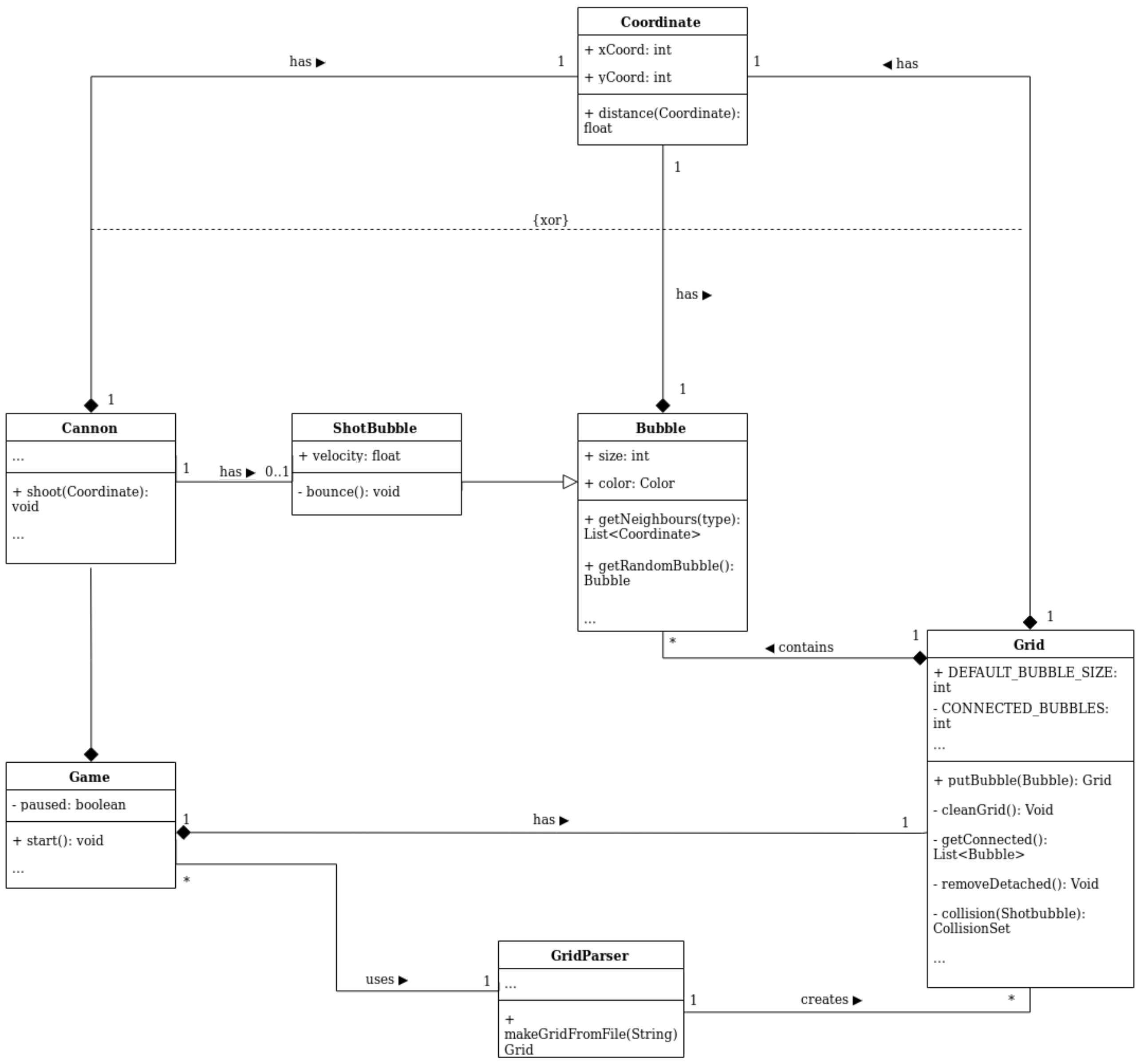
Class Diagram

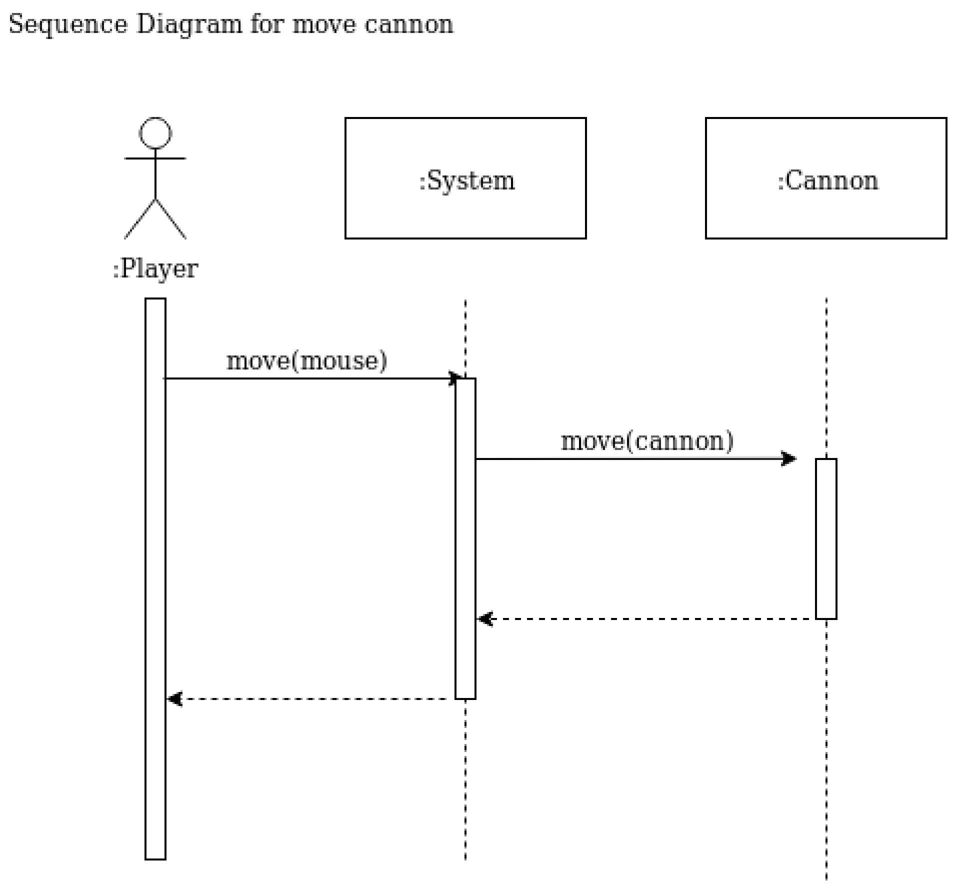


further explanation class diagram

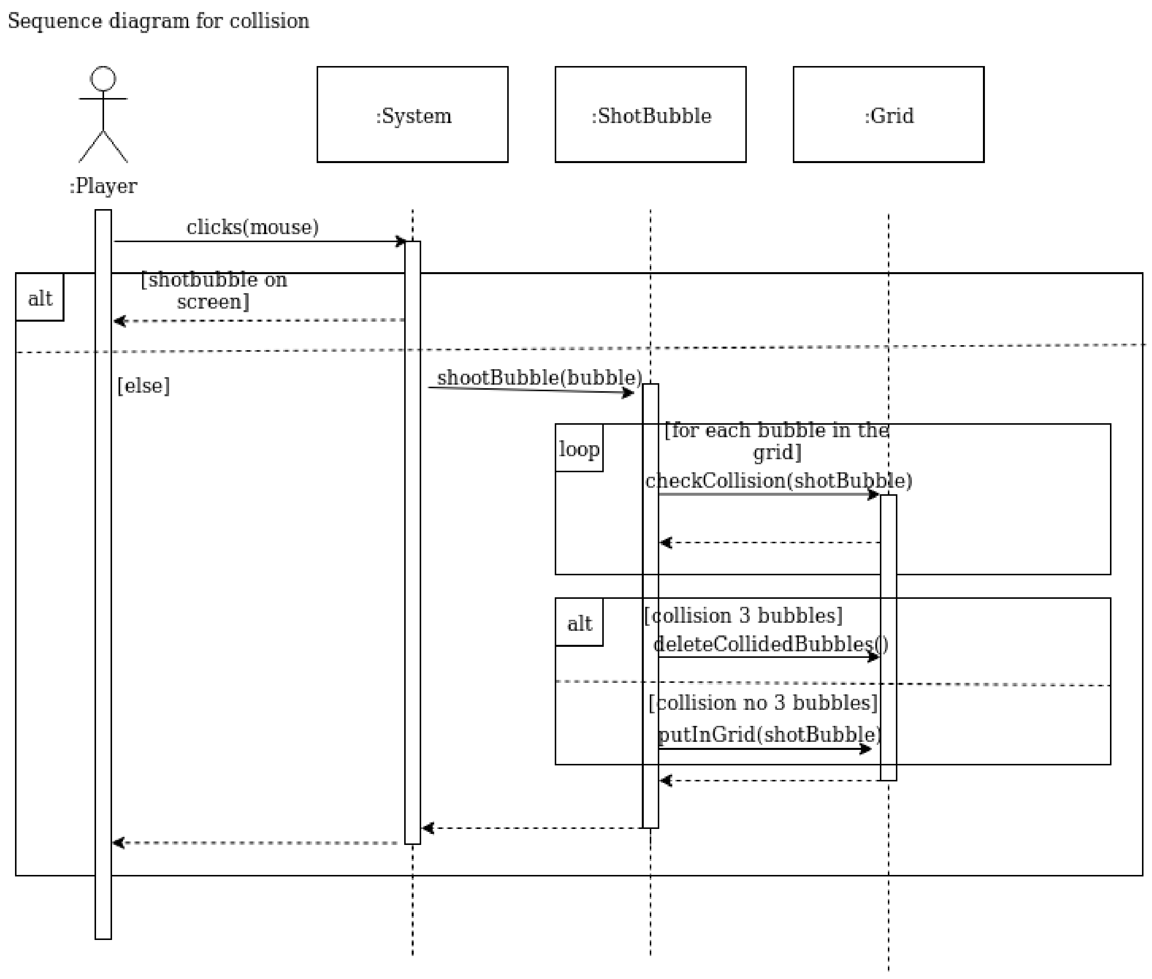
To focus on the core logic we left out the U classes starting up and connected to game.
The game has possession of/contains a grid and a cannon, where the cannon is responsible for firing bubbles based on the users mouse cursor, and the grid responsible for handling collisions with the shot bubble and positioning it in the correct place. Grids can be constructed with the grad parser, which constructs grids based on an input file. Bubbles are contained in the grid (except for the shot Bubble), are aware of their location in the grid and will give feedback about their neighbour’s locations when required. The bubble class is also capable of generating random bubbles for the grid initialization and firing bubbles.
The Grid and cannon and contained by the game, they cannot exist outside of a game and when the game ends they should disappear. The same goes for the bubbles contained in the grid. If they are not shot bubbles they should not exist outside of the grid and disappear together with the grid.

Sequence Diagrams

Below is the sequence diagram for moving the cannon, where the player moves the mouse, and the system sends an update to cannon based on the mouse position.

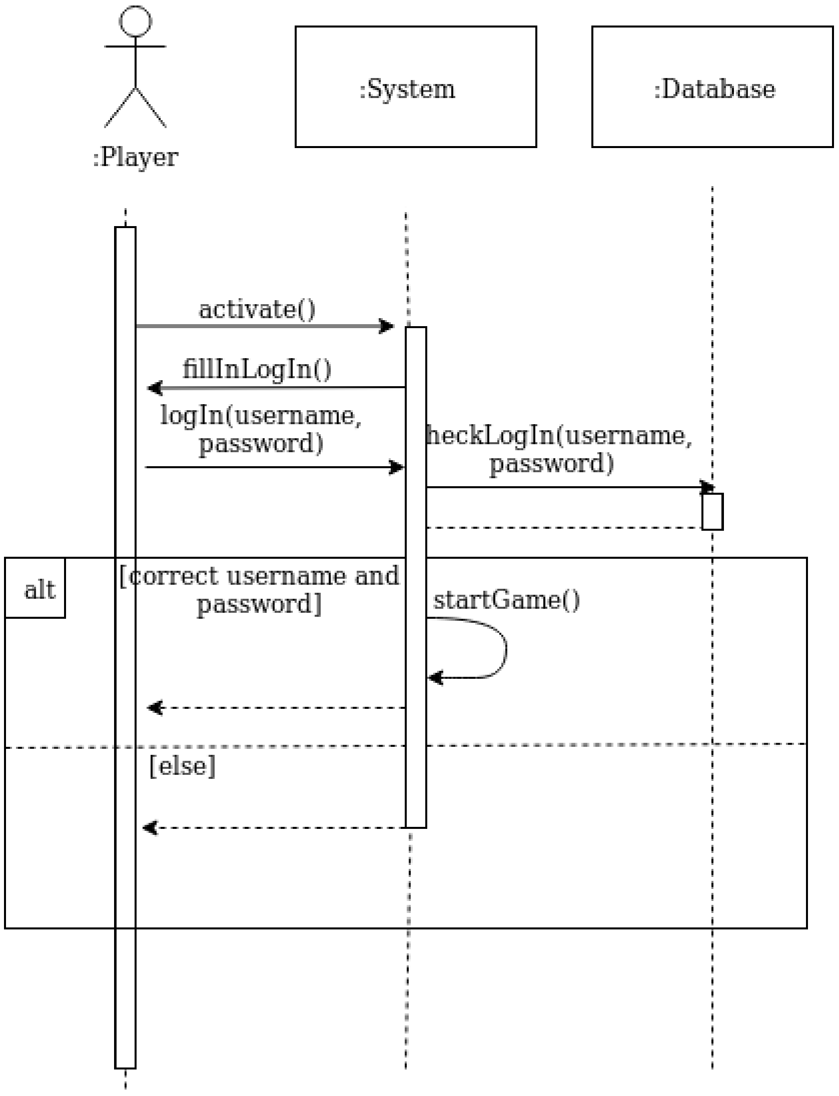


This is the sequence diagram for when a shot bubble collides with the grid. After a shot bubble gets fired, the grid constantly checks when,if and where the shotBubble will collide with the grid. When it collides it will be placed in the appropriate position and the grid will check if it needs to remove bubbles.



For login the player will enter their credentials, the system will then compare these with the information in the database, and if the information is correct it will start the game. Otherwise it will stay in the current screen (with a warning to the player).

Sequence Diagram for authentication


:Player
:System
:Database
activate()
fillInLogIn()
logIn(username, password)
heckLogIn(username, password)
alt
[correct username and password]
startGame()
[else]