# CS1 Task 7 Domain Model and Sequence Diagram

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# UML Domain Model

With help of Responsibility Driving Design were defined possible classes for our application. As a result was Domain Model Diagram created, which presents conceptual or domain classes and defines the binary relations between them.

* At first line were defined objects *Patient* and *Doctor*, because such persons play a central role in processes occurred within MNS-PMS. In advance was admitted that the objects of Patient and Doctor domain classes can have some common attributes, that is why was created conceptual class *Person* and the **generalisation** has been used to show relations between this three concepts (Person-Doctor-Patient).
* Because Patient and Doctor must collaborate with each other was the new domain class named *Case* defined. This is a central concept because interactions between Patient and Doctor are going through this class. The association between Doctor and Case is so defined that one doctor has many cases, and on the other hand on one case can work many doctors. The association between Patient and Case is like **composition** defined (there is no Case without Patient, if Patient does not exist anymore, Case also does not exist).

Patient

Case

* Every Patient must be treated by Doctor, that means should have diagnose and get some medication. To describe so exact how it is possible the collaboration within domain class Case were three more concepts defined, named *Diagnose*, *Treatment* and *Medication*. The association between domain Case and Diagnose is like **aggregation** defined, between Diagnose and Treatment, between Diagnose and Medication are associations with defined cardinality.

Case

Diagnose

The whole Domain Model is represented on Picture 1.

# UML sequence diagram

# Information update

D: MHCPMS-DB

AS: Authorization

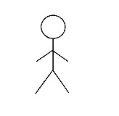
ViewInfo(PID)

[authorization OK]

Information update

P: Patienteninfo

Info updated



[authorization fail]

alt

Report(Info, PID,UID)

authorize(Info,UID)

authorization

Patient Info

Error (no access)

Edit (Info)

update

confirmation

Table 1.

Dfgdfghdfhghdgfh

# Information about some specific event

D: MHCPMS-DB

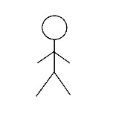
AS: Authorization

ViewInfo(PID)

[authorization OK and no new Info]

P: Patienteninfo

Info updated



[authorization fail]

alt

Request new Info? (PID,UID)

authorize(Info,UID)

authorization

Confirmation no new Info

Error (no access)

View new Info

Information about some specific event

[authorization OK and new Info]

Confirmation new Info

Report(Info, PID,UID)

Patient Info

Table 2

Sggsgdfgfdfg

# Refined UML domain model

After creating two sequence diagrams describing two different situations the Domain Model has been refined.

There are attributes and operations which can be used at a later stage – creation of classes’ diagram.

**Attributes**:

*PID* –patient’s identification number (belongs to class Patient)

*UID*- user’s identification number (belongs to class Doctor)

Under *Info* (sequence diagram) was defined a row of attributes belonging to class Person – *Lastname*, *Firstname*, *DateOfBirth*, *Address* etc., also a row of attributes belonging to other classes (for example *diagnose* from class Diagnose, the *name of medication* from class Medication).

**Operations can be used later as methods of classes**:

*viewInfo()*

*edit(argument)*

*getInfo()*