

CPSC 427 (Fall 2025) - Test Plans

Debug

“O” can be pressed to brighten up the map for easier testing.

Player Movement (Keyboard)

The player should move up when “W” is pressed, left when “A” is pressed, down when “S” is pressed, and right when “D” is pressed.

The player should be able to hold multiple keys at once, and move in the appropriate directions based on which keys were pressed most recently.

- Press “W” and “A”: move up and left
- Press “W” and “D”: move up and right
- Press “S” and “A”: move down and left
- Press “S” and “D”: move down and right

If the player holds down a key, and then presses and releases the key that moves them in the opposite direction, they should briefly change direction.

- Hold “W”, then press and release “S”: move up, then down, then up again
- Hold “A”, then press and release “D”: move left, then right, then left again
- Hold “S”, then press and release “W”: move down, then up, then down again
- Hold “D”, then press and release “A”: move right, then left, then right again

The player should not be able to move beyond any of the 4 window boundaries, and each window boundary should only stop movement in one direction.

- The player should be able to move left and right along the top and bottom boundaries
- The player should be able to move up and down along the left and right boundaries

Player Movement (Mouse)

The player should be able to use the mouse to aim the flashlight and shoot bullets from a gun.

- The player and flashlight should always be facing towards the mouse’s current position
- Left-clicking should shoot a bullet from the player’s gun in the direction that they are currently facing
- Bullets should continue moving in the direction they are shot until they go off-screen

Inventory

An UI for the inventory should open up when the “I” key is pressed. Weapons and suits can be purchased and equipped within this UI. \$812 is initially given for testing the purchase feature.

1. Closing the inventory UI
 - The “I” key can be pressed again to close the UI
 - “X” on the right-bottom of the UI can be clicked to close the UI
2. Switching between **Weapons** and **Suits** tab
 - When the inventory is opened for the first time, the **Weapons** tab is displayed by default.
 - When the inventory is closed and reopened, it opens to the **last tab** that was previously viewed.
 - You can switch between the **Weapons** and **Suits** tabs by clicking the buttons at the top center. The currently active tab is highlighted in **yellow**.
3. Purchasing **Weapons** or **Suits**.
 - For **Weapons** or **Suits** that can be purchased, a yellow “Buy <price>” button appears to the right of the item.
 - Clicking the yellow button purchases the item and deducts its price from the user's balance.
 - If the user doesn't have enough money, the purchase cannot be made. Clicking the button will have no effect.
 - **Weapons** or **Suits** that cannot be purchased are shown with a gray “Lock” label.
 - Purchased **Weapons** or **Suits** will have a green “Equipped” button or a blue “Equip”
4. Equipping **Weapons** or **Suits**.
 - When the blue “Equip” button is clicked, the item is equipped and the button changes to a green “Equipped” button.
 - This means that the previously equipped item of the same type is unequipped, and its green “Equipped” button reverts to a blue “Equip” button.
 - The equipped items should remain the same when the inventory is reopened, regardless of closing, reopening, or switching tabs.

World Generation

20 square obstacles are randomly placed in the world by the world generator. These can be re-generated by pressing the “G” key.

- Obstacles should not overlap with each other
- Obstacles should not overlap with the player's starting position
- Obstacles should be fully within the window

Enemy

There are two types of enemies in M1:

1. A **placeholder** enemy, which represents all enemies in general. This enemy is a green triangle with a red tip.
2. A **Slime**, which represents how sprites for enemies should act like. This enemy is a blue pixel slime.

Enemy test plans:

1. All enemies should move towards the player.
2. Enemies with sprite sheets, such as the **slime**, should cycle through their frames to display animation.
3. Enemies should always face the player:
 - **Placeholder** enemies should always face its red tip to the player.
 - **Slime** enemies will face either left or right, depending on where the player is positioned with respect to the **slime** enemy.
4. Enemies should play their death animation when it collides with the bullet. The entity should be removed from the registry afterwards:
 - **Placeholder** Enemies: Spins clockwise, while shrinking until it disappears
 - **Slime** Enemies: shrinks until it disappears