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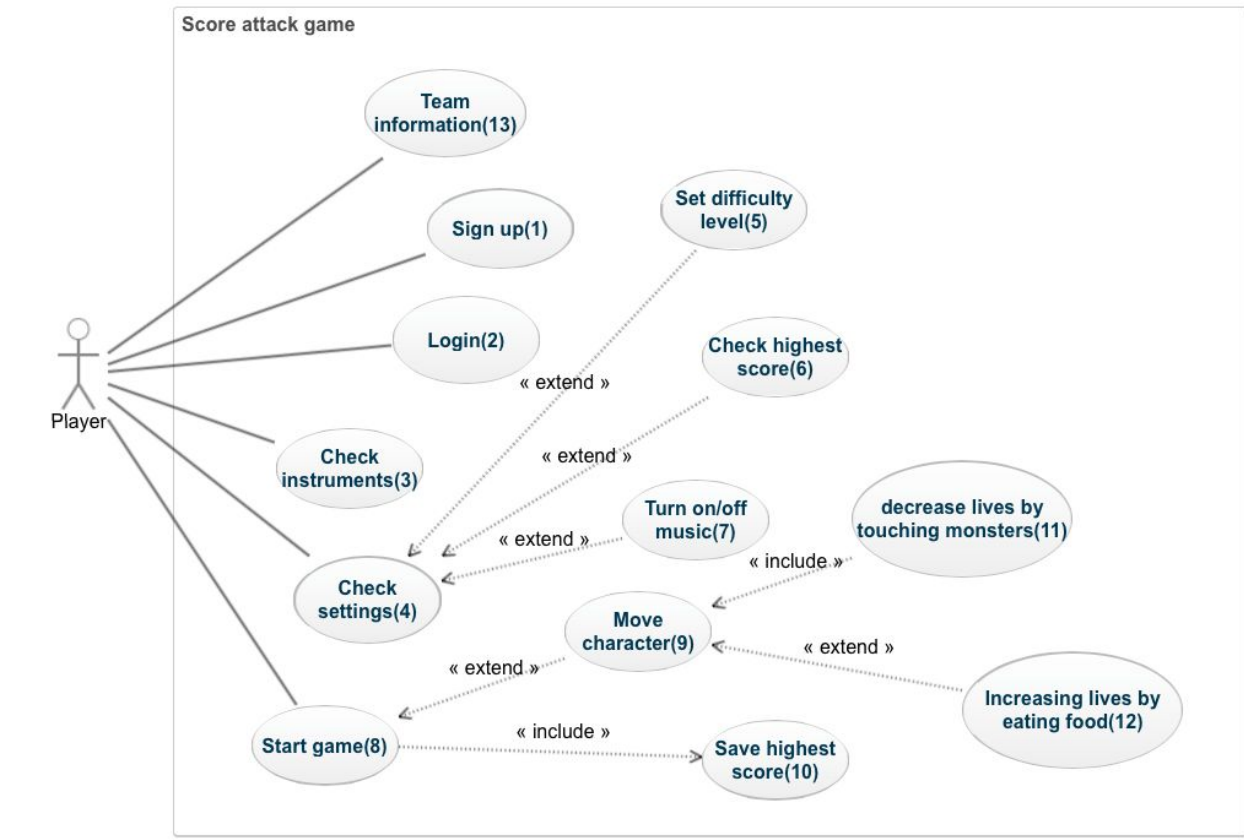
Title: Score Attack Game

Project Summary: A top down game reminiscing of old score attack games where the player model tries to collect as much as possible before losing all it's lives. There will be items that change the nature of the game. Stores the scores in a leaderboard. Takes place on a set map.

Project Requirements:

| <u>Business Requirements</u> | | | |
|------------------------------------|--|----------|----------|
| ID | Requirements | User | Priority |
| BR-001 | Can be installed in any computer with JVM | All | Critical |
| BR-002 | One Email address per account | All | Medium |
| <u>Functional Requirements</u> | | | |
| ID | Requirements | User | Priority |
| FR-001 | Click start to start game | All | Critical |
| FR-002 | Click setting to set up background music | All | Low |
| FR-003 | Choose different level for difficulty | All | High |
| FR-004 | Use 4 arrow keys to move player model in that direction | All | Critical |
| FR-005 | Lives counter is full when game starts | All | Critical |
| FR-006 | Lives counter can increase when player eats food | All | High |
| FR-007 | Player dies when live counter reaches zero | All | Critical |
| FR-008 | Collision Detection between objects exists | All | High |
| FR-009 | Store scores in database | Database | Critical |
| FR-010 | Death notification plays on death | All | Low |
| <u>Non-Functional Requirements</u> | | | |
| ID | Requirements | User | Priority |
| NFR-001 | Game installation time should be under 15 seconds | System | High |
| NFR-002 | The key response time be under 0.02 seconds | System | Critical |
| NFR-003 | The size of the entire game should be under 1 Gb | System | Medium |
| <u>User Requirements</u> | | | |
| ID | Requirements | User | Priority |
| UR-001 | User should be able to sign up by typing in a name | Player | High |
| UR-002 | User should be able to login to game | Player | High |
| UR-003 | User should be able to check the instructions | Player | Low |
| UR-004 | User should be able to check settings | Player | High |
| UR-005 | User should be able to set difficulty level in settings | Player | Medium |
| UR-006 | User should be able to check highest score by account name | Player | Medium |
| UR-007 | User should be able to turn on/off music in settings | Player | Low |
| UR-008 | User should be able to start game by pressing start | Player | Critical |
| UR-009 | User should be able to move characters with the arrow keys | Player | Critical |
| UR-010 | User should be able to save their highest scores automatically | Player | Medium |
| UR-011 | User should have their lives decreased by touching a monster | Player | High |
| UR-012 | User should have their lives increase by eating food | Player | Medium |
| UR-013 | User should be able to check team information | Player | Low |

Use Cases:



| | | | |
|-------------------|---|-------------------------|--|
| Use CaseID: | UR-001 | | |
| Use Case Name: | Sign up | | |
| Description: | User should be able to sign up for an account | | |
| Actors: | Player | | |
| Pre_conditions : | Game has been opened and main menu runs successfully. | | |
| Post_ocndition s: | User successfully added to the database, show main screen with user name on it. | | |
| Frequency of Use: | When a new user opens the game for the first time. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on the game icon. | Game opens and main menu appears. |
| | 2 | Type in a username | Database checks if it's a valid username |
| | 3 | Type in a password | Sets the users password to what they wish for it to be. Returns to main menu |
| Variations: | | | |
| Exceptions: | | | |
| Developer | | | |
| Notes: | | | |
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| Use CaseID: | UR-002 | | |
| Use Case Name: | Login | | |
| Description: | User should be able to login to their account | | |
| Actors: | Player | | |
| Pre_conditions : | Game has been opened and main menu runs successfully. User already has an account | | |
| Post_ocndition s: | User is logged in to their account | | |
| Frequency of Use: | When a user opens up the game | | |
| Flow of Events: | | Actor Action | System Response |

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|--------------------|----------------------------------|---------------------------|---|
| | 1 | Click on the game icon. | Game opens and main menu appears. |
| | 2 | Press Login | Brings up the login screen |
| | | | Database checks the values, than logs the player in, showing their name on the menu menu which it returns |
| | 3 | Type in their username to | |
| Variations: | The username/password is invalid | | |
| Exceptions: | | | |
| Developer | | | |
| Notes: | | | |

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|--------------------------|---|---------------------------------|--|
| Use CaseID: | UR-003 | | |
| Use Case Name: | Checking Instructions | | |
| Description: | User should be able to check their intructions | | |
| Actors: | Player | | |
| Pre_conditions : | Game has been opened and main menu runs successfully. | | |
| Post_ocndition s: | Instructions are displayed to the screen | | |
| Frequency of Use: | When a new user opens the game for the first time. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on the game icon. | Game opens and main menu appears. |
| | 2 | Press the " How to Play" Button | A window appears that displays the instructions on how to play |
| Variations: | | | |
| Exceptions: | | | |
| Developer | | | |
| Notes: | | | |

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|-------------------|--|--------------------------|--|
| Use CaseID: | UR-004 | | |
| Use Case Name: | Check settings | | |
| Description: | User should be able to check settings to modify the game. | | |
| Actors: | Player | | |
| Pre_conditions: | Game has been opened and main menu runs successfully. | | |
| Post_conditions: | Setting menu been opened successfully, player be able to modify difficulty level and music settings. | | |
| Frequency of Use: | Every time open the game. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on the game icon. | Game opens and main menu appears. |
| | 2 | Click on settings option | settings menu opens.Difficulty level and music options shows up. |
| Variations: | Game gets stuck in main menu. | | |
| Exceptions: | | | |
| Developer Notes: | | | |

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|-------------------|--|----------------------------|--|
| Use CaseID: | UR-005 | | |
| Use Case Name: | Set difficulty level | | |
| Description: | User should be able to set difficulty level in settings. | | |
| Actors: | Player | | |
| Pre_conditions: | Player has opened setting menu successfully. | | |
| Post_conditions: | Difficulty level has been selected and saved. Game will be able to proceed with selected difficulty level. | | |
| Frequency of Use: | Everytime open the game and before the game starts. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on difficulty level. | A list of level shows up. |
| | 2 | Select the level. | According level shows selected status. |
| Variations: | Game gets stuck in setting menu. | | |
| Exceptions: | | | |
| Developer Notes: | | | |

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|-------------------|--|------------------------|-----------------------|
| Use CaseID: | UR-006 | | |
| Use Case Name: | Check highest score. | | |
| Description: | User should be able to check highest score by user names. | | |
| Actors: | Player | | |
| Pre_conditions: | Player has opened setting menu successfully. | | |
| Post_conditions: | A list of highest score with according user names show up. | | |
| Frequency of Use: | Everytime open the game and before the game starts. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on Highest score | Score menu shows up |
| | 2 | Click on go back. | Main menu comes back. |
| Variations: | Game gets stuck in setting menu. | | |
| Exceptions: | | | |
| Developer Notes: | | | |

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|-------------------|---|----------------------------|-----------------------|
| Use CaseID: | UR-007 | | |
| Use Case Name: | Turn on/off music. | | |
| Description: | User should be able to turn on/off music in setting menu. | | |
| Actors: | Player | | |
| Pre_conditions: | Player has opened setting menu successfully. | | |
| Post_conditions: | The music will be turned on or off by user selected. | | |
| Frequency of Use: | Everytime open the game and before the game starts. | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on music settings. | Music menu showed up. |
| | 2 | Click on music on button. | Music is on. |
| | 3 | Click on music off button. | Music is off. |
| Variations: | Locating music file failed. | | |
| Exceptions: | | | |
| Developer Notes: | | | |

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|-------------------|--|-------------------|
| Use CaseID: | UR-008 | |
| Use Case Name: | Start new Game | |
| Description: | User should be able to start game by clicking start. | |
| Actors: | Player | |
| Pre_conditions: | Game has been opened and main menu runs successfully. | |
| Post_conditions: | New Game Frame opened successfully, player can start playing game. | |
| Frequency of Use: | Every time start new game. | |
| Flow of Events: | Actor Action | System Response |
| | 1 Click on the new game. | New game appears. |
| Variations: | Game gets stuck in main menu. | |
| Exceptions: | | |
| Developer Notes: | | |

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|-------------------|---|----------------------|
| Use CaseID: | UR-009 | |
| Use Case Name: | Character moving by pressing arrow keys | |
| Description: | User should be able to move character by arrow keys | |
| Actors: | Player | |
| Pre_conditions: | Player start game successfully | |
| Post_conditions: | The character moved followed by the key direction | |
| Frequency of Use: | Used in every step while playing | |
| Flow of Events: | Actor Action | System Response |
| | 1 Press the up button | Character move up |
| | 2 Press the down button | Character move down |
| | 3 Press the left button | Character move left |
| | 4 Press the right button | Character move right |
| Variations: | keyAdapter fails | |
| Exceptions: | | |
| Developer Notes: | | |

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|-------------------|---|--|
| Use CaseID: | UR-010 | |
| Use Case Name: | Highest score saving | |
| Description: | User should be able to save highest score automatically when he start game. | |
| Actors: | Player | |
| Pre_conditions: | Player get a highest score | |
| Post_conditions: | The highest score stored in database automatically | |
| Frequency of Use: | Every time a player get the highest score based on his record | |
| Flow of Events: | Actor Action | System Response |
| | 1 Get a new score | Return true if this score is the highest score |
| | 2 Update the highest score | Change the highest score to this new score |
| Variations: | Database messed up | |
| Exceptions: | | |
| Developer Notes: | | |

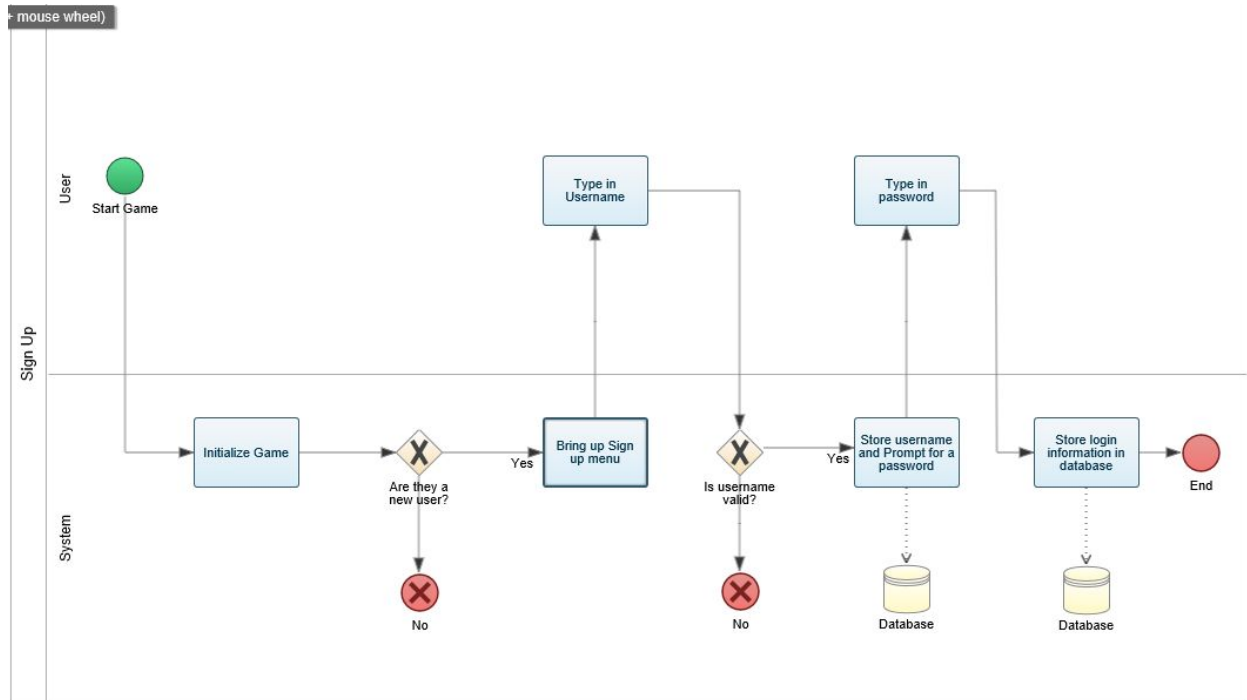
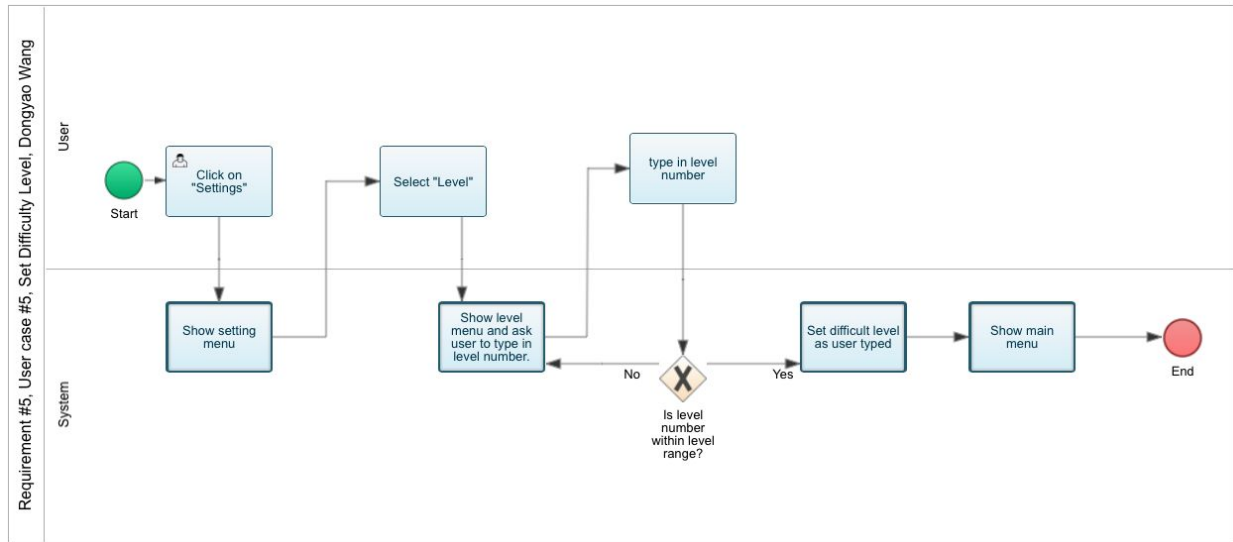
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|-------------------|---|------------------------------|
| Use CaseID: | UR-011 | |
| Use Case Name: | Decrease lives after touch monster | |
| Description: | User should be able to decrease lives by touching monsters. | |
| Actors: | Player | |
| Pre_conditions: | Character touches the monster | |
| PostConditions: | Character's live counter minus one | |
| Frequency of Use: | Every time character touches the monster | |
| Flow of Events: | Actor Action | System Response |
| | 1 Character touches the monster | live counter decrease by one |
| Variations: | the coordinate system messed up | |
| Exceptions: | | |
| Developer Notes: | | |

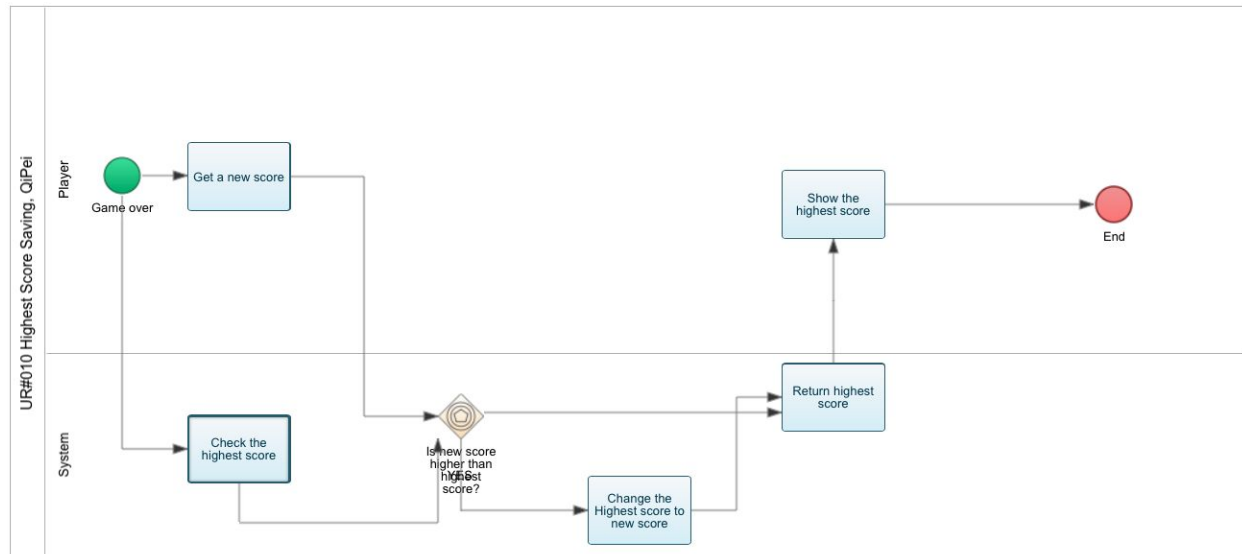
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|-------------------|--|----------------------------|------------------------------|
| Use CaseID: | UR-012 | | |
| Use Case Name: | Increase lives after touch food | | |
| Description: | User should be able to increase live by eating food. | | |
| Actors: | Player | | |
| Pre_conditions: | Character touches the food | | |
| Post_conditions: | Character 's live counter increase by one | | |
| Frequency of Use: | Every time character touches the food | | |
| Flow of Events | | Actor Action | System Response |
| | 1 | Character touches the food | live counter increase by one |
| Variations: | the coordinate system messed up | | |
| Exceptions: | | | |
| Developer Notes: | | | |

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|-------------|--------|
| Use CaseID: | UR-013 |
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|-------------------|---|---------------------------------|--|
| Use Case Name: | Check Team Information | | |
| Description: | User should be able to check the team's information | | |
| Actors: | Player | | |
| Pre_conditions : | Game has been opened and main menu runs successfully. | | |
| Post_ocndition s: | The team information is displayed to the screen | | |
| Frequency of Use: | | | |
| Flow of Events: | | Actor Action | System Response |
| | 1 | Click on the game icon. | Game opens and main menu appears. |
| | 2 | Presses the " About Us " button | Opens a window that shows the current creatures of the project |
| Variations: | | | |
| Exceptions: | | | |
| Developer Notes: | | | |

Activity Diagrams:





UI Mockups:



Score & Attack

Team #10

New Game

How To Play

Setting

About Us

Log In

setting



music

ON

OFF

EXIT

Score & Attack

Team #10

New Game

How To Play

Setting

About Us

Log In

Rules



Use direction keys to move up, down, left, and right.
Eat all the beans.
Avoid the monsters.

OK

EXIT

Score & Attack

lives: 5



Score & Attack

High Scores

Name:

| | |
|--------|----|
| AA | 11 |
| BB | 6 |
| 11 | 1 |
| hahaha | 22 |

Score & Attack

Team #10

New Game

How To Play

Setting

About Us

Log In



EXIT

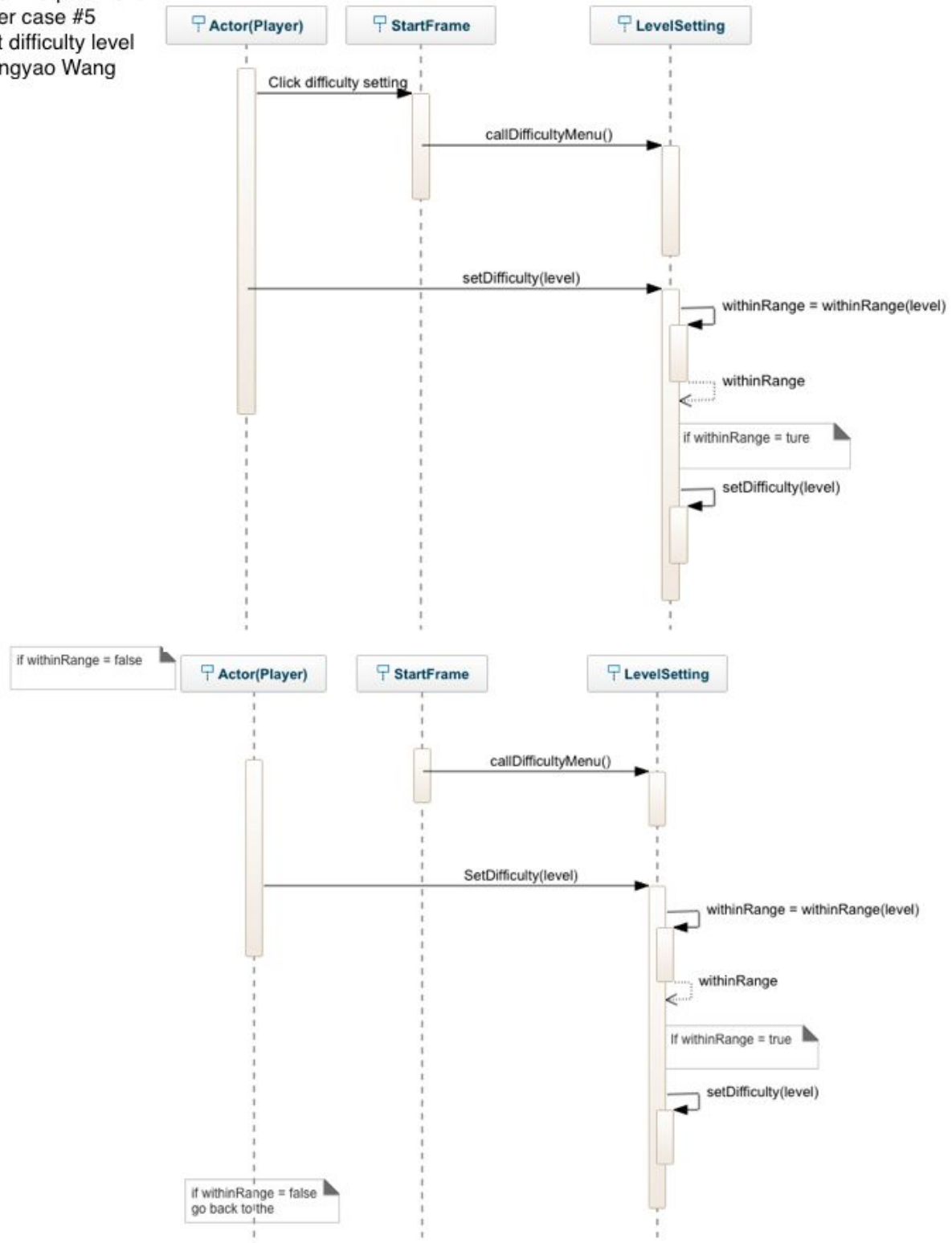
User Interactions:

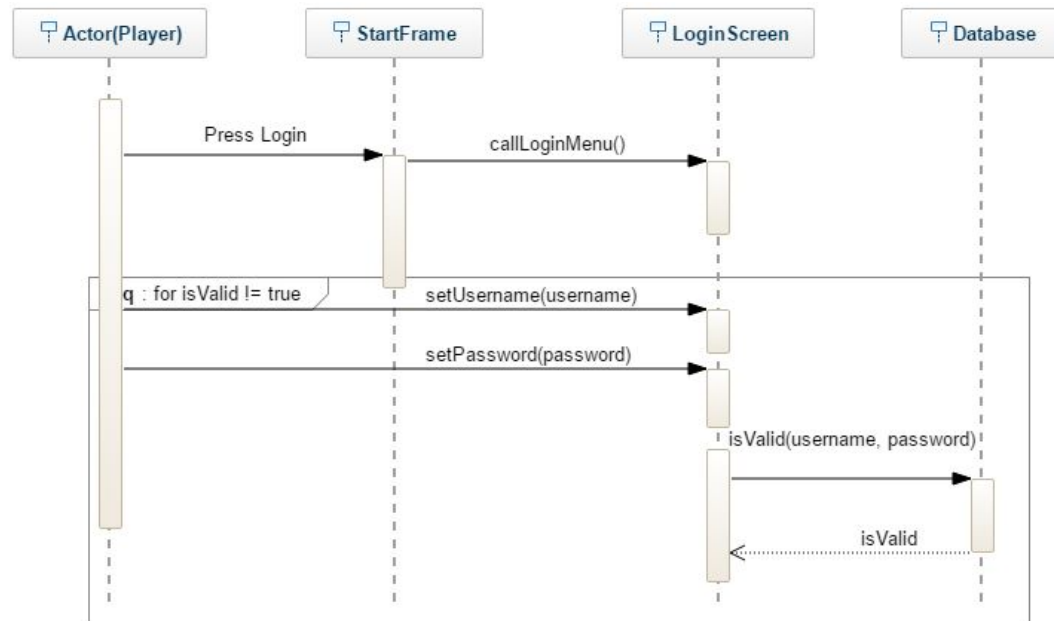
User Requirement #5

User case #5

Set difficulty level

Dongyao Wang





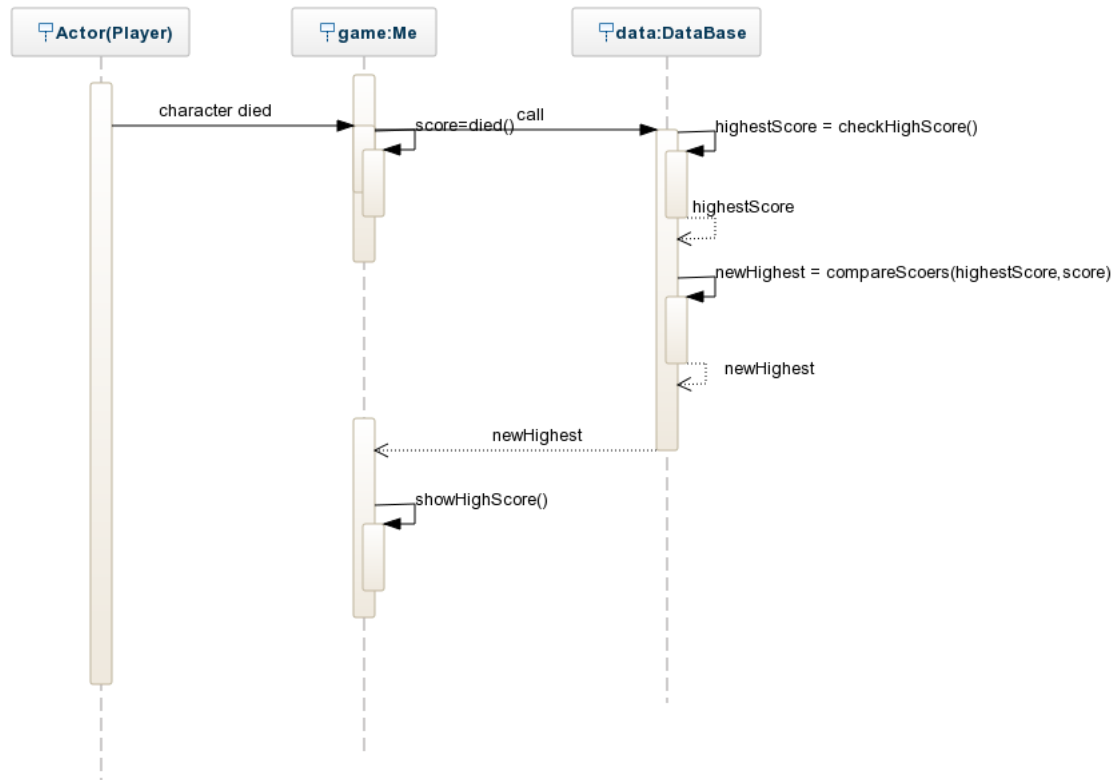
User Requirement: UR-002

Use Case: 002

Login

D'Veaux Fontaine

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User Requirement: 010
Use Case: 010
Set Highest Score
Qi Pei

Class Diagram:

