Assignment 2, Exercise 1 - Class Diagram

Modelling Class diagrams

Description

The classes we decided to choose are related to the Authentication and the Main Loop of the Game.

We have two classes for the authentication: *AuthenticationService* and *User*. The User class creates a User object with parameters: username, password, salt, alias (*in case the player decides not to reveal their username*) which are the information we need to store in the database. In order to do that the AuthenticationService class is helping us to salt the password and authenticate the User *(in case the given credentials are correct).*

For the Main Loop of the Game we decided to have multiple classes which extend from the abstract class *SpaceEntity*.
We decided to have the SpaceEntity class as it contains the common parameters and methods for all the objects we are generating during the game.
The classes *Player, Enemy, Asteroid, Bullet* directly inherit from the SpaceEntity class.
Moreover, as we wanted to implement different types of asteroids and enemies we also have subclasses for small, medium, large asteroids and small and big UFOs.
All the Space Entities are handled by the GameScreenController that is responsible for loading the game screen, adding objects, updating the screen in case of collisions or movements and it is also handling the key pressed by the player.