CRIT 2: Reflective Document 2
8 September 2024
“Music Agency in Video Games”

Group Members (Students)

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Introduction

This is the second reflective document of our project, written for the second critical point/submission. This document serves to give in-depth reflections by both group members at the half-way point of the project. Throughout this document we will discuss our progress, as well as how it compares to how far we wanted to be at this point of the project. We will reflect on problems and challenges we encountered and end off by using this reflection to refine our plan for the second half of the project.

1. Progress Report

Up until CRIT 1, we had made the music customization system, a 2D representation of the map, 2D representations of the main character and quite a bit of the main narrative was written in our Quest/Narrative Design Document. Ever since CRIT 1, we have been busy working on the actual game, i.e. the general gameplay mechanics, the quest design and logic, greyboxing the 3D world, 3D asset design, further writing of the narrative, music composition and documentation.

To start off, we are keeping detailed *documentation* of the various aspects of the game. Our list of documents currently include: a “Game Design Document”, a “PlayTest Questionnaire” Template, a “Feedback Collection Document”, a “Animation, Visual and Sound Document”, a “Quest/Narrative Design Document” as well as the CRIT 1 reflection. We plan to include these documents in a zip folder accompanying various submissions. Below are a few screenshots of some of the documents.

Main Quest 5: “All for 001, 001 for All”

In this quest, the final fight in the grand-staircase room, against 001 will happen. 808 will walk to the “party” as Kate radios in to tell him it’s a trap. 808 knows and needs to protect Kate and, by extension, Dr Erin’s legacy.

Gameplay:

Quest start trigger is down the road, a ways from the mansion. This will allow some dialogue to play out between Kate and 808.

- Objective: Go to “the party” at the mansion
- Tutorial Prompt:
  - Probably a trap

Dialogue ensues as the player moves down the street towards the mansion.

Kate (over radio)
Where are you? You’re… You’re not going to that party-thing 001 is talking about on every channel?

808
(Sarcastically) I would never.

Kate (over radio)
You do realise it is probably… no, DEFINITELY a trap!

808
I do, it is also an opportunity.

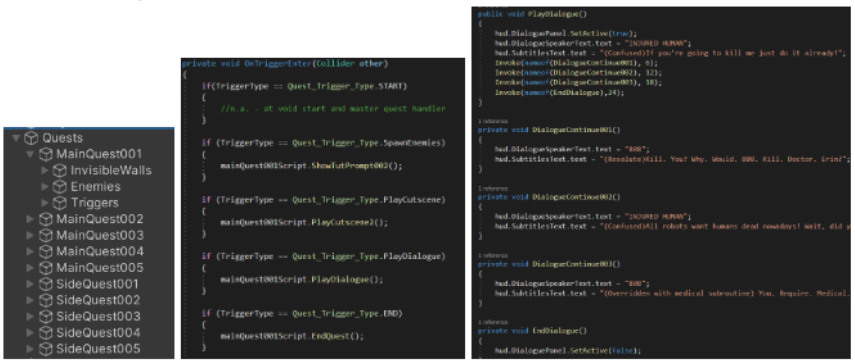
Kate (over radio)
An opportunity to DIE, Bob! To

1. **Music agency**: What impact does the ability to customise your music experience have on the general playing experience?

2. **Motivation:** Does the music customization motivate you during game play? And if so - how?

3. **Choice:** Would you be willing to change the music in the game, if they were provided the opportunity during gameplay?

Simple and reusable code was used for each quest. The quest handling is separate from the main state machine. Early testing indicated that the state machine works automatically, even in context of a quest.



Figures 27, 28 & 29: Main Quest 1’s objects and scripts

In the figures below, see early versions of the Quest-based UI. This includes the quest title, quest objective, tutorial hints, speaker name and spoken dialogue text fields (all of which change at certain points in the game).

Figures 1, 2 & 3: Screenshots of Narrative Document, Questionnaire-Template Document and Game Design Document, respectively

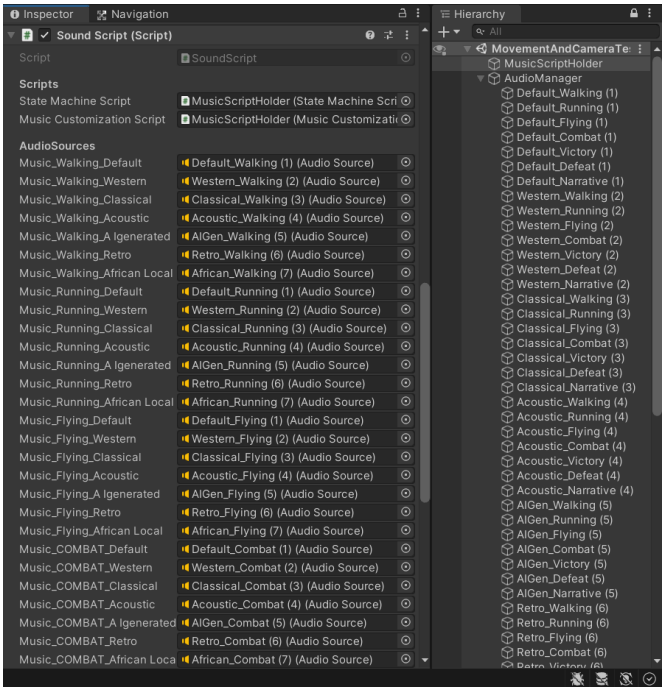


Figure 4 Inspector and Hierarchy view of Music Systems

In terms of the music system, we filled the system with temporary music we got online, just to test if the switching of genres and gamestates actually changes the music the player hears. We are pleased to report that the system worked without us having to change a single line of code. The temporary music in the game is just there for testing purposes and *will be completely removed* from the project files, when our original score is composed and implemented into the game.

In terms of the game world itself, we have used the 2D map we created before as a floor plan, and placed grey cubes to represent the individual buildings and lots so that we can:

- Implement quest logic into the world without waiting for the environmental assets to be created
- Test Player movement, combat and other game mechanics in the world
- Get a sense of scale of the map, as well as **measure** the needed scales for each building we plan to create assets for in the future.

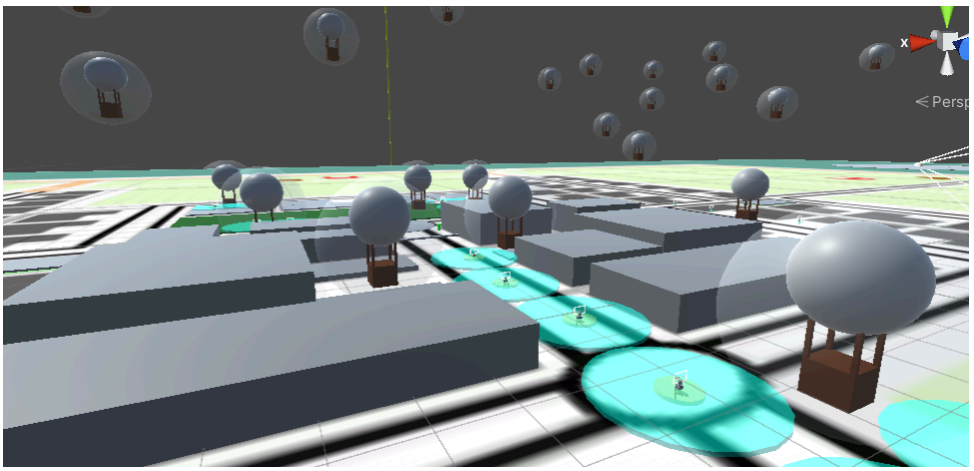


Figure 5 Grey Boxed Scene (main town area)

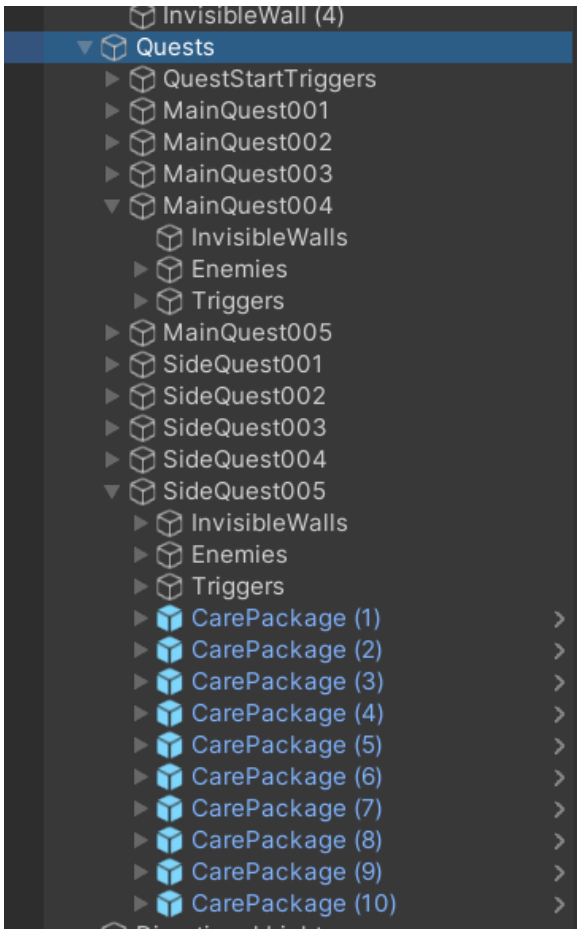


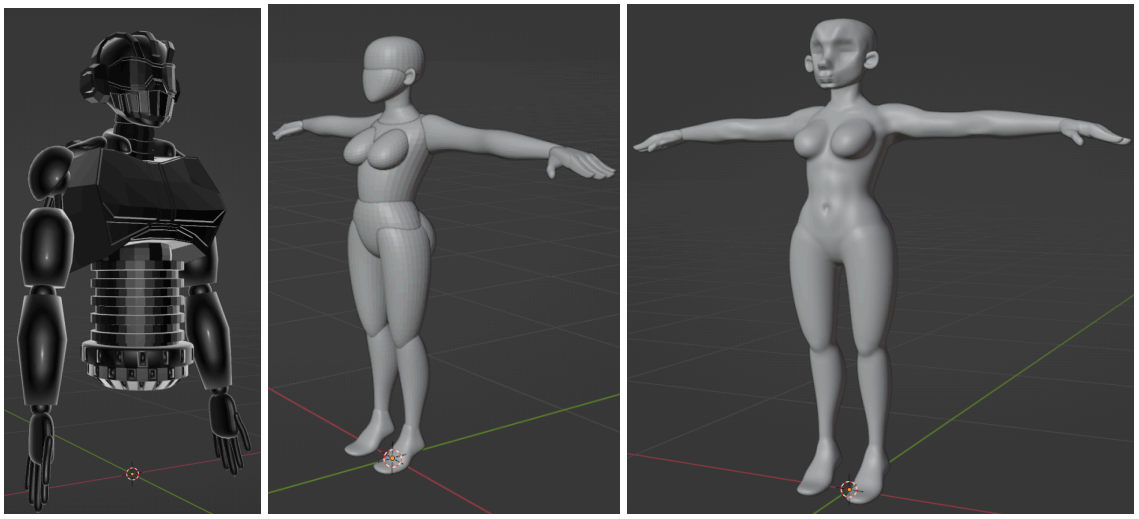
Figure 6: Inspector view of Quest GameObjects

In terms of the narrative, we have finished writing on **all** of the main quests and **all** of the side quests in the game.

All of these quests that we have finished writing, are implemented within Unity, in a prototype “grey-boxed” state. This includes all of the main story line (5 quests) and the 5 side quests we planned at the start (we might add more side quests later on if we have time).

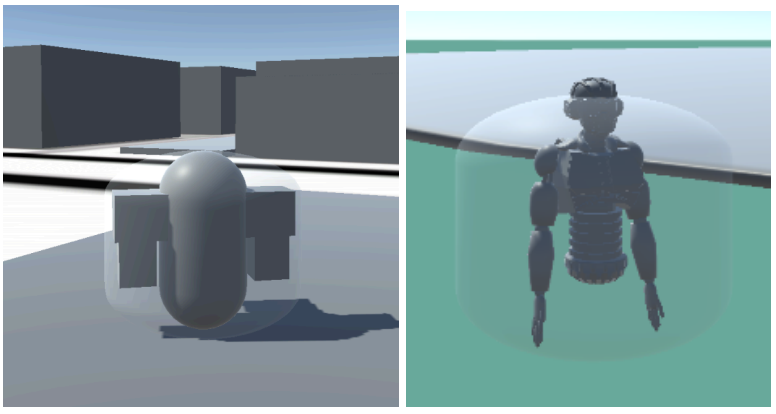
The game world, as well as most of the characters, are still without their final assets, textures, animations, etc. However, **the basics of the game, i.e. the base mechanics and the quest logic with temporary gameobject, are all implemented for *every* quest.** The next course of action is just to slot the final visual and audio assets into the relevant objects, prefabs and positions, in addition to polishing the existing mechanics/quests.

Further work has been done on the character models. 808's shape is complete, and we only need to create a variety of textures for 808 as well as the other robot characters in the game (who will be sharing the same model as 808, just differing in texture). The Kate character's body-shape has been sculpted and this high-poly sculpt will be used in the cutscene animations (that will be made within Blender). As soon as it is ready, a low-poly 'decimated' version of the Kate model will be imported, with a walking animation, into Unity for use in gameplay sections.



Figures 7, 8 & 9: Blender view of 808 and Kate's 3D models (in two various stages), respectively

At CRIT 1, we had implemented player movement and the third person camera controls. Now, there are basic prototypes of the combat mechanic, the flying mechanic, the quest logic, enemy AI (basic NavMesh Agents and projectile firing) and a basic save-load system that keeps track of what quests the players have completed (between different play sessions). The 3D model of the robots have been implemented into the player and enemy prefabs as well - so that we can see how the characters look in the world, and make sure performance isn't significantly impacted (during our tests, it wasn't). Adding animations and further 3D assets is the next step. For further details, please refer to our WIP documentation.



Figures 10 and 11: Images of Player character, 808, and its changing visuals throughout development

2. Original Plan for the CRIT 2 and how it compares to our actual progress thus far

Upon discussing our feedback from Crit 1 along with a general plan of what our goals are for Crit 2, we agreed to focus on the following elements:

- To have the music system up and running with two or three packs of the original music tracks
- Have the player character, 808, and enemies created (behaviour, visuals and limited animation) and have the character Kate created (behaviour, visuals)
- Completed Narrative document and have most of the main quests created (in terms of greyboxing and quest logic with code) within a prototype Unity scene.

Our main goal was to be able to test out the music system, and like mentioned above our test went well with temporary music files. The majority of the game's score still has to be composed, but it can simply be dragged-and-dropped into the Audio Manager inspector. The progress on music composition is not as far as planned and that will be discussed later in the next section.

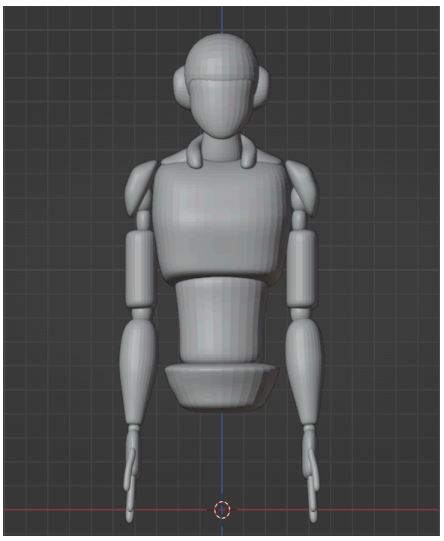
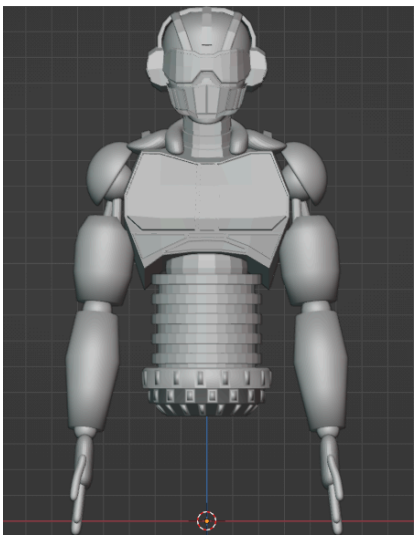
We first completed the narrative document in order to structure the main quests of the game as well as the cut scenes that will be implemented between quests. We worked on cleaning and clarifying the main themes of the game and implemented them into the script and dialogue for the main and side quests. We now have a completed Narrative Document that is used to aid us in the overall pacing and progression of the game as well as a guideline for how far we are from our finished product. In terms of actually creating the quests in Unity, the coding is done for **ALL** of the main quests (*according to the planned schedule*) as well as **ALL** of the side quests (*ahead of our planned schedule*). Since the map has been greyboxed, we were able to implement this code to create prototype versions of all of these quests. They obviously still need proper 3D assets in the game world, animations and sounds for the characters and animated cutscenes - but that was always the plan for the later half of the project timeline.

We wanted to have our main character "808" created and rigged before crit two as we can then use the model in the game as well as for the enemies due to the fact that they are the same design. This would allow us to monitor the readability of the character in game as well as to observe the overall scale and movement. We recently imported 808 into Unity and with adjusting the NavMesh, 808 works as intended as well as the enemies. 808 is in the process of being rigged and textured to move onto the next phase which is animation. The character creation of Kate was another goal in order to have all of our characters designed before Crit 2 in order for the focus to be primarily on texturing and rigging. Kate is currently in the retopologizing, sculpting and rigging phases. As a human character, the curves and details on this character are a lot harder to adjust and create without using a great amount of polygons. With the overall semi-realistic style that we have chosen as well, the process of creating Kate has been a lot slower than what we initially planned. While the visuals and animation of the characters is not as far as we planned, the behaviour (i.e. AI and player input) is completely functional. It can still be improved, but it is more than adequate for this 'prototype' stage of the game.

3. Challenges faced, Problem Areas and Solutions

One of the main challenges of our process so far is using the trial version of Ableton Live. The trial version initially was not registering the trial period, and prohibited us from saving progress on songs and creating overall. This was a major issue as we wanted to create more songs to test out the system and begin completed genre packs. The issue was eventually resolved by reinstalling ableton and reactivating the trial period. Our solution to the issue persisting is to either use a premium account of a friend who has access to premium or using BandLabs, a digital music creation software similar to Ableton with less samples and effects.

The creation of 808 posed to be a challenge when the polygon count for the original blockout was over 70,000 triangles. The recommended triangles, as blender statistics use a triangle count, for a high detail character in unity is between 20,000 - 60,000. With this in mind and the blockout created without details added, we decided to restart to lower the triangle count and to provide 808 with a more geometric design. Similarly to Kate, when the initial blockout of the character was completed, before sculpting and detailing, the polygon count for the character was over 80,000 triangles. Instead of lowering this by redesigning Kate, we agreed that a higher poly version of Kate will be used only for blender to animate cutscenes and a low poly version of Kate will be used in the game.

Figures 12 & 13: Old and new model of 808, respectively

In general, there were some logic errors made during the process of coding the game, especially each quest - but that is par for the course during any coding and often didn't take more than half hour to fix (worst case scenario). The combat and flying in the game is difficult to get to feel right to a player. The current versions of these systems are fine, but we hope to get feedback from playtest and tweak these systems over the course of the second half of the project.

“Of course, most of these mechanics will be improved and polished up before CRIT 3 and the final submission, but I am happy with our progress so far with the actual Unity Project at this point of the project” - *Jean-Francois Retief*.

“808 is currently in the rigging phase and Kate is in the sculpting phase. The music score is currently being worked on as well which is allowing us to gather a general understanding of the game’s progress overall. I’m quite pleased with the way the characters have turned out so far and I’m looking forward to completing them.” - Malakai Braam.

4. Changes to Project

There weren't many changes made to our plan for this project. They were mostly in response to feedback from other students at Wits and testing done inhouse, as well as a request from our supervisor.

Recording Data: When and to what the player changes the music options

It was requested that we implement a system that keeps track of the player’s music choices throughout their play session(s). This system will be discussed in the next section.

Restructuring 808

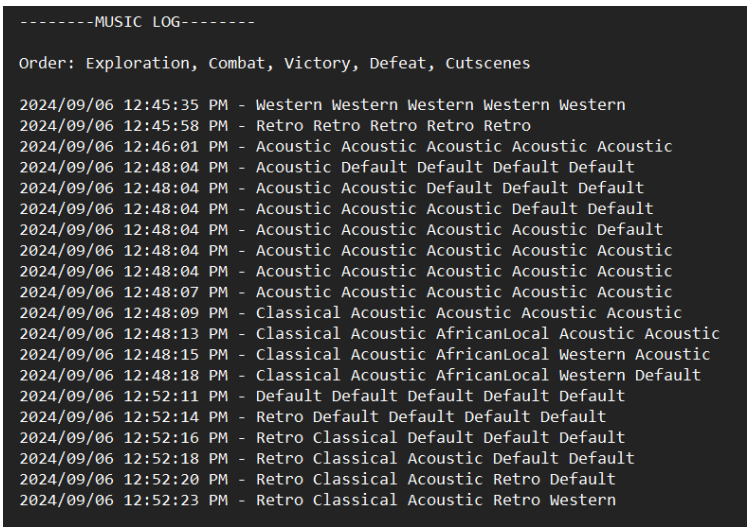
As mentioned above, 808’s 3D model was redone. However, due the many flat surfaces on 808’s new design, a lower poly count was easy to obtain with minimal loss of detail.

Creating two versions of Kate (Low poly and high poly)

In order to have the game run efficiently, we aim to keep all characters beneath a certain triangle-limit. Thus we decided to make 2 versions of Kate, a lower poly version for use in Unity (during gameplay) and a high poly version to be used in Blender while animating the cutscenes.

5. Additional Pertinent Information

We are working on a system to export data, pertaining to the player's choices of music and when they switch, and how often. We are investigating multiple ways of doing so, but for now, the easiest way to do this is to create a text file in the game build directory (in the StreamingAssets folder) which will record changes made during runtime. The current version works both in editor runtime as well as build runtime.



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--------MUSIC LOG--------

Order: Exploration, Combat, Victory, Defeat, Cutscenes

2024/09/06 12:45:35 PM - Western Western Western Western Western
2024/09/06 12:45:58 PM - Retro Retro Retro Retro Retro
2024/09/06 12:46:01 PM - Acoustic Acoustic Acoustic Acoustic Acoustic
2024/09/06 12:48:04 PM - Acoustic Default Default Default Default
2024/09/06 12:48:04 PM - Acoustic Acoustic Default Default Default
2024/09/06 12:48:04 PM - Acoustic Acoustic Acoustic Default Default
2024/09/06 12:48:04 PM - Acoustic Acoustic Acoustic Acoustic Default
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2024/09/06 12:48:04 PM - Acoustic Acoustic Acoustic Acoustic Acoustic
2024/09/06 12:48:07 PM - Acoustic Acoustic Acoustic Acoustic Acoustic
2024/09/06 12:48:09 PM - Classical Acoustic Acoustic Acoustic Acoustic
2024/09/06 12:48:13 PM - Classical Acoustic AfricanLocal Acoustic Acoustic
2024/09/06 12:48:15 PM - Classical Acoustic AfricanLocal Western Acoustic
2024/09/06 12:48:18 PM - Classical Acoustic AfricanLocal Western Default
2024/09/06 12:52:11 PM - Default Default Default Default Default
2024/09/06 12:52:14 PM - Retro Default Default Default Default
2024/09/06 12:52:16 PM - Retro Classical Default Default Default
2024/09/06 12:52:18 PM - Retro Classical Acoustic Default Default
2024/09/06 12:52:20 PM - Retro Classical Acoustic Retro Default
2024/09/06 12:52:23 PM - Retro Classical Acoustic Retro Western
```

Figure 14: Image of MusicData.txt in the following file path directory: DADP4MusicGame_Build002\DAProject_MusicGame_Data\StreamingAssets\Music_Logs

Malakai will be composing most of the music genres in the game, with exception to the tracks under the "AI-generated" grouping. But **we'd like to draw your attention to the genre "African/Local Music" you mentioned in Figure 1 in your '*Video game Design: The Effect of Music Agency on the Gaming Experience of Game players*' document. We would very much like to include a genre such as this, since it will give a unique option that will be appreciated by local players and can have an interesting effect on the data, however we think it might be slightly problematic for *us* to be the original composers of these specific tracks.** Dr Randle, we would like to ask you whether we can outsource these 7 tracks to someone else in Wits? Additionally do you know anyone that would be interested in creating a few tracks for our game?

Additionally, we also put the questions you gave us into a *Google Form*, the link of which we will give each playtester that plays the game. The appropriate link follows: https://docs.google.com/forms/d/e/1FAIpQLSctGJIW7QkIQN2mcbqTMDosj1LezFMELWjrlmZWrX9wKJT7qw/viewform?usp=sf_link

6. General Reflections, Conclusions and Plan for the future

Our main reflections and conclusions on the period between CRIT 1 and CRIT 2, would be that we are mostly satisfied with our current progress. For each aspect that feels 'behind schedule' there is another aspect that is way further along than we expected it to be.

Our set back with Ableton has been our main concern and will be our main focus for CRIT3 as we are aiming to have all the original scores completed in order to test and receive feedback from other players and our supervisor. The music system is at the forefront of our design goals and philosophy which is why we are placing the utmost importance on it.

"Working on a game in the 'open-world' genre has been a new and exhibiting experience. Up until this point, I've only worked on experiences that follow a linear sequence of events. My previous experience in this linear design made the creation of the actual quest and their logic very easy for me - since each quest (in isolation) is a small linear experience. However, with the inclusion of an open area to explore and side quests to do in any order, it brings a new and different philosophy of design - namely regarding player choice. While making this game, I've realised that open world design is one of the easiest ways (from a game-logic point of view) to give players meaningful choices. Other games that feature branching narratives, or many different ways to complete an objective feature the best examples of player choice, however they are incredibly difficult to design. There are other games, such as Marvel's Spider-Man, Star Wars: Outlaws, Assassin's Creed 2, etc., that feature linear narratives and quests, but they still left me feeling like I made meaningful choices - and it was one of my main inspirations for suggesting the open world genre of game. All in all, this project just reaffirmed why I enjoy game design, coding and just cobbling together a cohesive play experience, but now I will have time to refine that experience up until CRIT 2 and the final submission." - *Jean-Francois Retief*

"Creating Music has always been a passion of mine and being able to now focus on composing original tracks to use in a game that will be written, designed and created entirely by myself and JF, is an amazing experience. With Ableton now working, and the process of creation starting to follow suit, my excitement for this project is growing. Through my character design process, I've been able to learn a lot about the process overall and the various stages of creation. One of the main elements that I've learnt through character creation is the beauty of minimalism. By redesigning 808 in a more geometric manner, I have been able to learn so much about rigging and detailing low poly and geometric, static shapes. I'm eager to finish designing Kate and to focus my attention, in the next phase, solely on composing." - *Malakai Braam*

Our **plan for the future**, specifically before CRIT 3, is the following (in order of importance):

- Composing remaining original score (to implement in Music System)
- Playtesting and surveying
- Creating 3D assets and textures such as:
    - Buildings
    - Characters (same model for all robots, but different textures)
    - Interiors (Mansion, Theatre)
    - Trees assets and Grass/Terrain Textures
- Animations (for in-game actions, such as moving and attacking)
- General polishing of existing game mechanics and code
- Cutscenes*

All of the above will be “slotted” into the game (within Unity) when completed in Blender, Krita or Ableton.

*Since the animation of the cutscenes will likely take up most of the time for Malakai, these will be implemented last, and most likely **after CRIT 3**, however we might try to get one in there for demonstrative purposes.

No references were used in the making of this document.
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