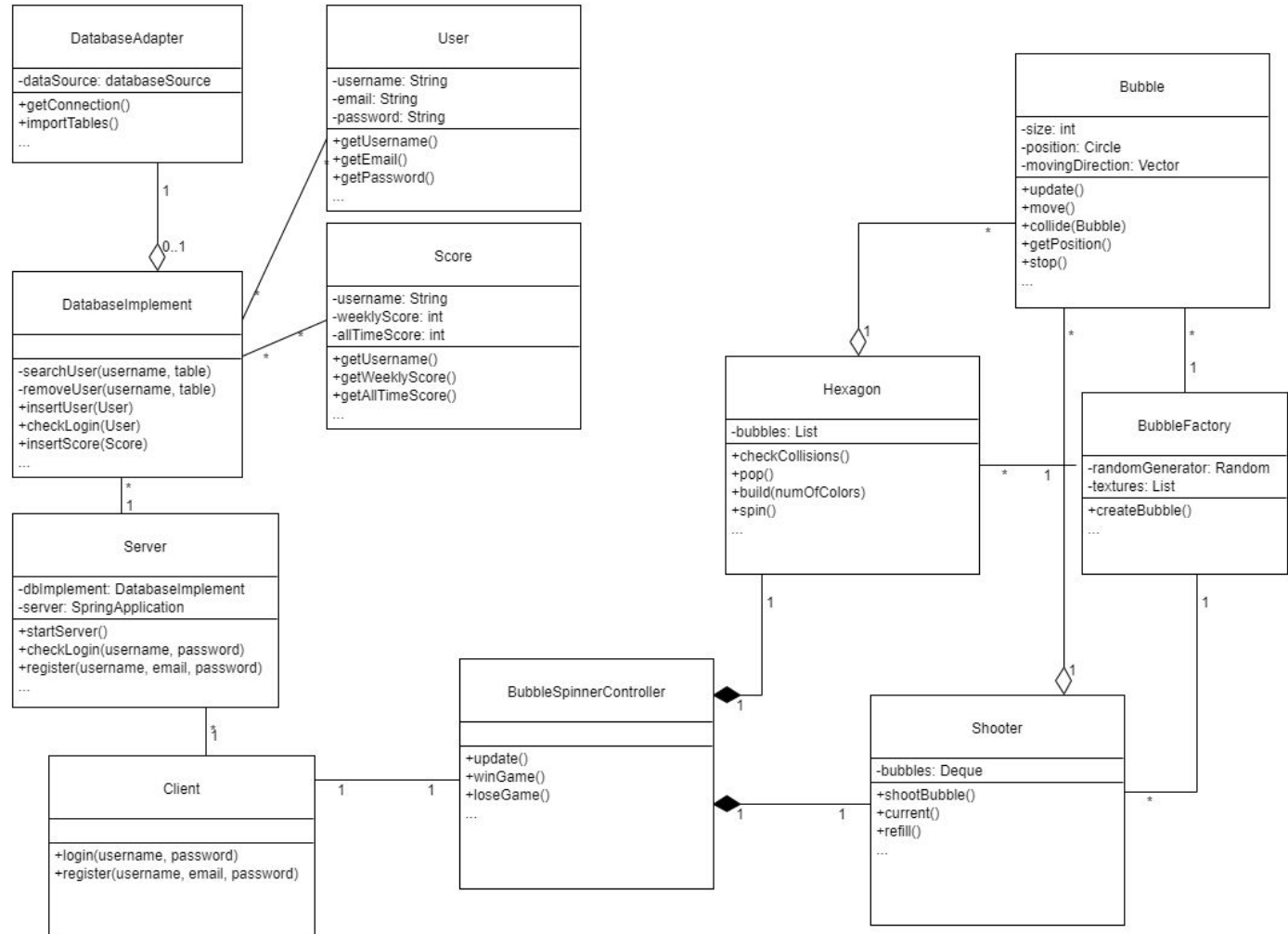


Exercise 1 - Class Diagrams

Class Diagram :



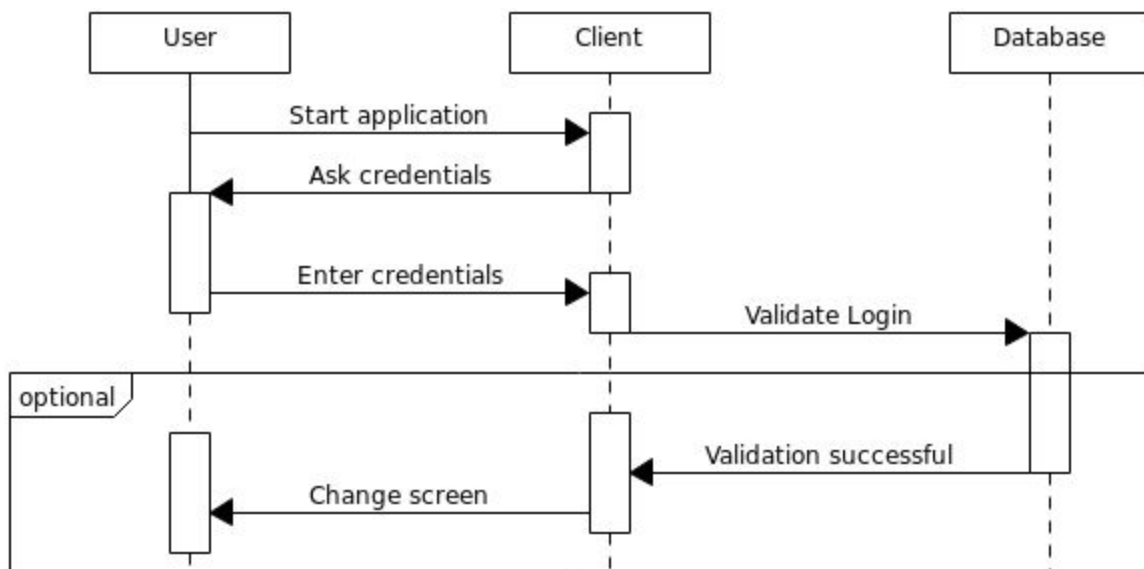
In order to authenticate the user we need to check his credentials with the ones stored in the database, the classes **DatabaseAdapter** and **DatabaseImplement** will establish a connection and query the database respectively. We have a **Server** that communicates with the database and answers to JSON POST requests made by the **Client**.

The main logic of the game happens in the **BubbleSpinnerController** which uses the `update()` function to poll all the entities in the game, it is composed of a hexagon and shooter structure which are the two main elements in the game.

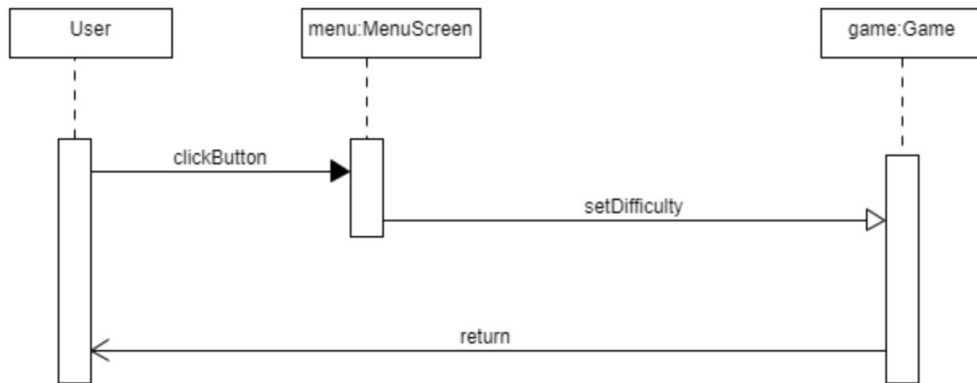
The shooter holds the bubbles at the top and is able to shoot a bubble towards the hexagon or refill them if the ones available are less than a threshold. The hexagon is the central structure of the game which is able to check for collisions in case a moving bubble approaches it and if the bubbles match in color it will pop them from itself. All the Bubble objects that are used by the hexagon and shooter are created by the BubbleFactory which uses a random generator to always give a different set of bubbles. Each Bubble object holds information about its state, position and offers utility function for the previous structures.

Exercise 2 - Sequence Diagrams

Login Sequence diagram



Difficulty Sequence Diagram



Exit Game Sequence Diagram

