CS 4900
Week 10 Writeup
Group 1: Merritt Hancock, Kenda Blair, Ryan Trull, Alan Bettis
Details

Changelog:

1) Modeled Pinbeast Boss
   - Kenda 04/11/20 3:15 PM - 6:45 PM
2) Skybox changed to background
   - Alan 04/12/20
3) Texture loading bug fixed
   - Alan 04/12/20
4) Implemented Models
   - Alan 04/12/20
5) Implemented basic animation loops
   - Alan 04/12/20
6) Added base for tooltips
   - Merritt 04/12/20
7) Designed tooltips.
   - Merritt 04/12/20
8) Incorporated tooltips into gameplay
   - Merritt 04/12/20
9) Created method to update the tool tips.
   - Merritt 04/12/20
10) Designed and implemented top right tooltip.
   - Merritt 04/13/20
11) Worked on CSS styling for both tooltips
   - Merritt 04/13/20
12) Created Action State for Pinbeast which determines what action the boss will take
   - Ryan 04/14/20
13) Created an AOE (Area of Effect) State for Pinbeast which causes the enemy to damage the player no matter where they are in the room
   - Ryan 04/14/20
14) Created a Spawn State for Pinbeast which spawns four new pinpods when all current pinpods are defeated or absorbed.
   - Ryan 04/14/20
15) Designed the terrain for level 1
   - Ryan 04/14/20
16) Loaded level 1 via menu button
   - Ryan 04/14/20
17) Fixed bugs related to level 1
   - Ryan 04/14/20

18) Refactored Cursor class
   - Alan 04/14/20
19) Began work on smooth rotations of units
   - Alan 04/14/20
20) Finished modeling Pinbeast Boss, Rigged PinBeast Boss, started weight painting Pinbeast Boss
   - Kenda 04/12/20 11 AM - 4:15 PM, 5 PM - 7:15 PM, 7:30 PM- 8:15 PM
21) Finished Weight painting, Made UV map
   - Kenda 04/14/20 11 AM - 2:15 PM, 4:30PM - 6:30 PM

Decisions

- Refactor Cursor class (Some logic needs to be moved from Cursor to TurnManager)
- Need to find a way to redesign model loading to allow dynamic spawning of enemies

What we learned

- Various CSS properties such as min-width and min-height.
- The section for modifiers in Blender, which reduces modeling time.

Summary

Alan: I started off with fixing the issues from last week that I was encountering, including fixing texture loading, model loading, and implementing rudimentary animations, just a loop of the basic animation for each enemy for now. Then, I moved on to start on smooth rotations for enemies. After getting some progress in that, we realized we needed to refactor the Cursor class for the UI to work more effectively, so I set to work on designing and implementing a new layout for Cursor. This refactoring remains a work-in-progress, as the dependencies in the Cursor class run very deep.

Merritt: My main task this week was designing and implementing tooltips for our game. I began by researching the best way to go about implementing them and decided on a similar implementation as our win screen, an html div. We brainstormed in our meeting what exactly we wanted our tooltips to look like and decided on two different divs. The first div, located on the lower left portion of the screen, would include information related to the player. The second div, located in the upper right portion of the screen, would contain information related to the terrain and entity the cursor is interacting with. I then created the two divs and styled them accordingly. This involved quite a bit of CSS which led me to resources such as W3 schools. After, I created a method that would update the tooltips during gameplay. In the coming week I hope to, with Alan's refactoring of the cursor, finish the method that updates the tooltips.

Kenda: I worked on the Boss for zone 1. Completed model, UV map, rigging, and weight painting. Started animations.

Ryan: My goal for this week was to develop the AI for our Pinbeast Boss. I laid out the framework for four states: Action, Spawn, AOE (area of effect), and Charge. Action state is responsible for deciding whether to change to Charge or AOE states depending on certain requirements. If three turns pass, the state will change to AOE and do massive damage to the player. If the player absorbs a pinpod, it will delay this countdown, and if the player absorbs all current pinpods on the board, the pinbeast will change to Charge state where it rushes the player, and then switches to Spawn state where it creates four more pinpods in random locations before switching back to Action state.

Another task I took on was creation of the official level 1 level. It's currently in its early stages, with only the terrain, player, and an enemy on the board. In the coming week I plan to flesh out this level and balance it for fun factor and give it more tactical elements.

Next Steps: For next week, we want to...
- Finish implementing animations and rotations of entities
- Finish refactoring of Cursor class
- Research lighting for Cave Zone
- Finish method that updates tooltips.
- Finalize AP/Movement system, as bugs were noticed. (NERF MILCAP, TOO OP)
- Design a death screen
- Add some error handling for out of bounds (Maybe not next week, but soon)