Spire Panic

Game Pitch for CSCE 4210/5250 Fall 2020
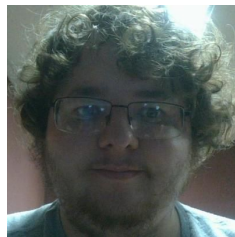Jeremy Glebe
Andrew Marxer
Cole Boyd

Programmers

- We are Group 6
- Jeremy Glebe: NPC pathing and combat mechanics. World loading and tiling.
- Andrew Marxer: Designing and creating towers/tower behavior.
- Cole Boyd: Camera and player controls.
- There isn't much to report for each programmer yet, but stay tuned!

General

- Strategy, tower defense
- Top-down perspective
- Goal: Stop NPCs from destroying the Spire for as long as possible, reach the highest wave you can
- Gameplay is separated by waves of NPCs, numerically labeled and separated by brief preparation phases
- Each wave has a set number of NPCs which increases with the wave number
- NPCs progress on a path to the spire
  - Path is preset, but may contain branches
- Currency is used to create towers to help player battle NPCs
  - Each tower has unique behavior and can be upgraded
- Number of waves is infinite
- Game is over when NPCs successfully destroy the Spire

The World

- Fixed size
- Flat, top-down
- Created using tiles
- Layered to allow for walls, floors, and overhangs (when necessary)
- Map is completely contained, the world does not wrap around

The Player

The player operates two entities:
- Player Character
  - Moves around the map
  - Can shoot at NPCs to inflict damage
  - Respawns at a set time interval after death
  - Does not directly affect the outcome of the game
- The Spire
  - Positioned at the end of the map's path
  - Stores the player's currency
  - Must be interacted with to create towers
  - Critical health bar, if it goes to zero the game is over

In terms of control, the player's primary entity is the Player Character, which they can move and must use to activate the Spire. However, The Spire's health bar is the "true" health bar which can result in a game over. (Character death is temporary)

The Camera

- The camera operates in two different modes
- "Spire Vision" is active when the player is interacting with The Spire to place towers or manage existing resources.
  - In this mode, the camera is fixed and shows the entire map
- "Panic Vision" is active when the player is moving around the map to battle NPCs.
  - In this mode, the camera is zoomed in and centered on the Player Character

Non-Player Characters(NPCs)

- Each NPC has a set amount of health
- Number of NPCs increases with the wave number
- Each NPC's damage and health increases with the wave number
- Standard NPC behavior is to progress on the path, absorbing as much damage as possible.
- When the Player Character is within a defined range ("panic radius"), the NPCs will break from the path to attack the Player directly
  - When the Player Character exits this range, the NPC returns to the path.
- Some NPCs will have variant behavior (such as different panic radii), appearances, and stats (such as higher base damage)

Towers

- There are a few types of towers with varying effects the player can purchase
- Every tower has a *purchase cost* and an *upgrade cost*
- Upgrades upscale damage, range, and other tower effects
- Most towers shoot *projectiles*
  - Projectiles may vary by velocity and damage
  - Projectiles are usually destroyed on collision with NPCs or walls
  - Piercing projectiles are not destroyed on collision with NPCs
- Towers may be incidentally destroyed, though they are not targeted by NPCs
  - (This may be subject to change, we are considering the possibility of variant NPCs which damage towers and must be stopped by the Player Character)

Controls

- The placement of towers and navigation of menus in The Spire will utilize the mouse
- The Player Character can be moved with the arrow keys or the following keys: 'W', 'A', 'S', 'D'
  - These keys form a similar layout to the arrow keys and their behavior corresponds to that layout (ex. 'W' corresponds with "Up Arrow")
- The player can make their Character shoot by clicking the mouse
- The Player Character will always face the mouse