User Manual

1.- Introduction

This user manual is designed to provide users with a guide on how to use "The Up House: An Adventure in Altitude," a project created with OpenGL and modeled in Maya. In this interactive experience, we have recreated the Up House with precision and detail, including three animations with basic transformations and two animations with shaders.

To make the most of this experience, it is important to understand how to interact with the 3D environment and how to use the specific functions we have implemented. This manual will provide detailed instructions on installation, navigation, and exploration of the different features and animations of the Up House.

2.- System Requirements:

2.1 Hardware Requirements:

- **Processor:** Dual-core processor at 2.0 GHz or higher.
- **RAM**: 4 GB of RAM or more.
- **Graphics card:** OpenGL 3.3 compatible graphics card or higher.
- **Storage:** 1 GB of available hard disk space.

2.2 Software Requirements:

- **Operating system:** Windows 7/8/10, macOS 10.12 or higher, or a compatible Linux distribution.
- **Additional software:** OpenGL 3.3 compatible, Maya for model creation and editing, and a compatible 3D file viewer.
- **Graphics card:** OpenGL 3.3 compatible graphics card or higher.

Quick Start:

Camera Movements:

- **Pointer Tracking:** The camera's position will follow the movement of the mouse pointer on the screen. Move the mouse to change the camera direction and explore the environment.
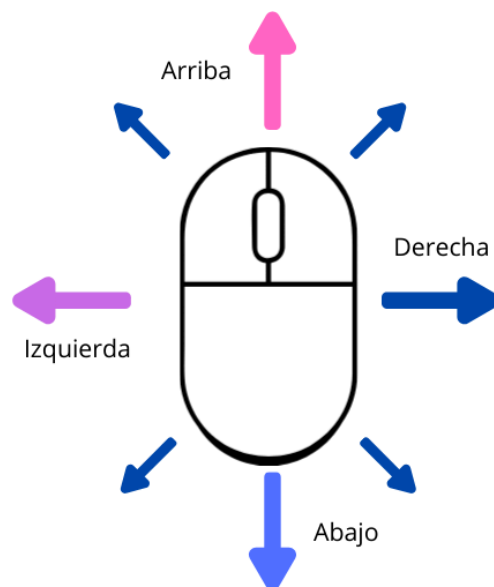

Image 1: Representation of mouse movements corresponding to camera movements.

Movements in Space:

- **Move Forward:** Press the 'W' key to move forward in the direction the camera is facing.
- **Move Backward:** Press the 'S' key to move backward in the opposite direction the camera is facing.
- **Move Left:** Press the 'A' key to move left relative to the direction the camera is facing.

- **Move Right:** Press the 'D' key to move right relative to the direction the camera is facing.
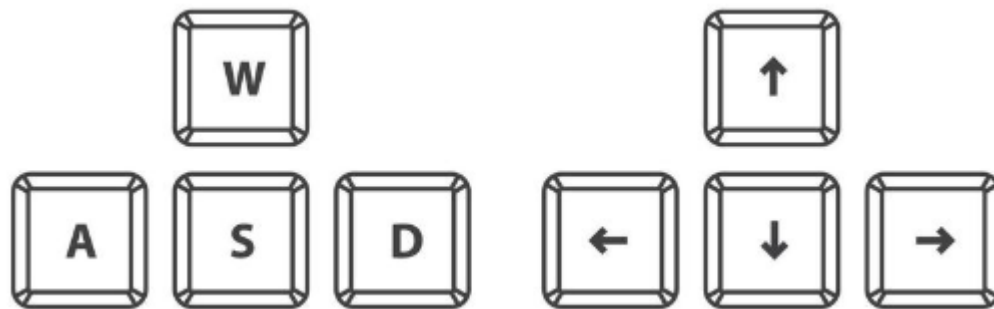

Image 2: Left side shows the keys assigned for movement in space, and the right side shows their corresponding expected movement.

Configuration:

To configure and use the project, follow these instructions:

1.- Go to the GitHub repository at the following link: https://github.com/EliasEduardo07/318023179_GPO13_PROYECTOFINAL2024-2
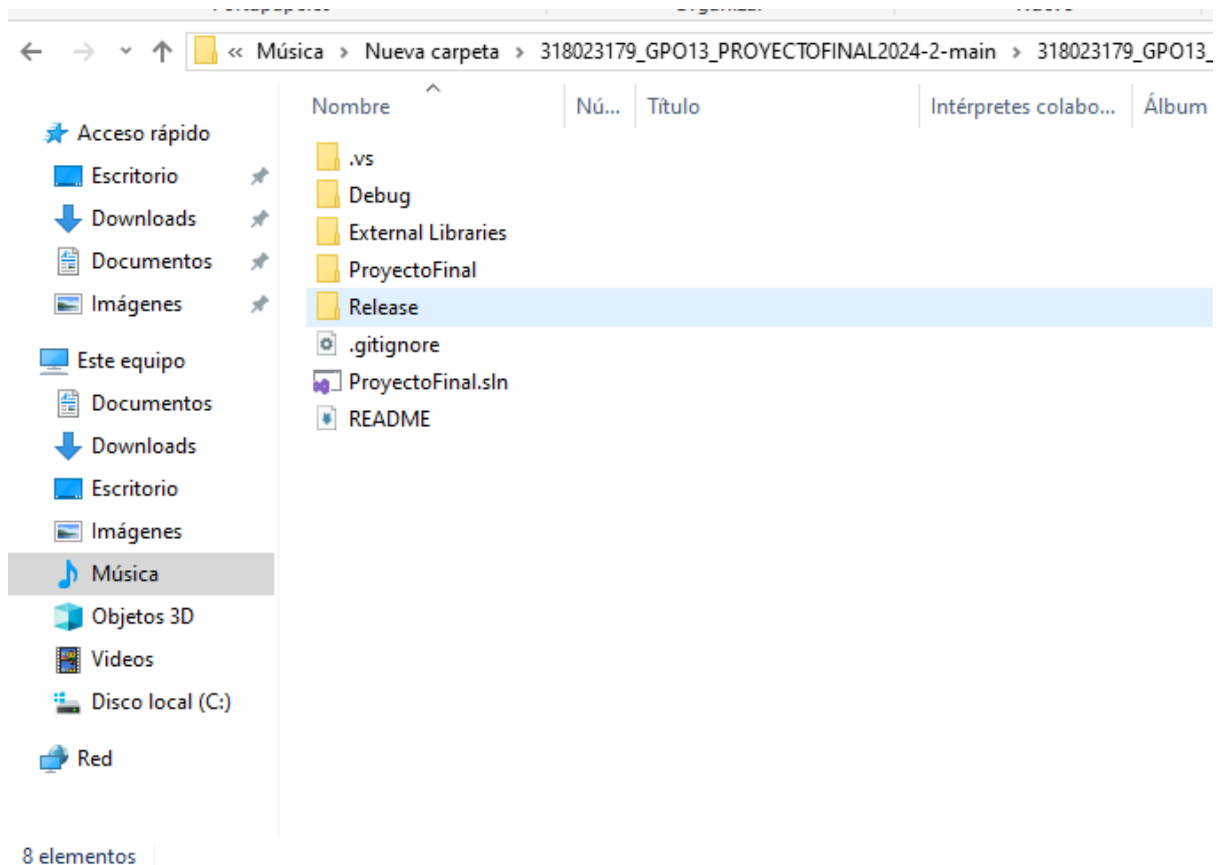
2.- Subsequently, a view like the one on the following screen will appear; you will need to click on download ZIP.
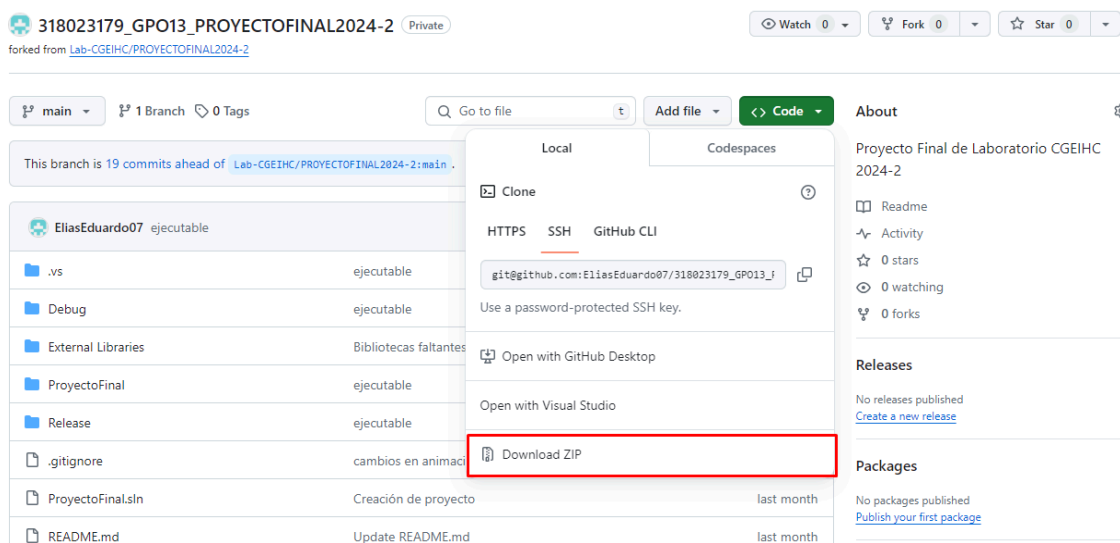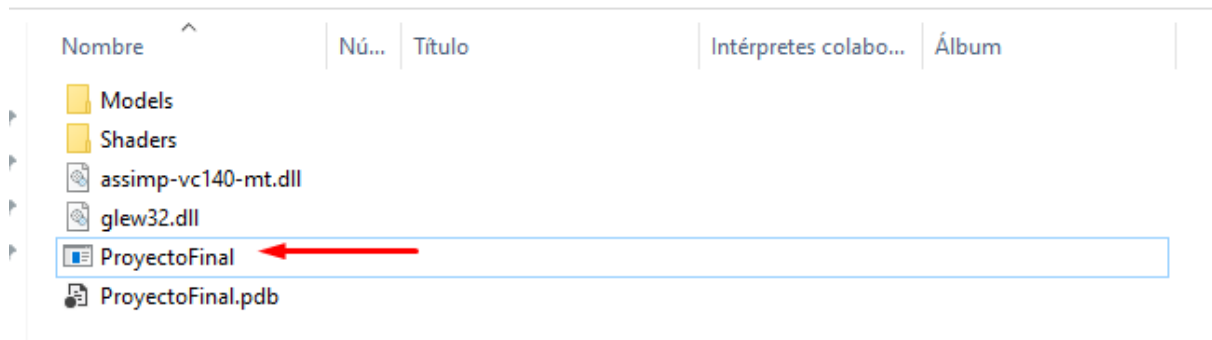
3.- Once downloaded, locate and extract it as shown in the following image:
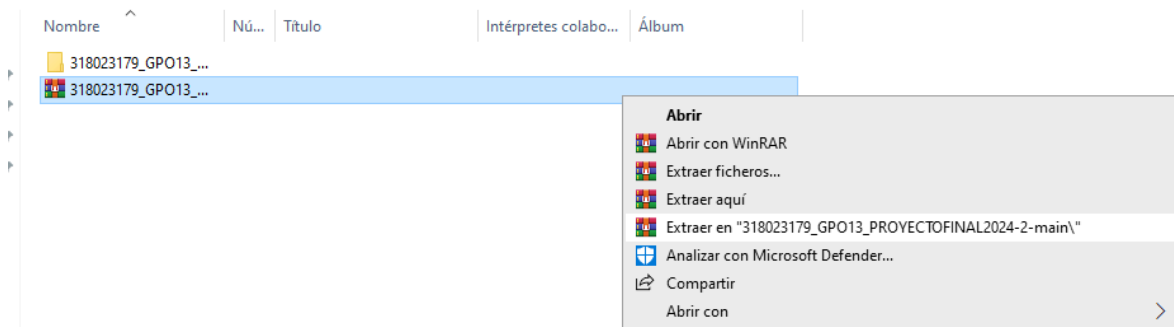
4.- Then, enter the folder, go to the Release folder:

5.- Inside the Release folder, you will see different files; you will need to run the one called Final Project.

6.- Once executed, it may take a few seconds or minutes depending on your hardware's characteristics, and you will see the project ready. You can move within it using the quick start instructions.
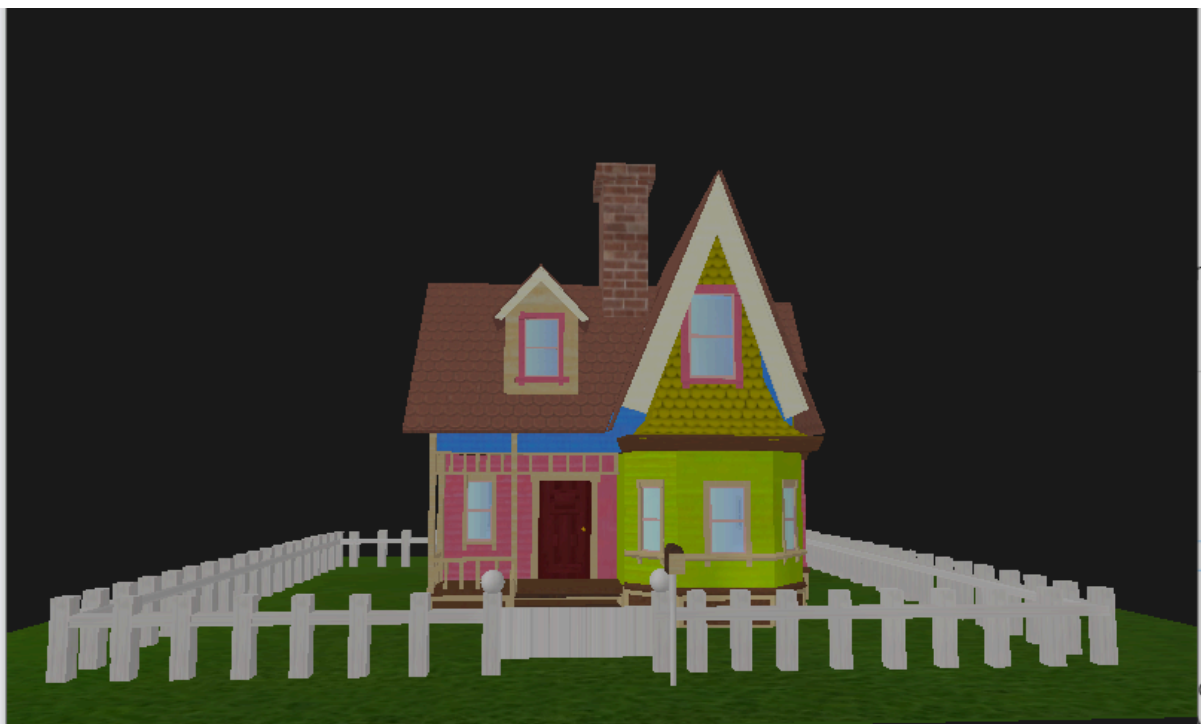

Image 3: Overview of the project upon starting its execution.

Basic Usage:

To begin exploring "The Up House: An Adventure in Altitude," follow these simple steps:

- **Project Start:** Run the application to start the experience. Once started, you will find yourself inside the Up House, ready to explore.
- **Movement and Navigation:** Use the mouse to move the camera and explore the environment. The camera will follow the pointer's position, allowing you to look around as if you were inside the house.
- **Interaction with Objects:** The house has interaction with 5 objects, which are shown below.

3.1 Main Door Movement: The door can be opened or closed by pressing the "Space" key located at the bottom of your keyboard.

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Image 4: View when pressing the space key to open the door.

3.2 Lamp Activation: You can turn the light in the main room on or off by pressing the 'Z' key, which will allow you to better visualize the objects inside the room.

Image 5: Main room with the light on.

Image 6: Main room with the light off.

3.3 Furniture Interaction: You can open Carl's memory drawer to see a photo inside it by pressing the 'X' key to open and close it.
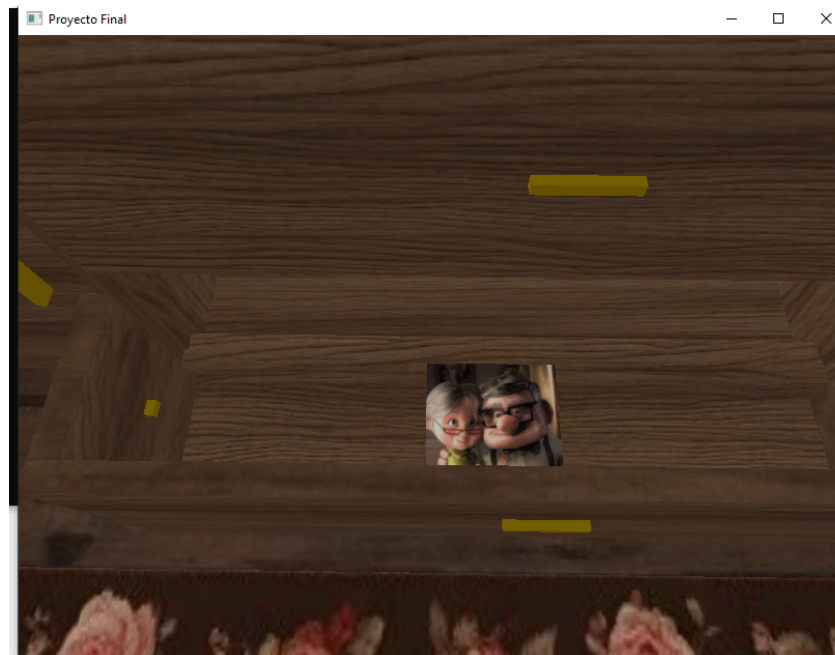

Image 7: Carl's memory drawer open when pressing the X key.

Image 8: Furniture containing the interaction with the drawer.

3.4 Balloon Interaction: You can see the recreation of the balloons flying over the house by pressing the 'C' key.
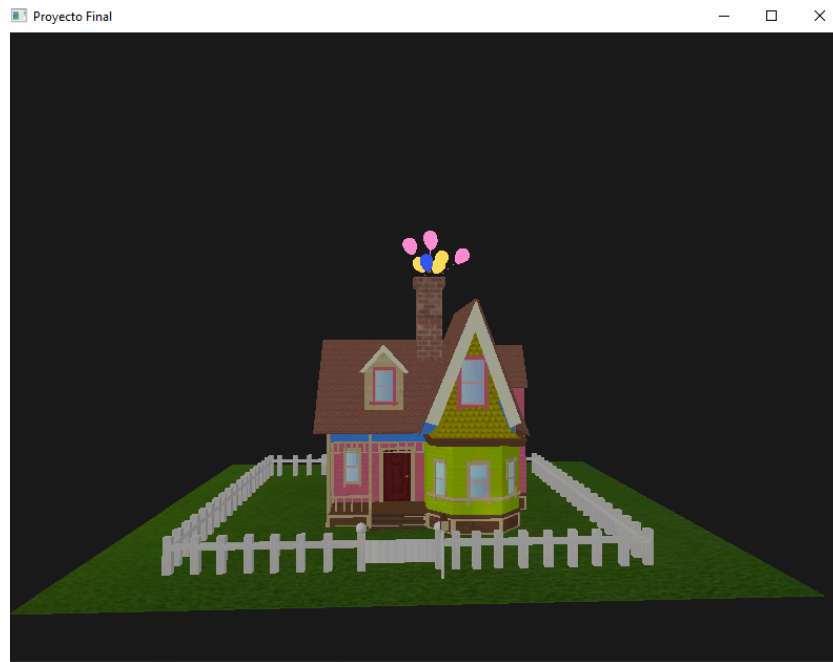

Image 9: View of the Up House with floating balloons when pressing the C key.

3.5 Animations and Special Effects: During exploration inside the Up House, you may encounter a balloon floating tied to the vase on the left side of the room; no action is necessary to visualize the effect.
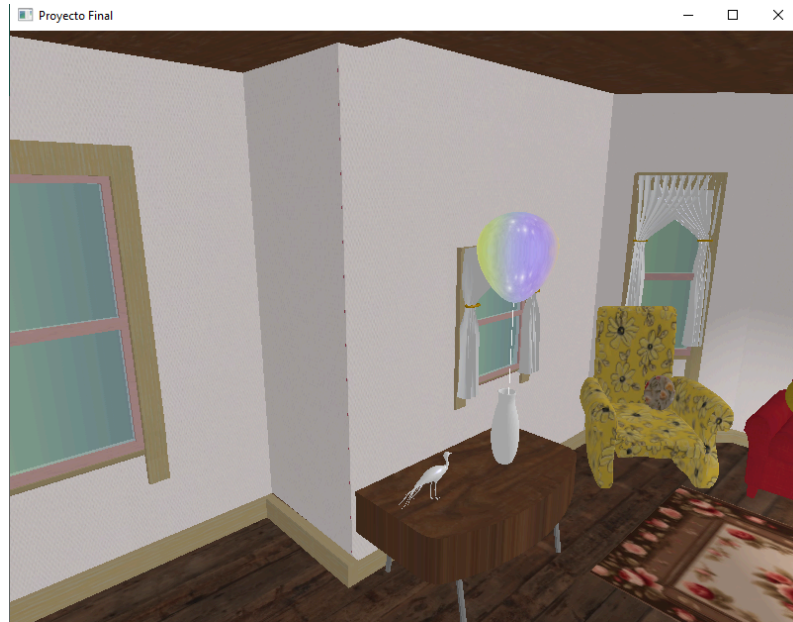

Image 10: Floating balloon on the left side of the room.

4. Space Navigation: Use the 'W', 'A', 'S', and 'D' keys to move through space. 'W' will allow you to move forward, 'S' backward, 'A' left, and 'D' right. Combine these controls with mouse movement for a smoother navigation experience.

Conclusions

In "The Up House: An Adventure in Altitude," we have created a unique interactive experience that allows users to explore, learn, and enjoy the iconic house from the movie "Up: An Adventure in Altitude" in a completely new way. Throughout this manual, we have provided detailed instructions on how to install, navigate, and enjoy this experience, and we have highlighted some of the key features we have incorporated.

At the end of this guide, we hope you have been able to appreciate the attention to detail and effort we have put into faithfully recreating the atmosphere and charm of the Up House.