

## Stranded in Space Use Cases

### Use Case 1: Start the game

Actor: Player

Goal in context: To start and run the game on the device which the player is using

Preconditions:

1. The game is properly installed on the device
2. The device meets the performance requirements of the game
3. The device has enough storage or RAM to run the game

Scenario:

1. The player launches the game by running the program
2. The game plays the cinematic introduction
3. The game displays the main menu visuals and buttons including the “Play” button

Exceptions:

1. There is not enough storage or RAM to run the game on the device
2. The device does not meet the performance requirements of the game
3. The game has not been properly installed onto the device

### Use Case 2: Player begins the game

Actor: Player

Goal in context: To start a game session from the main menu of the game program

Preconditions:

1. The player launched the game program
2. The game started and ran successfully on the device
3. The game displays the main menu and is waiting for input from the player

Scenario:

1. The player presses the “Play” button on the main menu
2. The game exits from the main menu and displays the loading screen
3. The game finishes loading and displays the in-game scene including the spaceship (character), map (board), the rocks (barriers), keys (rewards), and the enemies (aliens and meteors)
4. The game displays the Commander of the International Space Station (exit cell) who gives instructions to the player
5. The game begins and gives input control to the player

Exceptions:

1. The game did not successfully load one of the elements of the game
2. The player is not present when the game begins

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### Use Case 3: Player moves the spaceship

Actor: Player

Goal in context: Read and process input controls from the device so that the player can successfully maneuver the main character around the map

Preconditions:

1. The game session has begun and is ready for input controls
2. The device which the player is using includes a keyboard input device with arrow keys or WASD keys
3. The overall score of the game session is not negative
4. The player has not encountered or been caught by a meteor (moving enemy)
5. The player has not moved cells during the current tick

Scenario:

1. The player presses either of the WASD or arrow keys to maneuver the ship
2. The game displays the ship moving one cell on the map in the direction of the inputted key and plays the ship moving noise

Exceptions:

1. The game has not begun yet and is therefore not ready for keyboard input
2. The device which the player is using to play the game does not have a keyboard input device
3. The player's keyboard does not have arrow keys or WASD keys
4. The player has a negative score during the game session
5. The player has encountered or has been caught by a meteor (moving enemy)
6. The direction which the player attempts to move is blocked by rocks (barrier)
7. The player attempts to move more than one cell per tick

### Use Case 4: Player encounters an alien (punishment)

Actor: Player

Goal in context: Penalize the player's score after encountering an alien

Preconditions:

1. The game session has begun and is ready for input controls
2. The device which the player is using includes a keyboard input device with arrow keys or WASD keys
3. The overall score of the game session is not negative
4. The player has not encountered or been caught by a meteor (moving enemy)

Scenario:

1. Player moves into a cell containing an alien (punishment)
2. The game deducts 5 points from the player's score
3. The game displays ship damage animation and sound from hitting the alien
4. The alien is removed from the map (board)

Exceptions:

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1. The game has not begun yet and therefore the player should not make contact with an alien
2. The player has a negative score after moving into the cell with the alien, in which case the game will initiate the defeat scenario
3. The player has encountered or has been caught by a meteor (moving enemy) in the same cell as the punishment (alien), in which the meteor would take priority

### Use Case 5: Player encounters a moving enemy (meteor)

Actor: Player

Goal in context: Initiate the defeat scenario when the player encounters a moving meteor during a game session

Preconditions:

1. The game session has begun and is ready for input controls
2. The device which the player is using includes a keyboard input device with arrow keys or WASD keys
3. The overall score of the game session is not negative
4. The moving enemy (meteor) has not moved more than one cell per game session tick

Scenario:

1. The player moves into a cell containing a moving enemy (meteor)
2. The game disables ship movement and displays the ship destruction animation and sound upon contact with the meteor
3. The game session is ended and displays the defeat screen displaying the score prior to encountering the moving enemy and a return to menu button

Exceptions:

1. The game has not begun yet and therefore the player should not make contact with the meteor
2. The player has encountered or has been caught by a meteor (moving enemy) in the same cell as the punishment (alien), in which the meteor would take priority

### Use Case 6: Player encounters regular reward (key)

Actor: Player

Goal in context: When the player collects a reward, display a reward collection animation and then update the score

Preconditions:

1. The game session has begun and is ready for input controls
2. The device which the player is using includes a keyboard input device with arrow keys or WASD keys
3. The player has not moved into the same cell as a moving enemy

Scenario:

1. The player moves into a cell containing a regular reward (key)

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2. The game disables ship movement and displays reward animation
3. The game updates score to reflect the collection of the reward
4. The game reenables ship movement

Exceptions:

1. The player has encountered a moving enemy in the same cell as the reward (key), in which the meteor would take priority

### Use Case 7: Reaching the end space after collecting all regular rewards (keys)

Actor: Player

Goal in context: Initiate victory scenario when player has reached the end space after fulfilling all preconditions

Preconditions:

1. The game session has begun and is ready for input controls
2. The device which the player is using includes a keyboard input device with arrow keys or WASD keys
3. The player has collected all regular rewards
4. The player has not moved into the same cell as a moving enemy

Scenario:

1. The player moves into the end space with all regular rewards collected
2. The game checks if any entities have moved/spawned into the end space and updates the score accordingly
3. The game disables all ship movement and displays victory animation
4. The game displays score and other key game details in the end screen

Exceptions:

1. The player has encountered a moving enemy in the end space, in which the meteor would take priority

### Use Case 8: Player decreases game volume

Actor: Player

Goal in context: To open the options from the main menu and adjust the game's volume

Preconditions:

1. The player launched the game program
2. The game started and ran successfully on the device
3. The game displays the main menu and is waiting for input from the player

Scenario:

1. The player presses the "Options" button on the main menu
2. The game exits from the main menu and displays the Options screen
3. The game displays the options menu which displays a volume setting with a horizontal sliding bar

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4. The player drags the volume sliding bar to the left to decrease the volume
5. The game decreases the volume including music and sound effects to the level of the new position of the sliding volume bar

Exceptions:

1. The game did not successfully load the options screen
2. The game's volume is set to zero

#### Use Case 9: Go back to the menu after winning the game

Goal in context: Display the main menu and set the currentState to "menu" after the player exits from the ending game screen

Preconditions:

1. The game session has ended
2. The game is displaying the ending game screen with the score and time elapsed

Scenario:

1. The player clicks the X button on the top right
2. The game changes the currentState from "inGame" to "menu"
3. The game displays the main menu

Exceptions:

1. The game session has not ended yet and the player cannot go back to the menu without pressing the pause button
2. The ending game screen is not displayed