Cthulhu Chase

By:
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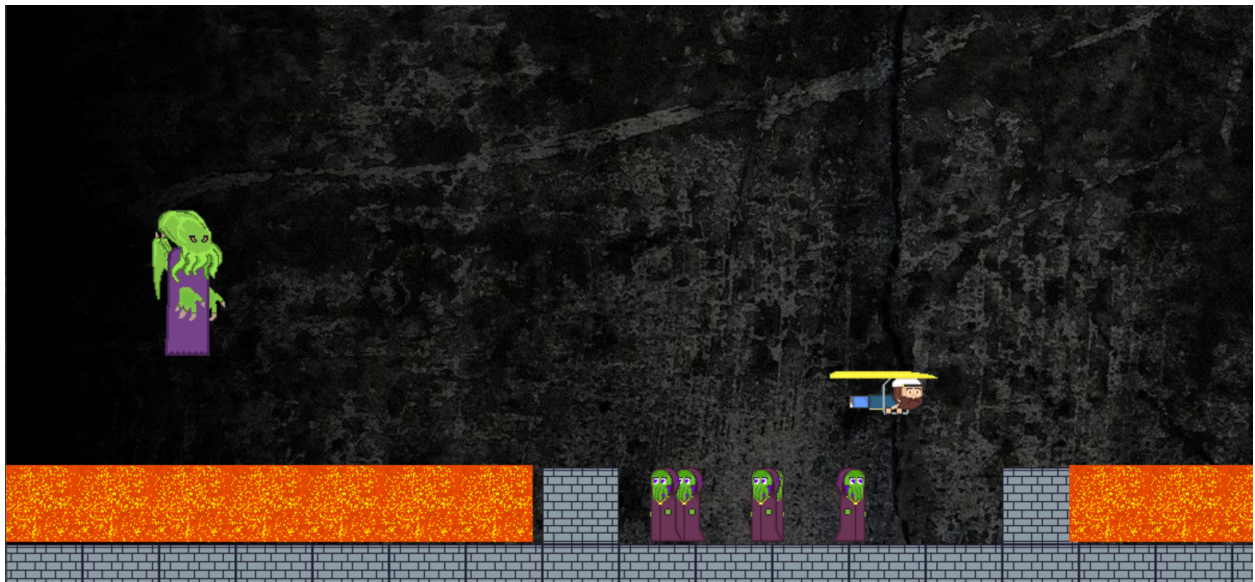Github Link:
https://github.com/ZoutKoning/Cthulhu-Chase
Game Demo Link:
https://drive.google.com/file/d/1Cx8XAksDySv0E3ZEASGjCGblmp0PKy7P/view

Introduction

Download:
- Download the "cthulhu" folder from https://github.com/ZoutKoning/Cthulhu-Chase
- Using Visual Studio Code, click on "File" in the top left and then click open folder
- Double click the folder named "cthulhu" and then select the "code" folder
- Open the "main.py" file in the "code" folder
- Click the play button in the top right or type python3 "main.py" in the terminal
- You will need to have python3 and pygame installed to run the game

Controls:
- Use the arrow keys to move left and right
- Use spacebar to jump
- Use the down arrow keys to fall quicker when the player has a glider

Game Design
Mechanics
Each level in the game starts with the main enemy Cthulhu in the top left corner, and it moves towards the player. The player's objective is to reach the flag without being caught by Cthulhu and without colliding with the lava or cultists. If the player collides with a harmful object or character, then they respawn at the start of the level. The player must reach the flag to advance to the next level and eventually complete the game. There are two types of powerups in the game, a speed power up which makes the player move faster, and a glider powerup that makes the player fall slowly. The glider powerup is a necessary powerup to make long jumps over lava. The game's gimmick is that the player is being chased by Cthulhu regardless of where they move, so the player must constantly be moving or risk being caught. The gimmick makes the game different from other 2d platformer games because it creates a sense of urgency in the player, which makes the game more challenging and exciting.

The game's protagonist is a sailor who on his voyage stumbled across an uncharted island. Curious about the island he went ashore, where upon his exploration he slipped and fell down into a chasm. Upon falling into this abyss he was hunted by a giant monstrous creature clearly not of this world or perhaps not of a time that man was to know.

The character of Cthulhu was designed to be a scary and intimidating enemy for the player. Cthulhu is meant to be viewed as a powerful creature that the player has no chance of fighting. The gameplay should ideally make the player feel a sense of urgency and some fear, as if the player is running for their lives. The challenges the player will face involve avoiding enemies and making jumps over lava with narrow paths to safety. As the player advances, they will find speed and glider power ups that will make the levels easier. The player will know if they died if they respawn at the start of the level. After completing the final level, a win screen will appear. Some visual elements in the game include movement animations for the player and cultist, animations for the powerups to make them more obvious and eye-catching, and movement for the lava to make it look as if it's flowing.

Game Design Changes
Though the core concept of the game stayed the same, with an all powerful monster chasing the enemy, it ultimately turned out much different than originally planned. The original idea for the game was to have Cthulhu as a massive monster approaching from the left side, so the player would have to be constantly moving rightward. There would be a progress bar that showed the distance between the player and Cthulhu. In the final design, Cthulhu was changed to be a much smaller monster, so there would be more room for creativity involving level design, and the player would be able to move both rightward and leftward within a level. However, this change made the progress bar much more difficult to implement, so it was ultimately cut from the game. Due to time constraints, firearms were also cut from the game, as with Cthulhu as an all powerful enemy and only a few smaller enemies, the weapons would not be used very much. The original gimmick was the progress bar showing the distance between Cthulhu and the player, but the gimmick is now the chase mechanic of Cthulhu. Cthulhu now moves in relation to

the player, so there are times when the player will have to time their jumps over Cthulhu to avoid getting caught, which adds to the suspense of the game.

Game Development and Documentation
Main - Used to run the game, contains game loop for menu screen and gameplay
Cultist - contains methods for smaller enemy, including movement and animation
Enemy - contains chase logic for Cthulhu
Glider - contains glider power up object animation
GoalPost - contains flag object that the player collides with to advance to next level
Lava - contains lava blocks that the player must avoid collision with
Level -
- Contains logic for initializing level, including which letter corresponds to which object, which is used in the settings file for level design
- Contains all collision logic, including collision between the player and tiles, enemies, power ups, and level flag.
- Contains screen scrolling logic
- Contains methods to update all objects and characters

Player -
- Contains player animations
- Contains player speed and gravity logic
- Contains logic for player boosts after obtaining power ups
- Contains responses in player input

Particles - contains dust animations for when the player runs
Settings - contains level maps and screen size settings
Speed - contains speed object animation power up
Support - contains logic for finding files to support animation
Tiles - contains animations for tiles that player can jump on

Controller - Player input is received in the main file to start the game. Player input is received in the player file once the game has started
Model - The level is initialized using the level file with the settings file used for the game map. The logic for all character movements are stored in their respective files.
View - the animations for each of the objects are stored in their respective files. The level file updates the movement of these objects as the game is running.

Noticeable bugs
- If the player moves immediately after landing and the screen has not yet scrolled down to the player's position, it will cause the player to collide with the floor and glitch to the surface of the nearest object that is not connected to the one that they collided with, sometimes resulting in death by colliding with lava. (to avoid distress please refer to this as Cthulhu's magic)
- If the player jumps while the screen is scrolling up, the player can sometimes jump higher than they would be able to otherwise

- Sometimes when the screen is scrolling, a cultist will continuously walk into the wall

The project collaboration between the creators was done with VS code liveshare and Discord screen sharing.

Group Member Roles and Tasks

Milestone 1: Mar 29, 2023

- James - Implement basic game logic, and player movement (player can move around basic obstacles)
- Joseph - Implement basic rendering, draw player character movements

Milestone 2: Apr 12, 2023

- James - Implement object animation transitions using sprites drawn by Joseph, and add flag for advancing to next level
- Joseph - Implement all entity displays, movements, visual effects, level design, logic implementation.

Milestone 3: Apr 26, 2023

- James - Implement chase logic, basic enemies, and powerups
  Joseph - Finalize art assets, visual effects, implement menu system