Use Cases

Use Case: Play Game

- Actor
  - Player (Dinosaur)
- Goal in context
  - To start and play the game.
- Preconditions
  - Player has to have the game installed.
- Trigger
  - Player wants to play the game.
- Scenario: (greyed out part should probably be refactored in the use cases listed below)
  - Once a player launches the game, they will be met with the menu screen that gives them the option to start the game.
  - By selecting “Start Game”, the player will be transported to the level select, where they can pick the level (easy, medium, hard) that they wish to play. Players must have completed easier levels before more difficult levels are unlocked.
  - The player will then be placed into the game where they can move their character with the w, a, s or d keys to move up, left, down and right respectively.
  - While in the game, players can view their health, stamina, amount of keycards and eggs, the amount of time spent in the level,and any current buffs they may have collected from the map.
  - The player has to navigate their character through the maze and collect all keycards to open the exit.
  - They can also collect eggs scattered around the maze to increase their score.
  - Animate enemies will actively seek out the player if the player enters detection range of the animate enemies.
  - If the player interacts with an enemy, they will lose health and if their health goes under a certain threshold, a “game over” screen is displayed and is given the option to retry or go back to the menu screen.
  - While in the game, the player can also pause the game by pressing the “esc” key. This will bring up a settings menu where they will get an option to continue, go back to the main menu or close the game.
  - The player can only save their progress by completing a level. The information that will be recorded is the amount of time they spent and the number of eggs collected.
- Exceptions
  - Levels cannot be played if the previous level has not been completed.
- Priority
  - high
- When available
  - At end of second phase
- Frequency of Use
  - Frequent

Use Cases

Use Case: Moving Character

- Actor
  - Player (Dinosaur)
- Goal in Context
  - get the game character where the player wants him to be
- Preconditions
  - The character needs to have a valid destination or target location
    - cannot move into walls and enemies
  - The action may have certain conditions or limitations, such as….
- Trigger
  - Player wants to move the character
- Scenario
  - Player: uses w, a, s or d keys to move up, left, down and right respectively.
- Exceptions
  - when a character is next to a wall, they cannot pass through it
- Priority
  - Essential, must be implemented
- When available
  - Phase 2
- Frequency of Use
  - Expected to use everytime game is played

Use Case: Auto Save Progress

- Actor
  - Player (Dinosaur)
- Goal in Context
  - Saving the score and progress of the player in order to access further levels.
  - Saves players “high” score
  - Saves that player passed a level so they can block more difficult level
- Preconditions
  - Player needs to finish the first level in order to save the game for the first time.
- Trigger
  - // Office hour
  - Autosave: the game automatically saves the progress after you beat the level
- Scenario
  - 1- Player enters a level to play.
  - 2- After the player has finished the level, the game will be saved.
  - 3- If their current score is higher than their previous attempt, then the new score will be recorded.
- Exceptions
  - The game can not be saved while the player is playing a level.
- Priority
  - Essential

Use Cases

- When available
  - At end of phase 2
- Frequency of Use
  - Many times as player finishes a level

Use Case: Spawn Enemies

- Actor
  - Inanimate: Spikes
  - Animate: Scientists
- Goal in Context
  - Populate map with obstacles
- Preconditions
  - Starting a game
- Trigger
  - Entering a game
- Scenario
  - Starting a new game
- Exceptions
  - Only spawned at the beginning of the game
  - Can not spawn on another inanimate object (power-up, spikes, and walls etc.)
  - Can not spawn on animate objects (player, other scientists)
- Priority
  - Essential, must be implemented
- When available
  - Phase 2
- Frequency of Use
  - High, every level is populated with a set amount of enemies

Use Case: Enemy Interaction

- Actor
  - Scientists
  - Spikes
- Goal in Context
  - The enemy AI purpose is to prevent the player-controlled characters from reaching their destination
- Preconditions
  - Enter new game
- Trigger
  - Scientists: when player enters alert zone, scientist will start to chase the player
  - Spikes: when player walks over the spikes, they receive damage to their health
- Scenario
  - Scientists: walk around on a set path until player enters alert zone
  - Spikes: have a set position

Use Cases

- ➢ The game needs to have a system for detecting and resolving enemy interactions, such as the player character entering a specific area or enemy detecting the player's character presence

- ❖ Exceptions
  - ➢ Scientist: if player doesn't enter alert zone, scientist is not triggered to leave their set path
- ❖ Priority
  - ➢ Essential, must be implemented
- ❖ When available
  - ➢ Phase 2
- ❖ Frequency of Use
  - ➢ High, every level is populated with a set amount of enemies

Use Case: Key Cards

- ❖ Actor:
  - ➢ Player
- ❖ Goal in Context:
  - ➢ Unlocks door to allow player to win the game
- ❖ Preconditions
  - ➢ Game has started
  - ➢ Set amount of keys will spawn on the map in set locations
- ❖ Trigger
  - ➢ Set amount of Keys will spawn at the start of game
  - ➢ Number of keys depends on level of difficulty (the more difficult the the level the more keys will spawn)
- ❖ Scenario
  - ➢ Player must run over key to pick it up
  - ➢ Player must collect all keys to unlock the door to win the game
- ❖ Exceptions
  - ➢ Keys can not spawn one on top of another
  - ➢ Can not spawn on inanimate objects (spikes, power-ups, walls)
  - ➢ Can not spawn on animate objects (player, scientists)
  - ➢ Enemies can not collect keys
- ❖ Priority
  - ➢ Essential, must be implemented
- ❖ When available
  - ➢ Phase 2
- ❖ Frequency of Use
  - ➢ High, the player must collect all keys to get a chance to unlock the door to win the game.

Use Case: Power-Ups

- ❖ Actor:

Use Cases

- ➢ Health packs
- ➢ Stamina potion
- ➢ Speed potions (x2 boost, x4 boost)

❖ Goal in Context:
- ➢ Provides player with and edge for winning the game
- ➢ Health packs: replenishes health points
- ➢ Stamina potion: replenishes stamina points (if player runs out of stamina they will be reset to default x1 speed)
- ➢ Speed potions: boosts the players run speed by x2 or x4, for a set time

❖ Preconditions
- ➢ Game started
- ➢ Set amount of power-up will spawn on the map in set locations

❖ Trigger
- ➢ Player must run over power-up to receive benefits

❖ Scenario
- ➢ Game starts
- ➢ Set number of power-ups spawn at set locations
- ➢ Player must run over power-up to pick it up
- ➢ Depending on power-up, player will receive a boost of either health, speed, or stamina
- ➢ Health and stamina boosts are cumulative and are added on to players current health and stamina points
- ➢ Speed boosts are time limited and will disappear after the set time

❖ Exceptions
- ➢ Power-up can not spawn one on top of another
- ➢ Can not spawn on inanimate objects (spikes, keys, walls)
- ➢ Can not spawn on animate objects (player, scientists)
- ➢ Scientists can not collect power-ups

❖ Priority
- ➢ Medium priority

❖ When available
- ➢ Phase 2

❖ Frequency of Use
- ➢ Medium, depends on the player, not necessary for winning the game but will provide an edge.

Use Case: Dinosaur Eggs

❖ Actor:
- ➢ Dinosaur Eggs

❖ Goal in Context:
- ➢ Provides player with and edge for getting a high score

❖ Preconditions
- ➢ Game started

Use Cases

- ➢ Set amount of dinosaur eggs will spawn on the map in set locations
- ❖ Trigger
  - ➢ Player must run over dinosaur eggs to collect extra points
- ❖ Scenario
- ❖ Exceptions
  - ➢ Dinosaur eggs can not spawn one on top of another
  - ➢ Can not spawn on other inanimate objects (spikes, keys, walls)
  - ➢ Can not spawn on animate objects (player, scientists)
  - ➢ Scientists can not collect dinosaur eggs
- ❖ Priority
  - ➢ Low priority
- ❖ When available
  - ➢ Phase 2
- ❖ Frequency of Use
  - ➢ Medium, depends on the player, not necessary for winning the game but will provide an edge for getting a higher final score.

Use Case: View Level Stats

- ❖ Actor:
  - ➢ Player
- ❖ Goal in Context:
  - ➢ View the highest number of eggs obtained and how long the player took to complete the level.
- ❖ Preconditions
  - ➢ The player must have completed the level they wish to view.
- ❖ Trigger:
  - ➢ Player wants to view the high score
- ❖ Scenario
  - ➢ The player must start the game.
  - ➢ Then navigate to the level select screen.
  - ➢ Finally by selecting a level, they will see a screen that contains their stats.
- ❖ Exceptions:
  - ➢ Stats of a level cannot be seen if the player has not completed the level
- ❖ Priority
  - ➢ medium priority
- ❖ When available
  - ➢ After phase 2
- ❖ Frequency of Use
  - ➢ frequent