**SURVIVE ON ISLAND**

# Introduction:

Survive on Island is a third-person survival game that takes place on a highly secured island and the player is trapped in it. The player will have to find weapons, food and kill guards to survive on the island for the longest time possible.

# Game Mechanics:

## Player Movement:

The player will be able to walk or run around the environment and jump on small platforms to reach higher areas.

## Combat:

The player will be able to use melee weapons found in the island to fight against guards patrolling the area.

## Enemy AI:

The enemies will patrol specific areas and engage on combat once the player is in their sights.

## Animal AI:

The animals simply wander around the island and flee when attacked by the player.

## Survivability:

The player will have to hunt for food or kill enemies and loot food from the corpses to stay alive.

## Score Based on Time:

The final score is determined on how long the player has survived in the island.

## Camera Movement:

The camera will follow the player in third person and can be rotated in yaw and pitch directions.

## Lose Condition:

The player will lose the game once it loses all its health.

# Assets:

## Static Assets:

1. **Trees:** The stem of the tree will be in brown cylindrical shape and the leaves will be in a spherical shape placed on top of the stem. The player’s movement is restricted when it collides with a tree. The player can also cut down a tree to obtain a weapon.
2. **Bushes:** These will be scattered around the island as green cubes. The player will be able to walk through it and crouch to hide from enemies’ line of sight.
3. **Boulders:** These are also scattered around the island as black cubes. They simply exist like walls and will restrict player/entity’s movement when collided with.

## Dynamic Assets:

1. **Movable Boulders:** These can be distinguished from stationary boulders by their lighter black colour. They are also in the shape of cubes and can be moved by the player.
2. **Pebbles:** These are represented by tiny black spheres that roll over the ground when the player walks on it.

## Collectibles:

1. **Weapons:** The weapons are identified as long brown colour cuboids which are also scattered around the island. These can be used to attack soldiers or hunt animals.
2. **Food:** Foods can be found in various shapes and colours representing different kinds of fruit and having different healing attributes. I will display what some of the fruits do in the flowchart below.

## Particles:

1. **Leaves:** Leaves are sometimes found to be falling from trees or blown by the wind. They’re going to be represented as thin rectangles.

# Camera:

Since this game is played in third person, the whole body of the player will be seen and will follow the player within 5 meters or so. The camera’s position is updated along with the player’s position and this will ensure that the camera is following the player always. This is performed by calling the XMMatrixLookAtLH function from the XNA Maths library which takes the camera’s position, target position and the direction that faces up as parameters. The camera can also be rotated around the player in pitch and yaw directions. This action is executed by calling the XMMatrixRotationRollPitchYaw function from the same library that takes the rotation values for all 3 axes as parameters. The user can move the camera using the mouse.