

COMP2511 19T3

Project Report

Milestone 1: Requirement analysis

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EPIC STORIES, USER STORIES

*Note: 1 story point = 3 hours

EPIC STORY 1

#MOVEMENT

AS A PLAYER, I WANT TO BE ABLE TO MOVE AROUND THE LEVEL

USER STORY 1.1

#movement #priority_1

(R) As a player,

(G) I want to walk around the level,

(B) so that I can navigate the level

Story points: 2

ACCEPTANCE CRITERIA

1. The "WASD" keys allow the player to move either up, down, left or right to adjacent grids in the level ("W" - up, "A" - left, "S" - down, "D" - right)
2. If the grid that the player intends to move to contains a wall, locked door, or boulder, the player will not be able to move to that grid
3. Enemies are also able to move in the 4 directions stated in criteria 1
4. Criteria 2 applies to enemy movement as well

USER STORY 1.2

#movement #priority_2

(R) As a player,

(G) I want to be able to use portals to move around the level,

(B) so that I can quickly teleport to another place on the level

Story points: 2

ACCEPTANCE CRITERIA

1. When the player reaches a portal, he will be teleported to the corresponding portal
2. When another entity moves to a portal, it will also be teleported to the corresponding portal

USER STORY 1.3

#movement #priority_3

(R) As a player,
(G) I want to be able to push boulders,
(B) so that I can expand my movement options

Story points: 3

ACCEPTANCE CRITERIA

1. When the player faces a boulder in an adjacent grid and there is no wall, locked door, boulder, or enemy on the adjacent grid on the opposite side of the boulder, he can push it by pressing the "P" key on the keyboard
2. When the player successfully pushes a boulder, the player remains in the same grid while the boulder moves one grid in the direction that it had been pushed
3. Enemies are unable to push boulders
4. The level may contain floor switches, all of which may be either
 - a. untriggered without a boulder in the same grid
 - b. triggered with a boulder in the same grid
5. If the boulder is moved to the same grid as a floor switch, the floor switch is triggered
6. If a boulder triggering a floor switch is moved elsewhere, the floor switch becomes untriggered again

EPIC STORY 2

#ENEMY

AS A PLAYER, I WANT TO BE ABLE TO DEFEAT ENEMIES

USER STORY 2.1

#enemy #priority_1

(R) As a player,

(G) I want to use an invincibility potion,

(B) so that I can be safe from enemies for some duration

Story points: 5

ACCEPTANCE CRITERIA

1. When the player walks over an invincibility potion, the player picks it up and uses it immediately
2. The invincibility potion then disappears from the level
3. If an enemy collides with a player that is using an invincibility potion, the enemy is destroyed and disappears from the level
4. If an enemy collides with a player that is not using an invincibility potion, the player is defeated, and the level will be reset
5. All enemies in a level will constantly move away from a player that is using an invincibility potion
6. Once 5 seconds have passed from the time the player starts using the potion, its effects will no longer be active

USER STORY 2.2

#enemy #priority_2

(R) As a player,

(G) I want enemies to constantly move towards me until they cannot get any closer,

(B) so that I can strategically manipulate their movements

Story points: 5

ACCEPTANCE CRITERIA

1. Enemies constantly move towards the player
(except when the player is using invincibility potion: see Epic story 1, #enemy US1, AC5)
2. Enemies only stop when they cannot get any closer to the player
3. When the opportunity for enemies to get closer to the player arises, the enemy will repeat criteria 1

USER STORY 2.3

#enemy #priority_3

(R) As a player,

(G) I want an enemy to be destroyed when I hit it with a sword,

(B) so that I can defeat it

Story points: 5

ACCEPTANCE CRITERIA

1. The sword count is set to 0 at the start of each level
2. When a player walks over a sword and does not already have an existing one, he picks it up automatically and the sword disappears from the level
 - a. The sword count will be set to 5
3. The player can only carry one sword at a time
4. If a player walks over another sword while he is already carrying one (sword count currently above 0), he will not pick it up
5. The player uses the sword by pressing the "K" key on the keyboard, where he swings it at the adjacent grid that he is facing
6. With each use, the sword count is decremented by 1
7. Once the sword count reaches 0, the sword cannot be used anymore
8. If an enemy is on the grid that the player uses his sword on, the enemy is destroyed and disappears from the level
9. The player can pick up another sword once the previous sword cannot be used any longer

EPIC STORY 3

#ITEM

AS A PLAYER, I WANT TO BE ABLE TO PICK UP AND USE ITEMS

USER STORY 3.1

#item #priority_1

(R) As a player,

(G) I want to be able to pick up treasure,

(B) so that I can obtain a higher score

Story points: 1

ACCEPTANCE CRITERIA

1. The treasure count for each level starts at 0
2. When the player walks over a treasure, he picks it up and the treasure disappears from the level
3. The treasure count will be incremented by 1
4. The player's score for the level will increase with each treasure collected

USER STORY 3.2

#item #priority_2

(R) As a player,

(G) I want to be able to pick up a key,

(B) so that I can use it on its corresponding door

Story points: 2

ACCEPTANCE CRITERIA

1. The respective key counts are set to 0 at the start of each level
2. When the player walks over a key while he does not have an existing key, he picks it up and the key disappears from the level
 - a. The key count for the respective key will be incremented by 1
3. When the player walks over a key while already holding another key, the key on the floor will be replaced by the one the player is holding (the keys are swapped)
 - a. The key count for the key picked up will be incremented by 1
 - b. The key count for the key placed on the floor will be decremented by 1

USER STORY 3.3

#item #priority_3

(R) As a player,
(G) I want to be able to use a key on its corresponding door,
(B) so that I can unlock the door and move through

Story points: 3

ACCEPTANCE CRITERIA

1. If doors are present in the level, there will be at least 3
2. When the player faces a locked door in an adjacent grid and has its corresponding key, he can unlock it by pressing the "O" key on the keyboard
3. Once unlocked, the player would not have the key anymore and its respective key count will be decremented by 1
4. Unlocked doors will remain unlocked for the rest of the level unless the level is reset
5. Players, enemies and boulders may all move through unlocked doors

EPIC STORY 4

#GOAL

AS A PLAYER, I WANT TO BE ABLE TO COMPLETE LEVEL GOALS

USER STORY 4.1

#goal #priority_1

(R) As a player,

(G) I want to know what goals I need to complete in order to clear the level

(B) so that I am aware of the required objectives

Story points: 1

ACCEPTANCE CRITERIA

1. The goals required for the current level will be displayed at the top of the screen

USER STORY 4.2

#goal #priority_2

(R) As a player,

(G) I want to clear the level if I have completed the required goals

(B) so that I can progress to the next level

Story points: 8

ACCEPTANCE CRITERIA

1. There are several basic goals:
 - a. Getting to an exit
 - b. Destroying all enemies
 - c. Having a boulder on all floor switches
 - d. Collecting all treasure
2. Depending on the goals specified for the level, one or more of the above may be necessary to clear the level and are checked as follows
 - a. Getting to an exit
 - i. When any key from "WASD" is pressed, the subsequent grid that the player may or may not move to will be checked if it is the exit
 - ii. If it is the exit, this condition is fulfilled only if all other required goals have been fulfilled

- b. Destroying all enemies
 - i. If this goal is present, there will be an enemy count initialised to the number of enemies in the level
 - ii. When an enemy is destroyed, the enemy count is decremented by 1 and then checked if it has reached 0
 - iii. If it has reached 0, this condition is fulfilled
 - c. Having a boulder on all floor switches
 - i. If this goal is present, there will be a switch count initialised to the number of floor switches currently untriggered in the level
 - ii. When a floor switch has been untriggered, the switch count is incremented by 1
 - iii. When a floor switch has been triggered, the switch count is decremented by 1 and then checked if it has reached 0
 - iv. If it has reached 0, this condition is fulfilled
 - d. Collecting all treasure
 - i. If this goal is present, there will be a treasure count initialised to the number of treasure items in the level
 - ii. When a treasure has been picked up by the player, the treasure count is decremented by 1 and checked if it has reached 0
 - iii. If it has reached 0, this condition is fulfilled
3. Levels with multiple goals require all goals to be fulfilled for the player to clear the level

EPIC STORY 5

#UI

AS A PLAYER, I WANT TO BE ABLE TO VIEW MY ITEMS AND GOAL PROGRESSION

USER STORY 5.1

#ui #priority_1

(R) As a player,

(G) I want to know what items I have on my character

(B) so that I can use them strategically

Story points: 3

ACCEPTANCE CRITERIA

1. At the top left corner of the game, there will be a small rectangular box with a list of item icons and their quantities in this manner: "item: x quantity"
2. The list of items are as follows:
 - a. Treasure
 - b. Sword
 - c. Yellow key
 - d. Red key
 - e. Green key
 - f. Blue key

USER STORY 5.2

#ui #priority_2

(R) As a player,

(G) I want to know my goal status

(B) so that I know what I need to do to clear the level

Story points: 5

ACCEPTANCE CRITERIA

1. At the top right corner of the game, there will be a small rectangular box with a list of required goals for the level, followed by its current fulfilment status
2. The text colour of the goal is red when unfulfilled and green when fulfilled
3. The list of possible goals and statuses are as follows:

- a. Get to the exit (to be completed last)
- b. Destroy all enemies
 - i. Remaining enemies: x {enemy count}
- c. Trigger all floor switches
 - i. Untriggered floor switches: x {switch count}
- d. Collect all treasure
 - i. Remaining treasures: x {treasure count}