

# 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
- Bomb tests
- Boulder tests
- Exit tests
- Floor switch tests
- Invincibility potion tests
- Invisibility potion tests
- Key tests
- Player tests
- Shield tests
- Treasure tests
- Wall tests
- Wood tests
- Zombie spawner tests
- Sword tests
- Portal tests
- Zombie toast tests

## Integration tests

- Integration test 1
  - Description: Player picks up sword, battles an enemy 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 key, goes through door, kills an enemy, picks up an invincibility potion, uses it and kills another enemy and proceeds to 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 3 wood, 1 treasure, and 3 arrows, creates bow and shield and 1 key and battles all 2 mercenaries and gets to exit. which requires a key to go through the door to the exit.

## Unit Tests

Test	Sub Test	Sub Test	Sub Test
Arrow Test	Test that the player picks up arrows	-	-
Bomb Test	Test surrounding entities are removed when placing a bomb next to an active switch with config file bomb radius set to 2	Test surrounding entities are removed when placing a bomb next to an inactive switch with config file bomb radius set to 2	Try to pick up bomb that has already been placed
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
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	-
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	Test player can't use wrong	-

	to open and walk through a door	key to open and walk through a door	
Player Test	Test the player can move down	Test the player can move right	-
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
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	-	-
Zombie Toast Spawner	Test player can break	Test if adjacent are all walls, can't spawn zombies	-
Sword Test	Test picking up sword amplifies damage	Test sword durability	Test can pickup
Portal Test	Test player can teleport and they end at the right location	Test player cannot teleport	-
Zombie Toast Test	Test spawn at spawner	Test portal has no effect	-

## Integration Tests

[illegible]

