

Assignment 2

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Game Design and Asset Creation 2

Assignment 2

Alex Jenkins (2103347)

Overview

My game is a 3rd person arcade styled shooter game, where the player traverses through rocks destroying all the enemies to beat the stage. The theme is futuristic wild west, so the game consists of the player traversing through rocks themed off the wild west in a futuristically modified carriage. The carriage is modified with a plasma weapon to be able to fire. The enemies consist of tropes of the wild west such as minecarts, cacti and cowboy hats for example, but are modified with a weapon to be able to target the player. The game takes place inside of a HDRI to help set the atmosphere of the game.

Target Audience

The target audience for my 3rd person arcade shooter are people that enjoy casual arcade shooters such as space invaders, as the controls and gameplay are very simple. The game is made for people at all ages, catered to a younger audience with the friendly toon graphic style. As I wanted to make the game be cel-shaded, as well as be themed around futuristic wild west, I figured a younger audience (3+) could appeal to the game, so I made sure the game was suitable for the audience I was going for.

Design Choices

The first step to making my game was coming up with a theme to use. This would then be the structure for my game with all the assets I make. The first theme I came up with was sci-fi tech, having a colour theme of being white and grey and light blue. Although once thinking of where to take this theme I got stuck on what assets to make relating to the theme.

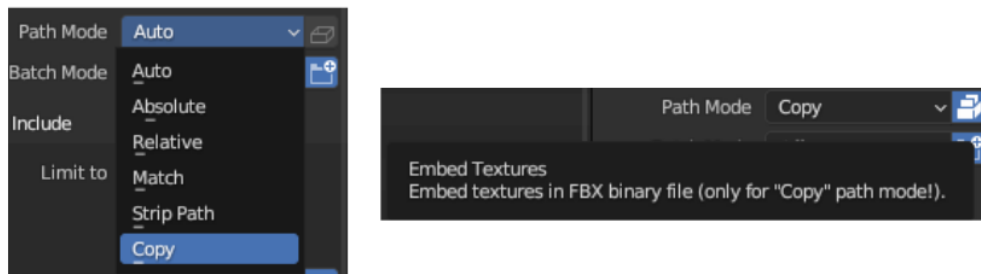
The second theme I came up with was the theme I stuck with, being futuristic wild west. I decided on this theme as I've always been interested in themes involving having stuff that shouldn't normally be there, such as the Call of Duty Zombies map Origins. Which has giant robots set during World War I [1].

The theme was designed to be catered towards a younger audience, to suit the arcade style nature of the game, making it playable for people of all age. To further enforce the kid friendly nature of the game, I decided to make the graphics for the game have a toon overlay, giving the assets a unique look better fitting the scene. The toon graphics makes then game look more unique and gives the game a completely different feel. Along with the toon graphics, there's also a black outline going around all the assets, to make the assets pop a little more which is often seen in games that use cel-shaded graphics. Below shows the asset with the cel-shading and outline applied and next to it is the asset without those overlays, it makes a huge difference in making the model pop and giving it that effect.



Self-Directed Learning

A lot of self-directed learning went into this module, the first one being learning an entirely new 3D computer graphics software, being Blender [2]. To begin making the switch I researched tutorials on how to get the basics of Blender, this took many tutorials, but to properly get the hang of blender it took hours of practising after switching from Maya [3]. After learning how to make assets in Blender, I had to figure out how to texture them within Blender itself. The game uses simple flat colour textures, so there was no need to use a software such as Adobe Substance 3D Painter [4] to texture the models. One of the models used a shader node to create the design, meaning that I couldn't straight up import the materials with the model into an FBX as it wouldn't export correctly. For this model I had to convert the shader nodes into an image texture to be able to retain the material. Learning how to correctly export meshes alongside the materials was something I had to work out, as originally when exporting via FBX, it wouldn't carry over the materials and the mesh would be white. To fix this, I had to research on how to import from Blender to Unreal Engine [5]. The first method I used to fix it was to export models using the .glTF 2.0 file extension, which imported the materials over correctly. Later down the road I figured out how to export via FBX and import the materials alongside with it. Below shows the method of what properties to change to get the materials to export alongside the mesh.



When it comes to the self-directed learning I had to do in Unreal Engine, the first step was to figure out how to make the game cel-shaded. After coming up with the theme, I had to think of a graphics style, I had never attempted to create any cartoon styled graphics before, so I thought making the game's art style toon would be a good way to learn and challenge myself. To do this, I researched online on how to make your game in unreal cel-shaded. After watching a few tutorial videos, I tried replicating one of the videos and the result was the same as in the tutorial, so it worked well. The next step to the art style was to give all the assets the black outline which is commonly paired with cel-shaded graphics. This was also done by researching tutorial videos online, found a tutorial and tried it out and first time it went well.

The last bit of self-directed learning I had to do was to do with changing the game's functions in Unreal Engine, this includes changing some of the systems such as the default movement speed. This was done with trial and error, finding the correct nodes in the blueprint editor then fine tuning the attributes until I got the result I was looking for.

That was the main self-directed learning I had to do when making the game and its' assets.

Research

I conducted research prior to starting to work on the game and while making it to help along the way. The first thing I did was research images online to use as inspiration when coming up with a theme. This was useful as it gave me inspiration on what assets I could make for my game and what style to go with. This was also useful for when trying to come up with a theme for my game, looking at different themes and art styles help me think of a theme and art style I wanted to make.

When using Blender, there was a lot of research gone into guides on how to use blender and its' tools. This greatly helped me with the creation of my game as it got me to adjust to using blender faster and in doing so making me more efficient at creating the assets.

In Unreal Engine, I researched on how to change the variables within the blueprints of different characters in attempts to tweak the gameplay, although all the video tutorials were not connected to my blueprints in the game template, so the changes they made weren't applicable to my game.

There are some aspects of my research that I could improve upon for next time, one being on researching how to improve time management and organisation when working on a project. researching these skills will allow me to learn how to better organise my time when working.

Reflection

Overall, I feel I did well when it came to creating the assets, and with the idea and execution of making the toon graphics shader. The assets fit the theme of the game and the cel-shading further complimented their appearance. What I could improve upon for next time is my time management, this is so I can stay ahead of the work I need to do, the best way to do this would be to make a Gantt chart for next time.

The research I conducted whilst working in blender was incredibly useful and a great idea, as this helped me get the ropes of blender quicker and taught me how to better use the tools, making models more efficiently. I feel it complimented my project greatly due to the research helping in the asset creation. When researching inspiration for the project, I feel I could've done some extra research on the theme once I had chosen one to stick to. This would've just given some extra inspiration on what you may find in a wild west setting, watching a film or piece of video would've helped more than just researching online what's found in the wild west via images.

When making the assets, I would ask people for feedback on their opinions on the mode at different stages, after I had finished the mode, then again after it had been textured. This would be to get a second opinion and to see if they think there was anything I could improve upon with the model/texture.

References

- [1] Call of Duty: Black Ops II, [Software]. Treyarch, 2012.
- [2] Blender, [software]. Netherlands, Blender Foundation, 1998.
- [3] Autodesk Maya, [Software]. Autodesk, 1998.
- [4] Adobe Substance 3D Painter, [Software]. Adobe.
- [5] Unreal Engine, [Software]. USA, Epic Games, 1998.

Assignment 2

GRADEMARK REPORT

FINAL GRADE

52/100

GENERAL COMMENTS

Instructor

1. Engagement with Literature Skills - 10/25

There are some mentions of research in document but more should be shown at this level in a reflective report. What research specifically did you conduct? How did you research? How would you rate your personal skills in relation to gathering information and did this effect workflow?

IEEE referencing used and reference list present, would liked to have seen a wider array of sources.

2. Knowledge and Understanding Skills - 17/25

There is a sound base of knowledge and understanding here with a good grasp of modelling principles. I'd liked to have seen more programs used overall and a more in depth comparison of Blender and Maya - and how this drastic change from taught material changed your workflow.

3. Cognitive and Intellectual Skills - 14/25

There is some analysis present with mentions of self reflection and self directed learning. Demographic and target audience touched on, well done. Wish reflection section was longer and more mindful of wider practice/application.

4. Practical Application Skills - 5/10

Document could benefit from some more formatting as there are large blocks of text present.

5. Transferable
Skills for Life and Professional Practice - 6/15

Work is explained in a somewhat professional manner with consideration given to wider practice. Document is below the word count, is this intentional or were elements left out accidentally?

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