

Apoorva Parajuli
Game Level Design
2021/05/15

KILLER KAREN'S

Final Project

Final Links

- [Final Progress Report #01](#)
- [Final Progress Report #02](#)
- [Final Progress Report #03](#)

Final Lvl. Walkthrough

- [Final Level Walkthrough](#)

Video Description

Our team, as in Team "5 A.M." decided that the my Progress Report #06 Part 1 & 2 would not go in the sprint #06 submission and that I should instead submit them in my final project submission and instead, for my part of sprint #06, record a full level walkthrough and upload that to drive, which I did. The reason I mention this is because two of the above videos, you may have seen already. However, I recently recorded the third video and decided that since it is a rather minor development in comparison to what I mentioned in the first two, that I should include it as the third part in a 3-part video review of my level instead of making a whole new set of recordings.

Now that that's covered, I will go over what occurred in my videos in text...

1. Final Progress Report #01

- a. Allied NPC and dialogue system
 - i. I go over the widgets and the behavior tree superficially to explain what it takes to create a complete dialogue tree in UE4
- b. How I Spread Karen's Throughout the Level

- c. Karen Types Overview
- d. Pickup System
 - i. Health/Ammo/Grenades
- e. Boss Enemy
- f. Objective System
- g. Enemy Attack and Death Animations
- h. Gun Iron Sights
- i. Damage Output Difference Between Karen Types
- j. LightBulb Meshes at Point Light Locations
- k. Destructible Objects
- l. More Pickups
- m. Music

2. Final Progress Report #02

- a. Hall of Karens
- b. Final Level Objective
- c. Boss Name
- d. Mini-Narrative for the Level
 - i. Notes spread throughout the level providing a little story which hopefully would engage players more
- e. Using Line-Tracing for Weapon
 - i. Review of how line tracing works and why I chose it over regular projectiles
- f. Self-Locking Door
- g. Sphere-Tracing
 - i. Using sphere tracing to interact with allied NPC and how it works
- h. Locked Door/Opening With Key
- i. End Review

3. Final Progress Report #03

- a. Voice Acting

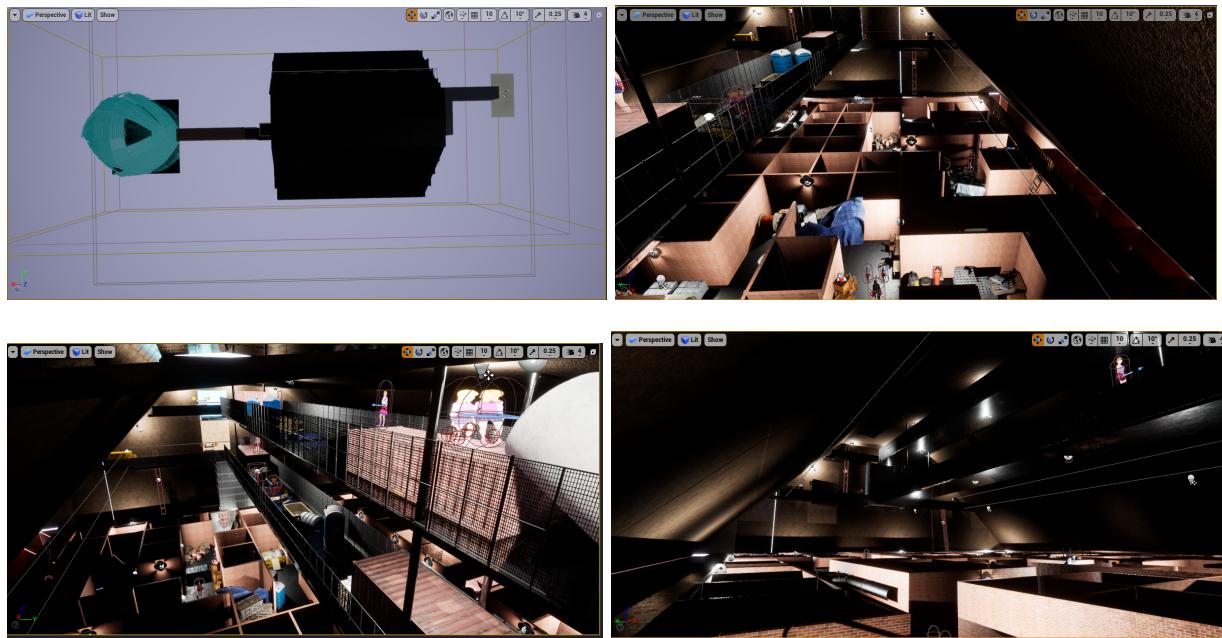
- i. Added voice acting for enemies, including death screams and Karen-like shouts upon detection
- b. Ambient Music/ Gunfire Noises
- c. Killfeed Widget
- d. XP Output Differences Between Karens
- e. Combat Music at Work
- f. Changes to Boss Fight

Documentation



Above are some images that I based some of my level design images off of, I'd say that primarily, I went with the top right and bottom/middle left images as references, we initially planned on having a Psychonauts-based art style but I failed to incorporate that sort of visual design into my level as I have no experience in Maya and found it quite difficult to find good models online that resemble the art style of Psychonauts even remotely. So I instead decided to create a fast-paced shooter where you murder Karens. Where you are the Termikaren, or the Kareninator, one or the other. There was no real planning documentation regarding the speed with which we would develop our levels or otherwise, I just slowly added stuff as the year went on and as soon as I had a free week I went ham on the blueprints and completely revamped my level. We had a one pager and a somewhat filled GDD but there was no real overall plan or structure to how we went about doing things.

Screenshots





Individual Work

My individual work involves creating the storeroom level, creating all the mechanics, UI elements, AI, blueprints within the level and getting the audio all recorded and integrated into the video game level. Other than that, you have my tutorial level that I created for my “Getting Your Feet Wet” assignment. All my individual work can be summarized in the videos linked above, either visually, or verbally, or through my previous sprint submissions. If a list of things I accomplished while working on the level is what is needed then they are, if my memory serves, as follows...

- Four Different Karen AI, fully animated, fully voiced, fully functional
- Player Dynamic Health Bar/Shield, fully functional
- Player Dynamic XP System, fully functional
- Self-Locking Door, fully functional
- Readable Narrative Provided By Notes, fully functional
- Locked Door openable by Key, mostly functional
- Killfeed Widget, fully functional
- Iron Sights, fully functional
- Lighting/Bulb Meshes Representing Lights, fully functional
- Alternate paths through level, fully functional
- Ladder/Elevators, mostly functional
- Line-Trace Based Weapon Attacks, fully functional
- Karyn Boss AI, fully animated, fully voiced, comes with boss health bar, fully functional
- Objective system, fully functional

- Ambient Music, Combat Music, Gunshot Sounds, Locked Door Sounds, Key Pickup Sounds, fully functional
- Pickups, including health, ammo, and grenades, fully functional
- Completely self created level, including dome, main building, hallways etc, with materials acquired from either the internet or linked in discord, or developed by Marisa
- Dynamic Ammo Counter/ Grenade Counter, fully functional
- Light Switch/Destructible Falling Mesh for EC Assignment
- Explosive environmental objects, functional
- Openable Doors, fully functional
- Grenades, Fully functional
- Sphere Trace based NPC interaction, fully functional
- Fully developed NPC Dialogue Tree, with interactive widgets and dialogue widgets etc., fully functional
- Horizontal moving platform that leads to the boss arena, fully functional

Post-Mortem

- 1.) What went right? Talk about things that worked during development.
 - a.) Tutorials online were extremely helpful for my personal development as a level creator, especially in reference to blueprints, I already had a preexisting understanding of C++, which is what Unreal is based on, but the blueprint system is, in my opinion significantly different enough from C++ to warrant an entire course for itself so I was particularly happy when I started being able to solve issues with blueprints using my intuition instead of having to google a video on how to do things properly. After the whiteboxing phase of the level's design was over, my progress was extremely slow when it came to the development of my level, I only added obstructions and unanimated AI and was falling behind my other Level Design team member Louis, which was what prompted me to put more effort into my level and really go all out for the last month or two of class. I

was lucky to have two teammates who were quite helpful and knowledgeable about Unreal to answer my questions when I had them and to motivate me not just with their expressed words, but with the progress I saw them making.

2.) What went wrong? Talk about things that didn't work or were challenging.

a.) There were several instances throughout the game development process that irked me the wrong way. For example, several times blueprints would fail on me for no noticeable reason and would suddenly work again when I reloaded, I would spend hours trying to get things working only to decide it was a waste of time to have even attempted it, like when I tried to create openable drawers, or a spawner for the Karens. There was also the issue of over a third of my team leaving the class by the end of the semester which was frustrating but not the most significant issue for me. The issues mostly drew from things not working for seemingly unexplainable reasons, or me not realizing a minor issue that was causing a problem after combing through fifty different blueprints, and the endless crashing of Unreal. The cons didn't outweigh the pros by a long shot but they felt monumental when they happened.

3.) How to improve for future game projects? (and/or takeaways from developing your game)

a.) I think I will definitely learn Maya over the summer, and try to learn how to work with Unreal in Visual Studio because I think C++ is just easier for me than blueprints, but if it turns out it makes it harder to work with Unreal when you have to program it, line by line then I will switch back. I also plan on working on a project of my own over the summer and applying my newly acquired skills there and maybe even learn new things that'll be helpful for when I take Video Game Dev. I will try to improve my capacity for drawing and illustrating to be able to better convert my ideas about the visual design of a level, and to maybe even use them as backgrounds or textures. I think one major takeaway I would like to mention from this level design experience is that sometimes it will come to you, and sometimes it just won't. By that I mean, just like in programming, especially

if you're working with blueprints, if you spend all day working and are having an issue, you should just take a break, or stimulate your brain in some other way and you'll usually be able to figure it out when you return to your work.