Software Requirements

Painkiller Injection System

Group 10

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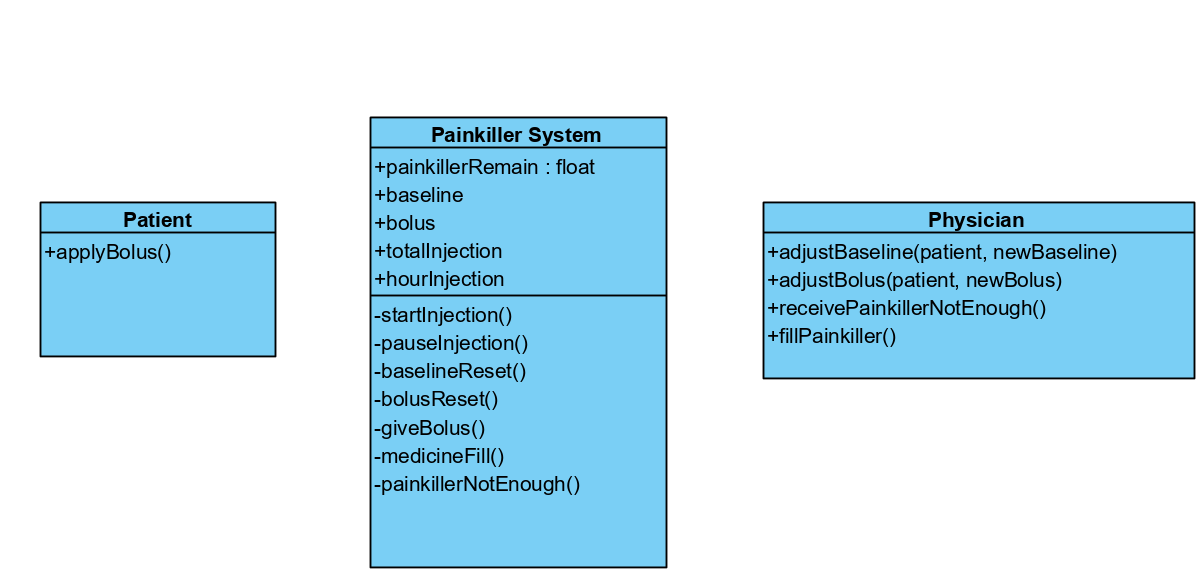
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## System Objective

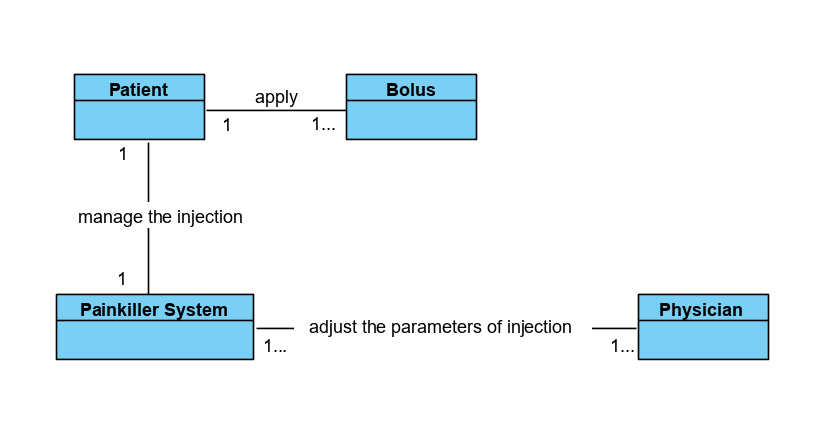
In this project, we are developing a system to simplify the process of painkiller injection after surgery in the hospital. The system will manage the injection rate, allow physicians to change the injection details, and provide a button for patients to apply a shot of extra injection to reduce their pain.

## Domain Analysis

The participants of activities around the painkiller injection system can be divided into Patients, Physicians and the system itself.



Their relationships are shown in the following figure:

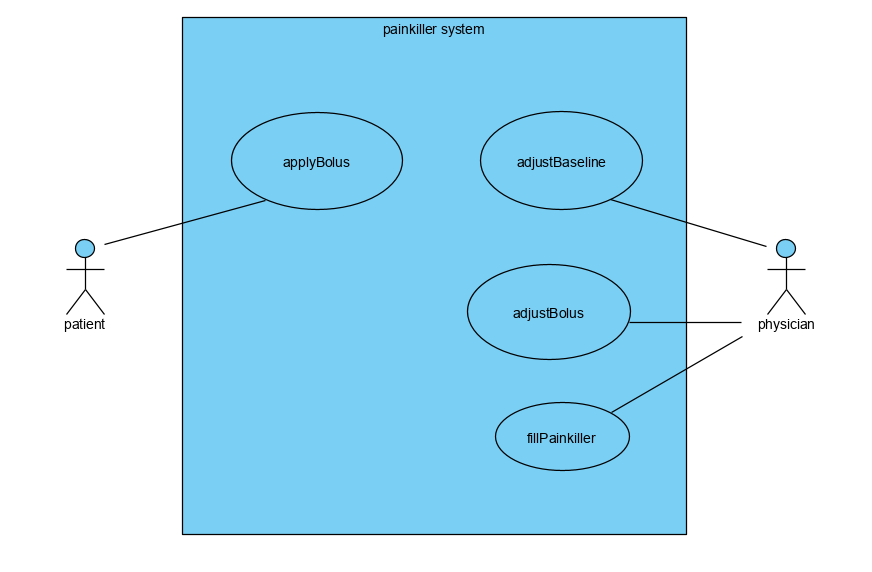


## System Architecture

(Drawing...)

## Use Cases

The system should fulfill the use cases from patient’s and physician’s perspectives:



## Software Requirements

**R1: Patient Interaction**

* R1.1 The patient should be able to press a button for a bolus.
* The button should in a place where is convenient for the patient to press.

R2: Physician UI

* R2.1 The physician should be able to see the detailed information about the injection of certain patient.
* R2.2 The physician should be able to adjust the baseline and bolus setting of certain patient.
* R2.3 The physician should be able to fill in the painkiller container.

R3: Injection processor

* R3.1 The processor should calculate the amount of injection of certain patient.
* R3.2 The processor should be able to pause injection if the amount of injection reaches either of the hour limit or daily limit.
* R3.3 The processor should be able to continue injection if the amount of injection is under the hour limit and daily limit.
* R3.4 (Extra)The processor can be able to alert the physician if the remaining painkiller is not enough for one bolus.