Faculty of Computing and Information Technology

BACS2173
Graphics Programming

Personal Appraisal (September 2020)

Programme   :   RSF2

Tutorial Group   :   G4

Tutor Name   :   Ms. Chai Foong Theng

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1.0 Learning Outcome

From this assignment, I have learnt the ways to apply the geometric primitive to create or draw 2D and 3D objects with code coordination. During the lecture and practical classes, I learnt how to apply transformation, rotation and scaling on object in order to make my object drawn at origin reusable anywhere. Besides that, thanks to Miss Chai, I managed to learnt the ways to apply techniques to enhance the looking of the robot such as lighting and texture on the objects.

We started the project from using the Adobe Photoshop 2020 to design, develop and coordinate a complete robot with our imagination. Then, I sketch the robot on the paper and construct a coordination table for developing the robot easily in OpenGL coding. Last but not least, I realized the time management is important in completing each scheduled task efficiently.

2.0 Problem face and solution

As I approach this assignment, I found that the robot couldn't be drawn in the OpenGL coding easily without any coordinates such as x, y and z. Then, I overcome this problem by plan a completed coordination of each coordinates on a table for the robot we are going to design. After sketching the completed 3D robot on a piece of A4 paper, I feel this will be easy for me and my teammate to code it into OpenGL.

Besides that, I found that there is so many methods required in the code and it gives me a hard time when I tried to look for the specific code. Then, I overcome this problem by grouping the varieties of methods with "region" in the coding to make them manageable. Afterwards, I can look for the method that I want easily in the code.

Furthermore, although I understand the coding structure for OpenGL, my imagination of the coordination to draw a 3D object gives me a hard time. Then, I overcome this problem by keep practicing and enhancing my imagination of 3D object by sketching coordinates on a piece of A4 paper. After that, now I managed to code a small 3D object without sketching it on the paper.

3.0 Future enhancement

From my perspective, this robot model can be enhanced by making the robot transforms into different objects such as car, truck, plane and others. For example, the transformable cars in the movie "Transformer". This is because it may work as a useful blueprint references for the people in the future, when our robot is multifunctional.

Moreover, the robot model can be enhanced by making the robot customizable. The owner of the robot can customize his robot by modifying the robot with the reusable code planned in our project. For example, color customization, texture customization, robot appearance customization, robot capabilities customization and others.

Last but not least, in the future, we can place our designed into the VR application which is virtual world to let people study for robot as reference. For example, VR chat. Then, the robot may be helpful for the people who starting to approach or learn OpenGL coding as a reference.
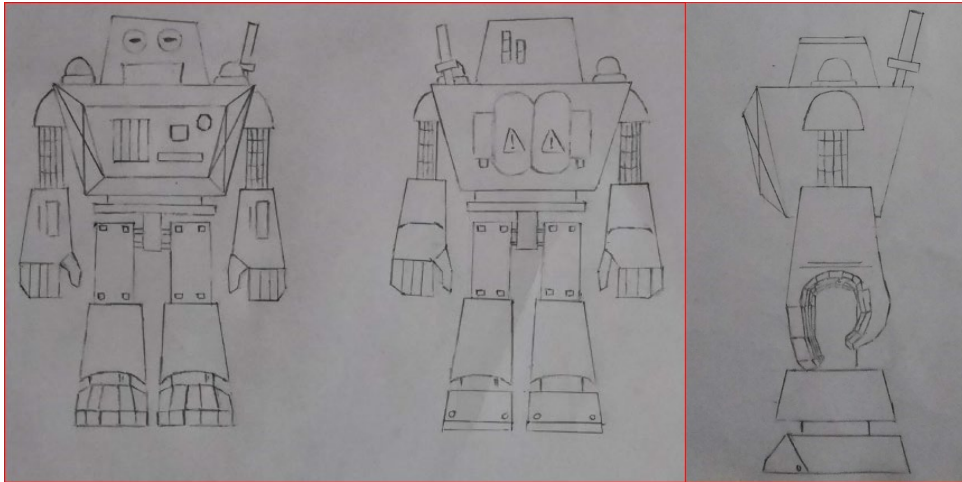
4.0 Appendixes

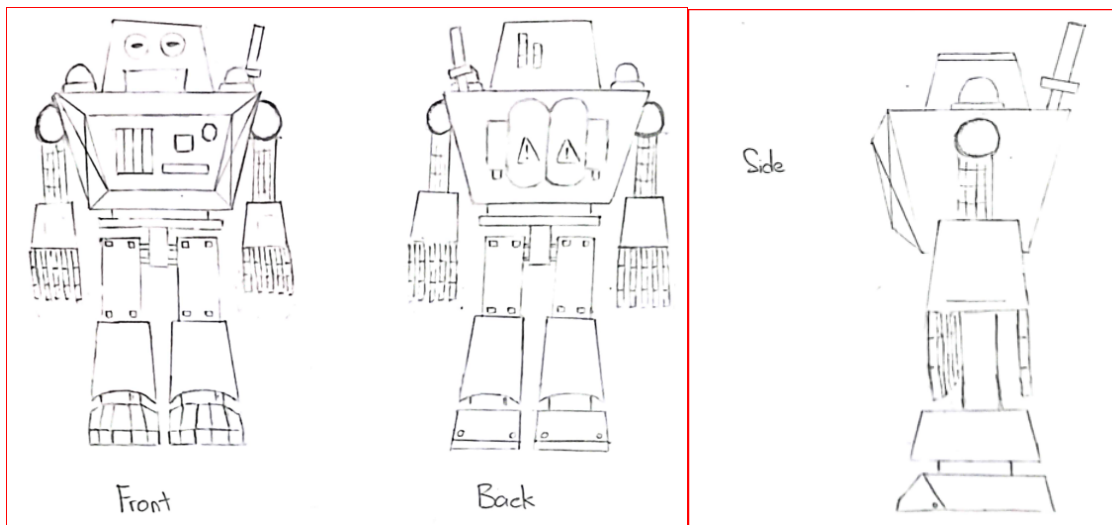**Figure 1.0 Robot Sketching Version 1.0**

Front   Back   Side
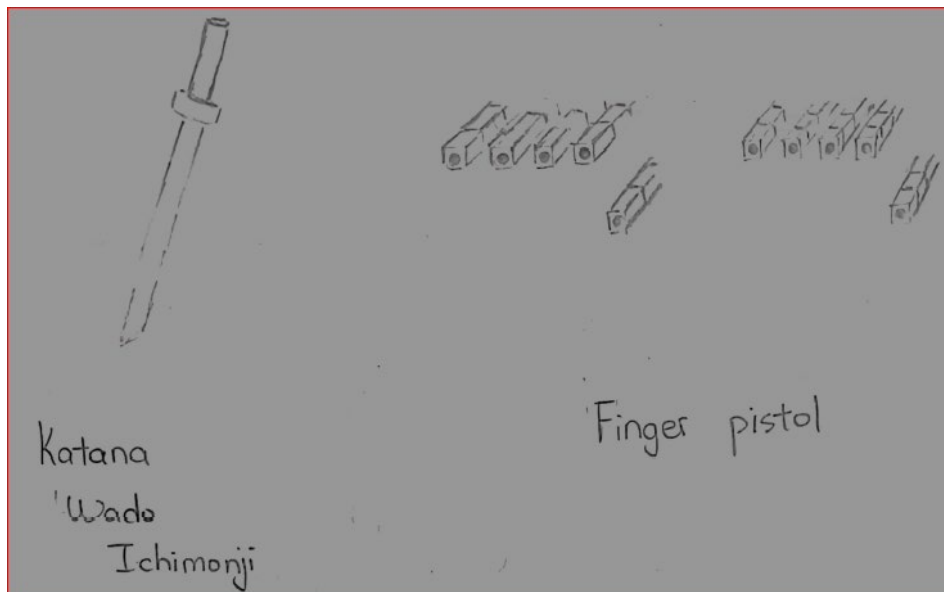
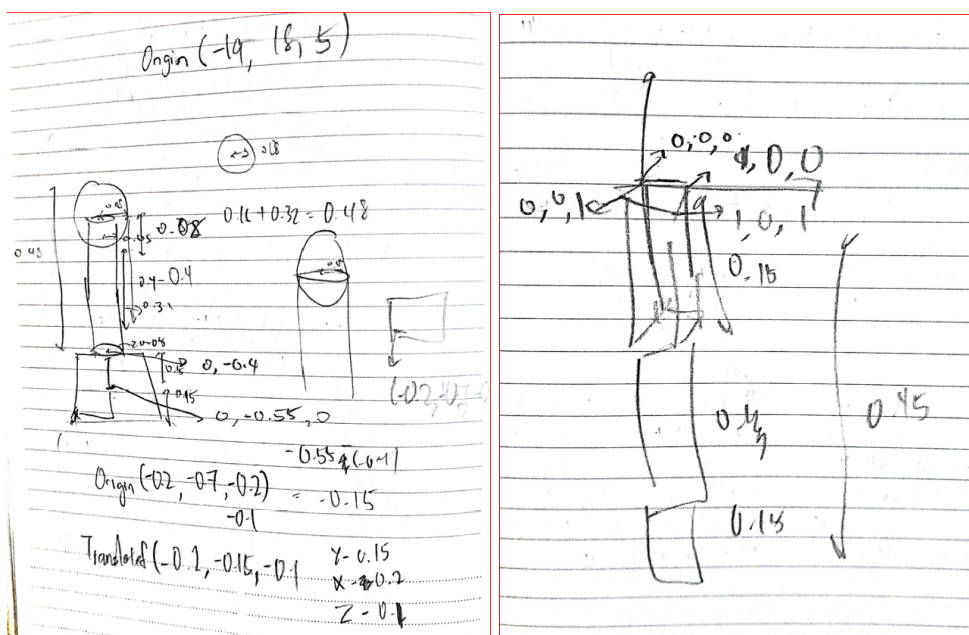**Figure 1.1 Robot Sketching Version 2.0**

Figure 1.2 Weapon of robot design Version 1.0

Figure 2.0 Rough planing and coordinating the robot