COMP2511 PROJECT

Milestone 1

Abstract

This document provides team xx's interpretation of requirements through epic stories and subsequent user stories. This document serves as a basis for future implementation of the project to meet client needs and expectations.

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Epic Stories

1. As a player, I should be able to clear the stage by completing goals.
2. As a player, I should be able to **interact** with objects such as walls, boulders, switches, exits, doors and enemies during gameplay.
3. As a player, I should be able to **collect** items such as treasure, keys, unlit bombs, swords and invincibility position during gameplay.
4. As a player, I should be able to **use** items such as keys, bombs, swords and invincibility position that have been collected during gameplay.
5. As a player, I should be able to **view** the items that I have collected to keep track of my progress during gameplay.

User Stories

Priority

1	High (Required for MVP)
2	Medium
3	Low

Story Point Allocation

1 SP = 1 hour

Epic Story 1

ID	1.1
Name	Player movement
User Story Description: As a player, I want to be able to press keys to move my player so I can complete the goal. **Acceptance Criteria:** • The player is able to move up, down, left and right on the grid. • The player can use a combination of moves (up or down, and left or right) to move diagonally on the grid. • The player is stationary on the grid when no keys are pressed.	
Priority	1
Size	3 SP

ID	1.2
Name	Exit obtainable
User Story Description: As a player, I should be able to move towards the exit so I can complete the associated goal. **Acceptance Criteria:** • There is a combination of moves that the user can take to reach the exit. • The player has successfully achieved their goal if they land on the exit object on the grid.	
Priority	1
Size	1 SP

ID	1.3
Name	Destroyed enemies tracked
User Story Description: As a player, I should be able to have the enemies I destroyed be tracked so I can complete the associated goal. **Acceptance Criteria:** • There is a combination of moves that the user can take to destroy all enemies. • The player has successfully achieved their goal if there are no enemies on the grid.	

Priority	1
Size	1 SP

ID	1.4
Name	Switches triggered tracked

User Story Description:
As a player, I should be able to have the switches I have triggered be tracked so I can complete the associated goal.
Acceptance Criteria:
- There is a combination of moves that the user can take to move all boulders onto a switch.
- The player has successfully achieved their goal if all boulders have been moved onto a switch.

Priority	1
Size	1 SP

ID	1.5
Name	Treasure collected tracked

User Story Description:
As a player, I should be able to have the treasure I have collected be tracked so I can complete the associated goal.
Acceptance Criteria:
- There is a combination of moves that the user can take to collect all treasures on the grid.
- The player has successfully achieved their goal if all boulders have been moved onto a switch.

Priority	1
Size	1 SP

ID	1.6
Name	Complex goals

User Story Description:
As a player, I should be able to complete complex goals composed of other goals connected by logical operators so I can have a more intricate game.

Acceptance Criteria:
- There is a combination of moves that the user can take to move all boulders onto a switch.
- If one of the goals is to find the exit, the stage is only completed when the other goals are done and then the exit goal must be fulfilled last.

Priority	2
Size	3 SP

Epic Story 2

ID	2.1
Name	Wall blocking

User Story Description:
As a player, my movements, as well as the movements of all other entities on the grid, should be blocked by any wall.
Acceptance Criteria:
- All entities (including the player) is unable to occupy the same cell as a wall.
- The player does not move on screen when attempting to move in the direction of a wall adjacent (i.e. to the immediate upper, lower, left or right cell) to the player on the grid
- All walls must be indestructible and cannot be damaged or moved by any strategy used by the player.

Priority	1
Size	2 SP

ID	2.2
Name	Boulder movement

User Story Description:
As a player, I want to be able to move boulders so I can clear my way or trigger floor switches.
Acceptance Criteria:
- The player must not be able to occupy the same cell as a boulder.
- The player can move a boulder by occupying a cell adjacent to the boulder and moving in the direction of the boulder, given that there is no object in the cell adjacent to the boulder in the direction of which the boulder is being pushed
- Will act as a wall if there is anything in the way, including another boulder.
- A boulder cannot occupy the same cell as any other entity except a switch.
- A boulder cannot be destroyed by any user strategy unless a bomb has been detonated to the immediate left, right, above or below the boulder.
- The boulder must disappear from the screen once destroyed.

Priority	1
Size	3 SP

ID	2.3
Name	Switch functionality

User Story Description:
As a player, I want to be able to trigger floor switches to complete the associated goal.
Acceptance Criteria:
- All entities may occupy the same cell as a switch, given that there is no boulder on it.
- No entity other may occupy the same cell as a switch when a boulder exists in the same cell.
- Moving a boulder onto a switch will trigger the switch.
- Moving a boulder off a switch will be un-trigger the switch.

Priority	1
Size	2 SP

ID	2.4
Name	Exit condition

User Story Description:
As a player, I want to be able to move into the exit so I can complete the stage.
Acceptance Criteria:
- An exit will act as a wall until all other goals are complete.
- Once the exit goal is the last to complete, the player can move onto it.
- When the player shares the same space as the exit, the stage is complete.
- The exit will act as a wall to all other entities.

Priority	1
Size	2 SP

ID	2.5
Name	Door functionality

User Story Description:

As a player, I should be able to use a key to unlock a door so I can progress through the stage.

Acceptance Criteria:

- The player can unlock a door by occupying the same cell as the door whilst holding the correct key.
- If the player has successful unlocked a door, the key will disappear.
- If the player is not holding a key and attempts to occupy the same cell as a door, the door will act as a wall and block the player.
- If a player uses attempts to unlock a door using the wrong key, nothing will happen, and the door will act as a wall and block the player.
- Once a door is unlocked, it will stay unlocked for the duration of the game.
- Once a door is unlocked, it will display the unlocked door image.

Priority	1
Size	3 SP

ID	2.6
Name	Enemy interaction

User Story Description:

As a player, I want the enemies in the stage to chase me and kill me upon collision so that the game is more challenging.

Acceptance Criteria:

- Enemies will always attempt to move closer to the player as possible.
- If there is no direct path to the player, the enemy will move to the square closest to the player which they can reach.
- The player will die if it occupies the same cell as an enemy, given that the player is not carrying a sword.
- The enemy must disappear from the screen once destroyed by one of the player's strategies (bomb or sword).
- If the player has an invincibility potion active, all enemies will move away from the player.

Priority	1
Size	3 SP

Epic Story 3

ID	3.1
Name	Treasure collection
User Story Description: As a player, I want to be able to collect treasure so I can work towards the associated goal. **Acceptance Criteria:** - The player must be able to occupy the same cell as a treasure - Once the player enters the same cell as the treasure, that treasure is no longer displayed on the screen - The game must increment the count of collected treasure by 1.	
Priority	1
Size	1 SP

ID	3.2
Name	Key collection
User Story Description: As a player, I should be able to pick up a key in the stage so I can unlock the corresponding door. **Acceptance Criteria:** - The player can collect a key by occupying the same cell as a key whilst not already holding another key. - The key must disappear from the screen once the player has collected the key - The key must remain on the screen if the player is already holding a key whilst attempting to collect another. - The player can only hold one key at a time.	
Priority	1
Size	2 SP

ID	3.3

Name	Unlit bomb collection

User Story Description:
As a player, I want to be able to pick up unlit bombs so I can use them later in the stage.
Acceptance Criteria:
- The player must be able to occupy the same cell as a bomb
- Once the player enters the same square as the bomb, that bomb is no longer displayed on the screen
- The game must increment the count of collected bombs by 1.

Priority	1

Size	1 SP

ID	3.4

Name	Sword collection

User Story Description:
As a player, I want to be able to pick up a sword so that I can use it later in the stage.
Acceptance Criteria:
- The player can collect a sword by occupying the same cell as a sword whilst not already holding another sword.
- The sword must disappear from the screen once the player has collected the sword
- The sword must remain on the screen if the player is already holding a sword whilst attempting to collect another sword.
- The player can only hold one sword at a time.

Priority	1

Size	2

ID	3.5

Name	Invincibility potion collection

User Story Description:
As a player, I want to be able collect invincibility potion so I can temporarily ignore the risk of dying to an enemy.

Acceptance Criteria: - The player can collect a potion by occupying the same cell as a potion, regardless of whether it is already holding anything - The potion disappears from the cell once it has been collected. - The potion is activated the instant it is picked up (see 4.4).	
Priority	1
Size	1 SP

Epic Story 4

ID	4.1
Name	Key usage
User Story Description: As a player, I should be able to use a key that I have collected in the stage so I can unlock the corresponding door. **Acceptance Criteria:** • The key disappears when used in successfully unlocking a door (see 4.1). • The key is retained when used when unlocking a door has been unsuccessful (see 4.1).	
Priority	1
Size	2 SP

ID	4.2
Name	Lighting a bomb
User Story Description: As a player, I want to be able to light a bomb that I have collected so I can destroy entities in the stage. **Acceptance Criteria:** • The player can only light a bomb, given that there is already at least 1 bomb that has been collected (see 3.3). • A bomb will explode after a short duration after being dropped. • After a bomb is lit, the bomb will appear on the cell that the player is occupying • After a bomb is lit, screen will display 3 consecutive images of different fuse lengths for a fixed period of time before exploding. • The explosion image will be displayed when the bomb explodes, • After exploding, the bomb will destroy any boulders or enemies in the adjacent squares. • If the player is occupying a cell adjacent to a bomb explosion, they will die. • After the explosion, there should be no bombs, nor boulders, nor enemies occupying the cell which the bomb was dropped.	
Priority	1
Size	3 SP

ID	4.3
Name	Sword usage

User Story Description:
As a player, I want to be able to use a sword so that I can destroy an enemy.
Acceptance Criteria:
- The sword can only be used when the player occupies an adjacent cell to an enemy, given that a sword has been collected (see 3.4).
- The sword is used once in destroying one enemy.
- A sword can be used at most 5 times.
- A sword disappears when it has been used 5 times.

Priority	1
Size	2 SP

ID	4.4
Name	Invincibility potion usage

User Story Description:
As a player, I want to be able to use an invincibility potion I can fulfill the stage without the risk of dying to an enemy.
Acceptance Criteria:
- The potion is activated the instant it is collected (see 3.5).
- The potion is activated for a fixed duration before it expires.
- When the potion is active, all enemies will move away from the player.
- If a player and enemy occupy the same square when the potion is active, the enemy will die.

Priority	1
Size	2 SP

Epic Story 5

ID	5.1
Name	View number of treasures to be collected

User Story Description:
As a player, I want to view the count of treasure to be collected so that I can track my progress to fulfilling my goal in collecting all treasure.

Acceptance Criteria:
- The screen displays number of treasures that is on the screen.
- When the player collects treasure (see 2.1), the count is decremented by 1.
- When all treasure is collected (i.e. no treasure on the screen), the count of treasure remaining must be 0.

Priority	3
Size	1 SP

ID	5.2
Name	View current number of keys held

User Story Description:
As a player, I want to view the count of keys that I am holding (not an aggregate number of keys collected), so that I can track my progress in unlocking a door.

Acceptance Criteria:
- At the start of the game, the screen must display 0 keys collected
- If the player collects a key (see 2.2), the value is incremented by 1.
- If the player uses a key (see 3.1), the value is decremented by 1.
- The value must never exceed 1.

Priority	3
Size	1 SP

ID	5.3
Name	View strikes remaining on a sword

User Story Description:

As a player, I want to view the count of strikes remaining on a sword, so that I can track my progress in unlocking a door.

Acceptance Criteria:

- At the start of the game, the screen must display 0 strikes remaining.
- If the player is not holding a sword, the screen must display 0 strikes remaining.
- Immediately after collecting a sword (see 3.4), the screen must display 5 strikes remaining.
- If the player uses a sword (see 4.3), the value is decremented by 1.

Priority	3
Size	1 SP

ID	5.4
Name	View bombs collected

User Story Description:

As a player, I want to view the number of bombs I have collected, so that I can keep track of the bombs I can use later during gameplay.

Acceptance Criteria:

- At the start of the game, the screen must display 0 bombs collected remaining.
- When the player collects a bomb (see 3.3), the count is incremented by 1.
- When all bomb is detonated/used (see 4.2), the count is decremented by 1.

Priority	3
Size	1 SP

ID	5.5
Name	View duration of invincibility potion remaining

User Story Description:

As a player, I want to see the time remaining on the invincibility potion after usage, so that I can prepare myself when it expires later during gameplay.

Acceptance Criteria:

- At the start of the game, the screen must display 0 seconds remaining.
- If the player does not have an active invincibility potion, the screen must display 0 seconds remaining.

	- Immediately after an invincibility potion is collected, screen must display the time remaining of the invincibility potion. - The screen must update at least every second with the remaining time of an active invincibility potion when in use. - The screen must display 0 seconds remaining once the potion expires.
Priority	3
Size	2 SP