NATIONAL AUTONOMOUS
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FACULTY OF ENGINEERING

ELECTRICAL ENGINEERING

DIVISION COMPUTER
ENGINEERING COMPUTER

GRAPHICS and HUMAN-COMPUTER INTERACTION

User Manual

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1- Objective

The main objective of this user manual is to provide a clear and precise explanation to ensure that the end user does not encounter any issues during the execution of the project.

2- Introduction

Our project aims to apply the knowledge acquired in the field of computer graphics to recreate a facade and 7 selected objects. This involves modeling, texturing, lighting, animation, and implementing them using OpenGL.

To achieve this, we provide instructions explaining how to execute the project, perform each animation, and provide an explanation of the contents of the project folders.

3-Instructions

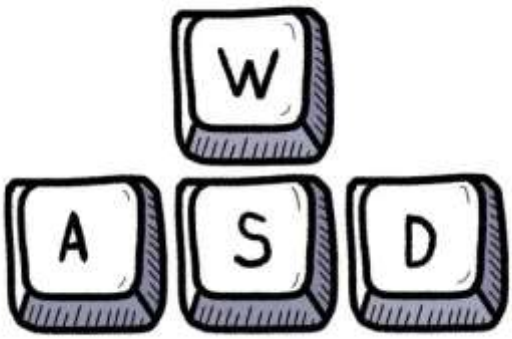
We will start with the main camera movement, which is similar to the movement in a video game. The following keys are used:

-W: Move forward.

-A: Move to the left.

-D: Move to the right.

-S: Move backward.



The mouse movements will control the camera view, allowing it to move around the execution screen to visualize the animations and observe as desired.

- If you move forward, the view will move upwards.
- If you move backward, the view will move downwards.
- If you move to the right, the view will move to the right.
- If you move to the left, the view will move to the left.

The animations created consist of 4 animations, including 3 simple animations and 1 complex animation. The instructions for executing each animation are as follows:

1. Opening and Closing the Door Animation:
    - While running the project and having the view directed towards the facade with the closed door, press the "X" key.

    - This will open the door.
    - Press the "X" key again to close the door.

    - If the door is in the process of opening or closing, pressing the "X" key will cancel the animation and return it to its initial state.

This will cause the door to close. In the case when it is opening or closing, we can cancel the animation and return it to its initial position. This means that if the door was opening and the "X" key is pressed, the door will return to its initial position. Similarly, if the door

was closing and the "X" key is pressed again, it will return to its initial position before pressing the key. This is done to make the door's movement more realistic.

Once inside the room, you will be able to see our main character. If you press the "Z" key, you will notice that the character performs a greeting animation.

Our character will perform a greeting animation, which is a cyclical animation that does not stop.

Finally, for the implementation of our simple animations, we took the idea of opening the drawer located to the right of the armchair.

This animation is triggered by pressing the "C" key.

The animation consists of opening and closing the drawer. If the "C" key is pressed for the first time, the drawer will open, revealing its interior. To close the drawer while it's open, you need to press the "C" key again, and you will see the drawer closing.

If there is a need to model more objects or generate a different skybox, these changes should be made in the "Models" and "SkyBox" folders, respectively.

When adding a new model, we suggest creating a dedicated folder for each object to ensure convenience and organization during implementation.

Regarding the SkyBox, there should be a dedicated folder where the six images representing the faces of the cube are placed. These image files should have the .tga extension, primarily for image privacy.

With these instructions, we have provided a comprehensive guide for the user. We hope that the project runs smoothly on their system and that they enjoy it without encountering any complications.

4-References

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