

Luke Morgan Cyber sleuth Report

by Luke Morgan

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Cyber Sleuth

Luke Morgan- Game design and asset creation 1

The game idea for this project was to make a noir Detective game with an aesthetic of a futuristic 20s and 30s. The gameplay consisted of searching for clues to solve a murder, you would be able to scan objects to gather clues which will lead you from area to area.

The audience we chose for the game was a relatively mature one. The game has a slow methodical gameplay loop that doesn't really appeal to players with a short attention span. The game also includes implied gore and murder which is a little heavy for younger audiences.

The visual style of the game is heavily inspired by the films like blade runner [1] or Star Wars [2] we used these as some of the concepts for the sci-fi look of the film and took real technology from the era and added sci fi elements to them, for example a typewriter design from the era and made it display a hologram and have other features not of the era. I watched these films and looked at some of the behind-the-scenes material, for example there was a video on the GameSpot [3] YouTube channel about the weapons in Star Wars. This video showed how they used real weapons from WW2 and modified them to make them look more sci-fi I used this idea as said on the typewriter but also on the TV design. I also took a look at the game Max Payne [4] this was my initial inspiration for the detective noir style, the game is very dark, and I wanted to make something in a similar style.

We chose this art style as it suited the detective genre well, the moody atmosphere was perfect for a detective story with murder and intrigue as main themes. The sci fi aesthetic was added to make the game stand out against the crowd more. Before landing on sci-fi we did think of a few more ideas that didn't really go anywhere, for example one idea was to have all the cast be animals and the main detective would have been a cat, however this idea did not go very far as we realised that having the whole cast be animals would have meant that all the characters in game would have had to have fur simulation. This seemed complicated and would probably have taken too much time although I do like the ironic humour of a cute cat or dog being a grizzled fed-up detective.

One part of the game I worked on was the design of the Robot police that would have been in the game, however due to the time constraints these were not implemented into the build shown. To research for the design of the robots I looked at 2 main pieces of inspiration the film Chappie [5] and the game Titanfall 2[6] I took design cues from the Police robots in Chappie and the spectres and stalkers in Titanfall and then made my own design, I created them in Maya, I considered using Z-brush however I thought a harder bodied boxy look would convey the robotic look more effectively. I was really happy with the way this model in particular turned out I don't normally make characters, but I surprised myself with the quality of this model. I do however think there is some room for improvement, I think that the model does need some more small details like exposed pneumatics wires and pipes that sort of thing especially around the legs and arms, however I'm not sure how easy these would be to rig in an animated model. The reason this model wasn't implemented in to the final build was the fact we had run out of time. As a group we had a decision to get the game finished in a working

state and playable from start to end or have the player model as the robot. As cool as it would have been to have the robot as a playable character it was more important to have the game in a working state so it could be presented.

I also worked on the design of the room that the scientist lived in. I wanted this room to be pretty normal looking to contrast with the lab environment hidden below. To create this room I looked at Ikea, the furniture in Ikea is meant to look plain and fit in with most rooms in a house, for me this seemed perfect for the plain design I was going for. One drawback to this however was the like of the art style from the other rooms in the game. In retrospect I should have probably used more period furniture to continue the art style from the rest of the game. I am still overall happy with the way that the models on this project turned out, using real Ikea furniture did have the upside of having plenty of readily available instructions and schematics which worked excellently as reference material which I could just place down in Maya and use to get the proportions correct. However, I did not just use Ikea furniture as a reference, for the bed model I took the initial design from Ikea however I added modified it to include a control panel at the bottom of the bed to make it more sci-fi. The furniture piece I am most proud of however is the TV, for this model I used the design for a 1920s radio and then added a screen, I also wanted to add the idea that this TV was running on classic film so I added to big film reels to the top the only thing that lets this model down for me is the texture, the actual texture had a problem that caused the whole thing to glow in Unreal Engine. I think this was a problem with the emissive texture I used for the screen leaking over to parts of the model I didn't want to glow but I'm not 100% sure, this leads to the model looking as if it's almost nuclear powered in the room which is really distracting for the player, I think in future I'm better to put things in engine sooner so if problems do arise they can be dealt with and changed. A new thing I tried for this project was having a mannequin scaled correctly in the project. This allowed me to get a good grasp of the scale of the objects I was modelling and make sure they were not too big or small compared to the player.

One aspect I feel I improved on with this project was UV unwrapping and the use of Substance Painter. I had used both techniques on the previous year's project however this was only used once, for this year I used both a lot more, and I feel I've definitely improved my proficiency at both. I discovered that you can automatically unwrap the models in Maya however this method does lead to Maya often just cutting up every edge in the model, so I found the best method for unwrapping my models was to auto unwrap then manually edit the meshes making the UV easier to read. I found this technique especially helpful for the model of the robot, where there was a complicated part of the model which would have taken a long time to unwrap manually could now be done using the auto unwrap tool, I could simply auto unwrap then cut and sew the edges where Maya had made unnecessary cuts or sews. My texture quality is something I also think had improved over the course of the project. A new technique I used was using Hi-Poly meshes to bake detail into the model where there actually was none, I found this most useful when making the sofa, I made a hi poly version of the model which increased the polygon count on the edges of surfaces and on the pillows, this made the fabric of the model appear much more natural and less ridged. My favourite texture I made was that of the Robot. I added some text to his chest and using a height modifier I was able to make the text appear that it was carved into the hull of the robot, it

was little details like that, that I felt raised this texture against the others. I want to continue to improve my texturing skills as I still feel I have a lot to learn and is definitely an aspect I want to work on in my own time.

One thing I am not so keen on in my project is the amount of empty space in the room I feel like even though the quality of my models is good the way the room came together really look that good there was a lot of empty space. I think this comes down to my time management. I spent too much time on models that really didn't need it and I wasted a lot of time doing things that didn't really come together in the final game. I think this was also a problem in communication, as a group we did discuss things well but rather than putting things in engine when they were done and swapping out place holders, we all made models and textures then added them to unreal in one go. This meant we all had a mad rush to put all our assets in engine at one time and then didn't get to spend time fixing bugs as they happened and instead had to fix them all in one go. I think another good idea is to focus on getting a working build with basic primitives before we start modelling. That way we can work out gameplay, fix bugs and create a more accurate asset list. I think in this project we all jumped to research then make assets then throw them all in engine at the last week, in future we should probably start in engine with a block out of all our environments in a build that can be played from start to end with only a few finished models then we can make the models we need, this saves time and stops the game not being finished.

Overall, I have mixed feelings with the way my project turned out. On one hand I am happy with the model and texture quality of all my models, On the other hand my level looks quite empty and the player model I spent time modelling didn't get implemented into the final game. I think all the problems with this project can be traced back to my poor time keeping. In future I think the quality of my work can be vastly improved with better planning and time keeping, perhaps it would be best to make a comprehensive plan of all the work needing done before starting, this would only take an hour or two but could have massive benefits for the timing of my project.

Bibliography

- [1] R. Scott, Director, *Blade Runner*. United States: Warner Bros. pictures, 1982.
- [2] G. Lucas, Director, *Star Wars*. United States: Twentieth century fox home entertainment, 1977.
- [3] *The Real Weapons That Inspired Star Wars' Iconic Arsenal - Loadout*. GameSpot, 2022.
- [4] Max Payne. [software], United States: Gathering of Developers, 2001.
- [5] N. Blomkamp, Director *Chappie*. United States: Sony Pictures, 2015.
- [6] Titanfall 2. [Software], United States, Electronic Arts, 2016.

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GRADEMARK REPORT

FINAL GRADE

58/100

GENERAL COMMENTS

Instructor

1. Engagement with Literature Skills - 13/25

Some good research present but would like to see more indepth discussions arising from references chosen. Star wars and Blade Runner are very surface level Sci-Fi related media. Maybe a deeper dive into the benefit of these pieces of inspiration?

2. Knowledge and Understanding Skills - 16/25

Good knowledge present with explanations of workflow but I'd liked to have seen some image examples alongside your explanations as this would help communicate your message.

3. Cognitive and Intellectual Skills - 17/25

Good retrospect of work undertaken with a look at aspects that worked well alongside techniques that could be improved in future. Well done.

4. Practical Application Skills - 5/10

Document is presented well with IEEE referencing used, bibilography present. Could benefit from some more formatting, a cover page, contents page etc.

5. Transferable Skills for Life and Professional Practice - 7/15

Work is communicated in a mainly professional manner with some grammatical errors arising throughout.

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