COMP-302 TERM PROJECT R2/M2/D2

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UPDATED USE CASES

USE CASE: Use a Magical Ability *(USE CASE-9 FROM PHASE 1 - UPDATED FOR YMIR.)*

Actor: User

Pre Condition: User has a magical ability in his/her packet.
Post Condition: User has one less magical ability in his/her packet.

Happy Scenario:

1. User selects an ability.

Extensions (or Alternative Flows):

1a. Warrior selects Chance Giving Ability:
- 1a. User does not have Chance Giving Ability:
  1. System displays “You don’t have Chance Giving Ability.”.
- 1b. User has Chance Giving Ability:
  1. User’s chances are increased by 1.
  2. Number of Chance Giving Abilities that user have is decreased by 1.

1b. Warrior selects Noble Phantasm Expansion by pressing the button T, or by pressing the Noble Phantasm Expansion icon on the screen:
- 1a. User does not have Noble Phantasm Expansion:
  1. System displays “You don’t have Noble Phantasm Expansion.”.
- 1b. User has Noble Phantasm Expansion:
  1. The length of the noble phantasm doubles for 30 seconds.
  2. Number of Noble Phantasm Expansions that user have is decreased by 1.

1c. Warrior selects Magical Hex by pressing the button H, or by pressing the Magical Hex icon on the screen:
- 1a. User does not have Magical Hex:
  1. System displays “You don’t have Magical Hex.”.
- 1b. User has Magical Hex:
  1. Noble phantasm is equipped with two magical canons on both of its ends for 30 seconds.
  2. Number of Magical Hexes that user have is decreased by 1.

1d. Warrior selects Unstoppable Enchanted Sphere:
- 1a. User does not have Unstoppable Enchanted Sphere:
  1. System displays “You don’t have an Unstoppable Enchanted Sphere.”.
- 1b. User has Unstoppable Enchanted Sphere:
  - 1a. Infinite void was activated by Ymir:
    1. Enchanted sphere works with its usual power for frozen obstacles.
    2. Number of Unstoppable Enchanted Spheres that user have is decreased by 1.
  - 1b. Infinite void was not activated by Ymir:
    1. Enchanted sphere becomes much more powerful for 30 seconds.
    2. Number of Unstoppable Enchanted Spheres that user have is decreased by 1.

USE CASE: Destroy Obstacle *(USE CASE-7 FROM PHASE 1 - UPDATED FOR YMIR.)*

Actor: User

Pre condition: The game is already successfully running.
Post condition: The game continues running.

Happy Scenario:

1. User makes Enchanted Sphere hit the obstacle:

Extensions (or Alternative Flows):

1a. User makes Enchanted Sphere hit the Simple Obstacle (Wall Maria):
    1. Simple Obstacle is broken.
    2. System increases score.
1b. User makes Enchanted Sphere hit the Firm Obstacle (Steins Gate):
    1a. Firm Obstacle has more than 1 required hit:
        1. The required hit that Firm Obstacle has is decremented by 1.
        2. Firm Obstacle could not be broken.
        3. System increases score.
    1b. Firm Obstacle has 1 required hit:
        1. Firm Obstacle is broken.
        2. System increases score.
1c. User makes Enchanted Sphere hit the Explosive Obstacle (Pandora's Box):
    1. Explosive Obstacle explode.
    2. Remains are dropped.
    3. System increases score.
1d. User makes Enchanted Sphere hit the Gift Obstacle (Gift of Uranus):
    1. Gift Obstacle is broken and drops a box.
    2. System increases score.
1e. User makes Enchanted Sphere hit the Hollow Purple Obstacle:
    1. Hollow Purple Obstacle is broken.

USE CASE: Customize Game *(USE CASE- FROM PHASE 1 - UPDATED FOR YMIR.)*

Actor: User
Pre Condition: "CreateOrLoadOrCustomizePanel" or "RunningGamePanel" is opened (Game is created or loaded).
Post Condition: System goes back to **"**CreateOrLoadOrCustomizePanel" or goes back to game ("RunningGamePanel").

Happy Scenario:

1. User selects the customize game menu's button.
2. System opens customize game menu.
3. System shows some options: brightness level, sound level, play music, stop music, background colors and ymir.
4. User selects a desired option.

Extensions (or Alternative Flows):

4a. User adjusts the sound:
1. System increases or decreases the sound.
4b. User scrolls the brightness level button:
1. System increases or decreases the brightness.
4c. User selects on the background colors combo box:
1. User selects a desired color from the combo box for adjusting the game's background color.
2. System changes background color to selected color.
4d. User clicks play music button:
1. Music starts to play.
4e. User selects stop music button:
1. Music stops.
4f. User selects back button:
1. System goes back to **"**CreateOrLoadOrCustomizePanel"
4g. User selects go to game button:
1. System goes to **"**RunningGamePanel".
4h. User selects the Ymir option:
1. System activates or deactivates Ymir.
4i. User selects the hardness level:
1. System changes the speed of the enchanted sphere according to the user's choice.

NEW USE CASES

USE CASE 1: Activate Ymir

Actor: User
Pre Condition: Running Game Panel is opened (Game is created or loaded). "Activate Ymir" checkbox is not selected.
Post Condition: Ymir is activated.

Happy Scenario:
1. User clicks "Activate Ymir".
2. System activates Ymir.

USE CASE 2: Deactivate Ymir

Actor: User
Pre Condition: Running Game Panel is opened (Game is created or loaded). "Activate Ymir" checkbox is selected.
Post Condition: Ymir is deactivated.

Happy Scenario:
1. User clicks “Activate Ymir”.
2. System deactivates Ymir.

USE CASE 3: Change Ymir’s Duration

Actor: User
Pre Condition: Running Game Panel is opened (Game is created or loaded).

Happy Scenario:
1. User enters a number to change the duration of Ymir.
2. System changes the duration of Ymir.

Extensions (or Alternative Flow):
1a. The user enters a negative number.
    1.System warns the user to enter a positive number.

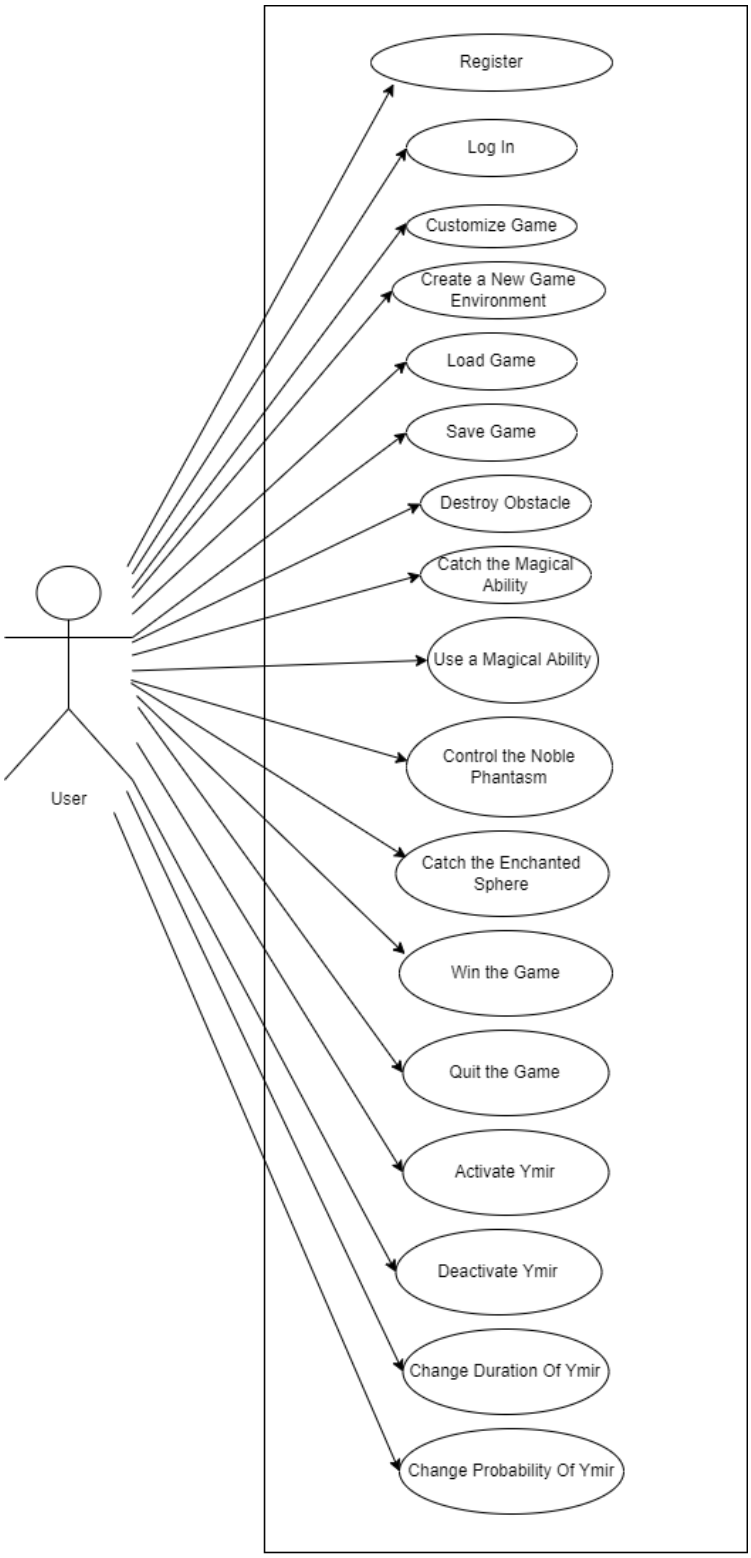
USE CASE 4: Change Ymir’s Probability

Actor: User
Pre Condition: Running Game Panel is opened (Game is created or loaded).

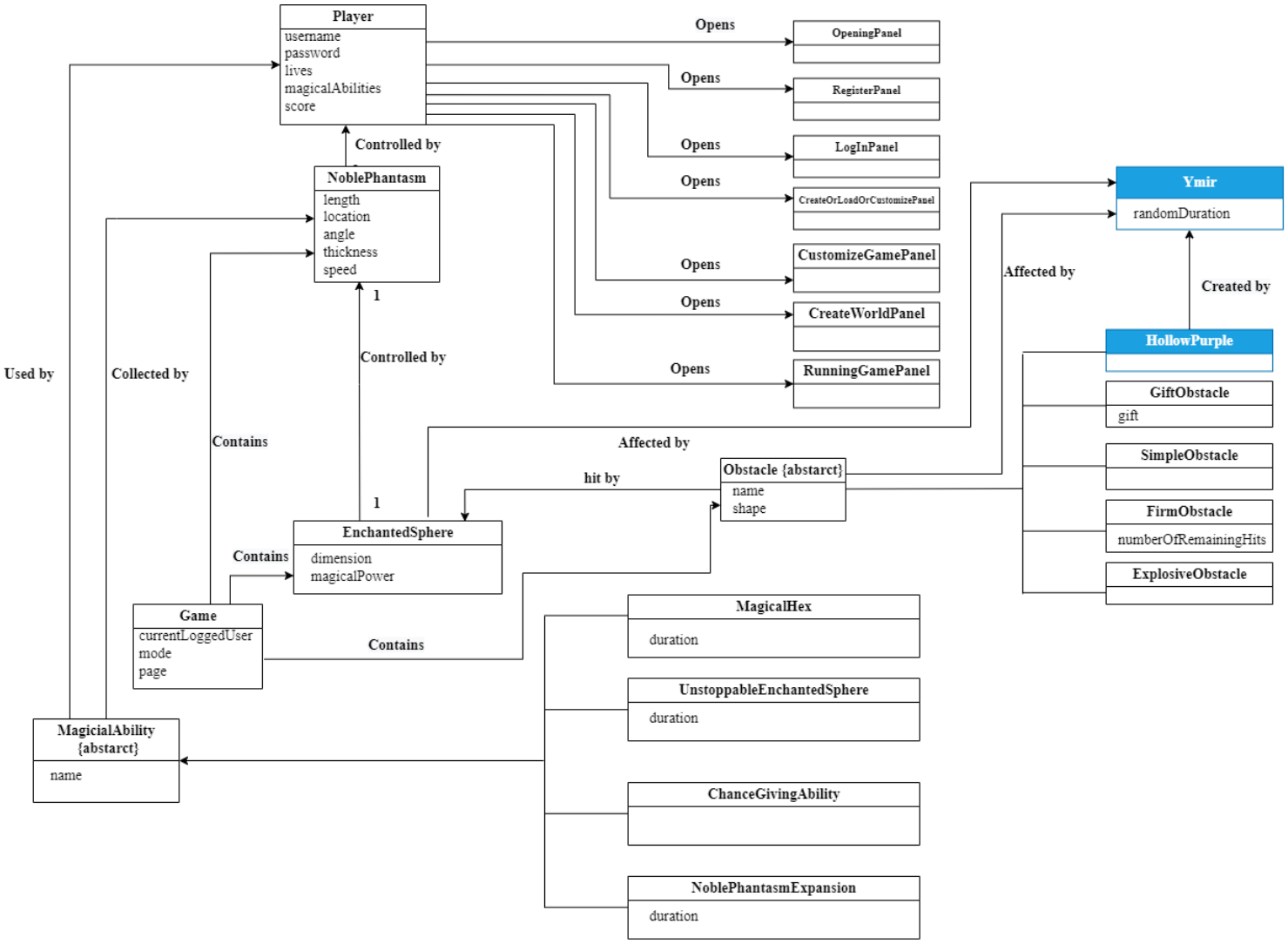
Happy Scenario:
1. User enters a number to change the percentage probability of Ymir’s ability usage after each duration.
2. System changes the probability of Ymir.

Extensions (or Alternative Flow):
1a. The user enters a number not in the range of (0, 100).
    1.System warns the user to enter a number in the range of (0, 100).

UPDATED UML USE CASE DIAGRAM

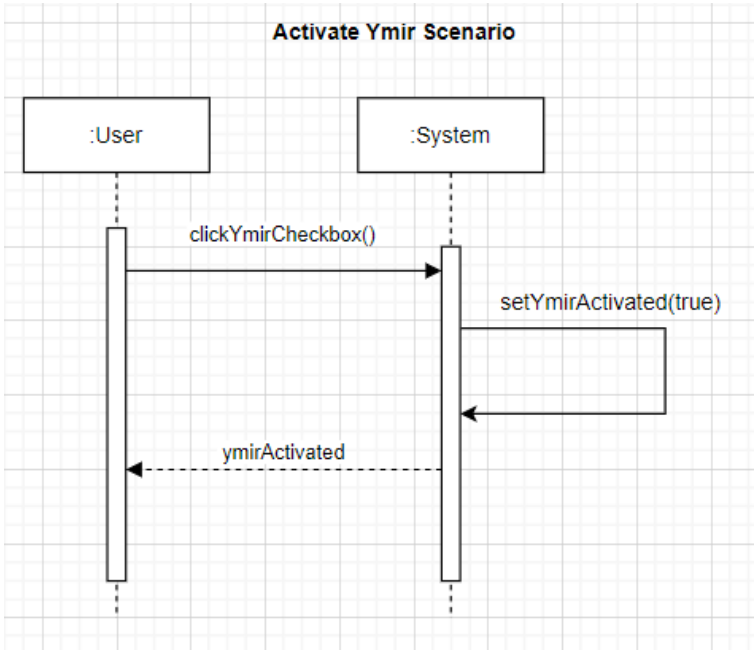


UPDATED DOMAIN MODEL

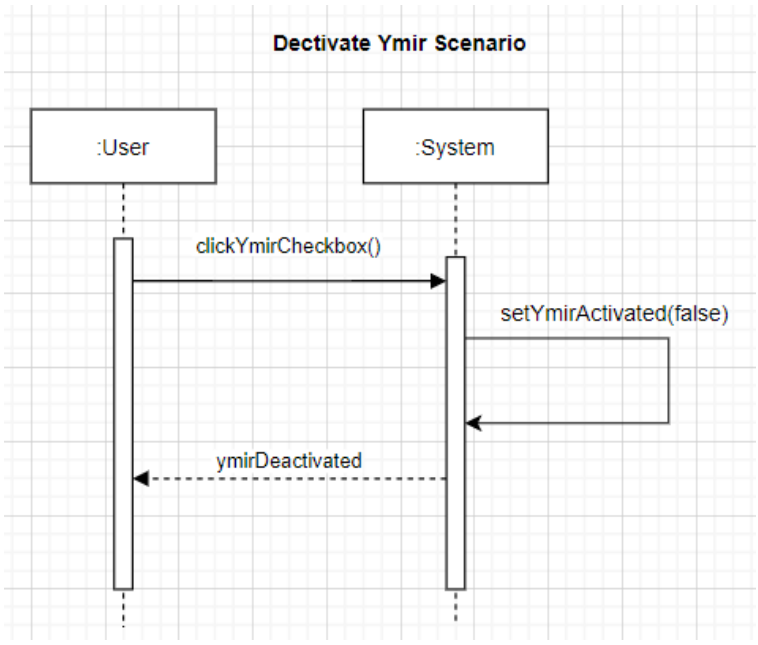


NEW SYSTEM SEQUENCE DIAGRAMS

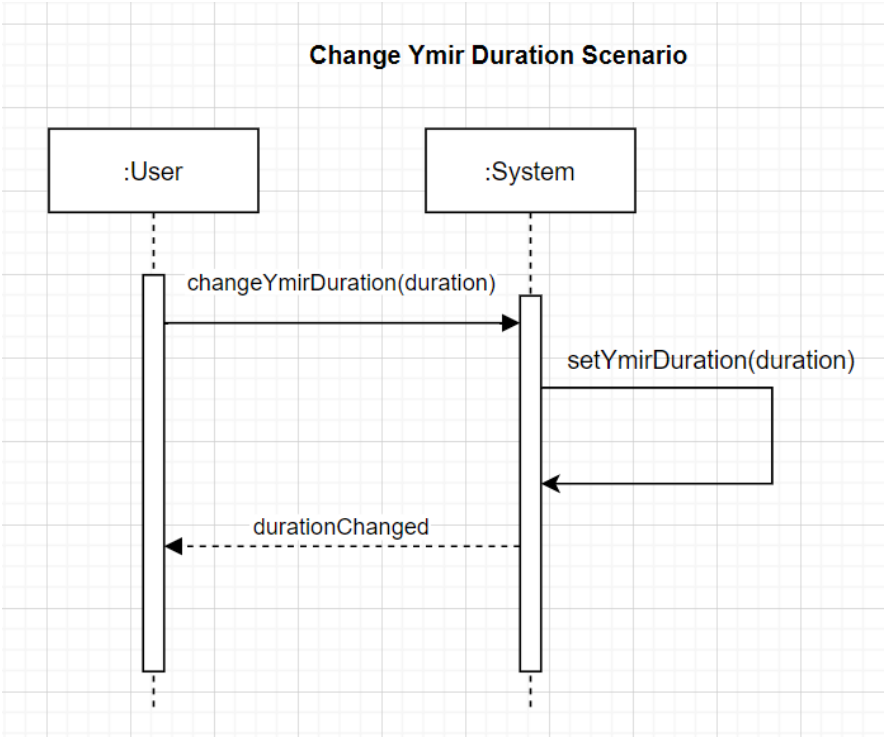
Activate Ymir Scenario:



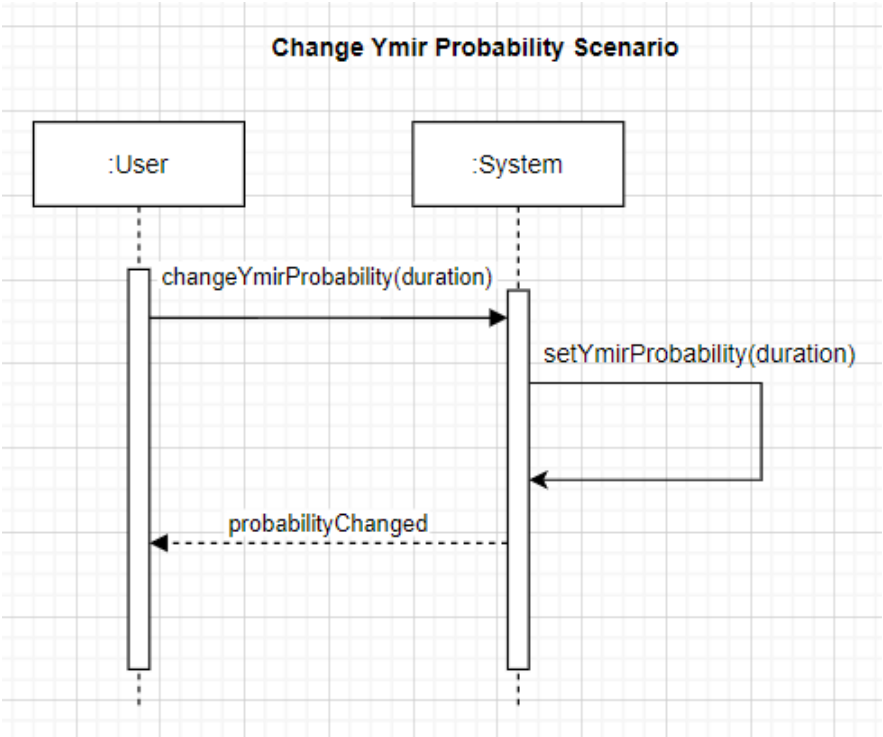
Deactivate Ymir Scenario:



Change Ymir's Duration Scenario:



Change Ymir's Probability Scenario:



NEW OPERATION CONTRACTS

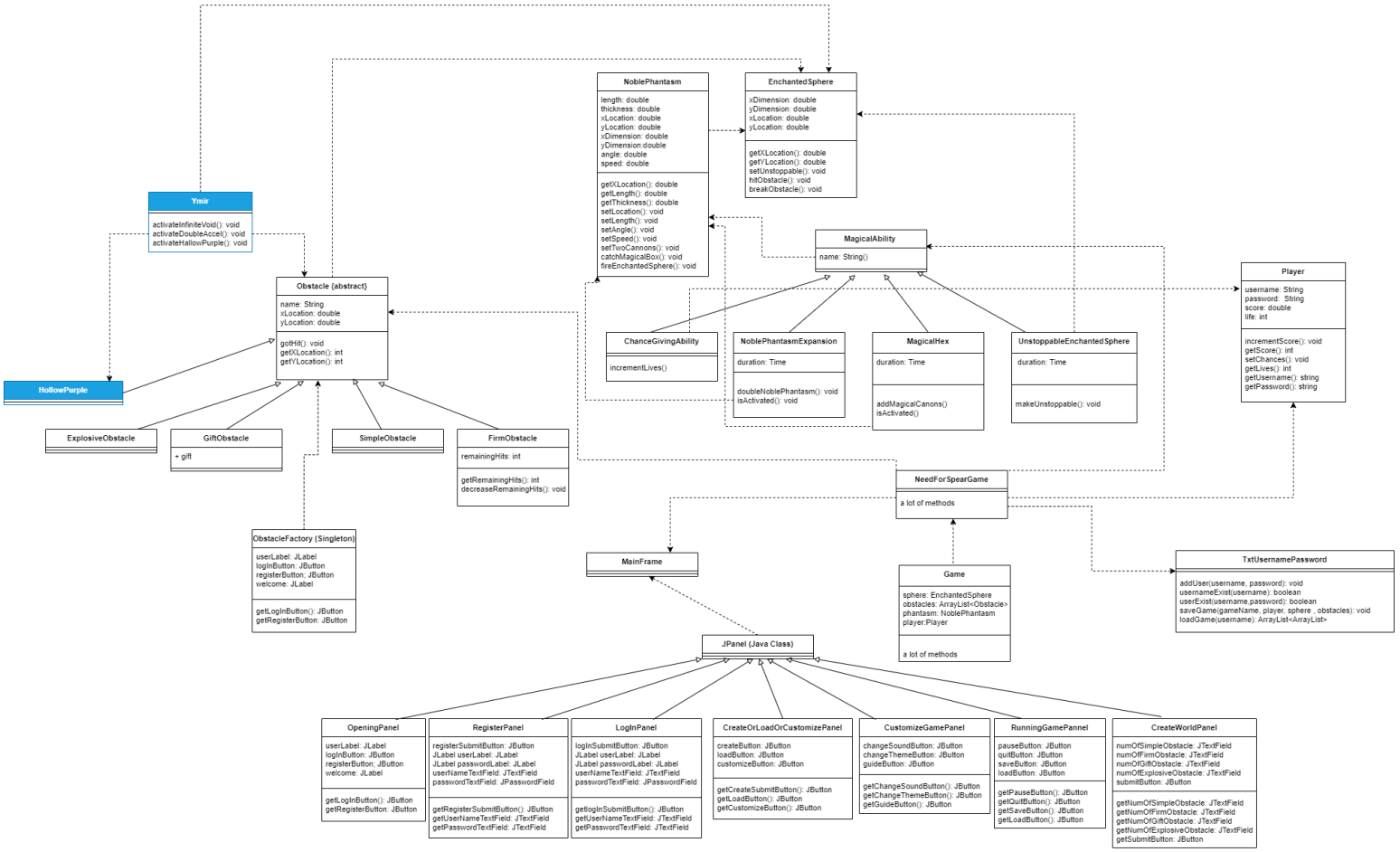
Operation-1: activateYmir()
Cross Reference: Activate Ymir use case
Pre Condition: *RunningGamePanel.isVisible* or *CustomizeGamePanel.isVisible* was true, and *Ymir.isActivated* was false.
Post Condition: *Ymir.isActivated* was set to true.

Operation-2: deactivateYmir()
Cross Reference: Deactivate Ymir use case
Pre Condition: *RunningGamePanel.isVisible* or *CustomizeGamePanel.isVisible* was true, and *Ymir.isActivated* was true.
Post Condition: *Ymir.isActivated* was set to false.

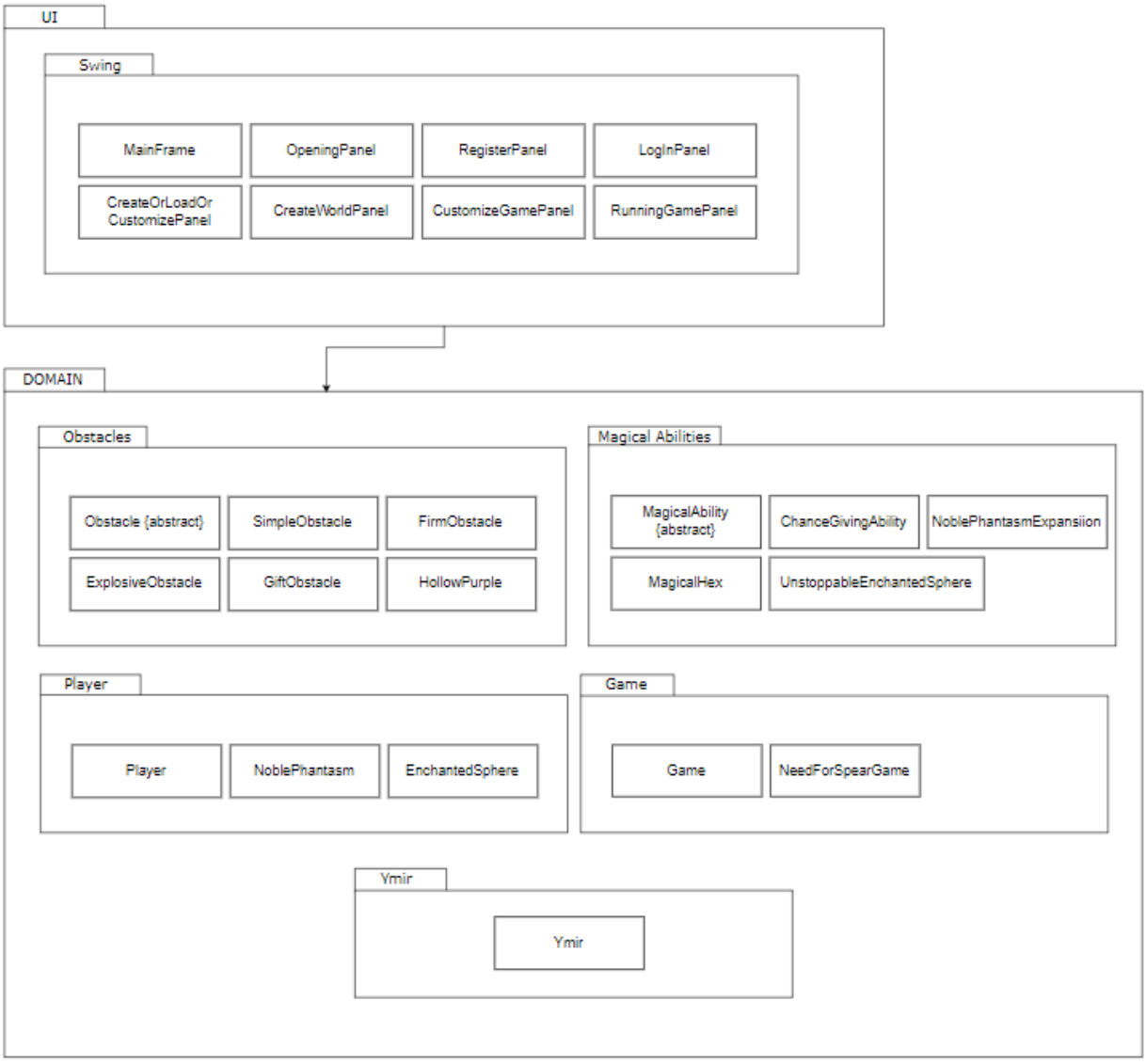
Operation-3: changeYmirDuration()
Cross Reference: Change Ymir Duration use case
Pre Condition: *RunningGamePanel.isVisible* was true.
Post Condition: *Ymir.duration* was set to user's input .

Operation-4: changeYmirProbability()
Cross Reference: Change Ymir Probability use case
Pre Condition: *RunningGamePanel.isVisible* was true.
Post Condition: *Ymir.probability* was set to user's input .

UPDATED CLASS DIAGRAM

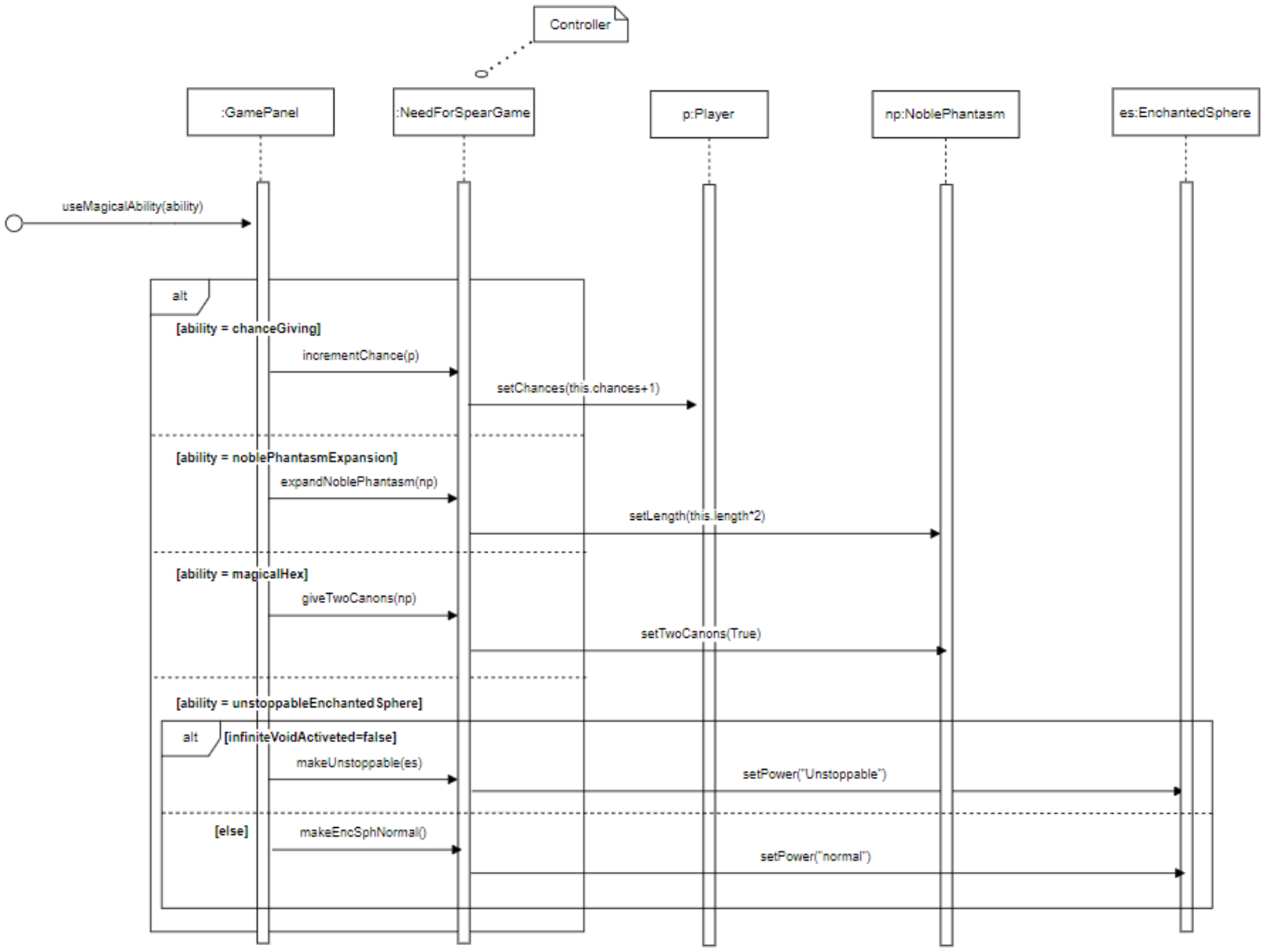


UPDATED PACKAGE DIAGRAM

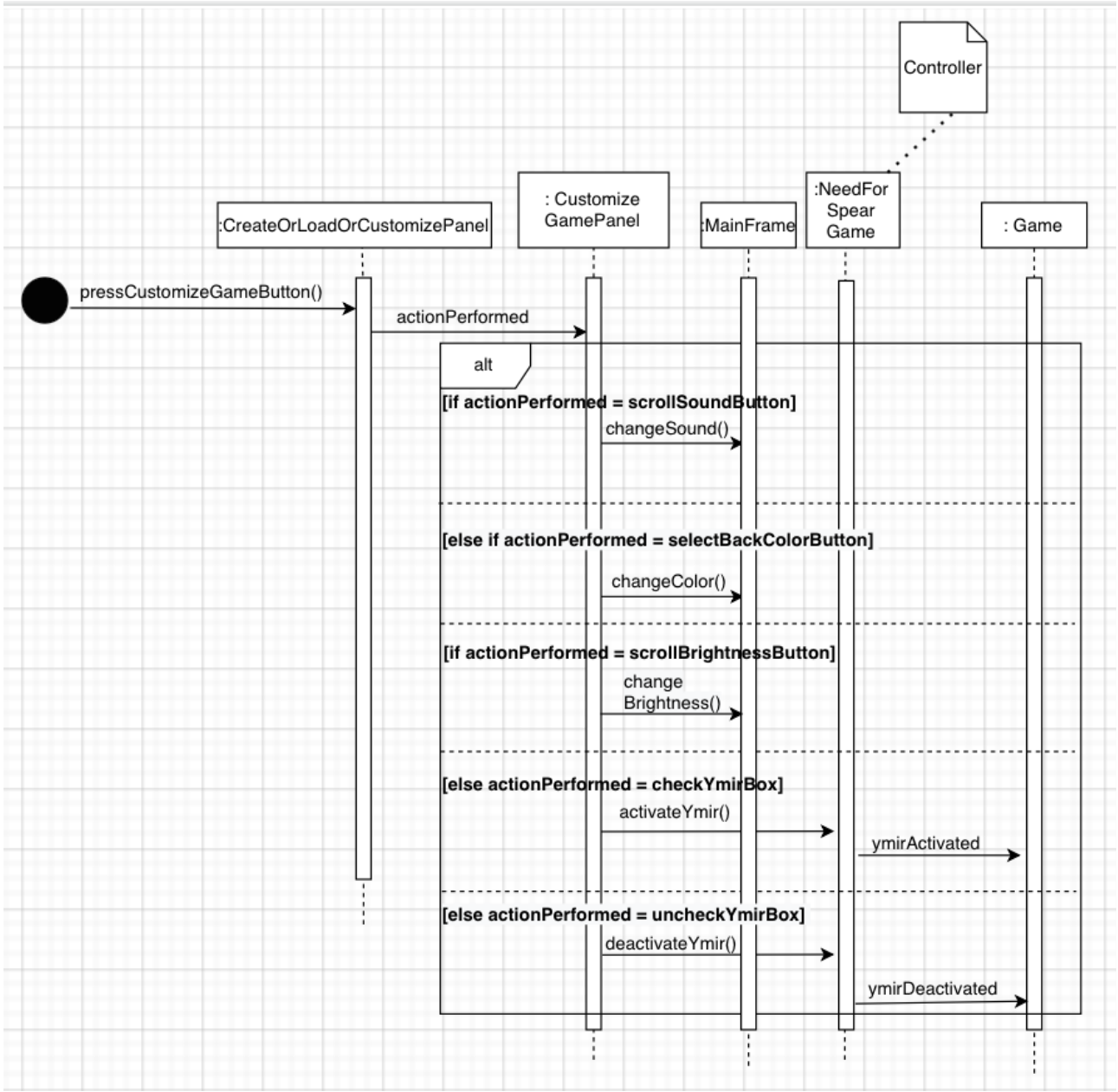


UPDATED INTERACTION DIAGRAMS

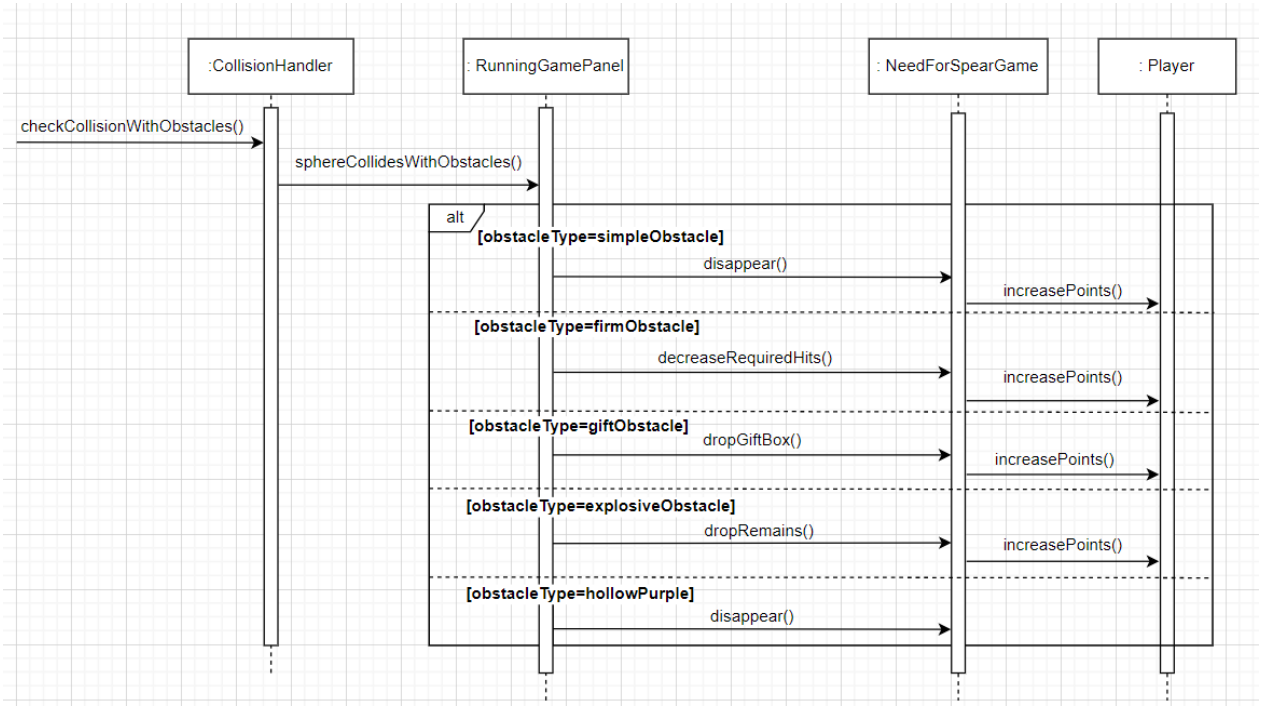
useMagicalAbility(ability) Sequence Diagram:



customizeGame() Sequence Diagram:

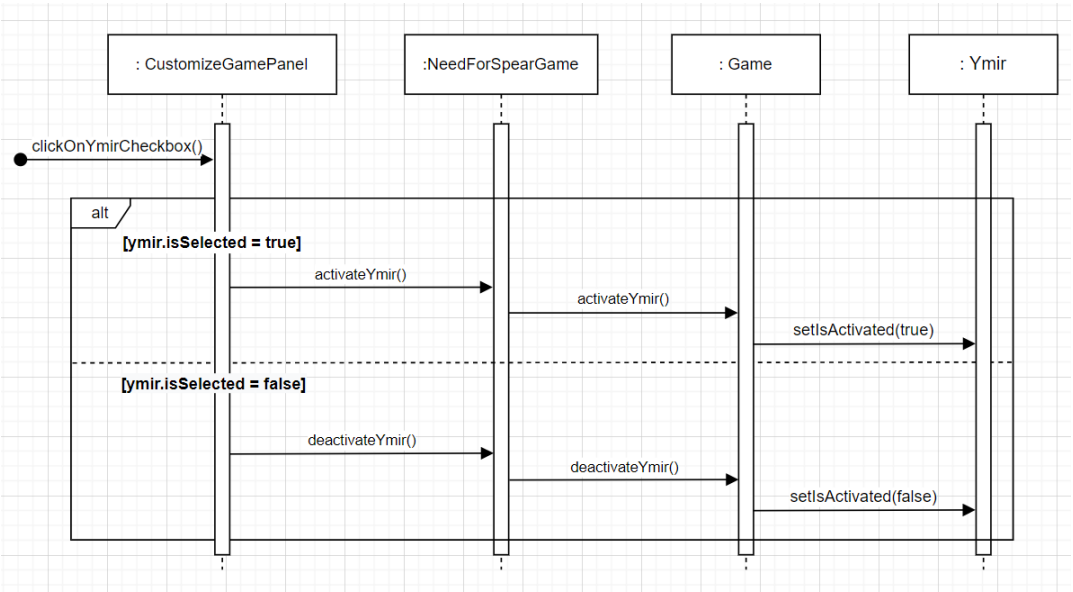


checkCollisionWithObstacle() Sequence Diagram:

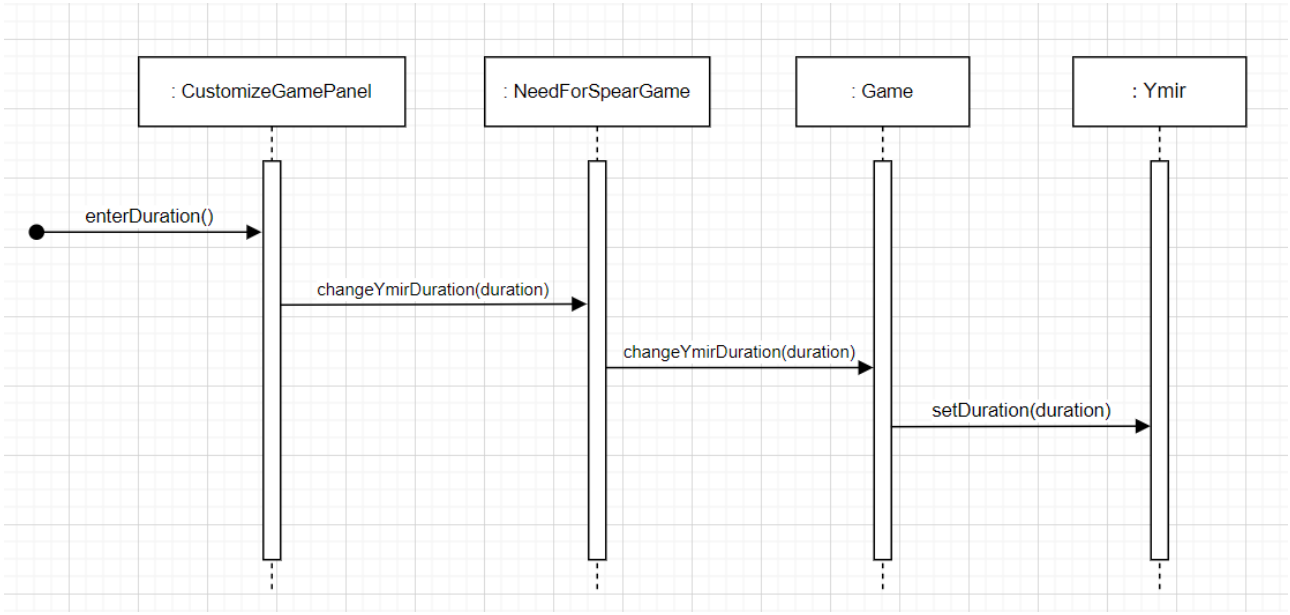
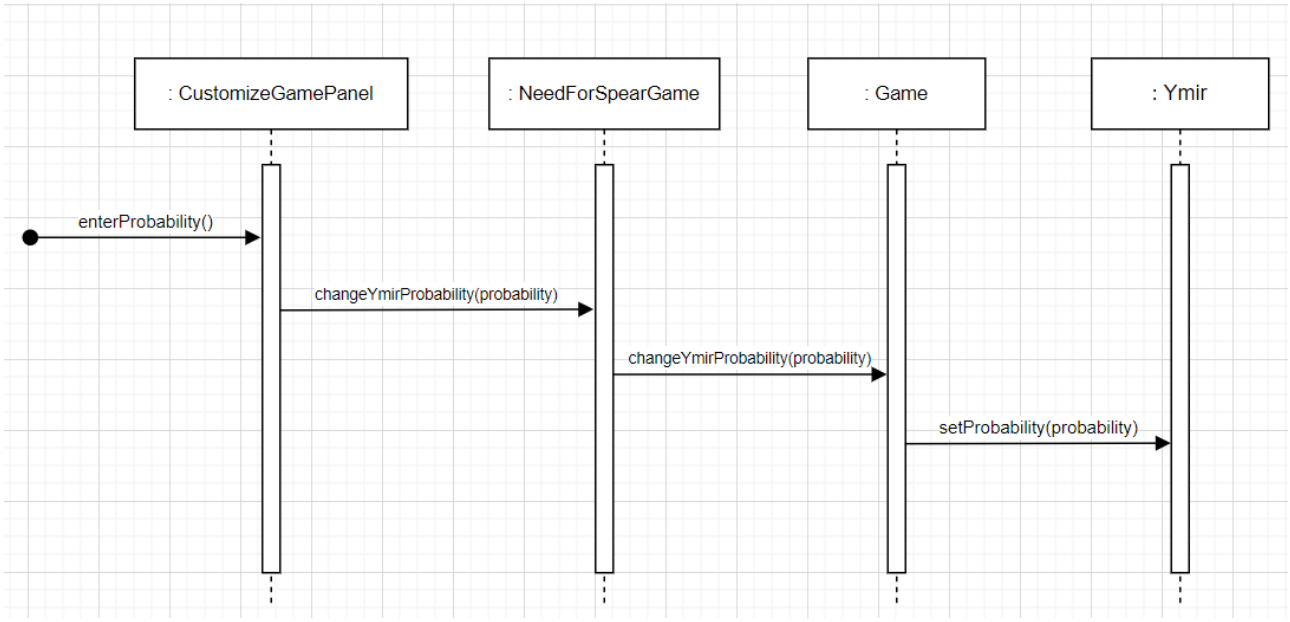


NEW INTERACTION DIAGRAMS

clickOnYmirCheckbox() Sequence Diagram:



changeYmirDuration() Sequence Diagram:



changeYmirProbability() Sequence Diagram: