



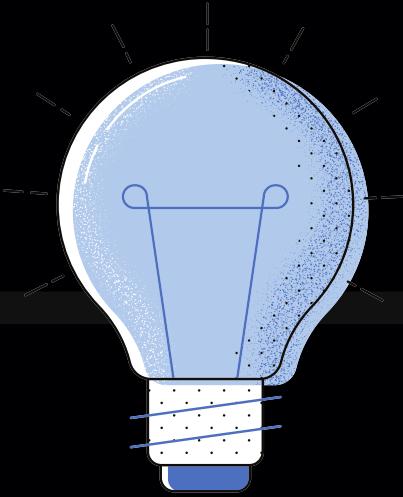
॥वसुधैव कुटुम्बकम्॥

ATTENDANCE MANAGEMENT

USING FACE RECOGNITION



PROBLEM STATEMENT AND OBJECTIVE



Facial recognition software is to develop a system that can accurately identify and match individuals based on their facial features.

Can be used in a variety of applications such as security, user authentication, and surveillance.

The system must also be able to handle large datasets and be able to quickly match new faces to existing ones.

ENGINEERING SYSTEM

Image capturing devices
(such as cameras or
smartphones).

Image processing algorithms
feature extraction
algorithms.

Machine learning models for
classification.



PARAMETERS TO SOLVE

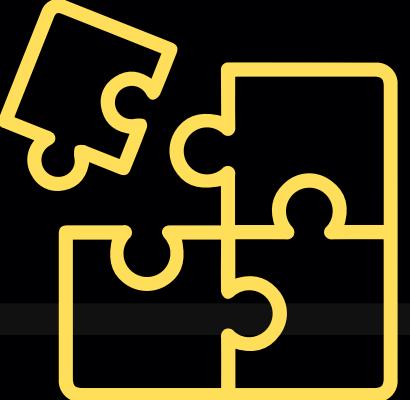
Threshold values for
determining a match
size and resolution of
images.

Type of machine learning
model used.

VARIABLES

Lighting conditions
head pose.
Facial expressions
occlusions (such as glasses
or masks).

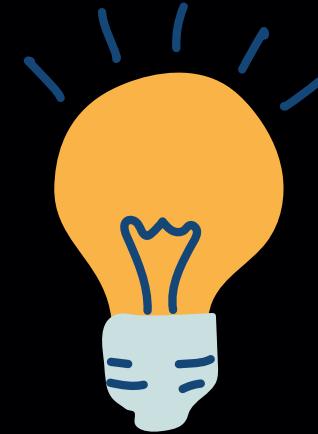
EXISTING SOLUTIONS



Hybrid: This process combines multiple techniques such as feature-based and holistic, to improve the accuracy of facial recognition.

3D facial recognition: This process uses 3D cameras to capture facial images and extract the 3D facial features and then compare them with a database of known faces.

Video-based: This process uses video frames to extract facial images and compare them with a database of known faces.



ALTERNATIVE SOLUTIONS

Finger print and authentication apps but they can be easily hacked but this way it is difficult to hack it as our iris differs from each other.

TECHNICAL AND NON TECHNICAL INFORMATION

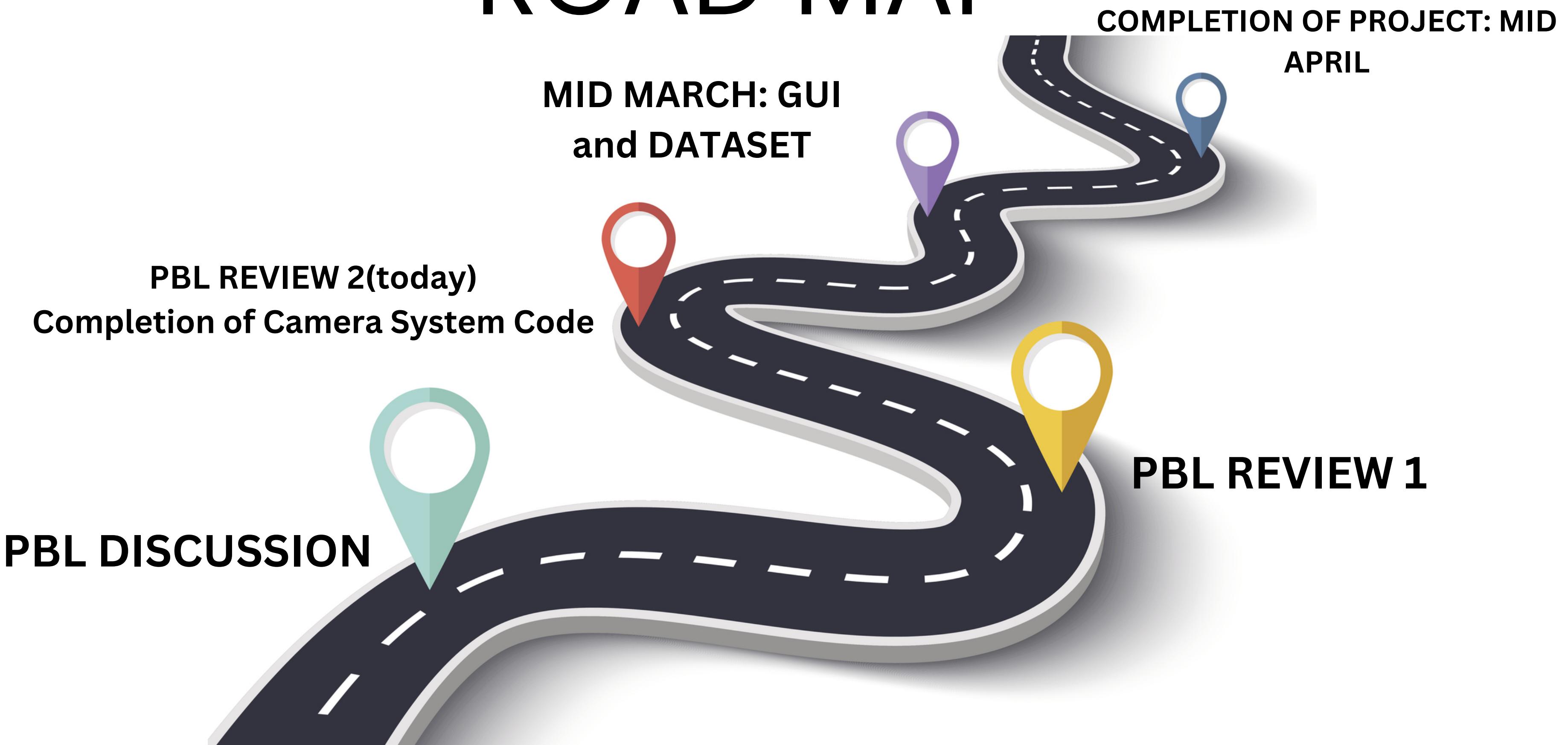
- Face recognition accuracy of the algorithm heavily depends on the quality of a face image. Image quality during enrollment is important.
- 32 pixels is the recommended minimal distance between eyes for a face on image or video stream to perform face template extraction reliably.
- Several images during enrollment are recommended for better facial template quality which results in improvement of recognition quality.
- Additional enrollments may be needed when facial hair style changes, especially when beard or mustache is grown or shaved off.

AIMS AND OBJECTIVE

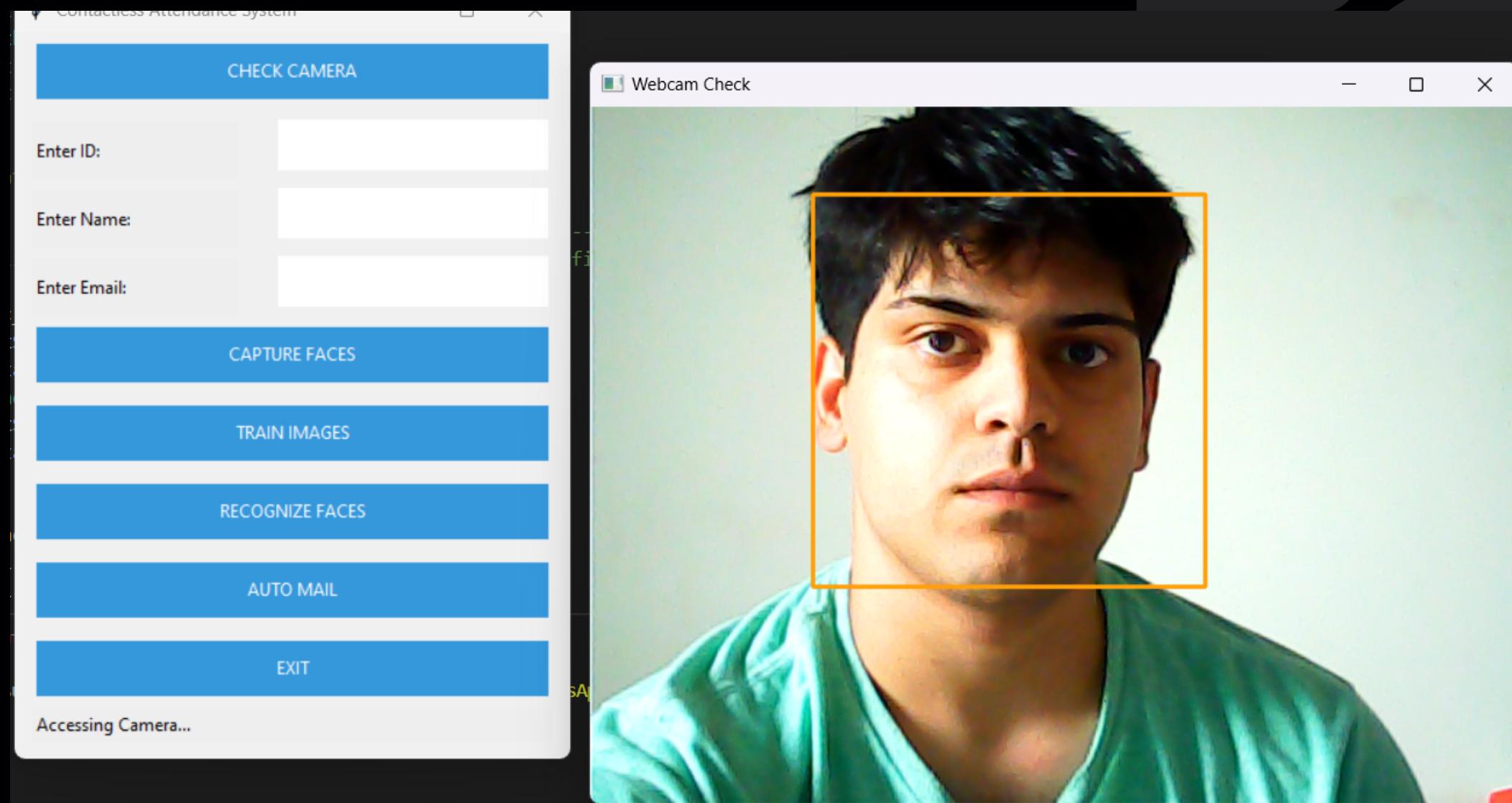
The objective of this project is to develop face recognition attendance system. Expected achievements in order to fulfill the objectives are:

- To detect the face segment from the video frame.
- To extract the useful features from the face detected.
- To classify the features in order to recognize the face detected.
- To record the attendance of the identified employee.

ROAD MAP



BASIC GUI AND INTERFACE (CAMERA)



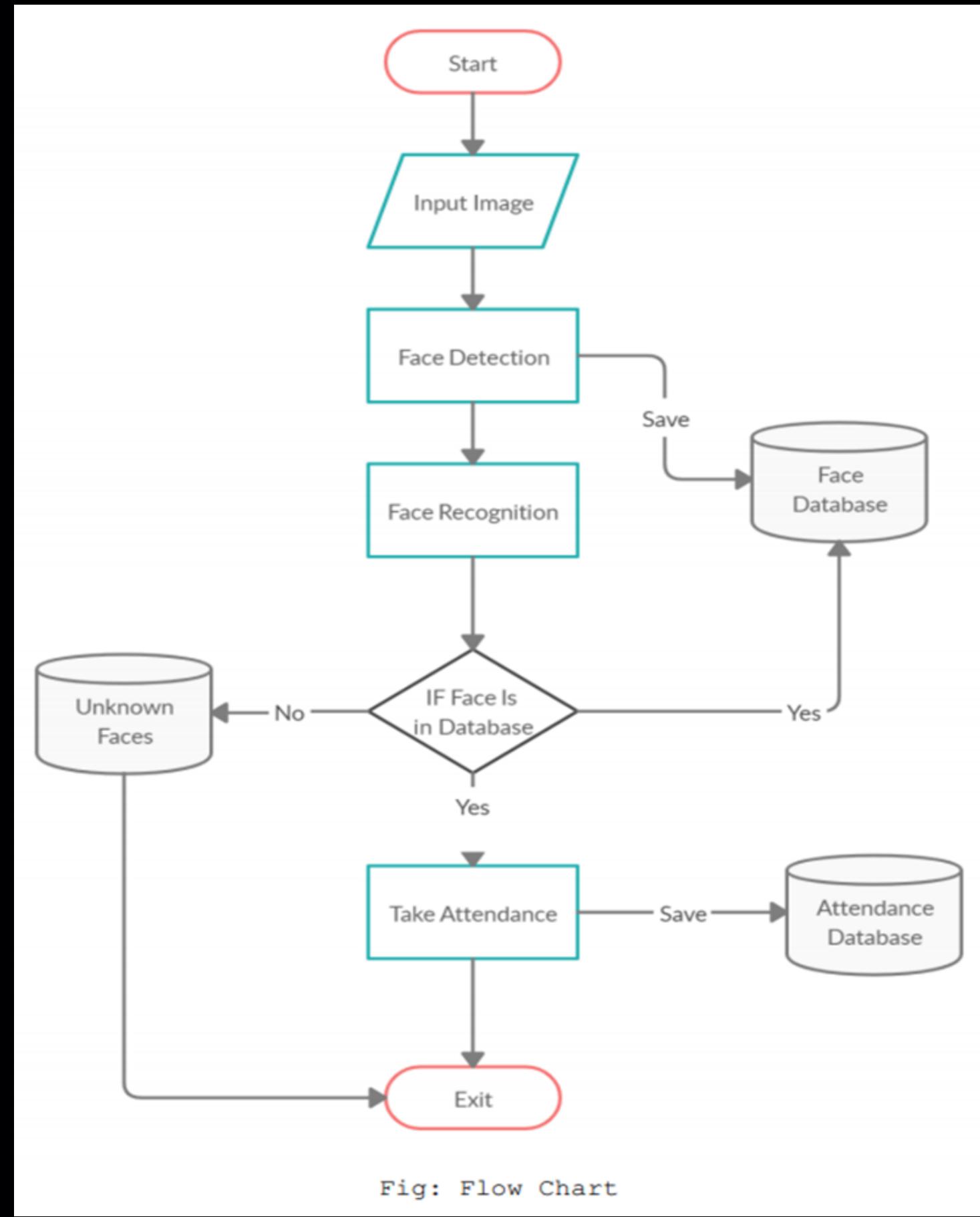
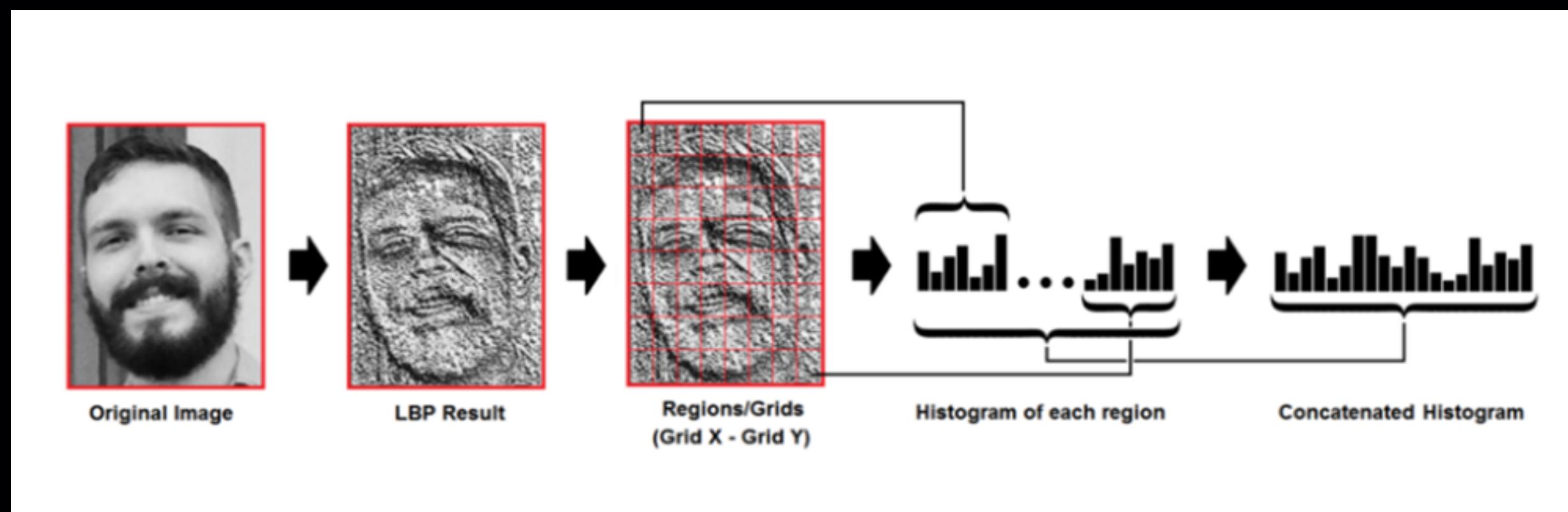
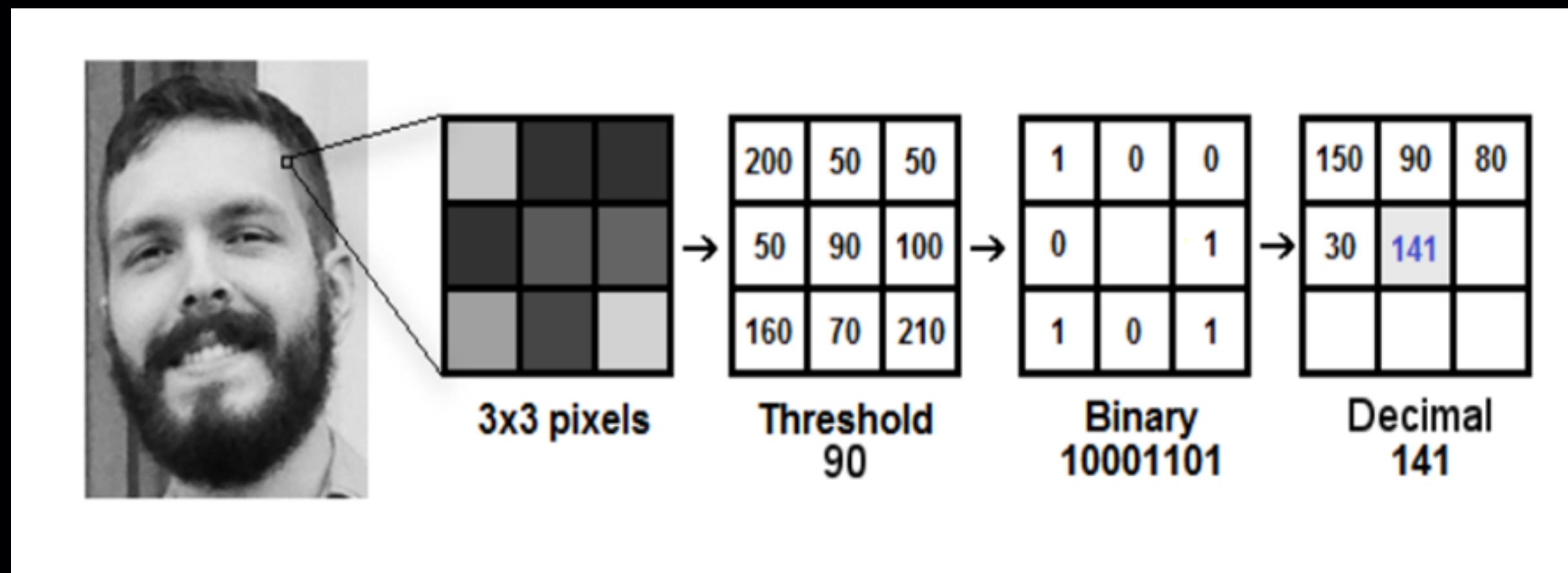
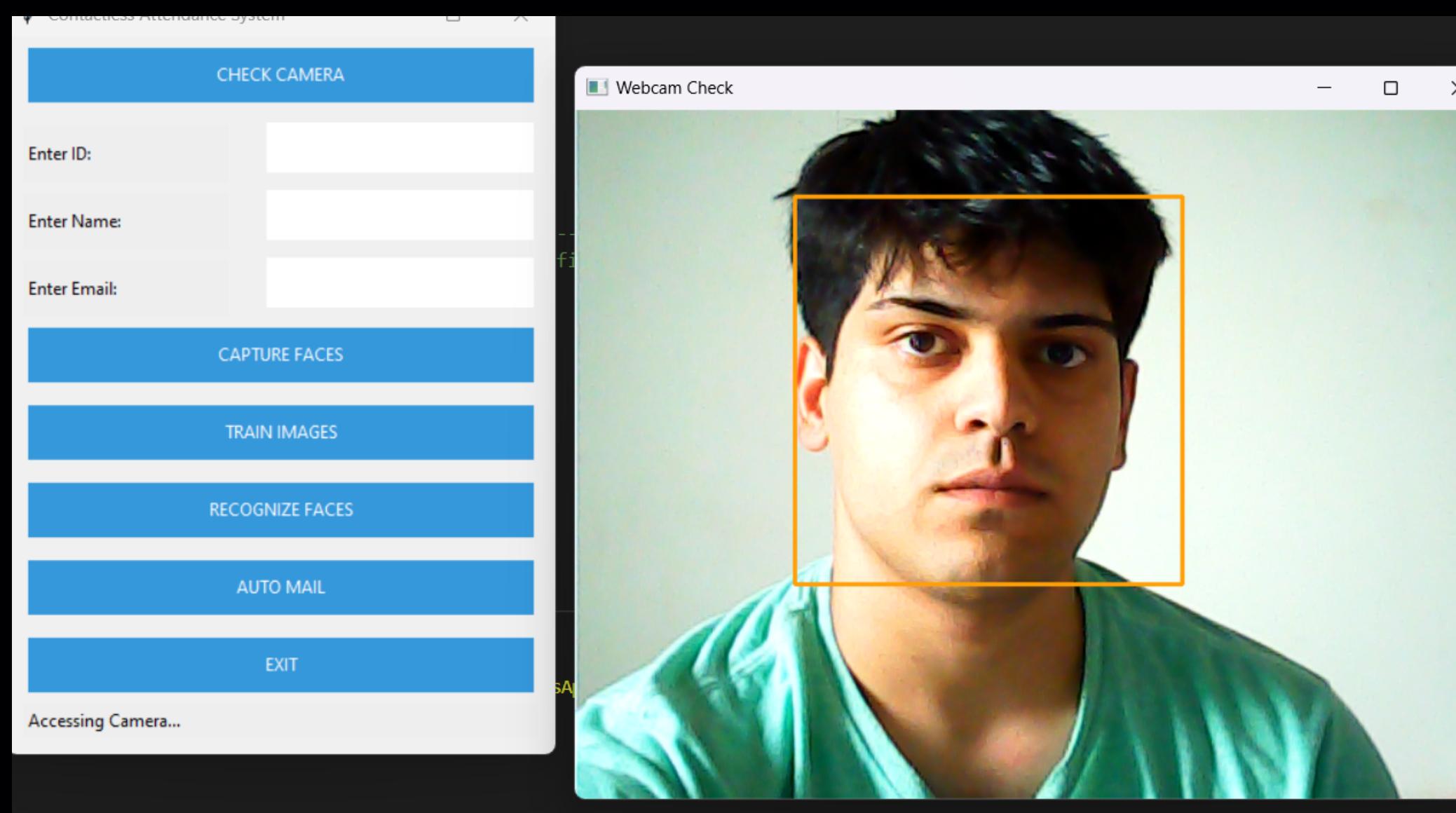


Fig: Flow Chart

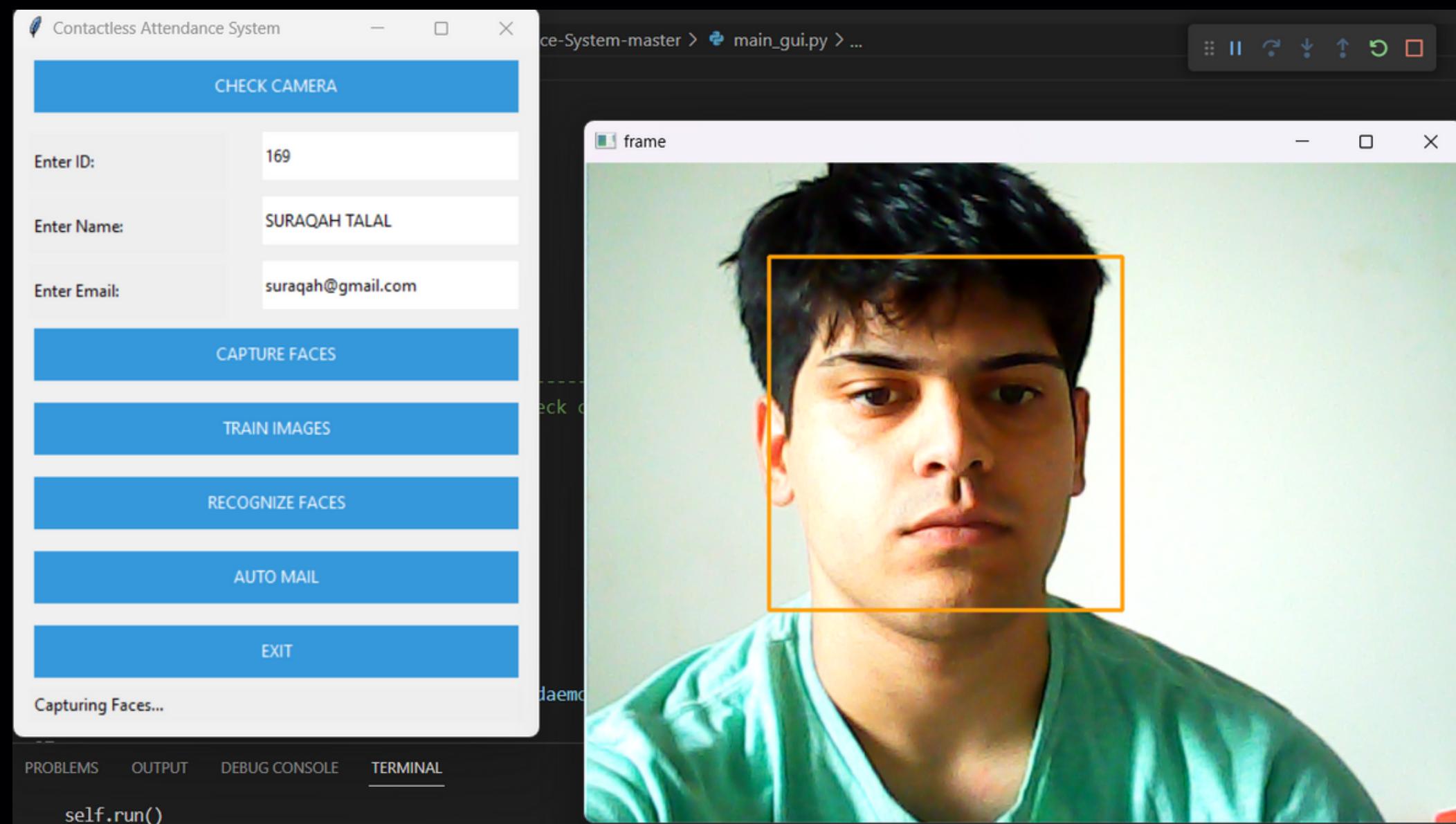


WORKING

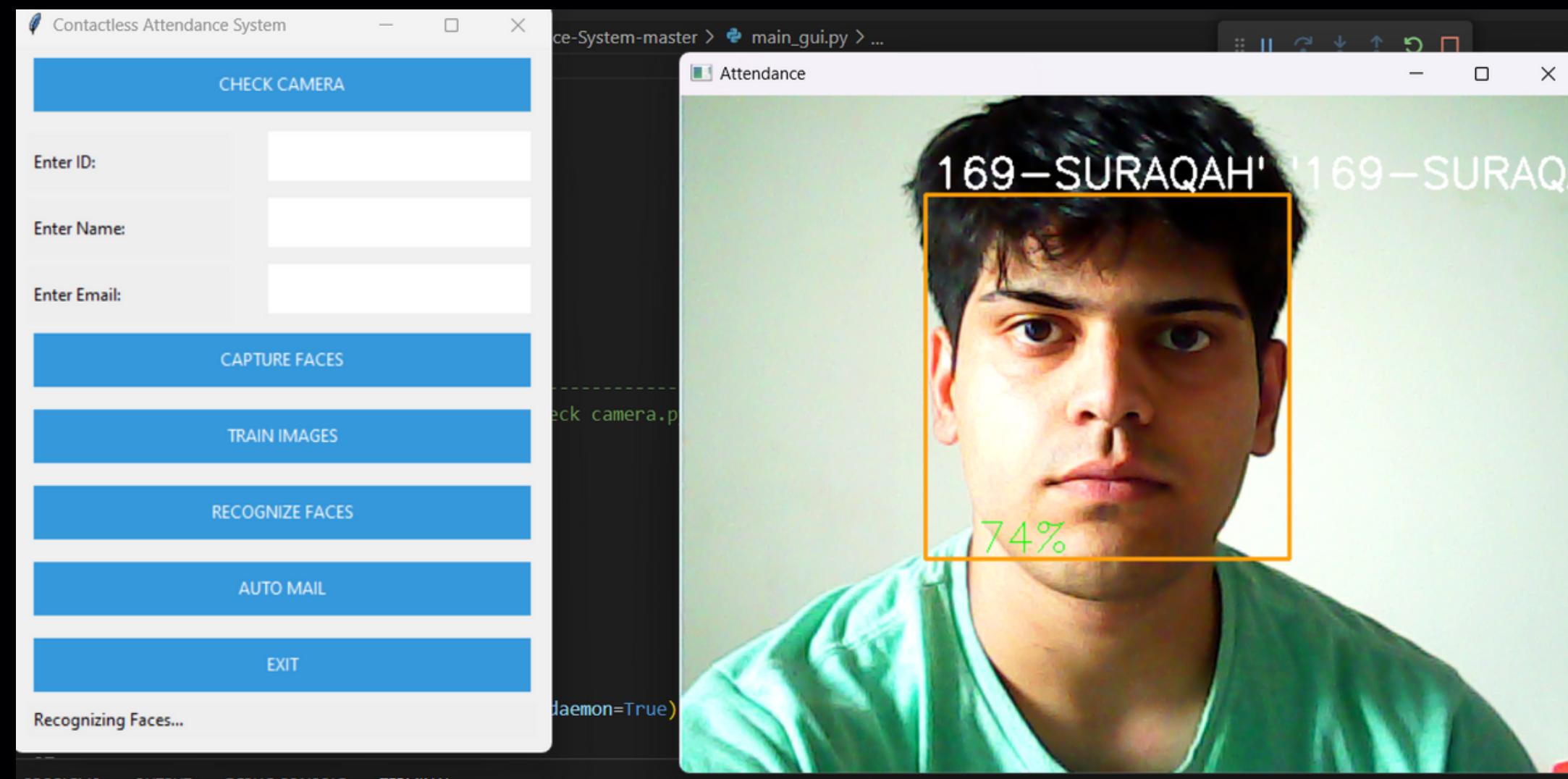
1. Checking the camera.



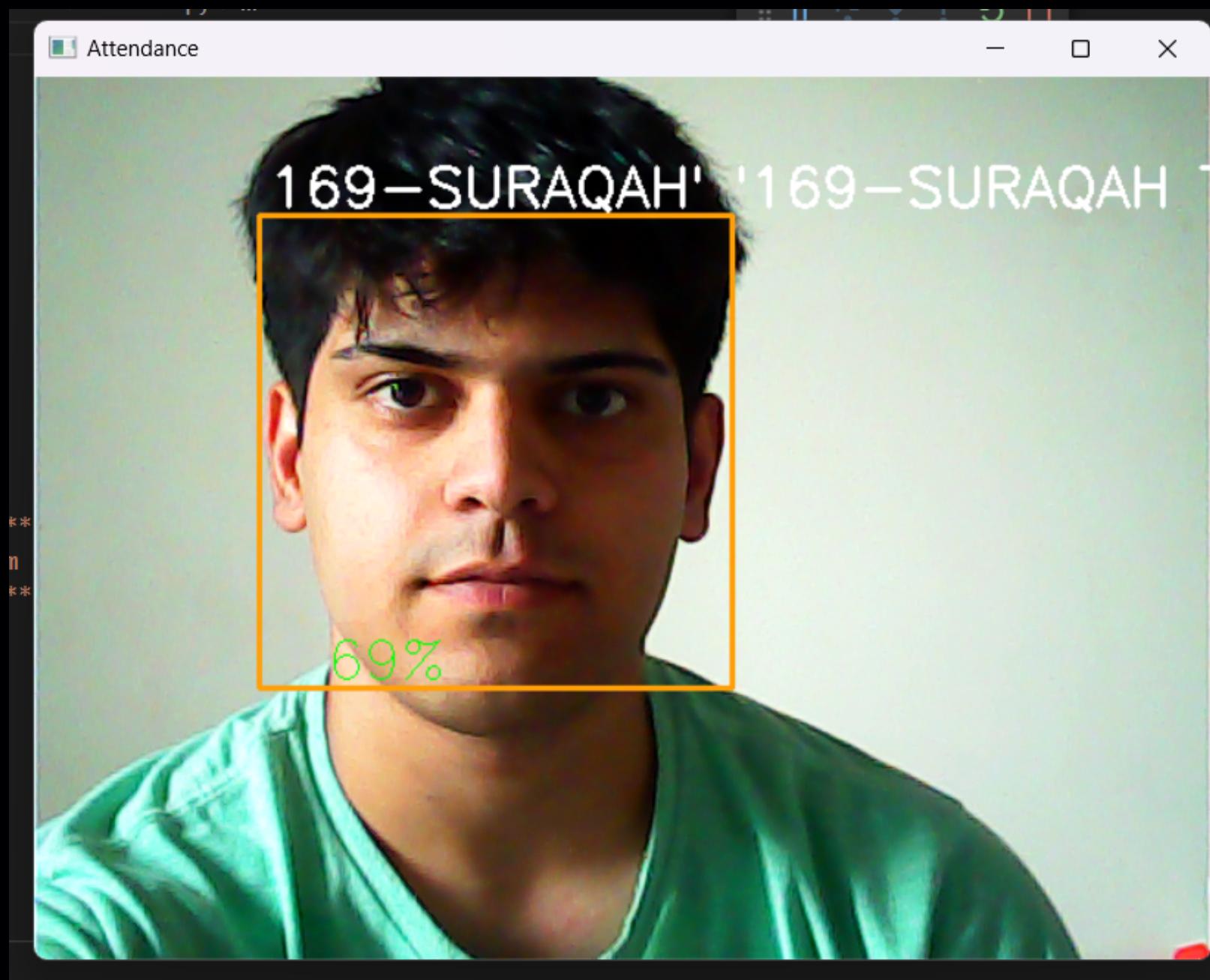
2.Capture the Faces.



3.Recognizing the Faces.



4. Marking Attendane.



5. Marking of Attendance in Excel sheet.

A screenshot of a Microsoft Excel spreadsheet titled "Attendance_2023-04-16". The ribbon menu is visible at the top, showing tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Automate, and Help. The "Home" tab is selected. The main content area shows a table with two rows. Row 1 contains headers: "Id" in cell A1, "Name" in cell B1, and "Time" in cell C1. Row 2 contains data: "169" in cell A2, "SURAQAH'" in cell B2, and "17:12:24" in cell C2. Cell C2 is currently selected and highlighted with a green border. The rest of the table is empty, with rows numbered from 1 to 21.

| Id | Name | Time |
|-----|----------|----------|
| 169 | SURAQAH' | 17:12:24 |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
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| 21 | | |

FUTURE SCOPE OF WORK

- Can improve security.
- Can use Neural Network for high accuracy.
- Can be used in big factory or for student attendance.
- Can build on fully web base system.

*Thank
You*