

FINAL PROYECT COMPUTER VISION I

DEGREE IN MATHEMATICAL ENGINEERING AND ARTIFICIAL INTELLIGENCE

FINGER FUN



DESCRIPTION

Finger Fun is a game where players replicate a sequence of geometric patterns using their fingers. The game increases in difficulty as the sequence lengthens and speeds up. Players must draw the shapes in the correct order, with mistakes resetting the game. It uses computer vision to track finger movements in real-time.

DEVELOPMENT

This project has the following structure:

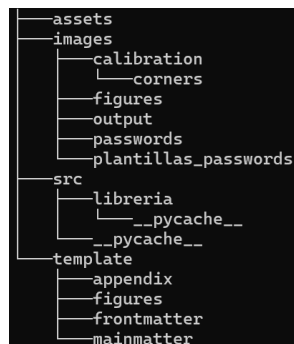


Figure 1. Module structure

Before starting the game, it is recommended to calibrate the camera by running the main_calibration.py file:

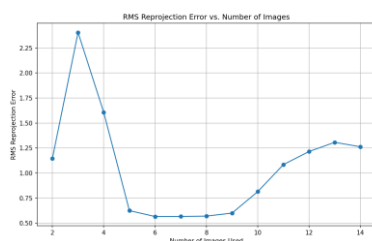


Figure 2. Running the main_calibration.py file

RESULTS

When starting the program, you will be asked to show a valid pattern to unlock the game.

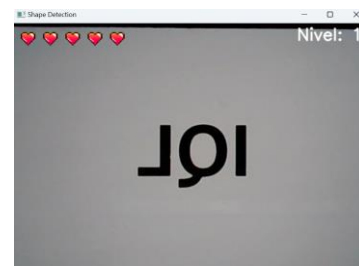


Figure 3. Entering a valid pattern

Once unlocked, you will be welcomed to the game and can progress through the different levels with a life limit set to 5.

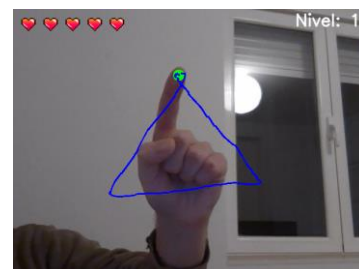


Figure 4. Game operation

Once the game has started, it will proceed normally until the player either wins (by completing all the levels) or loses (by failing more than 5 times). Depending on which case occurs, a message will be printed in the terminal stating whether the player has won or lost.