{caresyntax Case Study

Aravindanne, S (aravindannee007@gmail.com)
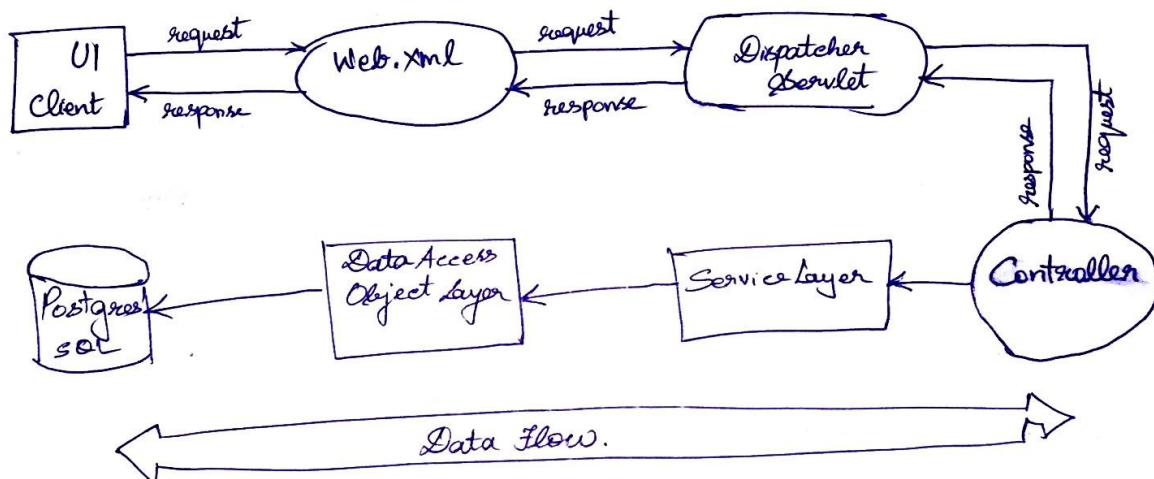
Contents

Problem Statement

Implement a study scheduling application in which procedures for treatment of patients performed by doctors are planned.

The tasks to be covered as follows:

1. Adding Patient
2. Scheduling procedure
3. Updating status of procedure

High Level Overview

Low Level Design

A hand-drawn UML class diagram containing the following elements:

StudyServiceImpl
- study : Study
- Implements all methods

«interface» StudyService
- getAllStudy() : List<Study>
- getStudyById() : Study
- addStudy(Study) : String

Bookings
- booking-id : int
- bookingType : BookingType
- startTime : Date
- endTime : Date

«enumeration» BookingType
- Doctor
- Room

Timings
- id : int
- startTime : Date
- endTime : Date
- bookings : List<Booking>
- addBooking() : void

Study
- id : String
- doc : String
- studyStatus : StudyStatus
- planned_startTime : Date
- estimated_endTime : Date
- patient : Patient
- room : Room
- doctor : Doctor

Doctor
- id : int
- name : String
- times : Timings

PatientServiceImpl
- Patient : Patient
- Implements all methods

«interface» PatientService
- getAllPatients() : List<Patient>
- getPatientById() : Patient
- addPatient(Patient) : String

Patient
- id : String
- name : String
- sex : String
- dob : Date

Room
- id : int
- name : String
- timing : Timings

«enumeration» StudyStatus
- Planned, In Process, Finished

{caresyntax Case Study
Aravindanne, S (aravindannee007@gmail.com)

Assumptions made for this case study:

1. Connection to JPA has some problem, Thereby the data is hardcoded and available for the application during the runtime.
2. Start Date and time are considered as Integers only. (for simplicity)
3. Data for doctor and rooms are hardcoded. For this demo, I have considered 2 Doctors (Shan and Michael and 2 Rooms (ECG and CTSCAN). (Please check the diagram 3)
4. UI has to be reloaded to avoid some glitches
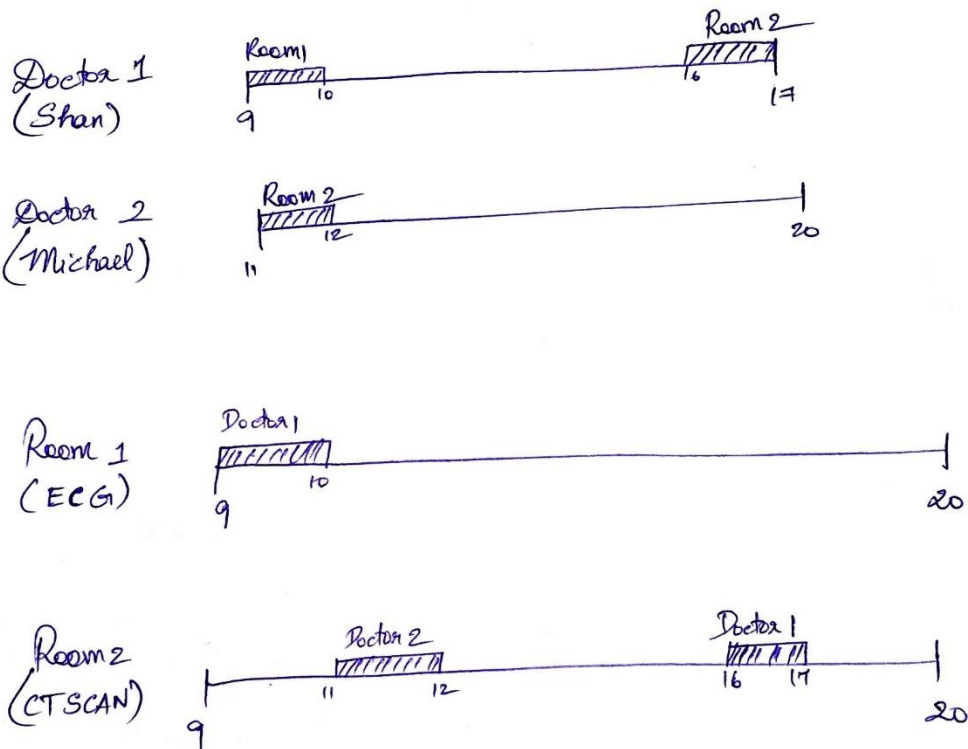
Technologies Used

1. Backend
   a. JAVA
   b. JAVA EE
   c. Spring MVC
   d. JPA (Hibernate)
   e. Maven
   f. Git
   g. Junit
   h. Postgres SQL
2. Frontend
   a. HTML
   b. CSS
   c. JS
   d. JQuery

{caresyntax Case Study

Aravindanne, S (aravindannee007@gmail.com)

Sample Dataset:

Hardcoded Doctor and Rooms booked:

Sample Input/Ouput

Start_time =10 ; End_time= 11; Room = 2 => Output = Doctor 1

Start_time =11 ; End_time= 12; Room = 1 => Output = Doctor 1

{caresyntax Case Study

Aravindanne, S (aravindannee007@gmail.com)

Task One: Adding Patient

{caresyntax - Case Study

lew patient id:

Search for patient....

Patient Details

Patient-Name

Aravindanne Segarin

GENDER

Male

Date-Of-Birth

08-Oct-1993

Submit

Close

Add Patient   Study   Refresh Data

Columns...

Patient-Id(*)		Patient-N	Date-Of-Birth

{caresyntax - Case Study

New patient id:

Search for patient....

Add Patient   Study   Refresh Data

Columns...

	Patient-Id(*)	Patient-Name	Gender	Date-Of-Birth
○	1	Aravind	M	20150217
○	2	Viswa	M	19930217
○	3	Saumiya	M	20000217
○	4	Aravindanne Segarin	male	1993-10-08

Task Two: Adding Procedure

List of Study

	Study Id	Patient Id	Description	Status	Planned Start Time	Estimated End Time	Room Name	Doctor Name
○	1	123	Desc 1	PLANNED	2	3	1	2
○	2	123	Desc 2	PLANNED	3	4	2	2
○	3	123	Desc 1	PLANNED	13	14	1	1
○	4	4	Need to scan	PLANNED	11	12	1	1

Update Status

Patient Id
Room Id
Description
Start Time
End Time
Add Study
Study ID :

Task Three: Updating Status

List of Study

	Study Id	Patient Id	Description	Status	Planned Start Time	Estimated End Time	Room Name	Doctor Name
○	1	123	Desc 1	PLANNED	2	3	1	2
○	2	123	Desc 2	PLANNED	3	4	2	2
●	3	123	Desc 1	In Process	13	14	1	1
○	4	4	Need to scan	PLANNED	11	12	1	1

Update Status

Patient Id
Room Id
Description
Start Time
End Time
Add Study
Study ID :

{caresyntax Case Study

Aravindanne, S (aravindannee007@gmail.com)

Source Code:

https://github.com/aravindanne/caresyntax_case_study.git

Summary:

The application is working as per the design and as per the requirements defined with the above-mentioned technologies. The end to end application scenarios are covered.