

Centipede 3D

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*AI concept art



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OVERVIEW

- **Theme / Setting / Genre**

- Centipede 3D is an endless arcade style game where the player has to shoot down the centipedes that are charging at them. It is a 1st person shooter.

- **Targeted platforms**

- PC
- Released on Itch.io

- **Monetization model**

- Free on release

- **Influences**

- #1: Centipede (Gameplay)
 - I chose to recreate the gameplay mechanics of Centipede
- #2: Retro Visuals
 - A simple environment with pixel textures

- **Competitors**

- Centipede: The original game I chose to recreate

- **The Elevator Pitch**

“Centipede 3D is a modern version of its original game, Centipede. The game brings the player into the 1st person view where they have to run around in an environment while shooting down the falling centipedes. With attacks from all around the player, how long will they be able to survive?”

- **Project Description**

Centipede 3D is a recreation I made for a game jam. It got transformed into a 3D environment to introduce a new way to play the same game.

One focal point about this game is how the player needs to identify and manage the centipedes as they fall from the sky. They need to eliminate the ones closer to the or the ground and ignore the further ones.

*AI concept art



WHAT SETS THIS PROJECT APART?

- **What sets this project apart?**

- **Spatial Control:** Having a limited area for the player to move around in helps keep the gameplay features close to each other. This also involves how the player attacks the centipedes and prevents them from getting close to the player.
- **Cautious Combat:** In Centipede, you aim for the head so that the centipede does not split off into another part. This requires the player to shoot their gun with caution instead of being reckless.
- **Retro Design:** The visuals follow the retro style centipede has as the art is pixelated. The shapes are also very simple, mostly being primitives like cubes or spheres.

- **Core Gameplay Mechanics**

- **Centipedes:** The main mechanic behind the game is the centipede enemy. Once the centipede spawns in at a random location in the sky, they make their way in a horizontal direction until they collide with something which has them move down for a short time and then move horizontally again. Once they reach the ground, the centipede charges directly at the player until they are defeated or they reach the player. If the centipede is damaged in the body, they spawn a mushroom at their location and split into another centipede.
- **Wave Difficulty Increase:** At the start of each wave a group of mushrooms will spawn in to populate the sky, then the centipedes start spawning over time. Once a wave is complete, a couple variables change to increase the difficulty: The centipede body length, the centipede speed, and the centipede spawn amount.
- **Powerups:** When a powerup drops from an enemy, there are 3 types of powerups the player can get: Slow Enemy Speed, Increase Player Speed, and Weapon Auto Fire. The ability, once picked up, is active for a certain duration and then goes away. Multiple Powerups can be active at the same time giving the player an even better advantage.
- **Score:** Points are awarded by either hitting an enemy in the body which gives 10 points, getting a headshot gives 100 points, and destroying a mushroom gives 1 point

STORY AND GAMEPLAY

Story

Space bugs have come falling down from the sky and attack the humans they encounter. As a member of the space invasion corps, you must defeat the centipedes and save civilization before it is wiped out.

Gameplay

The Player has to fight off the centipedes for as long as possible while aiming for the highest score. The player gets points awarded to them by attacking the centipedes. Hitting the centipede in the wrong area can lead to the centipede splitting itself and increasing the amount of enemies the player has to defeat. The centipedes can also leave behind mushrooms when incorrectly damaged which pollute the sky which provides protection to the centipedes and a faster route to the ground. Once the centipedes are defeated, they have a chance to drop powerups to enhance the player's fighting capabilities.

Schedule

- **Time Scale:** 1 Week Limit to finish and \$0 asset budget
- **Milestone 1 : Centipedes**
 - **Movement:** spawn in and move horizontally until collision then move vertically and switch back to horizontal movement after traveling down slightly
 - **Attacking:** charge at the player when reaching floor of map
 - **Splitting:** split body into two separate entities if shot in the body
 - **Mushroom Spawns:** after being shot in the body, spawn a mushroom at their current location
 - **Powerup Drop:** once defeated, have a chance to drop 1 of 3 powerups
- **Milestone 2 : Wave Difficulty Increase**
 - **Body Length:** the body increase by 2 parts
 - **Movement Speed:** the speed is slightly increased
 - **Spawn Amount:** the amount of spawns is increased by a set number
- **Milestone 3 : Powerups**
 - **Enemy Slow Down:** decreases the enemy speed by half
 - **Player Speed Increase:** doubles the player movement speed
 - **Weapon Auto Fire:** Weapon fire can be held and shoots automatically and very fast
- **Milestone 4 : Score**
 - **Splitting Enemy:** gives 10 points
 - **Getting a Headshot:** gives 100 points
 - **Destroying a Mushroom:** gives 1 points