

Testing Plan

Testing Approach

In our testing approach, we will initially decide on the entities that exist in our game and write unit tests to test the basic functionality of these objects. Additionally, integration tests will also be implemented in order to ensure the components of the system are able to work efficiently and cohesively. The tests are also blackbox tests, as the tester will only need to worry about testing the input and output requirements. This will be done before implementing the game in order to keep us on track and focused when we write code for larger features.

Unit tests to implement

- Arrows tests
- Assassin tests
- Battle tests
- Bomb tests
- Boulder tests
- Dungeon generation tests
- Dungeon tests
- Exit tests
- Floor switch tests
- Hydra tests
- Invincibility potion tests
- Invisibility potion tests
- Key tests
- Light bulb tests
- Mercenary tests
- Midnight armour tests
- Persistence tests
- Player tests
- Portal tests
- Sceptre tests
- Shield tests
- Spider tests
- Sun stone tests
- Switch door tests
- Sword tests
- Time travel tests
- Treasure tests
- Wall tests
- Wood tests
- Zombie spawner tests

Integration tests

- Integration test 1
 - Description: Player picks up sword, then gets a key and takes a portal to open the door and using it on the exit
- Integration test 2
 - Description: Player picks up key1, goes through door to get key2, then has to drink the potion before going into portal and using key2 on door2 so that he can reach the exit
- Integration test 3
 - Description: Player picks up bomb then places bomb next to wall, moves towards mercenary and bribes it. Then proceed to move boulders onto switches. Next pick up key and sword and move through door into another room with a zombie toast spawner. Proceed to eliminate enemies. Then take portal to exit room than take the exit.
- Integration test 4
 - Description: Player picks up all the wood and arrow necessary to build a bow and a shield.

Unit Tests

Test	Sub Test	Sub Test	Sub Test	Sub Test	Sub Test	Sub Test	Sub Test
Arrow Test	Test that the player picks up arrows						
Assassin Test	Test basic assassin movement	Test that a assassin can be bried in a certain radius	Test a assassin don't runaway with invisibility potion and in certain radius	Test a assassin bribe fail			
Battle Test	Test player battles spider and player dies	Test basic battle calculations – spider - player wins	Test player battles zombie and player dies	Test basic battle calculations - zombie - player wins			
Bomb Test	Test surrounding entities are removed when placing a bomb next to an active	Test surrounding entities are removed when placing a bomb next to an	Try to pick up bomb that has already been placed	Use wire to activate bomb			

	switch with config file bomb radius set to 2	inactive switch with config file bomb radius set to 2					
Boulder Test	Test the boulder being pushed down	Test the boulder not moving due to being pushed into a wall	Test player trying to move more than one boulder				
Dungeon Generation Test	Config file does not exist	Create a dungeon of size 30 and 30	Create dungeon of size 10 and 12	Create dungeon of size 2 and 2			
Dungeon Test	Create a valid dungeon	Config file does not exist	Dungeon does not exist				
Exit Test	Test if player goes through exit, the puzzle is complete						
Floor Switch Test	Test player pushes boulder on switch	Test player pushes boulder on switch and					

		pushes it off again					
Hydra Test	Testing hydra cannot use portal	Testing hydra movement					
Invincibility Potion Test	Test basic battle calculations - mercenary - player loses except player is invincible	Test basic battle calculations - mercenary - player loses except player is invincible					
Invisibility Potion Test	Can move through enemies						
Key Test	Test player can use a key to open and walk through a door	Test player can't use wrong key to open and walk through a door	Test player cannot have two keys in their inventory at one time				
Light Bulb Test	Can turn on OR normally	Turn on using AND	Turn on using XOR	Cannot turn on cause not same			

				tick CO_AND			
Mercenary Test	Test basic mercenary movement	Test that a mercenary would stop if it cannot move closer to player (if it is blocked by a wall and there is no direct path)	Test that a mercenary can be bribed in a certain radius	Test a mercenary cannot be bribed outside radius			
Midnight Armour Test	Player attempts to build Midnight Armour with not enough ingredients	Player builds sceptre from 1 sword and 1 sunstone with no zombies in area	Player builds Sceptre from 1 sword and 1 sunstone with zombies in area				
Persistence Test	Test basic movement of spiders	Test that a mercenary can be bribed in a certain radius after save	Integration test save	Test save name correctly	Can move through enemies after save		

Player Test	Test the player can move down	Test the player can move right	Test the player can move left				
Portal Test	Player teleports normally	Player cannot teleport	Double teleport	Advanced Teleport			
Sceptre Test	Player attempts to build Sceptre	Player builds Sceptre from 1 wood + 1 key and 1 sun stone	Player builds Sceptre from 1 wood + 1 treasure + 1 sun stone	Player builds Sceptre from 2 arrows + 1 treasure + 1 sun stone	Player builds Sceptre from 2 arrows + 1 key + 1 sun stone	Player mind controls mercenary for 5 ticks	
Shield Test	Test making a shield using 2 wood + 1 treasure	Test making a shield using 2 wood + 1 key	Test making a shield using 2 wood				
Spider Test	Test spider moves anti clockwise if boulder in the way	Test spider spawn rate					
Sun Stone Test	Test that the player picks up Sun Stone	Test that if a player can open door if a Sun Stone	Test that if a sun stone can interchange	Test that a sun stone cannot bribe a mercenary			

		is in inventory	with treasure when building shield				
Switch Door Test	Test OR switch door opens when surrounding switch is activated	Test AND switch door opens when surrounding switch is activated	Test 1 switch enter XOR door	Test 2 switches cant enter switch door	Test cannot enter and switch	Test basic wire test	Test AND switch door opens then closes user cant enter
Sword Test	Test sword is collectable	Test sword damage and durability					
Time Travel Test	Test basic movement of spiders	Test older player exists	Old player destroys spawner				
Treasure Test	Test that the player picks up treasure						
Wall Test	Testing the wall stops movement of player	Testing the wall enemy interactions					
Wood Test	Test that the player picks up wood						

