**Game Control Instructions for Test Plan**

**Movement**

**Up**: Press the **W** key to move the player **up** (Northward) in the game

* Expected Output - The player moves up.

**Down**: Press the **S** key to move the player **down** (Southward) in the game

* Expected Output - The player moves down.

**Right**: Press the **D** key to move the player **right** (Eastward) in the game

* Expected Output - The player moves right.

**Left**: Press the **A** key to move the player **left** (Westward) in the game

* Expected Output - The player moves left.

**Sprint**: Press the **Shift** key while holding W A S D to make the player sprint in that direction

* Expected Output - The player moves faster in that direction while reducing the stamina.

**Combat**

**Attack**: Press the **Left** mouse key to attack.

* Expected Output - The player attacks normally.

**Heavy Attack**: Press the **Spacebar** key to heavy attack - needs 30 stamina (available at the ice robot level)

* Expected Output - The player does a heavy attack - damaging all nearby robots while reducing 30 stamina with each attack.

**Projectile Attack**: Press the **T** key to do projectile attack - needs 15 stamina (available at the boss robot level)

* Expected Output - The player does a projectile attack while reducing 15 stamina with each attack.

**Block**: Press the **Right** mouse key to block - needs 15 stamina

* Expected Output - The player blocks. If a projectile is blocked, then it is deflected and can damage the robot.

**Interactions**

**Skip**: Press the **Enter** key to **skip** the cutscenes/tutorial.

* Expected Output - The cutscenes/tutorial gets skipped.

**Interaction**: Press the **E** key to **interact** with objects in the environment.

* Expected Output - The object gets added to the inventory.

**Help Screen**: Press the **H** key to **open** or **close** the help screen UI.

* Expected Output - The help screen UI shows up.

**Inventory:** Press the **I** key to **open** or **close** the inventory in the console - use the mouse to interact with items.

* Expected Output - Pre-obtained and newly acquired items are shown in the Inventory slots on the screen.
  + Press the **1, 2, and 3** keys to select the 1st, 2nd, and 3rd slots on the HUD.
* Expected Output - Pre-obtained and newly acquired items are shown in the Inventory UI.
  + The items can be moved and the armor plate can be upgraded to increase the player armor.

**Use Item**:Press the **Q** key to use the acquired items.

* Expected Output - The pre-obtained item like health potion will be used - increasing health. The captured companion robot can be placed down and it will follow the player and attack any nearby robots.

**Booster Item Guide**

**Health Potion**: Regenerates player health instantly by 30.

**Energy Core**: Increases the player’s stamina.

**Robot Part**: Upgrades the companion robot, increasing its abilities in combat - damage, health etc.

**Teleporter**: Teleport through thin walls or cover nearby distance to escape enemies during combat, or to take some shortcuts.

**Armor Plate**: Adds an armor layer that absorbs damage. The player takes no damage until the armor breaks (+10 armor).

**Keycard**: Unlocks the doors to process through the levels or access hidden areas.

**Debugging**

**Debug mode**: Press the **Tab** key to **show** the debug information (use the same key to stop this mode).

* Expected Output - The red bounding boxes for the player, robots, and the rendered tiles are visualized on the screen.

**FPS Counter**: Press the **F** key to show the FPS counter on the screen (use the same key to remove the counter from the screen).

* Expected Output - The FPS counter shows in the top left in green.

**Game Pause**

**Game Paused Screen**: Press the **Esc** key to open the Game Paused screen (use the same key to close it)

* Expected Output - Select between resume button (to continue), help screen button (also available by pressing H), save and exit to exit the game from a set level, and restart - restart from the tutorial room

**Boundaries and Obstacles**

**Map Edges**:

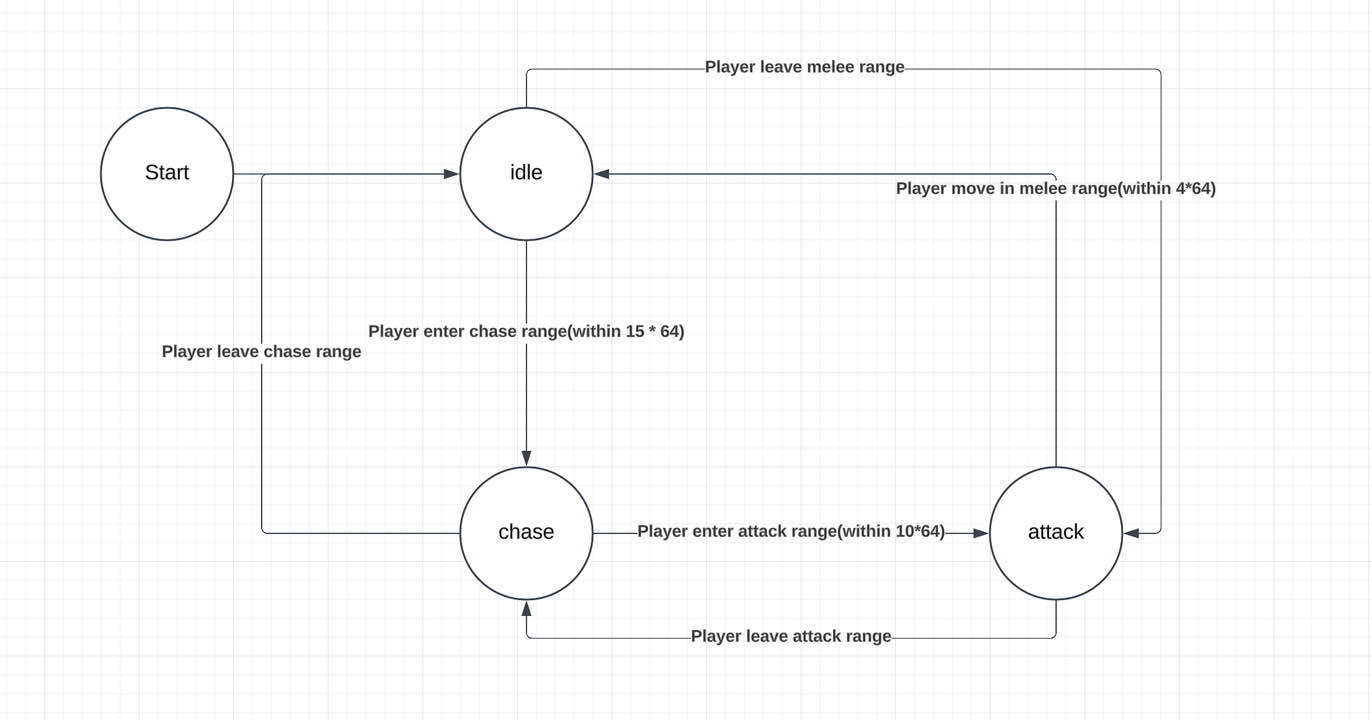
The map consists of a remote location where the main walkable region is separated by trees on both sides (top and bottom) and 2 levels and one boss level which have set walls all around the level.

* Expected Output - When the character reaches the tree or wall, movement in that direction is blocked and collision sound is played.

**Robots:**

Our game should have robot entities spawning at set locations in the first level.

* Expected Output - The robot enemies should follow the player around the camera frame to get within the range to attack. When the robot is within the range to attack, it shoots the projectile. If the player gets too close then the robot stays idle. If the robot damages the player enough, the player should die. If the player attacks the robot enough, the robot should die.
  + There is a distinction between the two robots, the regular robot (shoots regular projectile) and the ice robot (shoots ice projectile) - the regular projectile does twice more damage, but the ice projectile hinders the players movement for a short time.



**Bats**:

Between the ice robot level and boss robot level, there is a tunnel full of bats. The bats follow BOIDS movement and additional attraction towards the player. The bats do 1 damage to the player and are one shot to the normal player attack.

**Boss**:

At the bottom of the boss level, the boss currently does one angled projectile attack, shooting 7 slightly oscillating projectiles in the direction of the player. Additionally if the player is too close to the boss, it takes additional radiation damage of 10 health - can damage even if the player has armor. After 4 rounds of shooting projectiles, the boss does a dash attack towards the player dealing 30 damage if it collides with the player.

**Obstacles:**

Various in-game objects, such as trees, walls, a spaceship and other environmental elements, can block both the player and robot movement. The player and robots must navigate these obstacles to continue moving through the game world. Additionally, there is a spaceship in the remote location.

* Expected Output - The player and robots’ movement is blocked, colliding with the trees and walls. The robot uses pathfinding to maneuver around.

**Additional Notes**

The map’s boundaries and obstacles are designed to guide the player through specific paths and challenges.

The player has 30 armor and max stamina of 100.

**Implementation Notes**

BOIDS - ai\_system file, Cut Scenes - render\_system and world\_system