CMPT 276   Group 10

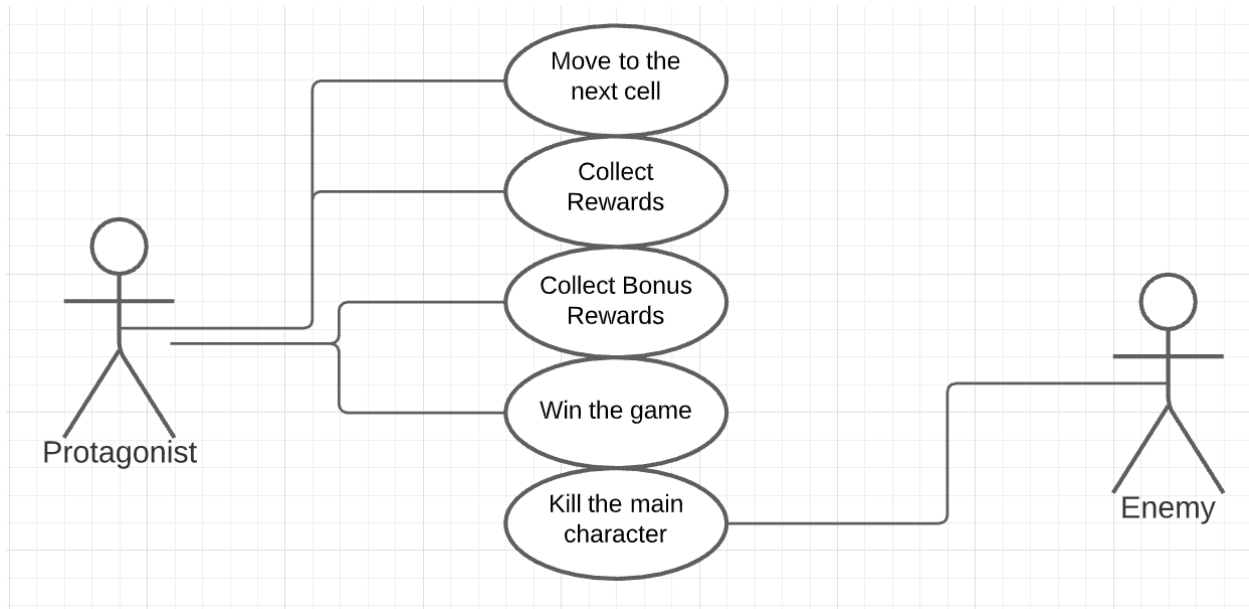**USE CASE DIAGRAM**

Use case: *NavigateOnTheBoard*

Primary actor: Protagonist

Goal in context: To allow protagonist to move according user.

Preconditions: System has been programmed to allow Protagonist to move to a cell

Trigger: The user decides to start the game and move accordingly.

Scenario:

1. Protagonist: enter the game

2. Protagonist: observe the board

3. Protagonist: choose "left", "right", "up", "down" key

4. Move to the cell where the user wants

Exceptions:

1. Board does not show up
2. Protagonist cannot move

Priority: Essential, must be implemented

Use case: *CollectRewards*

Primary actor: Protagonist

Goal in context: To get to the spot that contains a reward and collect it to get closer to finishing the game.

Preconditions: Game has barriers, punishments, and enemies along the way to reach to the rewards.

Trigger: The player controls the main character in the game using the assigned keys of their keyboard to get to the reward.

Scenario:

1. Protagonist: locates the reward.

2. Protagonist: finds a path to get to the reward.

3. Protagonist: moves "left", "right", "up", "down".

4. Enemy: tries to catch and stop the main character.

5. Protagonist: tries to stay away from the enemies and the punishments.

6. Steps on the cell containing the reward, collects the reward, and the reward disappears.

Exceptions:

1. Enemies come in between, and protagonist get killed.

2. Protagonist comes across a barrier in between.

Use case: *CollectBonusRewards*

Primary actor: Protagonist

Goal in context: The protagonist gets the reward in order to increase the score.

Preconditions: The reward appears randomly and disappears in a few ticks.

Trigger: The player uses assigned keys to get to the award.

Scenario:

1. Protagonist: observes the reward and decides if want to get the reward

2. Protagonist: uses "left", "right", "up", "down" to avoid the enemies and barriers in order to approach the reward

3. Protagonist: gets the reward and the reward disappears / the reward disappears before the protagonist approaches it

Exceptions:

1. The reward does not appear randomly on the board.

2. The protagonist is killed by the enemy on the way to the reward.

3. The player decides not to get the bonus reward.

Use case: *KillTheMainCharacter*

Primary actor: Enemy

Goal in context: To stop the main character from collecting rewards, from moving forward in the game, and from getting to the end point.

Preconditions: The player can move the main character around the map using the keyboard controls, the map is bounded, the enemies are constantly moving, and there are barriers and punishments along the way.

Trigger: The enemy keeps walking in the assigned area or towards the main character, and it encounters the main character.

Scenario:

1. Enemy: Detects where the main character is in the game map and starts moving towards him.

2. Protagonist: Tries to avoid coming in contact with the enemy and continues to collect rewards so that it can finish and win the game.

3. Enemy: tries to catch the main character to kill it.

Exceptions:

1. The main character dodges the enemy.

2. A barrier comes in between the enemy and the main character.

3. The main character chooses a different path.

Use case: *WinTheGame*

Primary actor: Protagonist

Goal in context: The protagonist gets all the regular rewards and safely found the way to the exit.

Preconditions: The total score of the player is above zero and all regular awards are collected.

Trigger: All functions are working properly, and the user is finding the way to the exit.

Scenario:

1. The player observes the board.
2. The player uses assigned keys to avoid all enemies, barriers, and punishments, collect all regular awards.
3. Found the way to the exit.

Exceptions:

1. The Protagonist is killed by the enemy.
2. When the protagonist stands on the exit cell, the system does not show the message to end the game.
3. The player does not collect all the regular awards.
4. The score is below zero.