### **Test Plan**

#### **Overview**

This document outlines the steps required to user-test the game, including key bindings, mouse actions, and expected behavior during gameplay. This plan will guide the TAs on how to test and grade the game.

#### **Controls**

**Player 1 (Red Player):**

* **Move Left:** Press A
* **Move Right:** Press D
* **Jump:** Press W
* **Shoot:** Press Q

**Player 2 (Blue Player):**

* **Move Left:** Press Left Arrow
* **Move Right:** Press Right Arrow
* **Jump:** Press Up Arrow
* **Shoot:** Press /

#### **Game Actions**

* **Movement:**
  + Use the specified keys to move your player left or right.
  + The player can jump by pressing the jump key when on the ground.
* **Shooting:**
  + Press the shoot key to fire a projectile in the direction the player is facing. The player can shoot in rapid succession, but there’s a delay between shots.
* **Collision:**
  + Players can collide with platforms and other players. Bullets will decrease a player’s health when hit.
* **Victory Condition:**
  + Each player starts with 10 healthIf a player's health reaches zero, the game declares the opposing player as the winner.
* **Laser:**
  + A random laser appears in the game environment but does not interact with the players or other entities. It should be visible but does not affect gameplay.

#### **Test Cases**

1. **Start Game:**
   * Run the game by launching the executable.
   * Ensure that the background music starts playing immediately.
2. **Player Movement:**
   * Test both players’ movements (left, right, jump) using the appropriate keys.
   * Verify that players stop at screen boundaries and platforms.
3. **Shooting Mechanism:**
   * Ensure that each player can shoot by pressing their respective shoot key.
   * Verify that bullets are visible and travel in the correct direction.
4. **Collision Testing:**
   * Test player-to-platform collisions to ensure players can stand on platforms and jump correctly.
   * Ensure that bullets collide with players,player dies after 10 shoot
5. **Winning Condition:** 
   * Ensure that game restart when a player dead
6. **Laser Testing:**
   * Verify that the random laser appears in the game.