Use cases

Creating use cases that describe the game's behaviour from the player's perspective.

Preliminary

Listing actions made by specific actors.

Actor: Geologist (MC/main character/player)

Functions: - Move into a wall/barrier - Collect a regular reward - Collect a bonus reward - Land on a punishment - Encounter a moving enemy (lose) - Reach end cell with all regular rewards (win)

Formal

Creating use cases.

Using this template:
Use case:
Actor:
Goal in context:
Precondition:
Trigger:
Scenario:
Exception:

Use case: Collect a regular reward (diamond)
Actor: Geologist (MC)
Goal in context: To eventually collect all regular rewards and win the game.
Precondition: The MC has spawned at the mine entrance, and a regular reward has spawned onto the map.
Trigger: The player decides to move.
Scenario:
1. MC moves onto the reward's cell. 2. The reward is claimed (removed from map). 3. The reward amount is added to MC's score. 4. The screen displayes the new score.

Exceptions:
1. MC encounters a moving enemy before reaching a reward - see use case **Encounter a moving enemy** 2. MC lands on a punishment before reaching a reward - see use case **Land on a punishment** 3. MC is blocked by a wall or barrier - see use case **Move into a wall/barrier**

Use case: Collect a bonus reward (coin)
Actor: Geologist (MC)
Goal in context: To earn a higher score.
Precondition: A bonus reward has randomly spawned onto the map.

Trigger: The player decides to move.
Scenario:
1. MC moves onto the reward's cell. 2. The reward is claimed (removed from map). 3. The reward amount is added to MC's score. 4. The screen displays the new score.

Exceptions:
1. Bonus reward disappears before reaching it. 2. MC encounters a moving enemy before reaching a reward - see use case **Encounter a moving enemy** 3. MC lands on a punishment before reaching a reward - see use case **Land on a punishment** 4. MC is blocked by a wall or barrier - see use case **Move into a wall/barrier**

Use case: Encounter a moving enemy
Actor: Geologist (MC)
Goal in context: To lose the game.
Precondition: A moving enemy has spawned onto the map.
Trigger: The player decides to move or the moving enemy begins to move.
Scenario:
1. MC moves onto the moving enemy's cell. 2. MC collides with enemy and "dies". 3. The game displays a lose screen with the final score and time (game is over).

Exceptions:
1. The moving enemy catches up to the MC instead of the MC catching up to the enemy - game is over. 2. MC lands on a punishment before encountering a moving enemy - see use case **Land on a punishment** 3. MC is blocked by a wall or barrier - see use case **Move into a wall/barrier**

Use case: Land on a punishment (spike/trap/etc.)
Actor: Geologist (MC)
Goal in context: To penalize score.
Precondition: A punishment is spawned onto the map.
Trigger: The player decides to move.
Scenario:
1. MC moves onto a punishment's cell. 2. MC "takes damage". 3. The punishment's penalty is taken from MC's score. 4. The screen displays the new score.

Exception:
1. The punishment's penalty causes MC's score to be negative - the MC "dies" and the game displays a lose screen (game is over) 2. MC lands on a punishment before encountering a moving enemy - see use case **Land on a punishment** 3. MC is blocked by a wall or barrier - see use case **Move into a wall/barrier**

Use case: Move into a wall/barrier
Actor: Geologist (MC)
Goal in context: To face structural obstacles.
Precondition: The mine has spawned.

Trigger: The player decides to move.
Scenario:
1. MC tries moving into a wall or barrier's cell. 2. MC is "blocked" (cannot move onto that cell).

Exception:
1. MC moves in a different direction away from the wall or barrier and becomes "unblocked".

Use case: Reach exit with all regular rewards collected
Actor: Geologist (MC)
Goal in context: To win the game.
Precondition: Collected all regular rewards.
Trigger: The player decides to move towards the end.
Scenario:
1. MC approaches barred exit. 2. MC "unlocks" the passage. 3. MC moves through the passage. 3. The screen displays the final score and time.

Exception:
1. The player chooses to collect more bonus rewards - see **Use case: Collect a bonus reward (coin)**