

## User Guide

***Note: The program was developed and ran on the PyCharm IDE. Running the program on alternate IDEs have not been tested, therefore may not work depending how they handle virtual environments and dependencies.***

***Note: Please ensure a webcam is connected to the computer when running. This could be an internal, integrate camera or one connected via USB.***

***Note: This project makes use of the 'keyboard' module via python. Indicated in documentation, due to the conversion of ASCII codes and alternate key inputs, there may be issues when running on MacOS or Linux. It is advised to run this program through a Windows machine.***

### Step 1

Download the zipped project folder named 'FinaProjectCode'. This zip file contains the entire project directory, the virtual environment used to run the python code and both python files. Download the zip file from either the submissions or the link included in the appendices. Unzip the folder and move the folder to your desired directory.

### Step 2

Download Python 3 if not already installed on machine. Visit the website ([www.python.org](http://www.python.org)), move to the 'Download for Windows' section and install the latest Python 3 executable.

Run the executable installer and follow the install wizard.

Verify the Python install by opening the command prompt (WindowsKey + type 'cmd'). Enter 'python'. The python version should display.

Verify the pip install by opening a new command prompt window and entering 'pip -V'. The pip version should display.

### **Step 3**

There are two ways one could run the program. Through the PyCharm IDE or through the command prompt.

#### **Step 3 – Method A**

To run the file through the command prompt, open the command prompt.

Navigate to the directory of the project folder.

Navigate into the 'FinalProjectCode' folder.

Enter 'pip install opencv-python' to install the cv2 module.

Enter 'pip install mediapipe' to install the mediapipe module.

Enter 'pip install keyboard' to install the keyboard module.

Enter 'pip install numpy' to install the numpy module.

Enter 'python main.py' to run the program.

#### **Step 3 – Method B**

To run the file through the PyCharm IDE, open the project in PyCharm.

Click file > settings to open settings.

Click Project: FinalProjectCode > Python interpreter.

Click the plus (+) icon on the top left of the list.

Enter 'mediapipe' in the search box, select the 'mediapipe' module and click 'install' on the bottom left of the window.

Enter 'opencv-python' in the search box, select the 'opencv-python' module and click 'install' on the bottom left of the window.

Enter 'keyboard' in the search box, select the 'keyboard' module and click 'install' on the bottom left of the window.

Enter 'numpy' in the search box, select the 'numpy' module and click 'install' on the bottom left of the window.

Exit the setting, right-click 'main.py' in the project pane and click 'Run 'main'' to run.