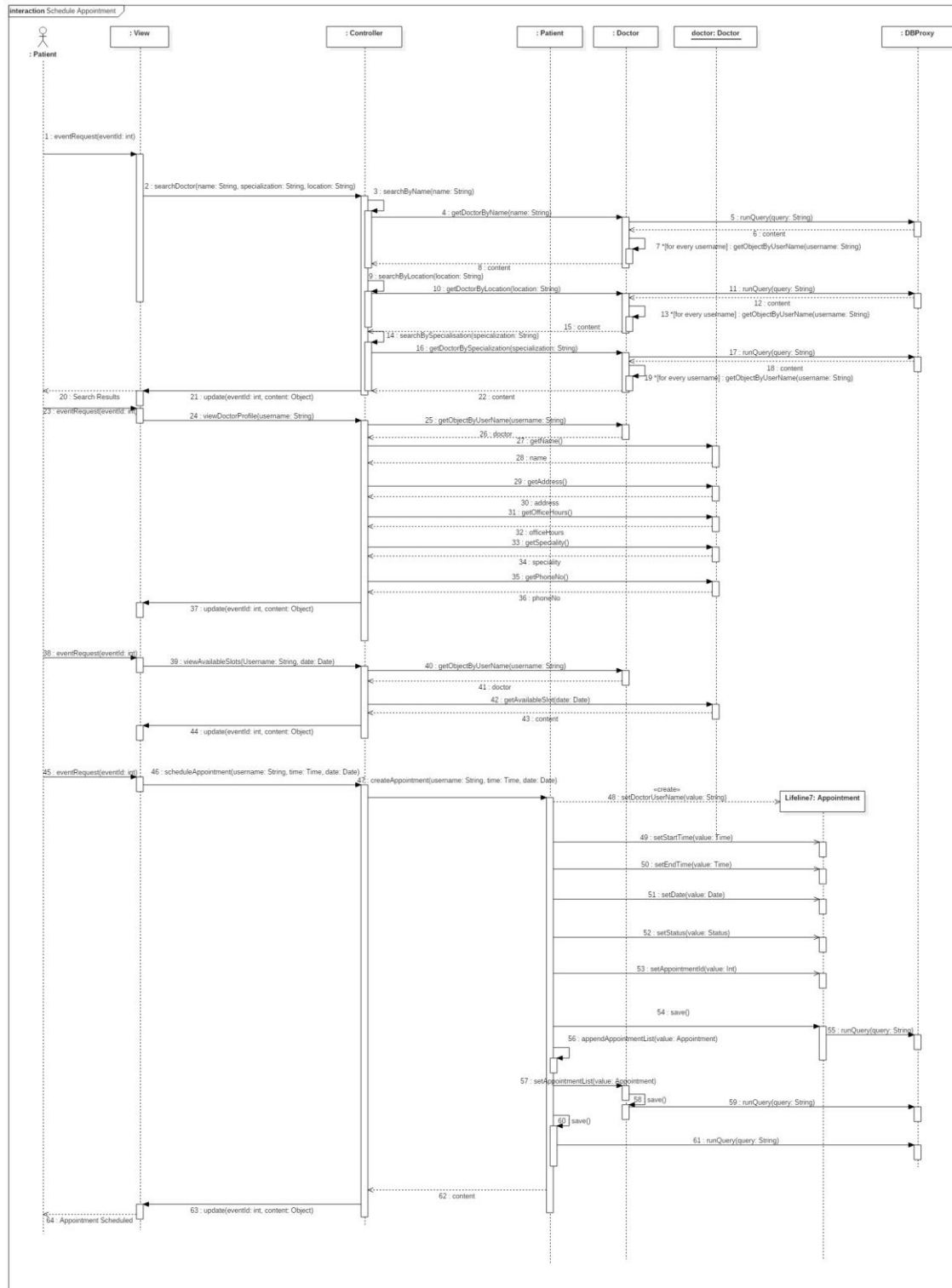
Requirement ID: UR-009
UseCase ID: UC-002
UseCase Name: Update
Patient Record



Sequence Diagrams

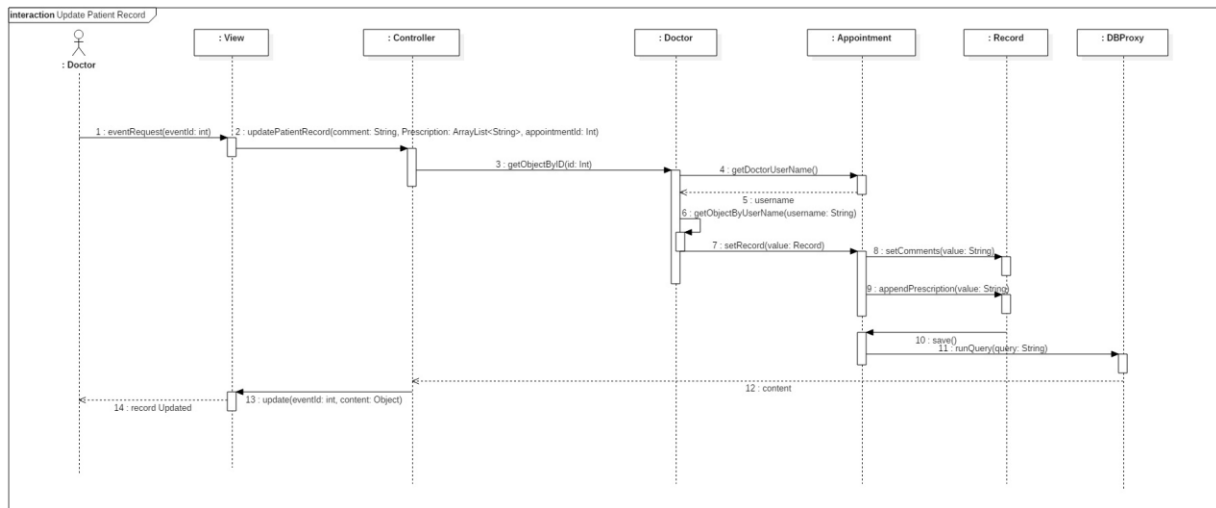
The diagram is depicting all the sequences that takes place while scheduling an appointment by the patient with the Doctor.

Requirement ID: UR-005
UseCase ID: UC-001
UseCase Name: Schedule Appointment



The below diagram is showing all the sequences that takes place while updating the health record of a patient by the Doctor.

Requirement ID: UR-009
UseCase ID: UC-002
UseCase Name: Update
Patient Record



Class Diagram

The Class diagram is displaying all the classes, their attributes and methods in SpotTheDoc system. Association between classes and their multiplicity is also depicted in the diagram.

