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COMPUTATIONAL ENGINEERING
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INTERACTION



User Manual

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User Manual

Introduction

Welcome to the Final Project's User Manual in the Pinball theme. This manual is designed to give you a complete and easy walkthrough for understanding, configuring and using our Pinball. Our objective is to make sure you take full advantage of the capacities and characteristics that our Pinball has to offer, giving you an optimal and satisfactory experience.

In the following sections, you'll find detailed information, from initial installation and basic configuration to advanced advice and troubleshooting. The manual is structured in a way to make it accessible to all kinds of users by giving step-by-step instructions.

General Description

This final project was built in the C++ language, having implemented OpenGL. It has the objective of creating an interactive Pinball board, implementing varying themes like *The Grim Adventures of Billy & Mandy*, *Star Wars* and *Kirby*.

Software Requirements

To be able to run this file, it is recommended that the equipment has the following specs.:

- Windows Operating System.
- C language compiler.
- 10GB of Free Storage.
- 16 GB minimum of RAM (if no GPU is used).
- 8 GB minimum of RAM (if a GPU is used).

General Functioning Guide

As the final project has a 'Pinball' theme, in order to use this pinball machine, you must first insert a coin.

- **Coin:**
 - Use the [I] key
- **Flippers:**
 - Right Flipper:
Use the [X] key.
 - Left Flipper:
Use the [Z] key.
 - Top-Left Flipper:
Use the [C] key.
- **Lever:**

Right Click	Left Click
Use the right mouse click to load the spring to launch the marble.	<p>It is possible not to load the spring to the maximum, it is required that it be loaded at least with a value of 1.0 to launch. If the user wishes, they can “make the animation faster with this option” Press this left click once the spring has been loaded to a minimum.</p> <p>It does NOT work if the spring has not been loaded.</p>

- **Cameras**

- **Camera (Full table view):**

- Use the number 1 key to switch to the camera (Full dashboard view)

- **Camera(Avatar)**

- Use the number 2 key to switch to the camera (Avatar)
 - It can be moved with the usual movement keys:

- A** = Movement to the left

- W** = Forward motion

- S** = Backward movement

- D** = Movement to the right

- The mouse can be used to guide the avatar.

- **Camera(Marble)**

- Use the number 3 key to switch to the camera (Full dashboard view)

- **Lights**

- Flashlight: Use the [L] key to activate or deactivate the selected light
 - Light Selector: Use the [M] key to modify the light that turns on, this to alternate between the avatar light or the spotlight light. Complement with the Flashlight to know which light you are activating.
 - Flipper Lighting: Use the [F] key to activate or deactivate the Flipper lighting.

Installation and Complete Initial Configuration from .EXE file.

If you wish to only execute the file, you have to follow these steps:

★ *Download the .zip file*

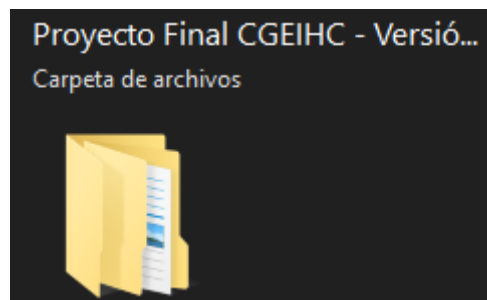


★ *Extract the files*

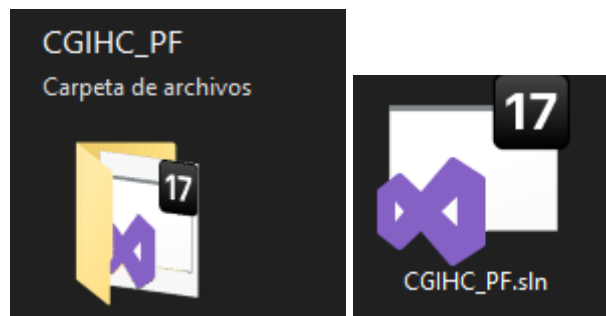
Once you have downloaded the file, using your preferred software, extract all the documents from its interior. Once it is fully downloaded, you can proceed to the next step.

★ *Access the .exe file*

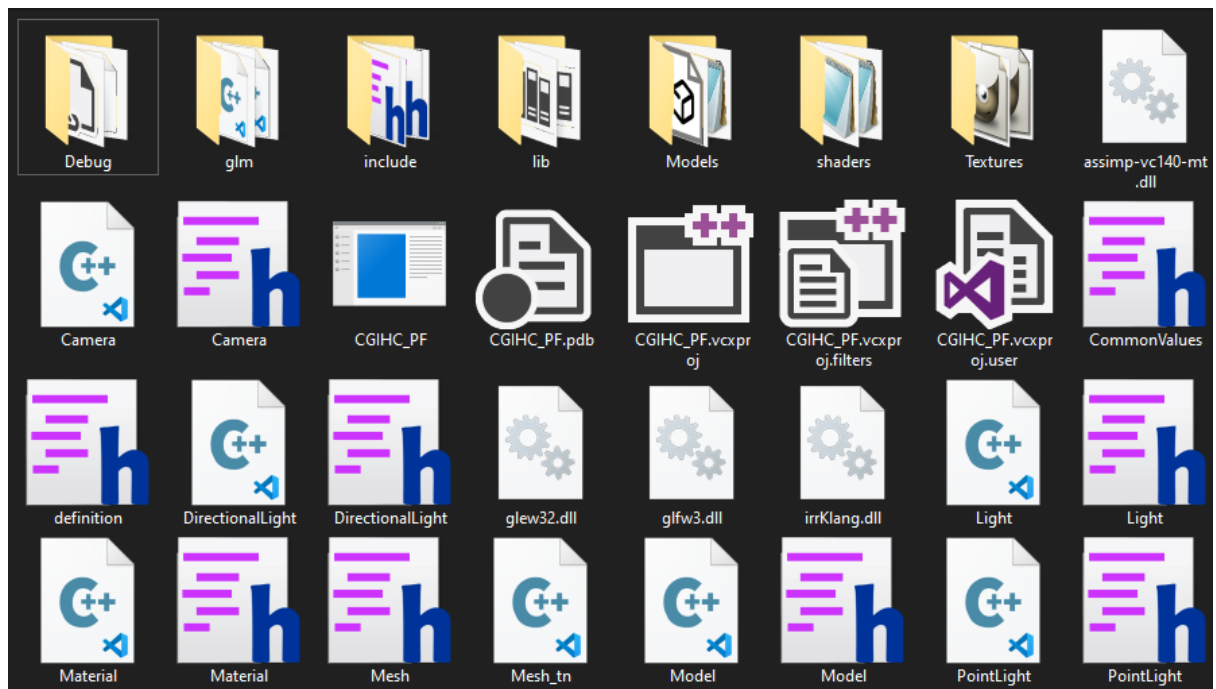
Access the folder:



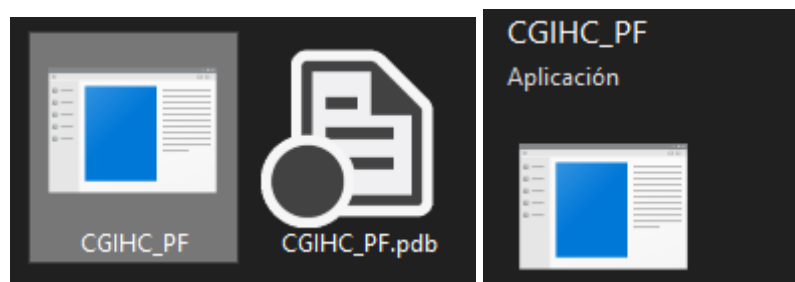
Select the carpet:



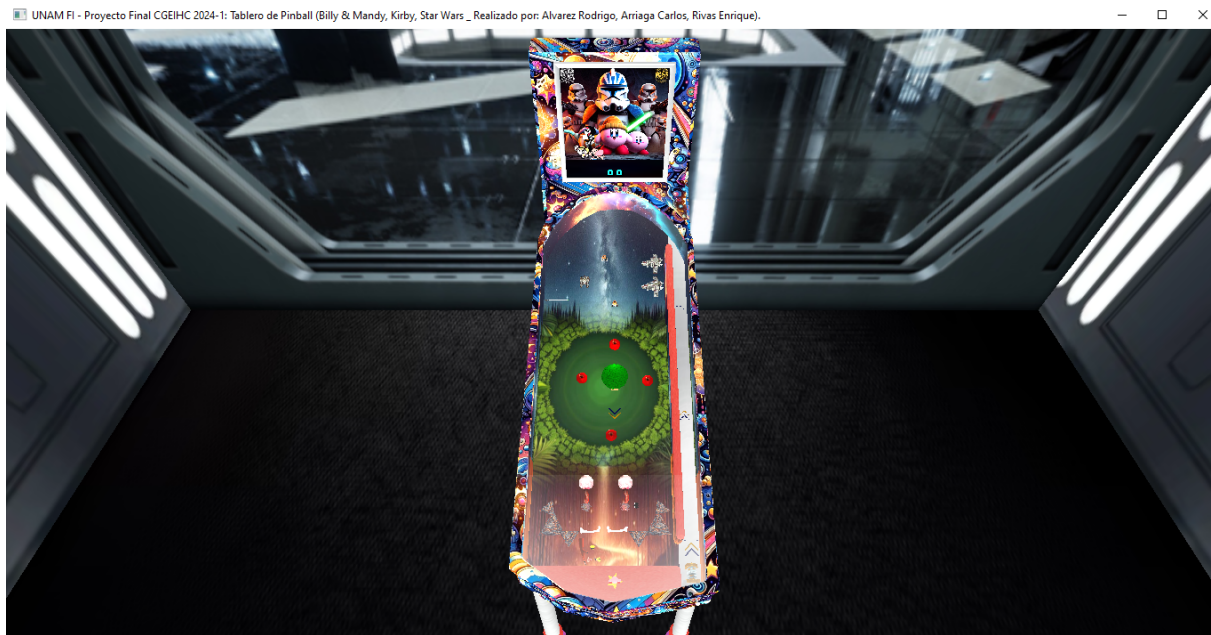
Once there, you'll see these files:



We'll focus on the following files and we select them:



Once selected, you'll see the following window running the program:



Follow the steps in the [General Guide](#) to be able to execute the program successfully.

Important

We recommend reading this manual carefully and consulting it whenever you have doubts or need clarification about the operation of the Pinball. We are committed to providing you with an exceptional experience, and we hope that this manual will be a valuable tool on your journey to fully enjoy the Pinball game.