Design & implementation

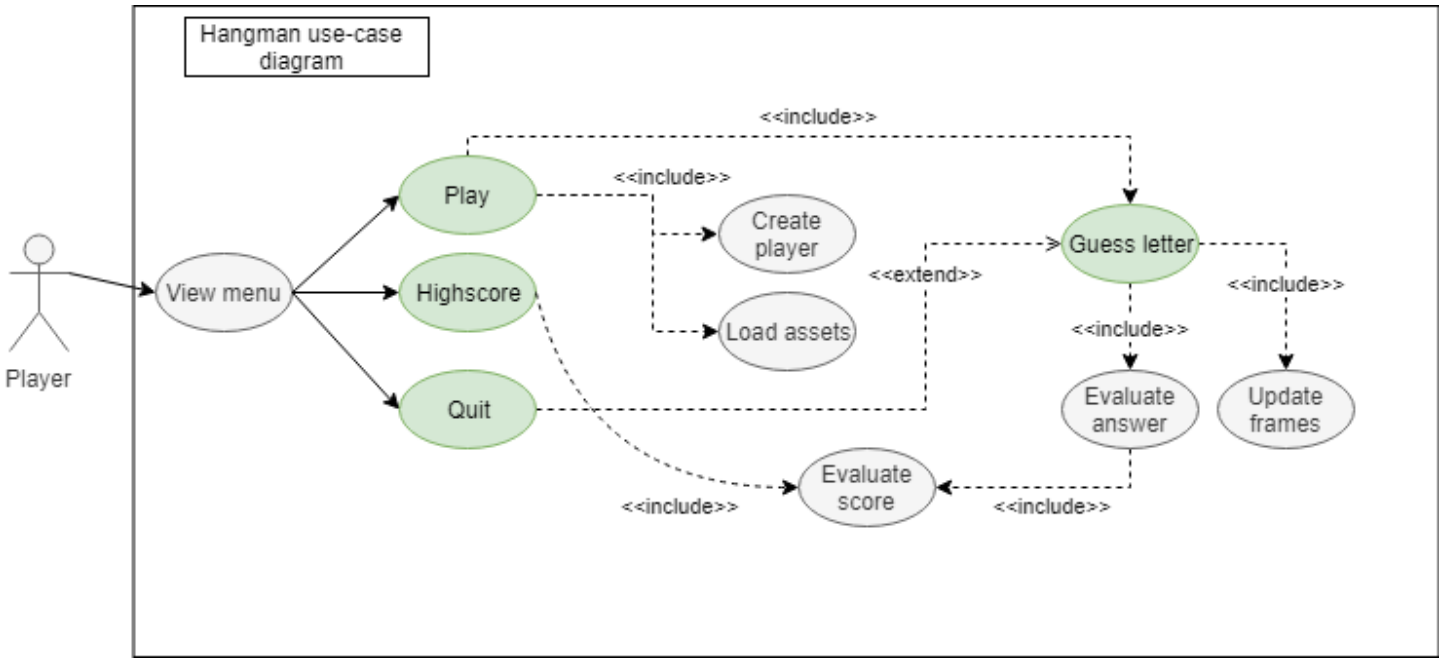
Use-case Diagram

Below is the use-case diagram that will define the planned user interaction for the system. It will serve as a high-level blueprint of user interaction and will be approached with an agile development method.

Note: These diagrams may be subject to change during the development process.

Update 18/03/19

- Added Activity diagram of HighscoreController
- Updated class diagram for Highscore component.



Use-Case Play

Actor: Player
Pre-condition: Player is shown menu.
Post-condition: Player is returned to menu.

Main Scenario

1. User wants to play.
2. A menu with options are displayed.
3. User chooses Play.
4. Player is prompted for a nickname.
5. Game assets are loaded into memory.
6. Player is prompted for a single letter.
    - 6.1 Randomized word contains letter.
    - 6.2 Number of attempts are checked.
    - 6.3 Frame is updated.
    - 6.4 Repeat 6.
7. All letters are guessed.
8. System produces Victory screen.
9. User confirms return to menu.
10. User quits the game.

Alternative Scenarios

2.1 User chooses Quit game.
1. System exits.

2.1 User enters invalid menu-number
1. User is prompted for new number.

4.1 User enters too short nickname.
1. User is asked to try again.

6. Player enters zero or more than 1 letter.
1. The player is asked to try again.

6.1 Randomized word does not contain letter.
1. Number of attempts are increased.
2. Next frame is rendered.
3. Step 6 repeated.

6.2. Attempts are up.
1. Player loses game.

6 Player wants to abort.
1. Player types ‘abort’.
2. Player is returned to menu.

Use-case Highscore

Actor: Player
Pre-condition: Player is shown menu.
Post-condition: Player is returned to menu.

Main Scenario

1. User wants to view Highscore.
2. A menu with options are displayed.
3. User chooses Highscore.
    3.1 User is presented with Highscores.
    3.2 User confirms return to menu.

Alternative Scenarios

3.2 User does not confirm return to menu.
    1. System idle until confirmation.

Use-case Quit

Actor: Player
Pre-condition: Player is shown menu.
Post-condition: Player is returned to menu.

Main Scenario

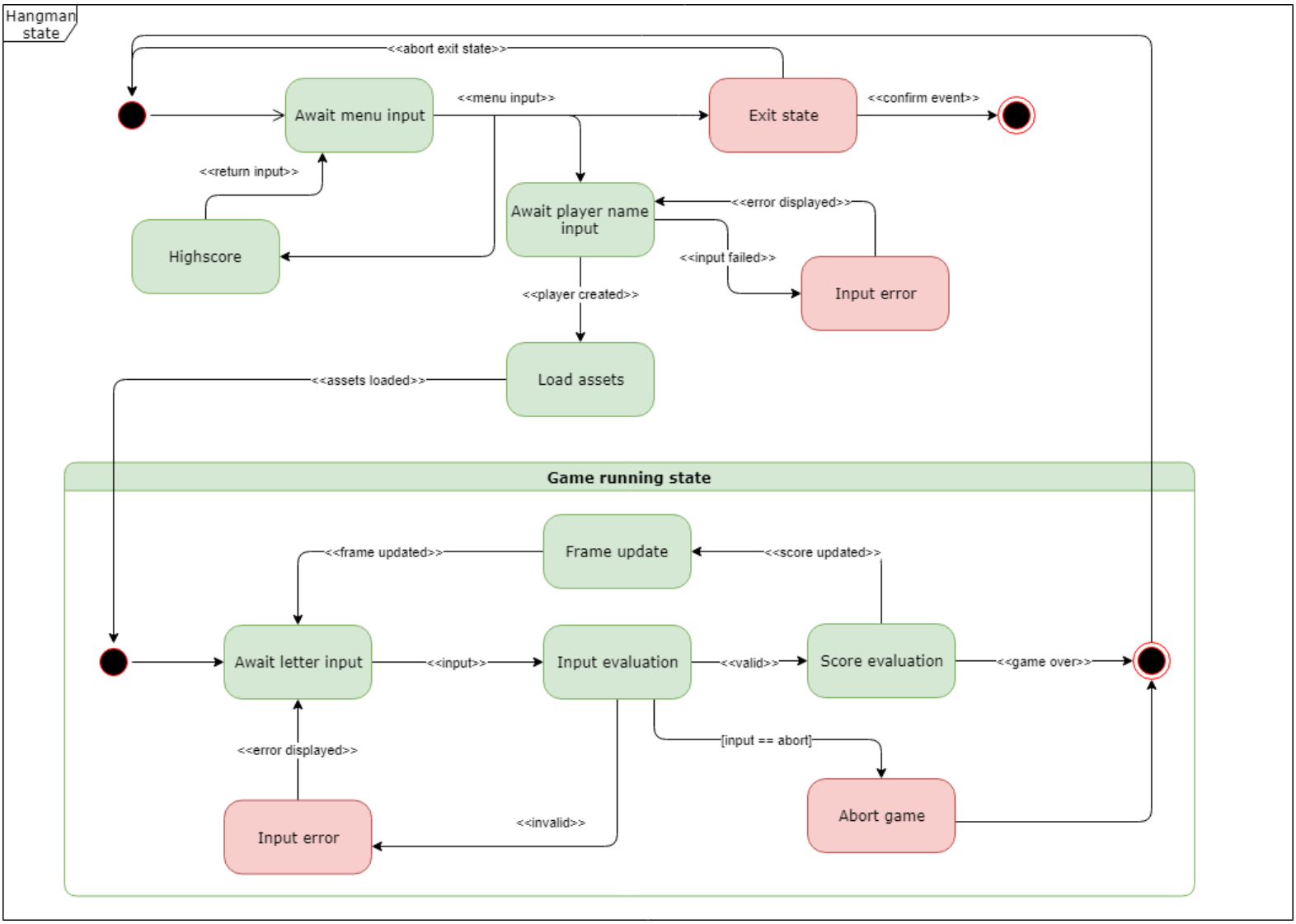
1. User wants to Play.
2. A menu with options are displayed.
3. User chooses to quit.
    1. System exits.

Alternative Scenarios

3. User chooses to Play.
    1. User wants to quit.
    2. User enters ‘abort’.
    3. Player is returned to menu.
    4. Player chooses to quit.
    5. System exits.

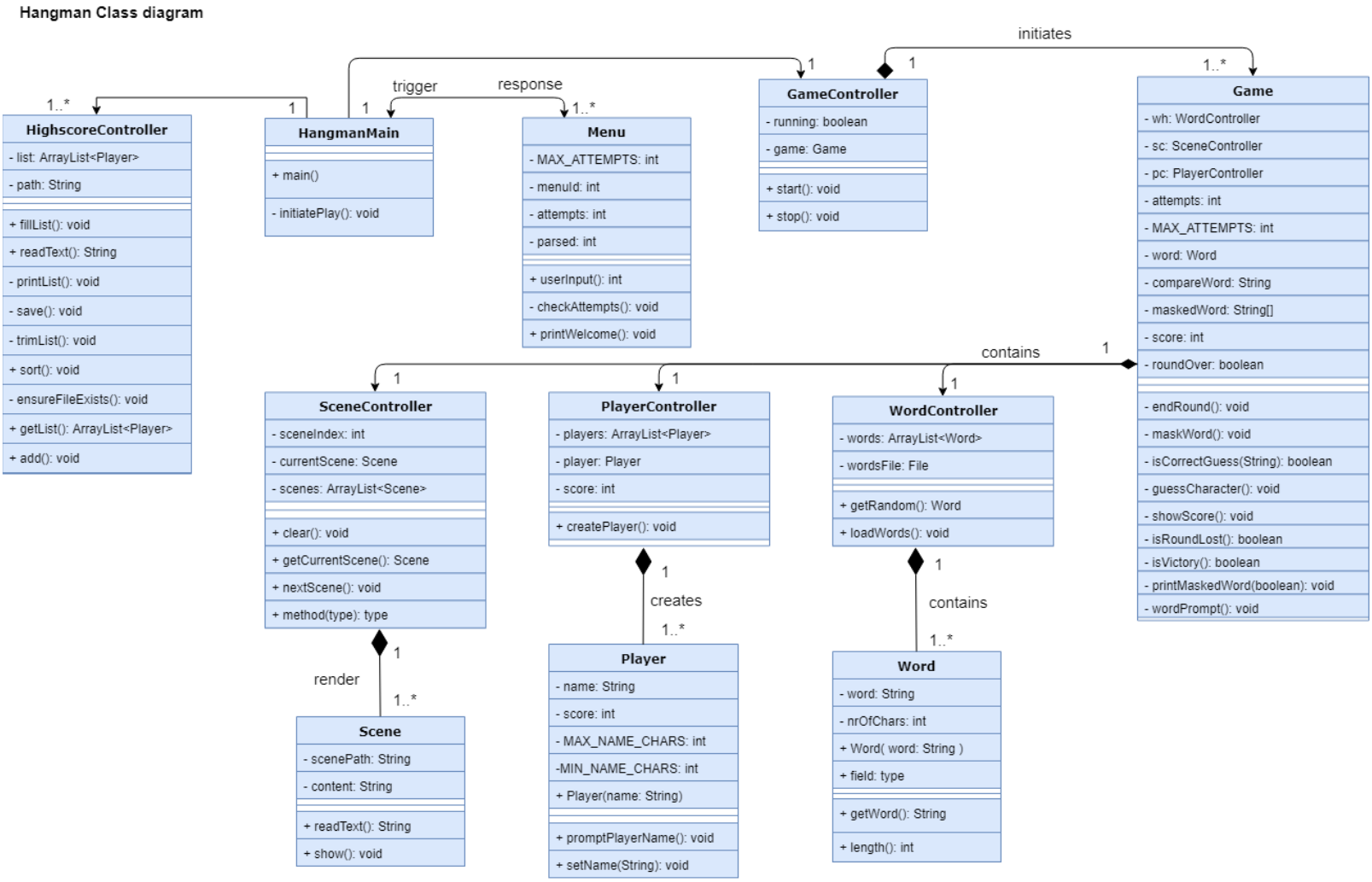
State-machine Diagram

Below is a diagram description of the different state transitions of the game.
As with the use-case diagram it could be subject to change in later iterations.

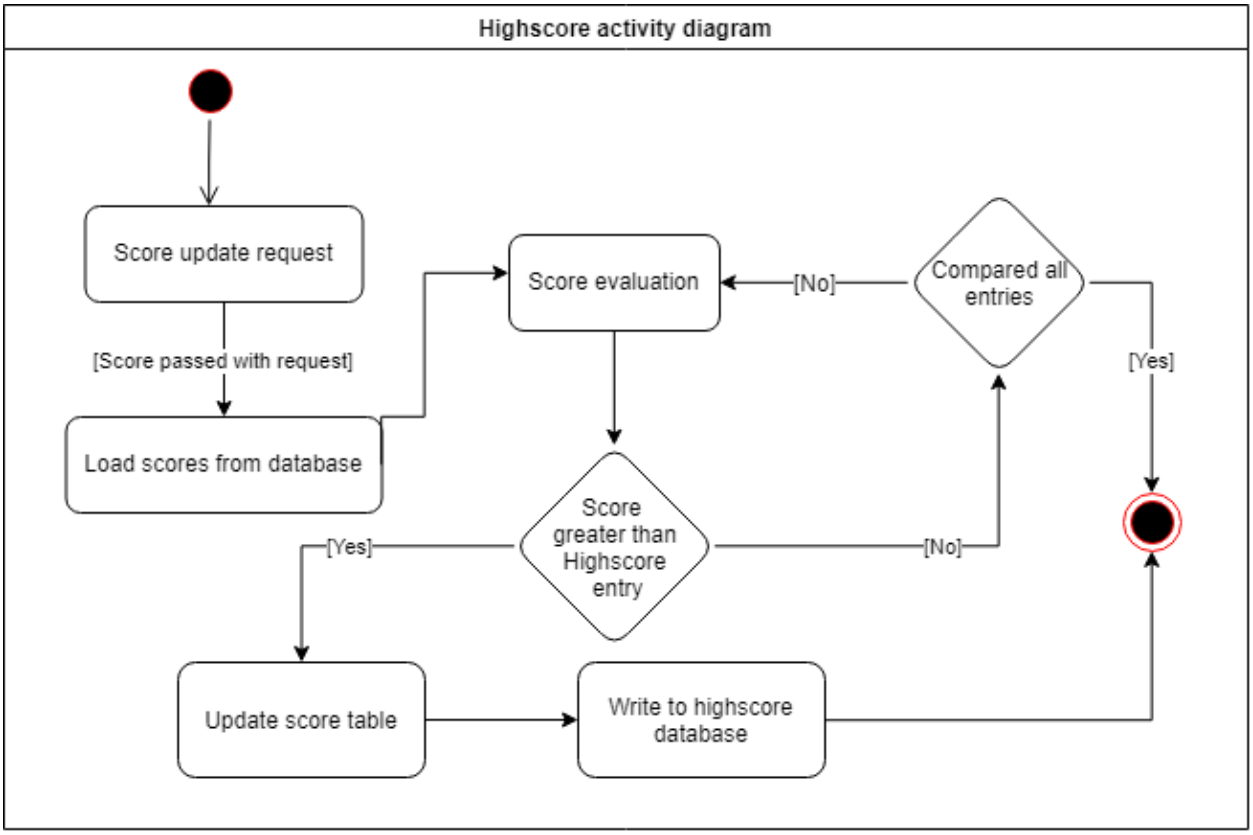


Class diagram

Following diagram further describes the relationships and structure of the java classes.



Activity diagram

Below is the activity diagram of the Highscore functionality which will be implemented during this iteration.

It describes the score evaluation and update procedure shown in the state diagram. Following activities will proceed during the evaluation process.