Use Cases Phase 1 CMPT 226

Main Program

User Case: Open program
Primary actor: Player
Goal in Context: Initiate the game program
Preconditions: Have the Java code compiled into an executable file
Trigger: The player decides to launch the game
Scenario:
1. The player sits at a computer
2. Player logs into the computer
3. Player double clicks executable
Exceptions: N/A
When available: Anytime
Frequency of use: Any
Channel to actor: Via mouse and keyboard
Secondary actors: N/A
Channels to Secondary actors: N/A

Main Menu

User Case: Start Game
Primary actor: Player
Goal in Context: On the main menu of the game
Preconditions: Open program Use Case
Trigger: The player decides to begin a round
Scenario:
1. The player clicks the Start button
2. The player selects the preferred difficulty
Exceptions: N/A
When available: On the main game menu
Frequency of use: Any
Channel to actor: Via mouse and keyboard
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: Exit Game
Primary actor: Player
Goal in Context: Terminate the program

Preconditions: in the main menu
Trigger: The player wishes to close game
Scenario:
    1. The player presses the exit button
Exceptions: N/A
When available: in the main menu
Frequency of use: once per game launch
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: Open the Settings menu
Primary actor: Player
Goal in Context: Open the settings menu
Preconditions: On the main menu of the game
Trigger: The player decides to open the settings menu
Scenario:
    1. The player clicks the settings button
Exceptions: N/A
When available: On the main game menu
Frequency of use: Any
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

Settings Menu

User Case: Change game volume
Primary actor: Player
Goal in Context: to adjust the game volume
Preconditions: In the settings menu
Trigger: The player wishes to change the game volume
Scenario:
    1. The player presses the '+' or '-' buttons to raise or lower the volume respectively
Exceptions: the game is muted volume will not change
When available: in the settings menu
Frequency of use: anytime
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: Mute/unmute Game Audio
Primary actor: Player
goal in Context: to mute or unmute the game audio
Preconditions: in the settings menu
Trigger: The player wishes to mute or unmute the game's audio
Scenario:
    1.   The player presses the mute button to toggle mute or unmute
Exceptions: N/A
When available: in the settings menu
Frequency of use: Any
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: Change Characters skin
Primary actor: Player
Goal in Context: Change the skin of the character
Preconditions: In the settings menu
Trigger: player wishes to change the look of their character
Scenario:
    1.   The player clicks on the character icon in the settings menu to rotate through skins
Exceptions: N/A
When available: in the settings menu
Frequency of use: any
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

Gameplay

User Case: Choose restart after game-over by loss
Primary actor: Player
Goal in Context: game resets to the state of a new game; a new round begins with the same difficulty
Preconditions: A round of the game must be played, and the game must be terminated via intended game mechanics i.e not exiting the program
Trigger: The round ends
Scenario:
        1.   The round ends
        2.   Menu pops
        3.   Player chooses restart
        4.   Game loads again with the same selected difficulty

Exceptions: N/A
When available: after the end of a round ended by either collision with a moving enemy or negative score

Frequency of use: once per round
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: Choose "menu" after game-over by loss
Primary actor: Player
Goal in Context: game brings UI back to the main menu display
Preconditions: A round of the game must be played, and the game must be terminated via intended game mechanics i.e not exiting the program
Trigger: The round ends
Scenario:
1. The round ends with a loss
2. Game over menu shows up on the screen
3. The Player chooses the "back to main menu option"
4. The game's state goes to the main game menu
Exceptions: N/A
When available: after the end of a round ended by either collision with a moving enemy or negative score

Frequency of use: once per round
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: in-game pause
Primary actor: Player
Goal in Context: Stop the game's ticks, the player/enemys will not be able to move
Preconditions: The game must be running
Trigger: The player hits the 'escape' key on the keyboard
Scenario:
1. The escape key is pressed
2. The game's pixels get darker
3. A mini pause symbol pops up in the middle of the screen
4. The game state remains (i.e character movements do not move, and movable entities remain stationary) until escape is pressed again
Exceptions: N/A

When available: during gameplay
Frequency of use: anytime
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: character movement
Primary actor: Player
Goal in Context: player decides to move the character
Preconditions: the game must be running
Trigger: player presses "w", "a", "s", or "d" for up left down or right movements respectively
Scenario:
1. Player inputs the movement key
2. The game considered the square that the character will move into
3. If the square is empty, the player moves
4. If the square has a barrier, the player remains in the current space
5. If the square has a reward, the player moves and collects the reward (see collected reward use case)
6. If the square has a stationary enemy, the player moves and takes damage (see stationary enemy use case)
7. If the square has a moving enemy, game over (see moving enemy use case & game-over use case)
8. If the square is the exit and all rewards are collected, the game is won (see win condition use case)
Exceptions: the game is paused
When available: during gameplay
Frequency of use: once per movement tick
Channel to actor: Via mouse and keyboard
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: collect reward
Primary actor: Player
Goal in Context: collect a reward
Preconditions: the game is running, the player is beside a reward tile
Trigger: the player moves the character onto the reward tile
Scenario:
1. The player moves the character onto the reward tile
2. Reward disappears
3. The score from the reward is added to the total score
Exceptions: N/A
When available: during gameplay
Frequency of use: however many rewards are spawned for the current difficulty

Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: stationary enemy
Primary actor: Player
Goal in Context: take damage from stationary enemy
Preconditions: the game is running, the player is beside a stationary enemy tile
Trigger: the player moves the character onto the stationary enemy tile
Scenario:
1.   The player moves the character onto the stationary enemy tile
2.   Stationary enemy disappears
3.   The score is deducted from the total score
4.   If the score is negative, game over (see the game-over use case)
Exceptions: N/A
When available: during gameplay
Frequency of use: however many stationary enemies are spawned for the current difficulty
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: moving enemy
Primary actor: Player
Goal in Context: lose the game by touching a moving enemy
Preconditions: the game is running
Trigger: either the moving enemy moves onto the same square as the character or vice versa
Scenario:
1.   Moving enemy moves onto the same tile as the main character or vice versa
2.   Game-over use case is triggered
Exceptions: N/A
When available: during gameplay
Frequency of use: once per game
Channel to actor: Via mouse and keyboard:
Secondary actors: N/A
Channels to Secondary actors: N/A

User Case: game over

Primary actor: Player

Goal in Context: end the game due to a loss

Preconditions: the game is running

Trigger: player gets a negative total score or touches a moving enemy

Scenario:
1. Stationary enemy use case or moving enemy use case
2. The intermediate screen displays a "Game Over" message, players' score, the final time, "try again", and "back"
3. If the player presses "try again" then "choose restart after game-over by loss" use case, if the player presses "back" then "choose menu after game-over by loss" use case

Exceptions: The player wins the game

When available: during gameplay

Frequency of use: once per round

Channel to actor: Via mouse and keyboard:

Secondary actors: N/A

Channels to Secondary actors: N/A

User Case: Win condition

Primary actor: Player

Goal in Context: win the game

Preconditions: Player has collected all regular rewards (see collect reward use case)

Trigger: player walks through the exit gate

Scenario:
1. All rewards are collected
2. Exit opens for the player
3. The player moves the character to the exit
4. An intermediate screen displays "Congratulations" and the total score, the final time, "try again", and "back"
5. If the player presses "try again" then the game restarts with the same difficulty. if the player presses "back" the player is taken back to the main menu

Exceptions: game-over use case

When available: during gameplay

Frequency of use: once per game

Channel to actor: Via mouse and keyboard:

Secondary actors: N/A

Channels to Secondary actors: N/A