

IM3080 Design and Innovation Project (AY2023/24 Semester 1)

Individual Report

Name: Frewin Suriono

Group No: 6

Project Title: ARvatar

Contributions to the Project (1 page)

- Brainstormed with groupmates by pitching in ideas for the innovation part of the project.
- Discussed how the avatar customization and AR feature can be done as well as how the flow should go.
- Worked together with Yunxuan and Yuyang to create 3D assets by splitting works.
- Learned how to use Blender to design and create a 3D character, to be used as avatar for the app.



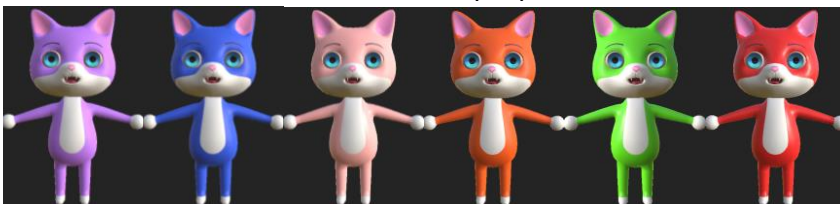
- Learned how to setup the rig of the character so that the character can be animated.



- Learnt to animate in Blender and created 4 animations: Idle, Talking, Excited and Crying.
- Created basic facial expressions, where the eyes and mouth can open and close. There is a 'happy' version of closed eyes as well.



- Learned to use Adobe Substance Painter and used it to create 7 different color schemes for the character, for customization purposes.



- Helped others with some 3D assets problems, as well as touching up some of the 3D assets in Unity.

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to at least two of the points below:

- (a) Engineering knowledge
- (b) Problem Analysis
- (c) Investigation
- (d) Design/development of Solutions
- (e) Modern Tool Usage
- (f) The Engineer and Society
- (g) Environment and Sustainability
- (h) Ethics
- (i) Individual and Team Work
- (j) Communication
- (k) Project Management and Finance
- (l) Lifelong Learning

Point 1: Design/development of Solutions

I have some 3D modelling experience but this was my first time to design and create a 3D character. To make it worse, it is on a software that I am completely unfamiliar as well. There were a lot of YouTube videos about how to use Blender, however, they were not exactly what I am looking for. Most of the videos are just timelapse of how they created the 3D models and fast-forwarded with at least x4 speed. I managed to find some good tutorials to learn how to use the software, but unfortunately most of the time they are unrelated to what I was trying to do. So what I did was applying the general 3D knowledge I already had while learning the commands. This is because the commands in Blender are different from the 3D software I previously used. Then I experimented with the commands to try and create what I want. It was challenging and tedious, as it was like me trying to force the results as well as manually connecting the vertices one by one to create a 3D shape. The results in the early weeks weren't that great. However, as weeks went by, I watched more and more tutorial videos, and I get to be more comfortable and knowledgeable about the software, I begin to see the improvement of the design on my character. I am sure this is apparent from the screenshots above. With the 3D model done, only the textures are left to bring life to this character. I used Substance Painter and the software is pretty easy to learn and use, I just simply used brushes to paint the character. Lastly, my takeaway for this point would be to not give up and rise to the challenge. It will be difficult at first, but progress and improvements can be easily seen.

Point 2: Individual and Team Work

Through this project experience, I really felt the importance of teamwork. Everyone chose the tasks they wanted to do and worked on it. Whenever someone had difficulties or encountered issues, they would raise them in the group chat and we would discuss together to handle the problem. Everyone would offer what they think could possibly solve the problem or look up for solutions, so we always had multiple ways to try to solve the problem and through that our mind start to switch into problem solving mode. This solved most of the problems we had so far in this project. In the same way, as I had 3D modelling and Unity experience, I helped my groupmates a lot of times as well to fix bugs and errors in 3D modelling as well as 3D related stuffs in Unity.