



Model Driven Software Engineering

COEN-6312

Instructor: Dr. Wahab Hamou-Lhadj

Topic: Hospital Management system

Deliverable 5 (Automted Code Generation)

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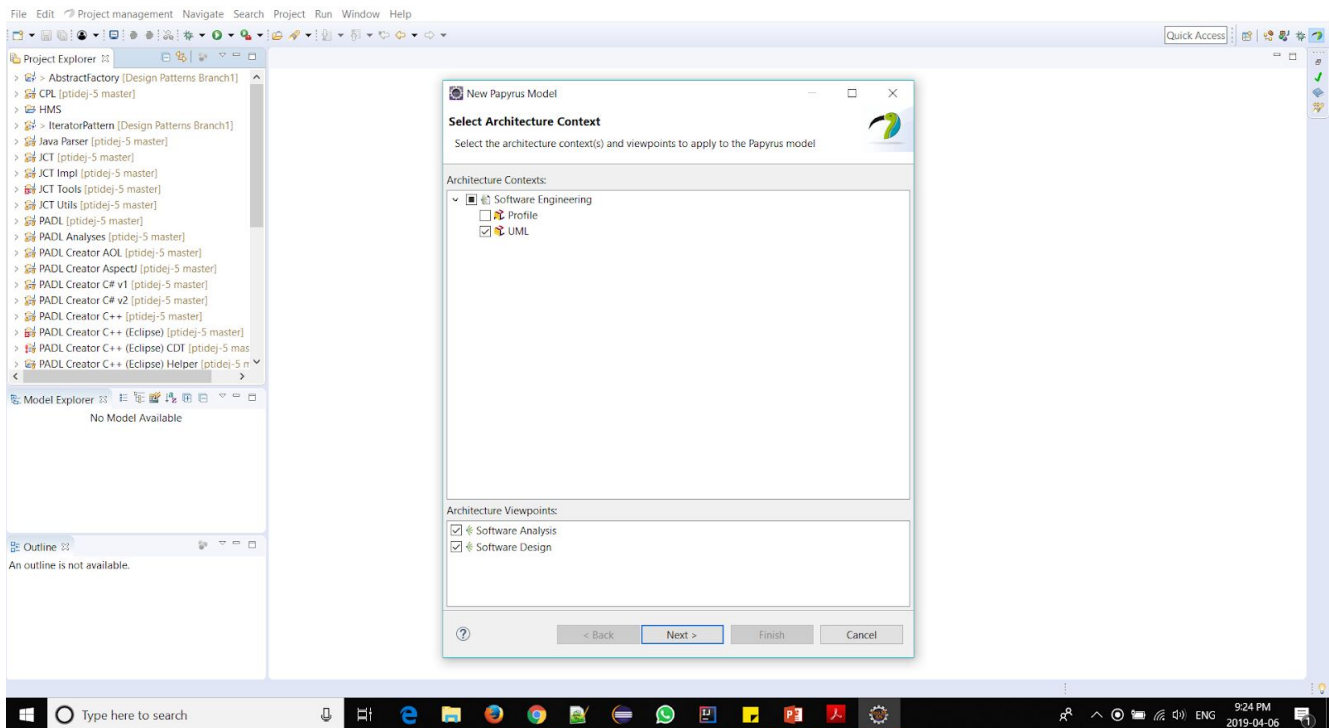
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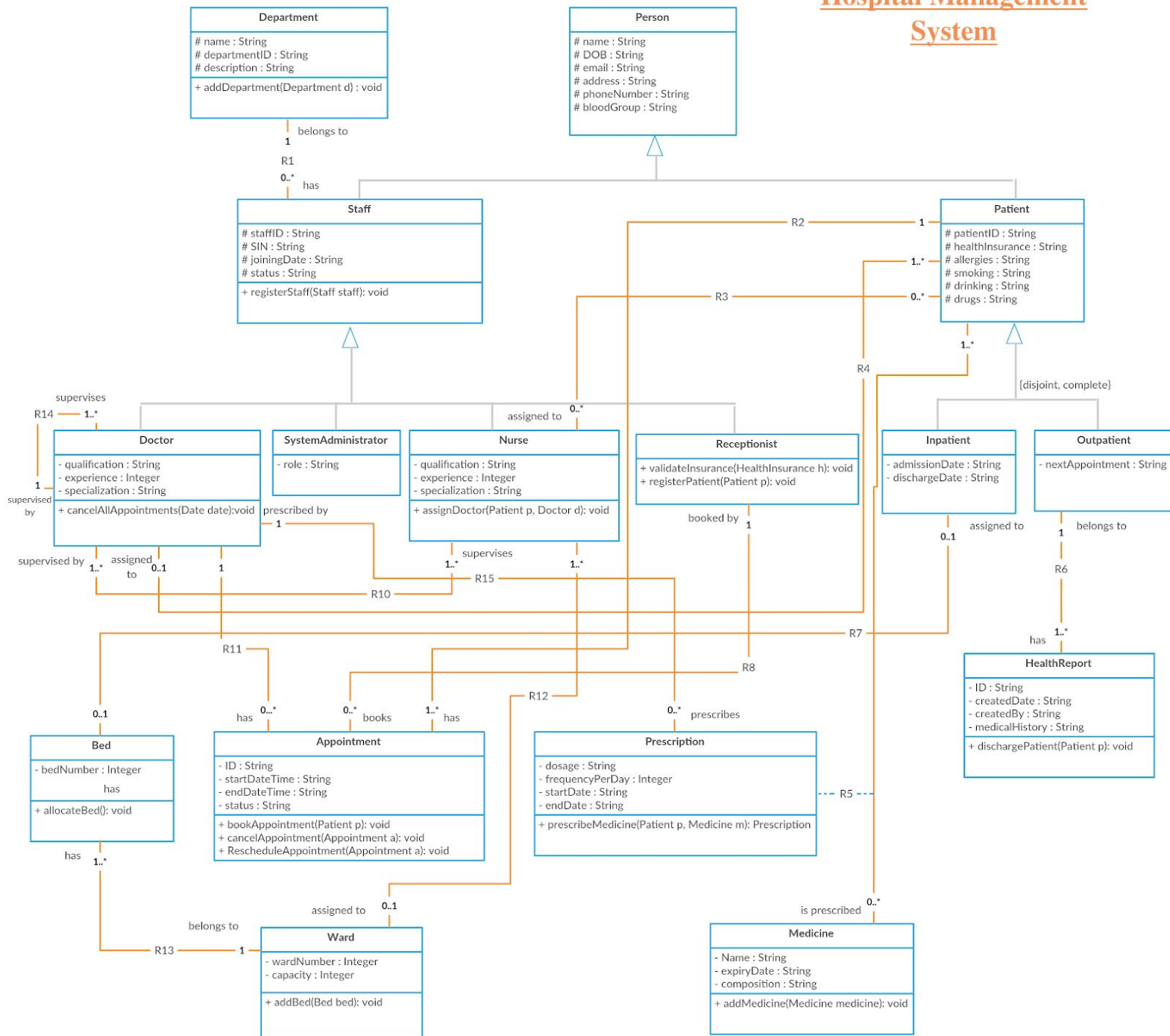
1. Code generation using Papyrus

- Create an empty java project. Right click on the java project to select New -> Other and select Papyrus model. Click next and in the pop up select UML.

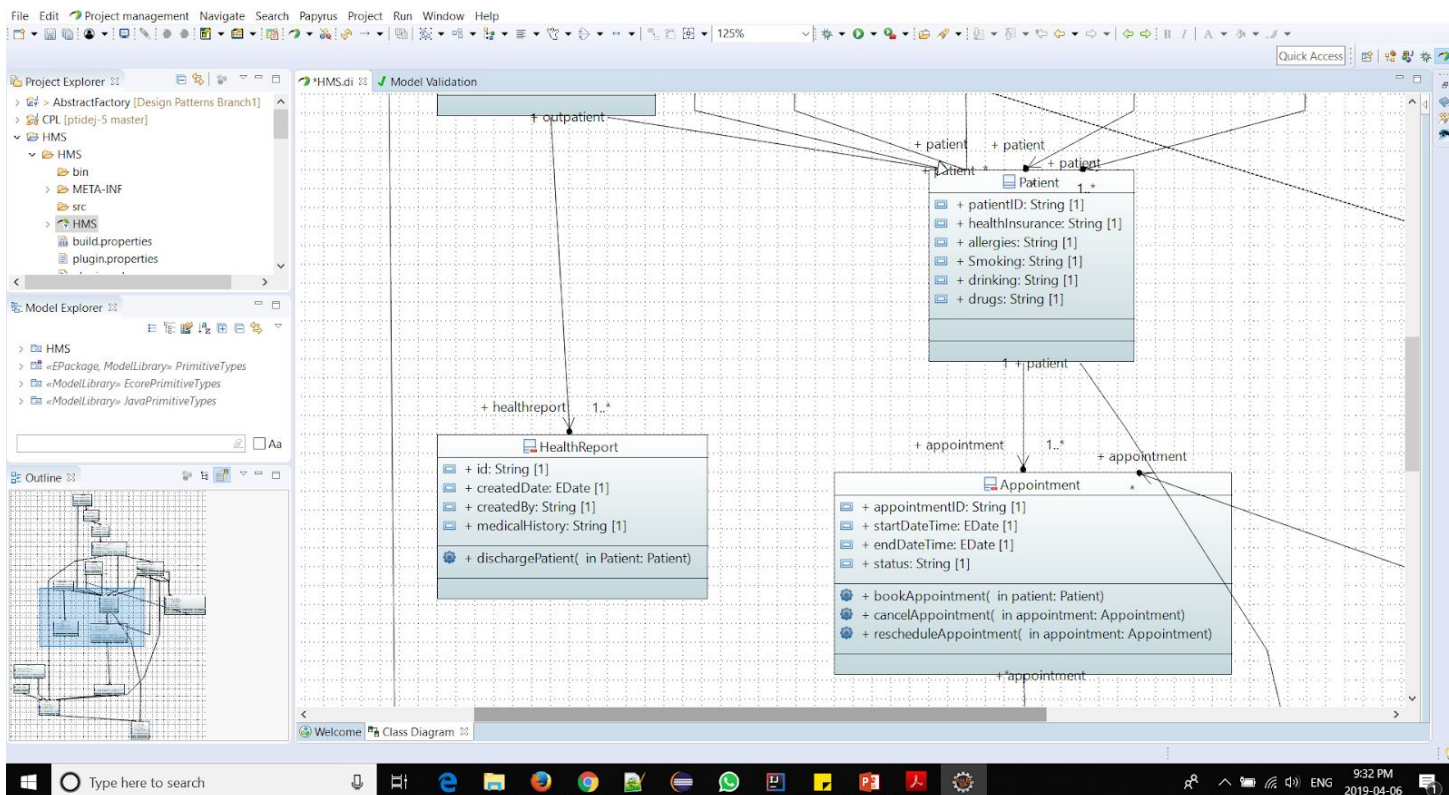


- Click next and select the project created above. Click next and select the class diagram option.
- Click finish and it will generate the Papyrus files in the project.
- Find the model.di file and change the perspective to Papyrus perspective also rename it to HMS.di
- Create the class diagram/attributes/associations according to the Hospital management system class diagram shown below

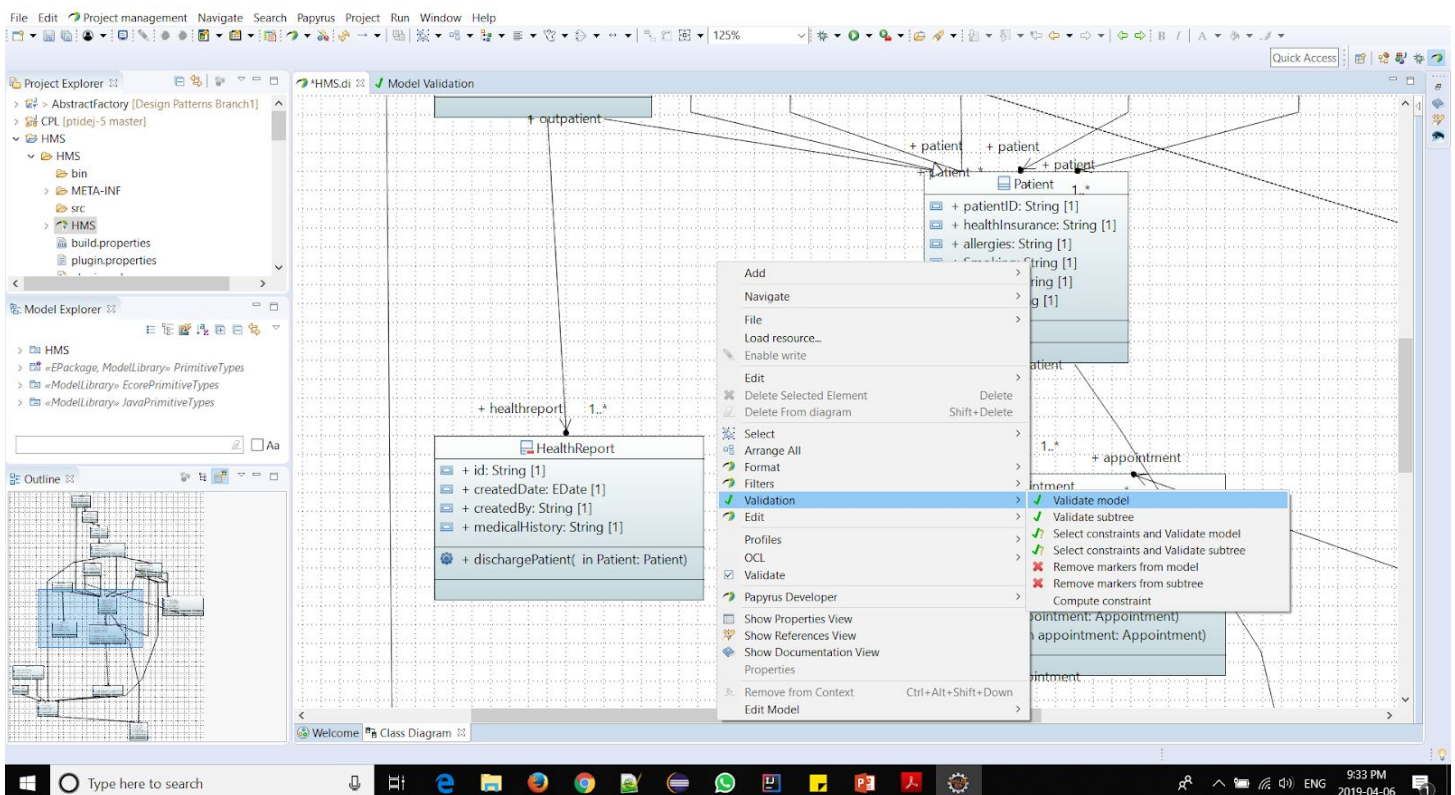
Hospital Management System

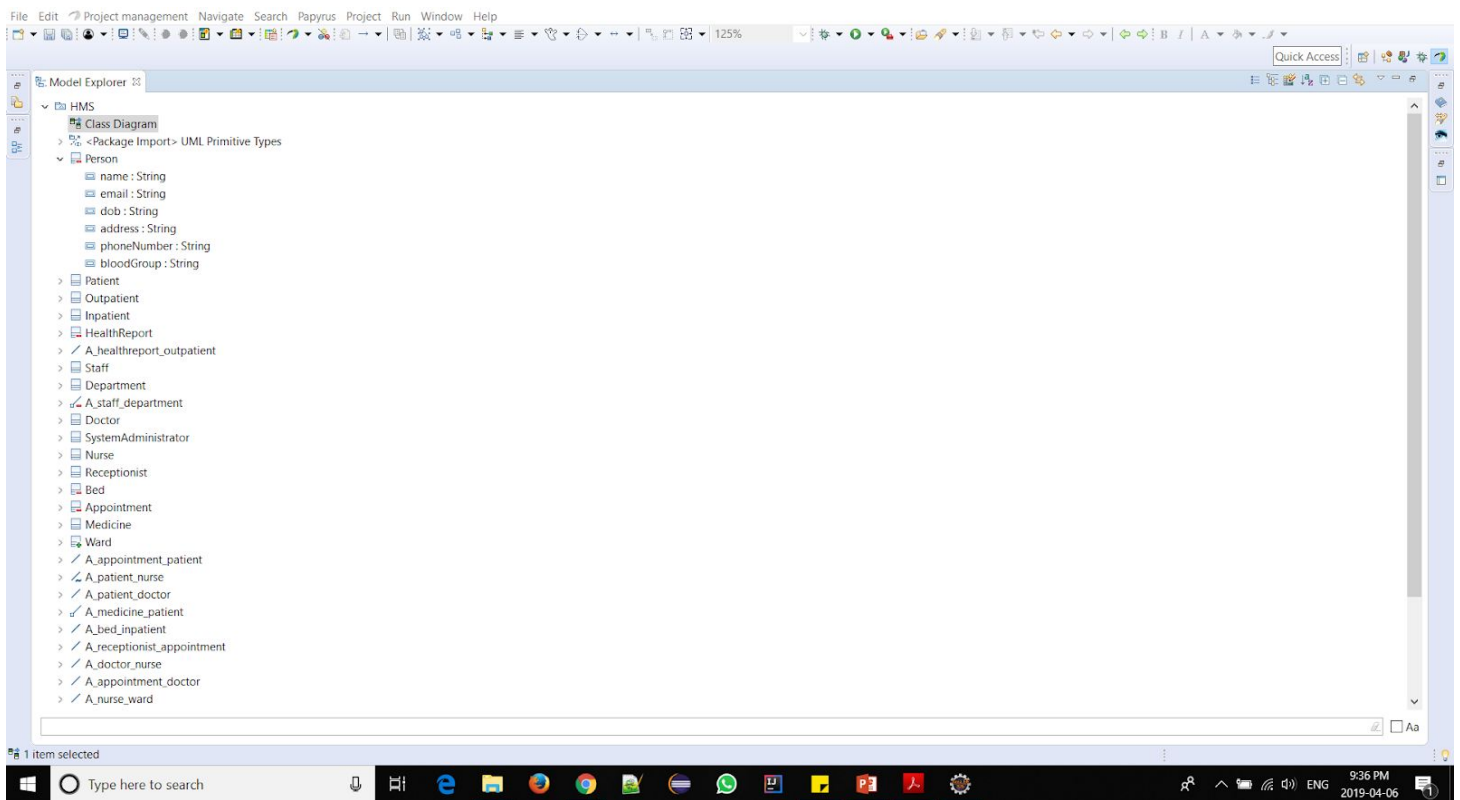


*Ctrl+Click on the class diagram for a better view

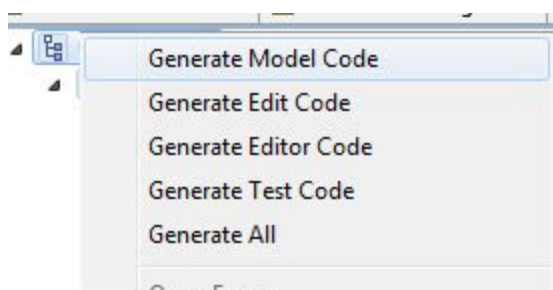


- We can import the primitive types of java and emf to use in the properties in the class diagram if needed
- Multiple functions are provided by Papyrus to validate the diagram to ensure we are doing it correctly as shown below





- Once the class diagram is completed we can generate the code by switching to plugin development perspective and click create new genmodel
 - Click and select the project and open “Create New Wizard”.
 - Select the EMF generator model and give a name.
 - Select UML model.
 - Select Model URI and the .uml file in the project and click next and finish
- Open the .genmodel created above and right click and select “Generate Model Code”



- If the UML diagram was built correctly it will generate the code as per the specification

File Edit Project management Navigate Search Papyrus Project Run Window Help

Project Explorer

- bin
- src
 - HMS
 - Appointment.java
 - Bed.java
 - Department.java
 - Doctor.java
 - HealthReport.java
 - Inpatient.java
 - Medicine.java
 - Nurse.java
 - Outpatient.java
 - Patient.java
 - Person.java
 - Prescription.java
 - Receptionist.java
 - Staff.java
 - SystemAdministrator.java
 - Ward.java
- RemoteSystemsTempFiles

Model Explorer

- HMS
 - Class Diagram
 - <Package Import> UML Primitive Types

Outline

HMSClassDiagramImage.pdf - HMS

*HMS.di

↑ outpatient

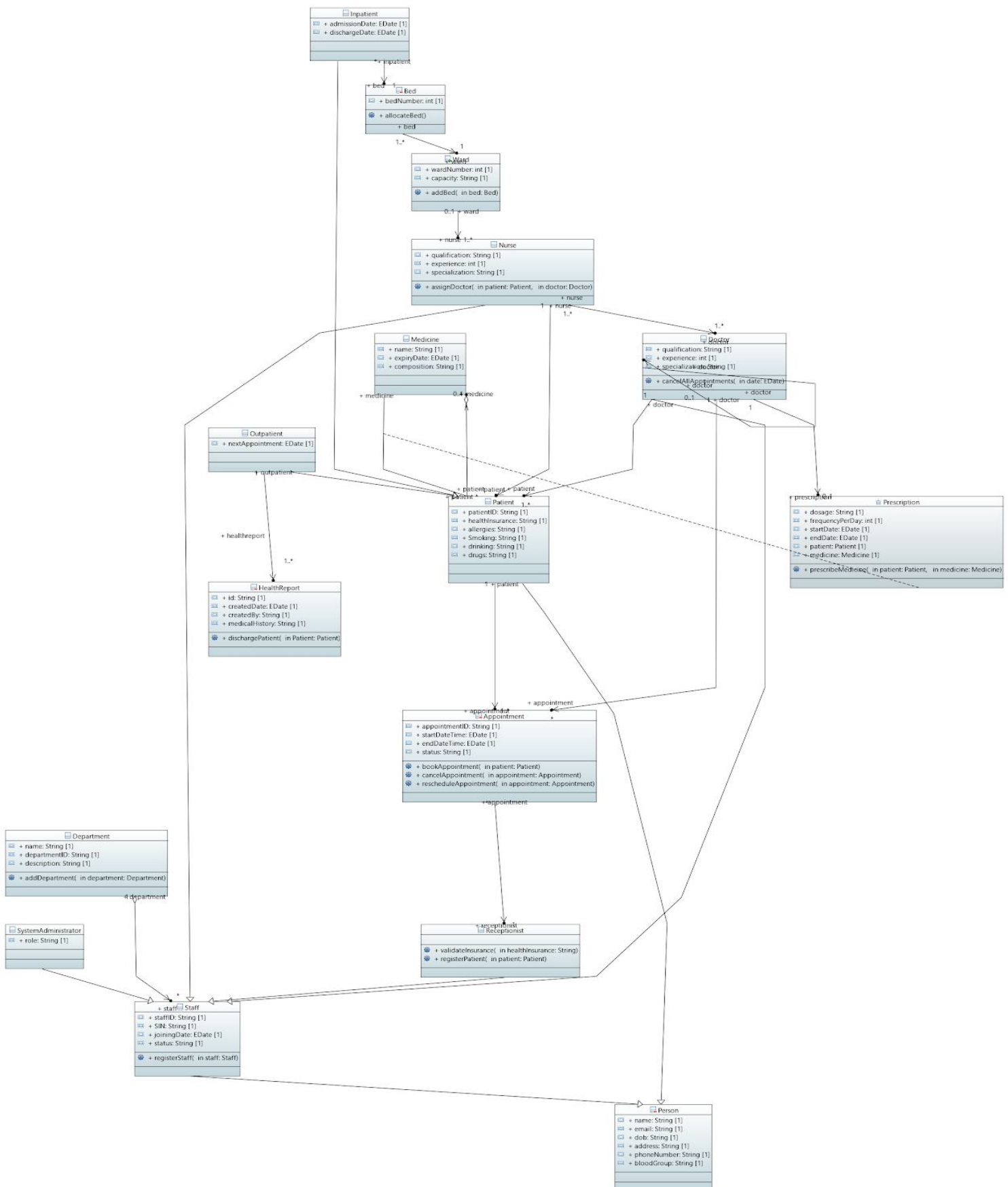
+ healthreport 1..*

HealthReport

- + id: String [1]
- + createDate: EDate [1]
- + createdBy: String [1]
- + medicalHistory: String [1]
- + dischargePatient(in Patient: Patient)

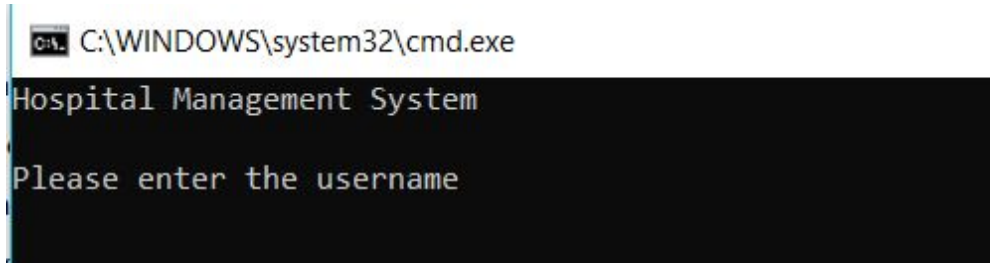
Welcome Class Diagram

2. Class diagram in Papyrus



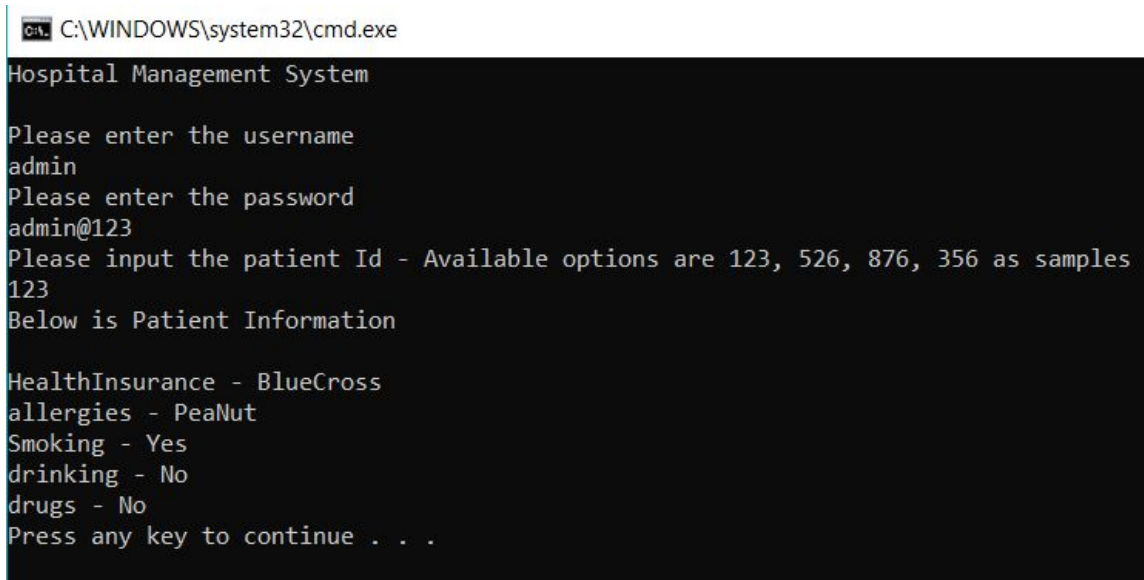
3. Application execution steps

- Download the project in the computer
- Navigate to “execute.bat” in HMS → src → Application → execute.bat
- Double click the file to open the cmd console



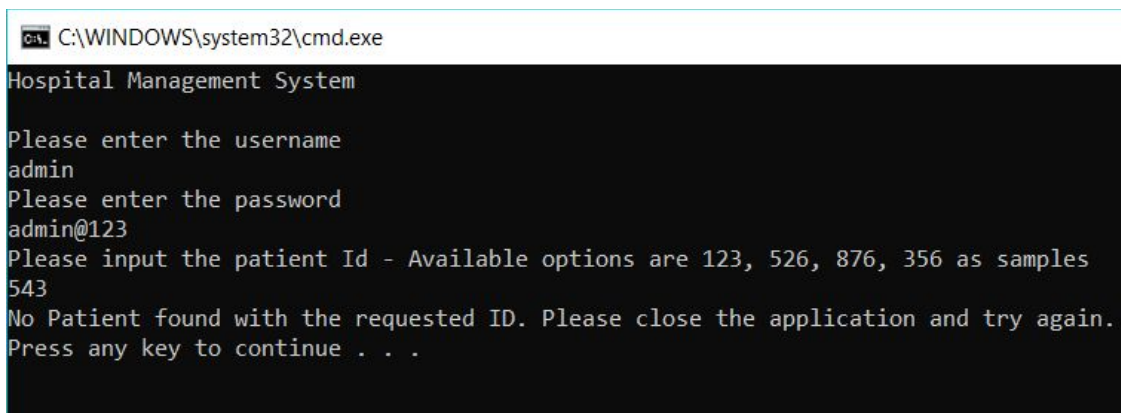
```
C:\WINDOWS\system32\cmd.exe
Hospital Management System
Please enter the username
```

- Enter any username and password
- Search for a patient from the available list/options
- The system would display the patient information



```
C:\WINDOWS\system32\cmd.exe
Hospital Management System
Please enter the username
admin
Please enter the password
admin@123
Please input the patient Id - Available options are 123, 526, 876, 356 as samples
123
Below is Patient Information
HealthInsurance - BlueCross
allergies - PeaNut
Smoking - Yes
drinking - No
drugs - No
Press any key to continue . . .
```

- If Patient is not present in the database then a message “No Patient found with the requested Id. Please close the application and try again”



```
C:\WINDOWS\system32\cmd.exe
Hospital Management System
Please enter the username
admin
Please enter the password
admin@123
Please input the patient Id - Available options are 123, 526, 876, 356 as samples
543
No Patient found with the requested ID. Please close the application and try again.
Press any key to continue . . .
```

4. Contribution Table

	Papyrus Set Up	Class Diagram Creation	Automated Code Generation
Nikhil Vijayan	√	√	√
Rakshitha Ramachandra	√	√	√
Debanjana Bhattacharyya	√	√	√
Dhruv Bhalodi	√	√	√
Jasmine Kalra	√	√	√

GitHub: <https://github.com/jas07061002/COEN6312>