

Cyberspace City Game

Design Document

GPR-300-51

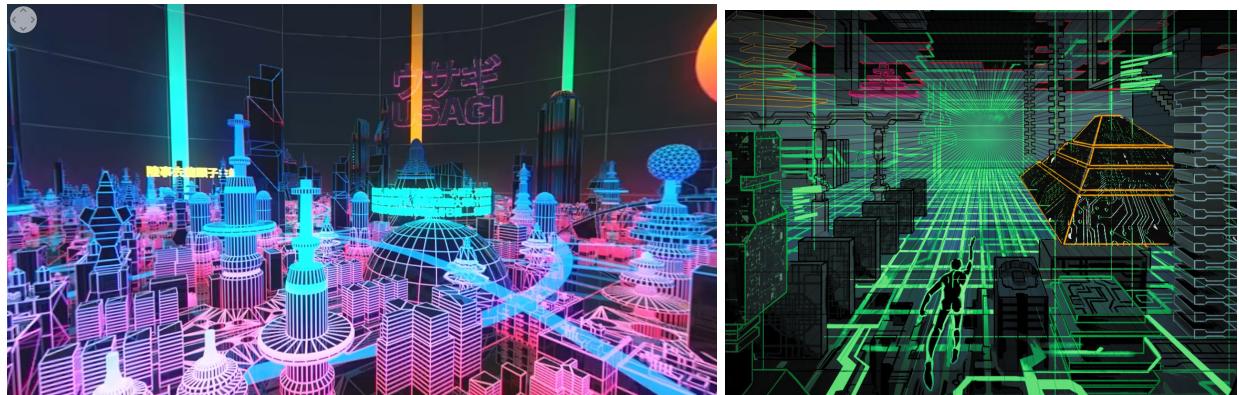
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The Concept

This game takes place in a 3D cyberspace city infested with malware. The player will control a generic humanoid character model in a third-person perspective. Equipped with a variety of movement abilities, the player has to dodge and evade the malware at all costs and survive as long as possible by jumping around this digital world.

Visual Identity

 Cyberpunk2077 - CyberSpace (12/DEC)



This game takes place in an extremely stylized cyberspace city. The goal of this project is to create a sandbox for myself to experiment with all kinds of shaders, particles and other tech art concepts. Buildings and pieces of environment art will consist of simple geometric shapes, and will be visually enhanced with the use of shaders. An animated character will also be implemented into this project. Building off of the abstract nature of the game's visuals, the character will be a generic humanoid character with simple movement animations obtained from Mixamo. The character model is already complete, as I made this for a past personal project.

Gameplay Mechanics

Movement

- The player will have an interesting movement ability. It will likely be a superhero-like floaty jump, but I will solidify this mechanic based on experimentation to see what is fun. The potential abilities are as follows:
 - Floaty jump with superhero landing
 - Double jump
 - Wall jump
 - Gliding
- I will choose one of these based on what is reasonable to implement and fun to use.

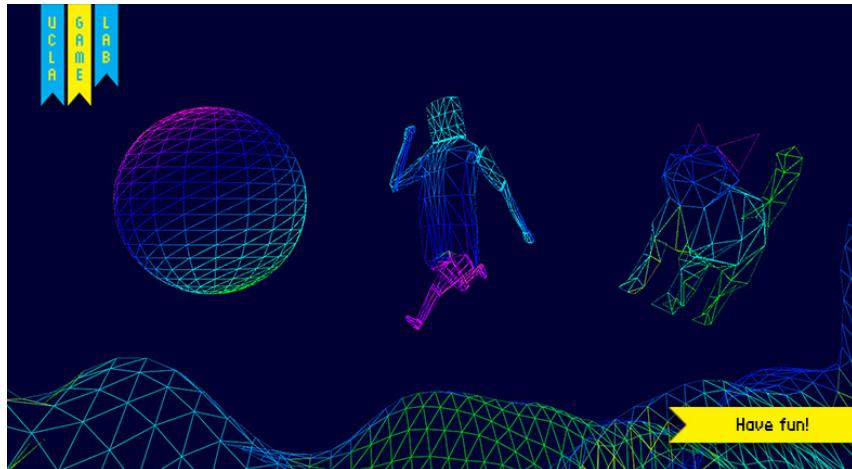
Enemy Malware

- Enemies, or “malware” in the game world, will consist of simple, angular geometry that float towards the player. They will emanate particle effects and have a stylized glitchy look. When they collide with the player, the game is over. The player must survive for as long as possible.
- Enemies will become faster and more numerous over time to create a sense of scaling difficulty.
- The player has no way to fight back, although adding a projectile could be a stretch goal.

An animated character with simple movement animations

- The player will control a rigged and animated 3D humanoid character. While moving and providing input, the character will respond with appropriately blended animations.
- Animations will be obtained from Mixamo as they have free animations for every movement ability outlined above.
- The character model is already complete from a past project. It is rigged, so I can use my own animations if I’m feeling it.

Graphical Components



Wireframe shader

- Shading environmental models with wireframe will allow simple geometry to look visually interesting.
- This will include interesting colorization on top of wireframe visuals to further increase visual interest.

Glitchy FBM shader

- Characters and other components of the game will have a shader that takes a texture and applies fractal brownian motion to create an interesting look. This is an opportunity for me to apply what I learned from Stephen in the guest lecture last week.
- I will also make it glitch/flash to sell the digital look.

Chromatic Aberration

- I enjoyed learning about chromatic aberration from Stephen and I will apply this wherever possible on particle effects and textures simply because it looks cool.

Floating holographic advertisements

- A semi-transparent hologram effect can be applied to 3D models. This will provide environmental details to make the city appear more lively.
- Holograms will float up and down for increased visual interest.

Flying cars with trails

- Flying cars will be present again to make the city appear more lively. They will have trails attached to them to give a tron bike effect. Particles will also be present on the cars.
- This can be considered a stretch goal depending on how much I accomplish.

Additional details

- There is room for plenty of creative freedom in this project. Depending on scope, additional environmental details can be added.
- Particle effects and trails will be implemented where appropriate and will add to the overall feel of the game.
- The entire purpose of this project is to test shaders and graphics within unreal. Cyberspace is a perfect environment to be creative with tech art. I want to do tech art professionally, so this is a perfect portfolio builder.
- I also want to learn more about creating games with unreal in general, so this is a perfect opportunity to do so.