

# **FACE RECOGNITION ATTENDANCE SYSTEM**

**DEVELOPED BY**

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# OBJECTIVE

- The purpose of this project is to build a human face recognition to mark the attendance.

# INTRODUCTION

- Recognition of the human face is an active issue for authentication purposes specifically in the context of attendance of students.
- Attendance system using face recognition is a procedure of recognizing students by using face biostatistics based on the high definition camera and other computer technologies.

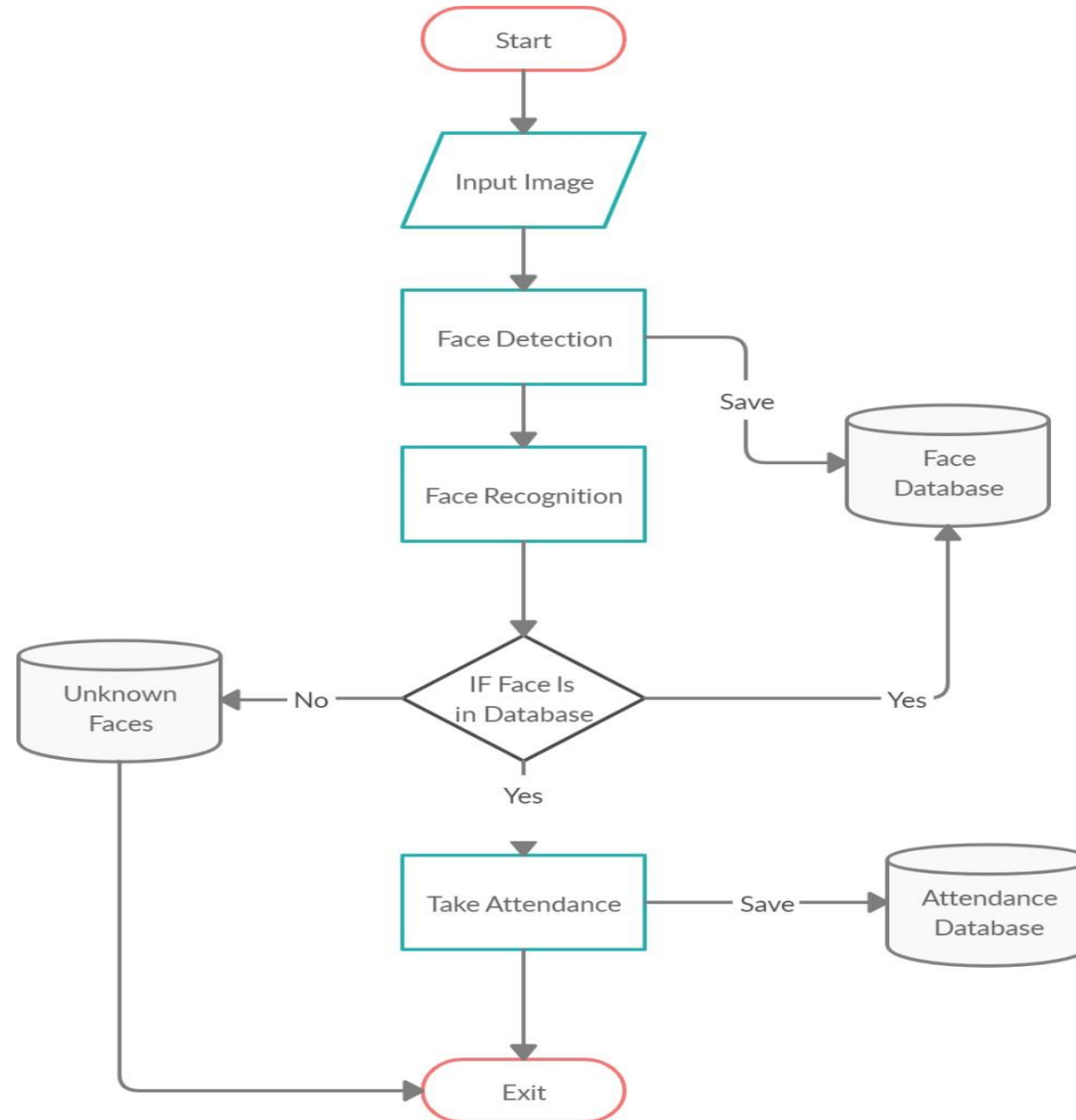
# EXISTING SYSTEMS

- Fingerprint Based recognition system and its Disadvantages are Time-consuming.
- RFID(Radio Frequency Identification) Based recognition system and its Disadvantages are Fraudulent usage.
- Iris Based Recognition System and its Disadvantages are Privacy invasion.

# PROPOSED SYSTEM

- This system captures students' faces and stores them in a database for attendance purposes.
- The system detects all facial features, including seating position and posture, to accurately identify students.
- With video processing, the system automatically recognizes faces and updates the attendance database.
- Eliminating the need for manual attendance taking by teachers.

# DATA FLOW DIAGRAM



# REQUIREMENTS

## SOFTWARE REQUIREMENTS :

- Python (3.6 or higher)
- Windows 10 or advanced version
- Pycharm or VScode

# REQUIREMENTS

## HARDWARE REQUIREMENTS:

- IP Camera / Web Camera
- Computer with dual core processor
- Min 4GB RAM
- Min 1GB ROM



# PROJECT DESCRIPTION

- A facial recognition attendance system uses facial recognition technology to identify and verify a person using the person's facial features and automatically mark attendance.
- The software can be used for different groups of people such as employees, students, etc.
- Eliminate paperwork and save time.
- The system records and stores the data in real-time.

# MODULES

- Check Camera
- Capture Faces
- Train Images
- Recognize & Attendance
- Auto Mail
- Quit

# Module Description

## Check Camera :

- This module is responsible for checking the availability of the camera and ensuring that it is working properly.
- If the camera is not available or not functioning correctly, the system cannot capture images and recognize faces.

# Module Description

## Capture Faces :

- In this module, the camera captures the images of the individuals and extracts the faces from the images.
- This module is responsible for capturing high-quality images that can be used for face recognition.

# Module Description

## Train Images :

- Once the images have been captured, this module trains the system to recognize the faces.
- This module uses machine learning algorithms to create a face recognition model that can accurately identify individuals based on their facial features.

# Module Description

## Recognize & Attendance :

- This is the core module of the system, responsible for recognizing the faces of the individuals and marking their attendance.
- The system compares the captured face with the trained model and determines the identity of the individual.
- It then marks the attendance and updates the attendance record in the database.

# Module Description

## Auto Mail :

- This module automatically sends an email to the concerned person(s) with the attendance report.
- This module eliminates the need for manual intervention, making the system more efficient.

# Module Description

## Quit :

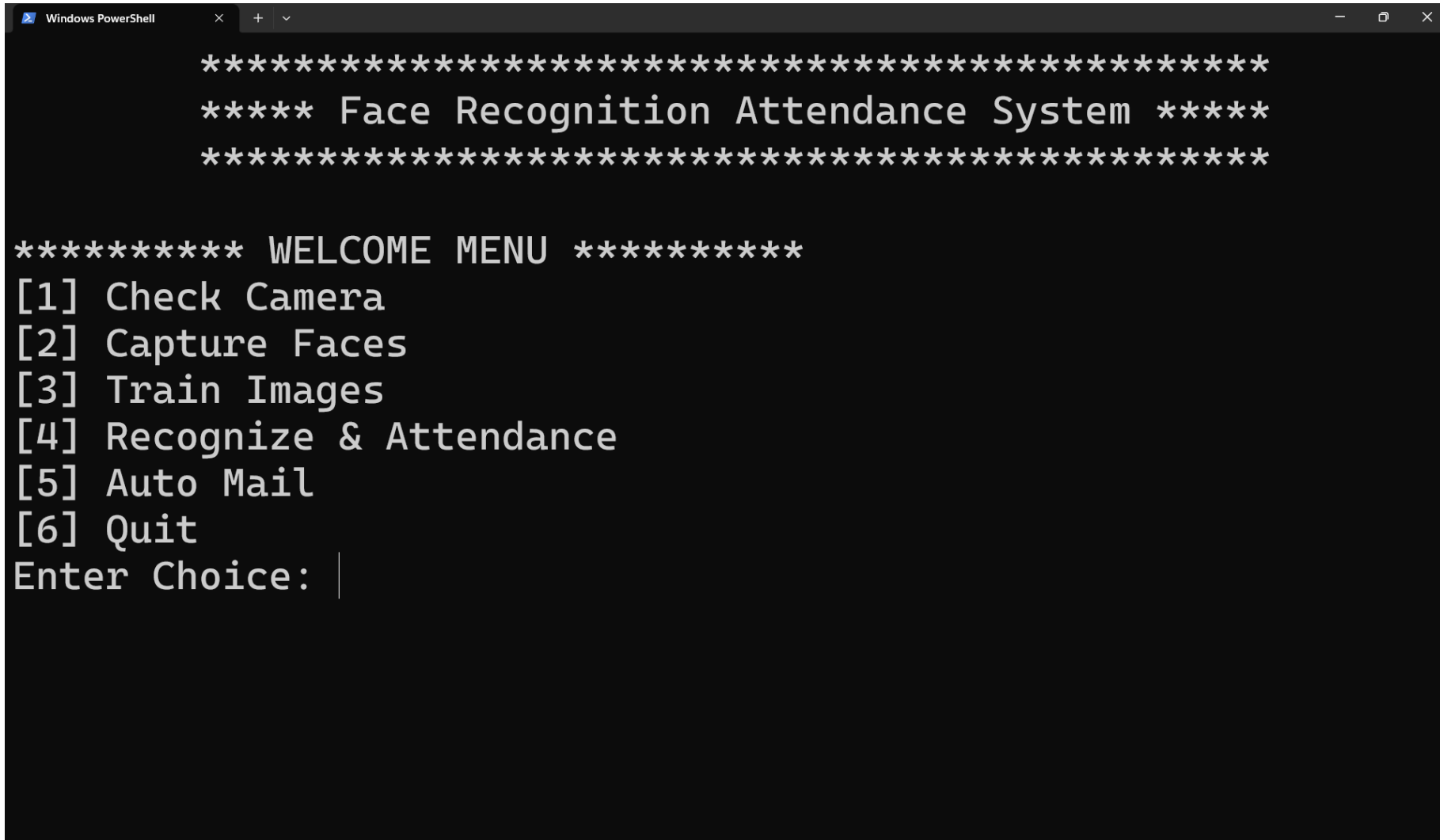
- This module allows the user to exit the system and terminate the program.
- It allow convenient and controlled way to exit the application while ensuring data integrity and system stability.



# CONCLUSION

- This system overcome many limitations incorporated in attendance, this system saves a great amount of time and reduces errors which may occur during attendance calculation.
- The system I have developed is fully responsive which can be used in mobile, tablets and different operating systems.

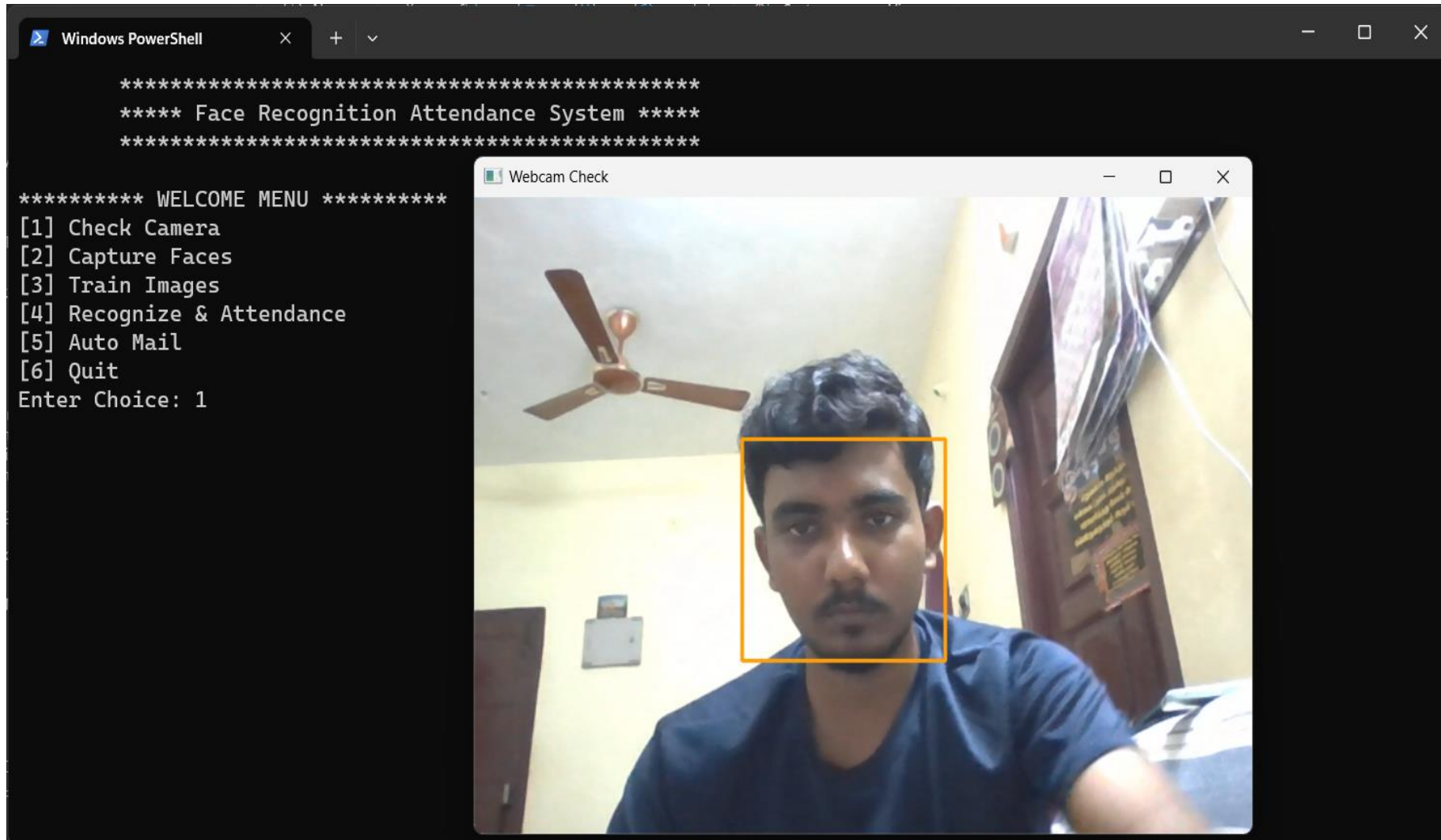
# Screenshots

A screenshot of a Windows PowerShell terminal window. The window has a dark gray title bar with the text "Windows PowerShell" and standard window controls (minimize, maximize, close). The terminal content is displayed in a light gray monospace font on a black background. It shows a header for a "Face Recognition Attendance System" followed by a "WELCOME MENU" with six numbered options: [1] Check Camera, [2] Capture Faces, [3] Train Images, [4] Recognize & Attendance, [5] Auto Mail, and [6] Quit. The prompt "Enter Choice:" is followed by a vertical cursor bar.

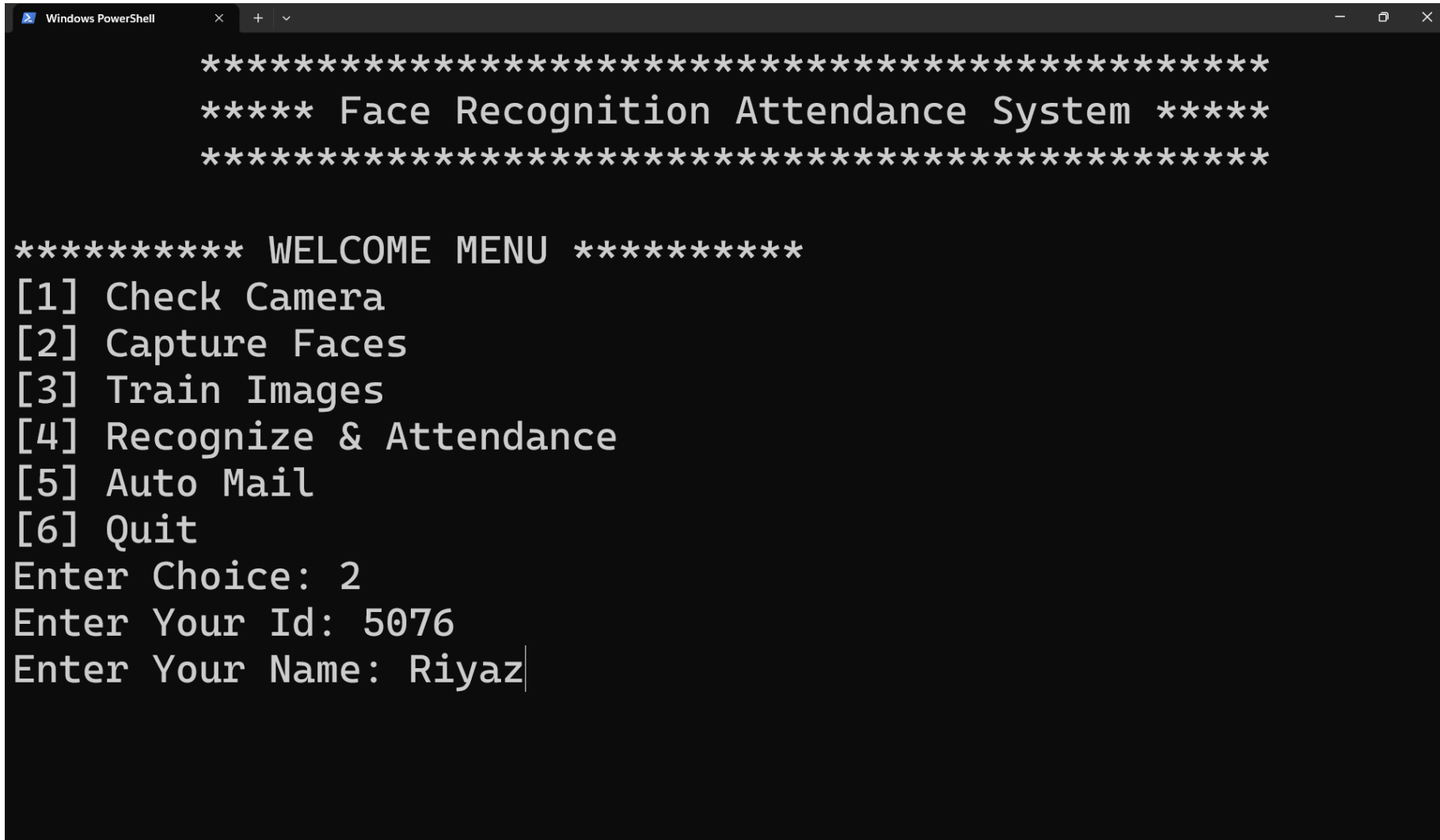
```
Windows PowerShell
*****
***** Face Recognition Attendance System *****
*****

***** WELCOME MENU *****
[1] Check Camera
[2] Capture Faces
[3] Train Images
[4] Recognize & Attendance
[5] Auto Mail
[6] Quit
Enter Choice: |
```

# Screenshots

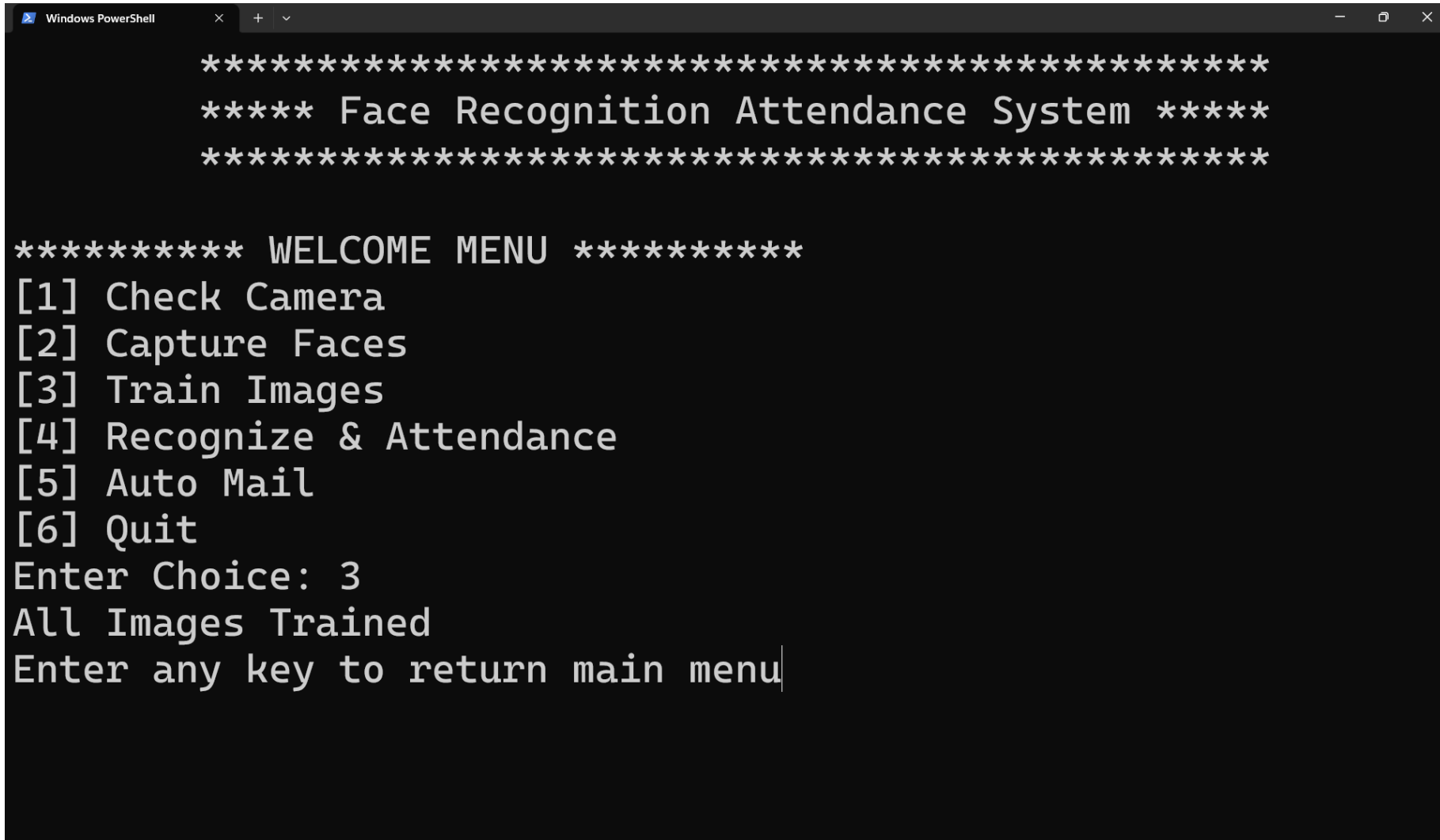


# Screenshots

A screenshot of a Windows PowerShell terminal window. The window has a dark gray title bar with the text "Windows PowerShell" and standard window controls (minimize, maximize, close). The terminal content is as follows:

```
*****  
***** Face Recognition Attendance System *****  
*****  
  
***** WELCOME MENU *****  
[1] Check Camera  
[2] Capture Faces  
[3] Train Images  
[4] Recognize & Attendance  
[5] Auto Mail  
[6] Quit  
Enter Choice: 2  
Enter Your Id: 5076  
Enter Your Name: Riyaz|
```

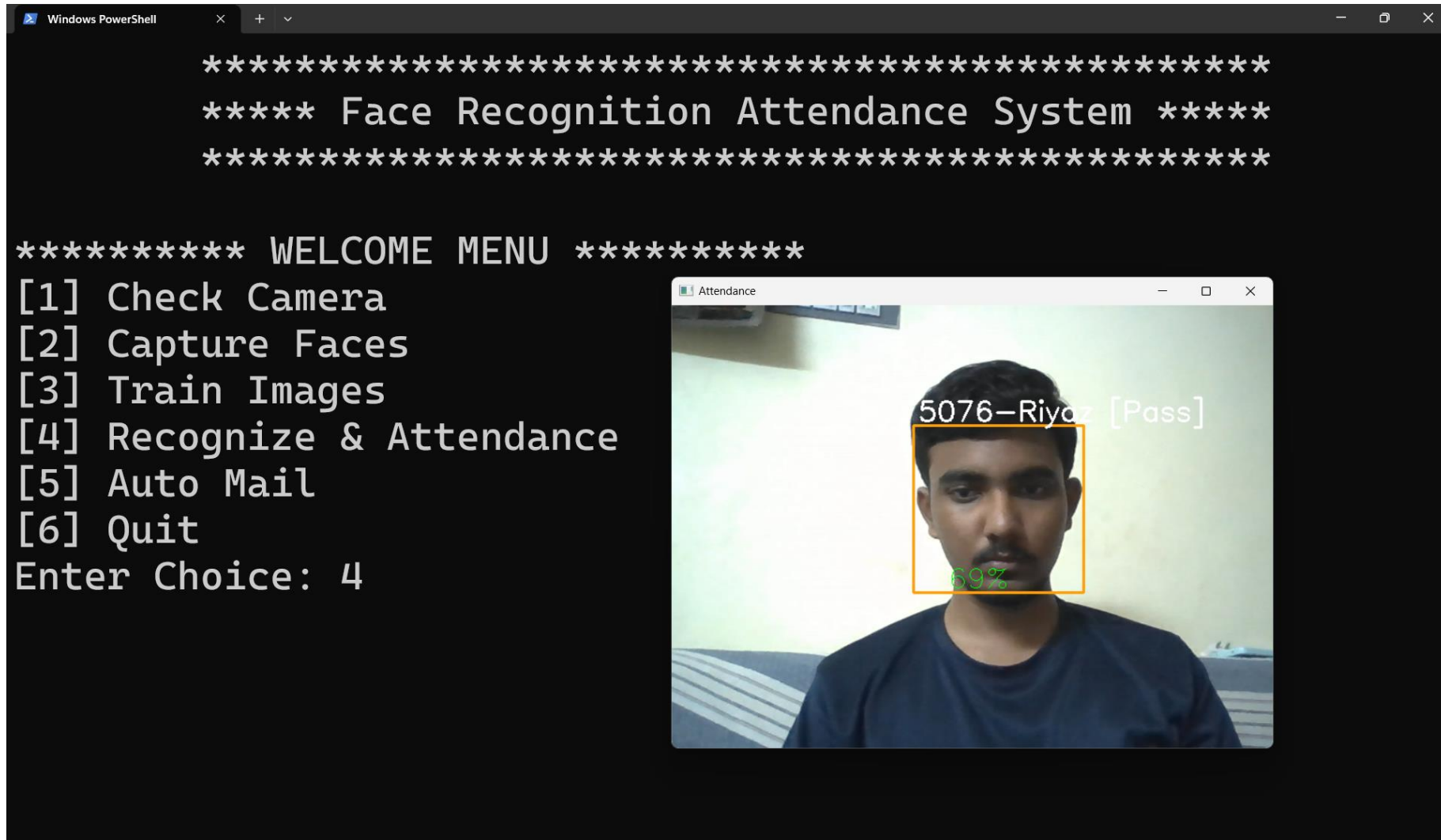
# Screenshots

A screenshot of a Windows PowerShell window with a dark background and white text. The window title bar shows 'Windows PowerShell' and standard window controls. The text inside the window displays a menu for a 'Face Recognition Attendance System'. It starts with a separator line of asterisks, followed by the system name. Then it shows a 'WELCOME MENU' with six numbered options: [1] Check Camera, [2] Capture Faces, [3] Train Images, [4] Recognize & Attendance, [5] Auto Mail, and [6] Quit. Below the menu, it shows 'Enter Choice: 3', 'All Images Trained', and 'Enter any key to return main menu' with a cursor at the end of the last line.

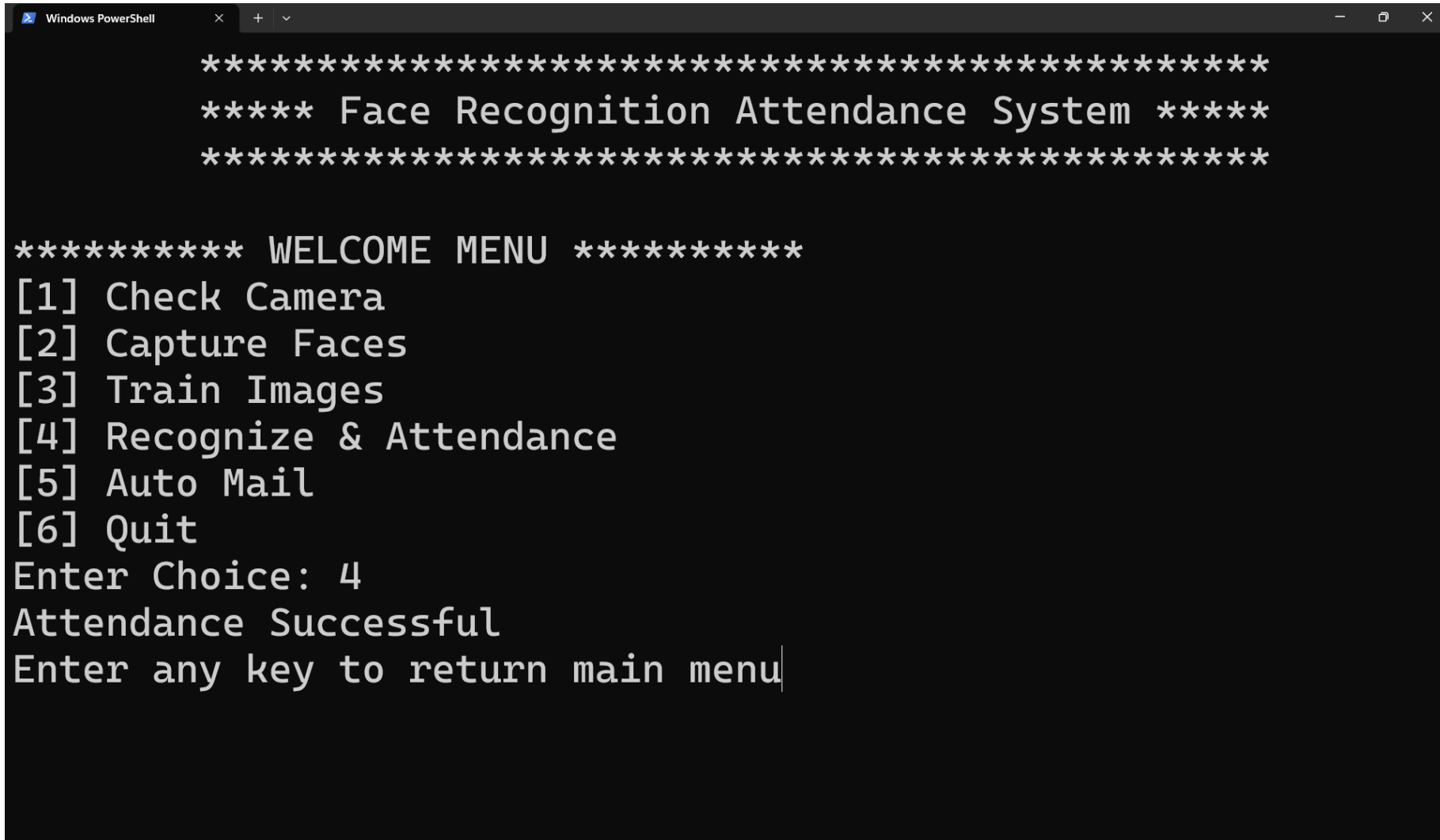
```
Windows PowerShell
*****
***** Face Recognition Attendance System *****
*****

***** WELCOME MENU *****
[1] Check Camera
[2] Capture Faces
[3] Train Images
[4] Recognize & Attendance
[5] Auto Mail
[6] Quit
Enter Choice: 3
All Images Trained
Enter any key to return main menu|
```

# Screenshots



# Screenshots

A screenshot of a Windows PowerShell terminal window. The window has a dark background and a title bar that says "Windows PowerShell". The terminal displays a menu for a "Face Recognition Attendance System". The menu is titled "\*\*\*\*\* Face Recognition Attendance System \*\*\*\*\*" and "\*\*\*\*\* WELCOME MENU \*\*\*\*\*". It lists six options: [1] Check Camera, [2] Capture Faces, [3] Train Images, [4] Recognize & Attendance, [5] Auto Mail, and [6] Quit. The user has entered "4" for the choice, and the system has responded with "Attendance Successful" and "Enter any key to return main menu".

```
Windows PowerShell
*****
***** Face Recognition Attendance System *****
*****

***** WELCOME MENU *****
[1] Check Camera
[2] Capture Faces
[3] Train Images
[4] Recognize & Attendance
[5] Auto Mail
[6] Quit
Enter Choice: 4
Attendance Successful
Enter any key to return main menu
```

# Screenshots

The screenshot displays the Microsoft Excel interface with the following details:

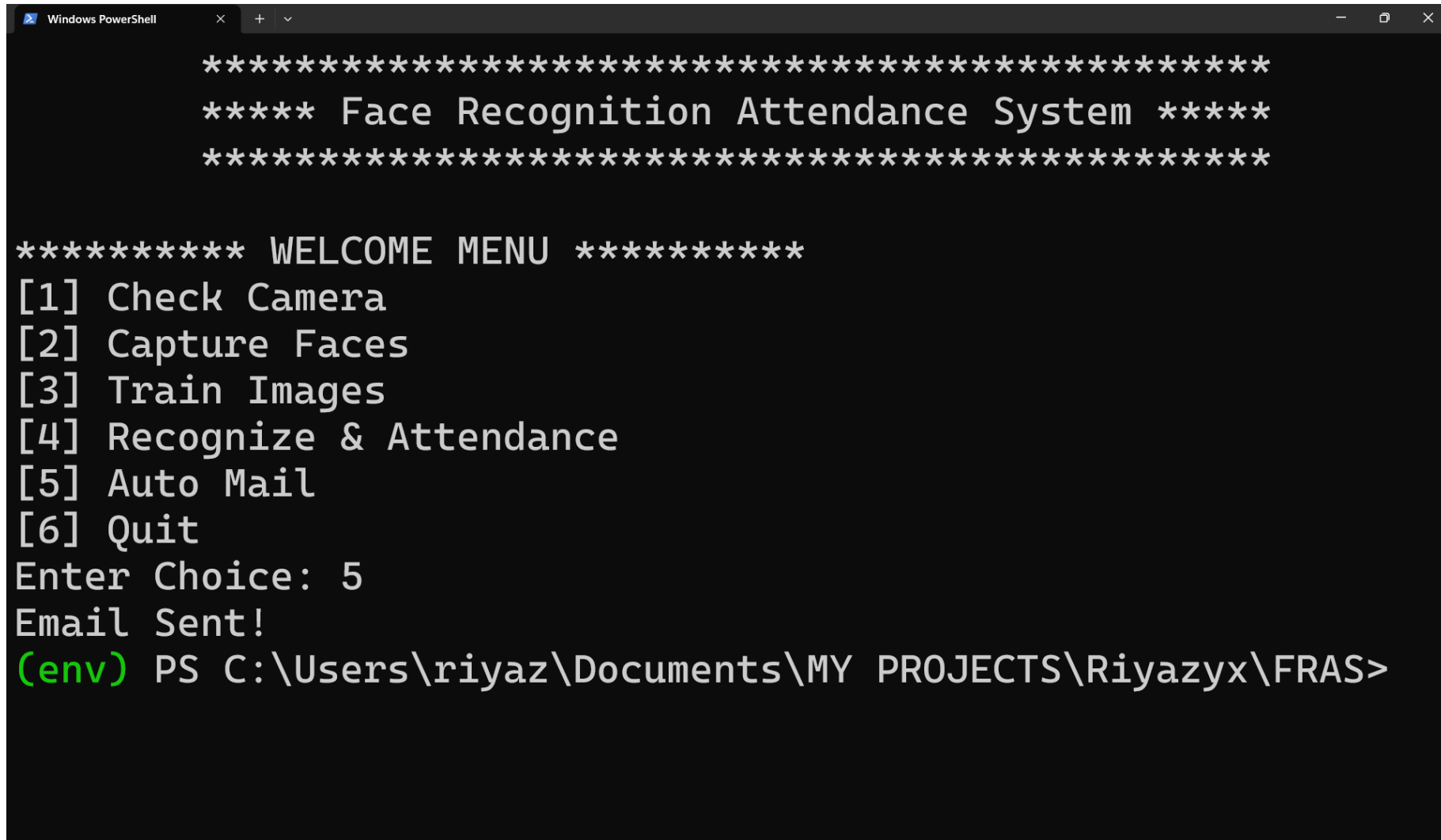
- File Name:** Attendance\_2023-05-20\_19-59-45
- Current Sheet:** Attendance\_2023-05-20\_19-59-45
- Formulas Bar:** A1
- Worksheet Data:**

	A	B	C	D	E	F	G	H	I	J	K	L
1		Id	Name	Date	Time							
2	0	4567	syed	5/20/2023	19:58:38							
3	1	5076	Riyaz	5/20/2023	19:58:57							
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												

Ready Accessibility: Unavailable 195%



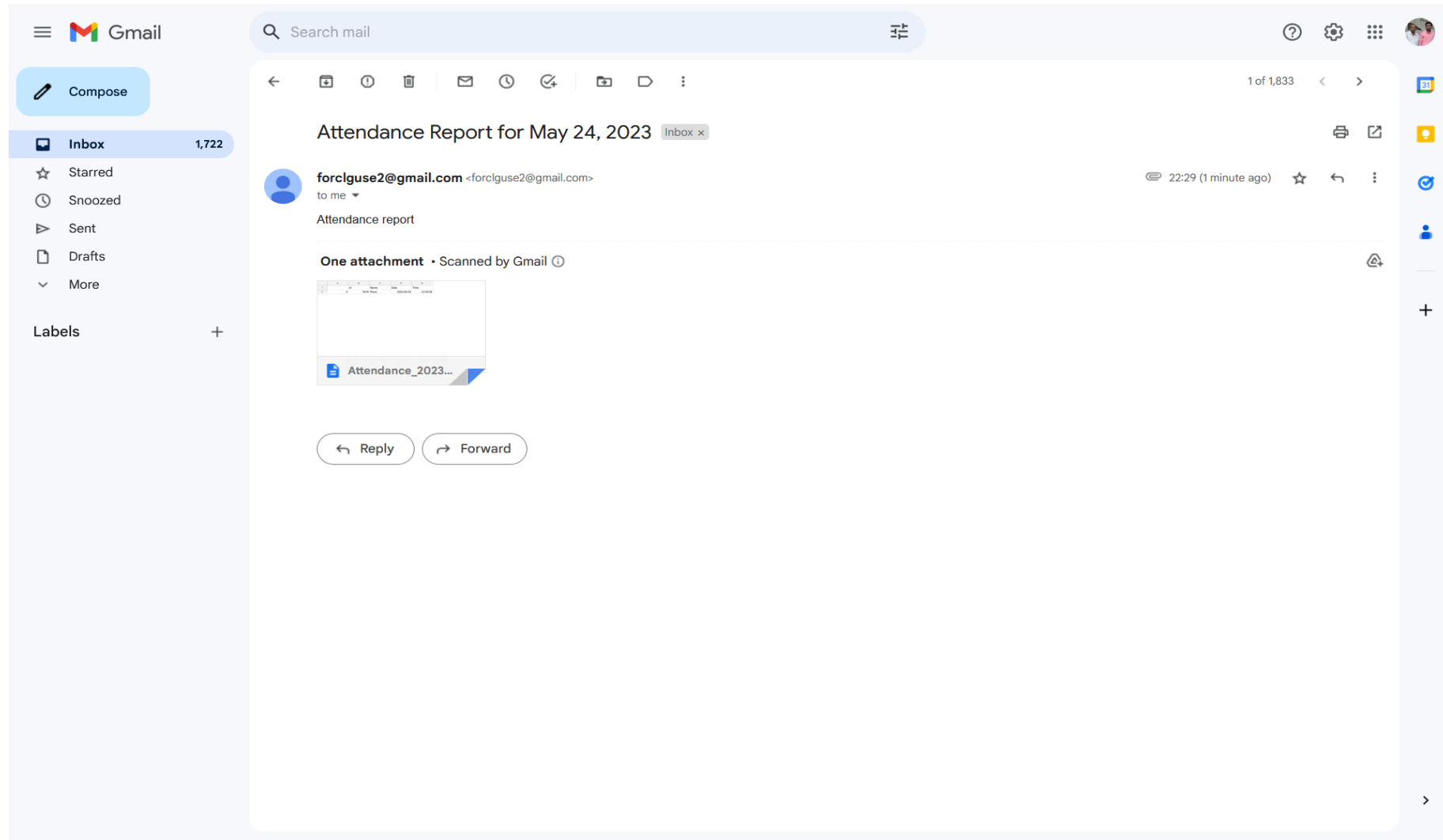
# Screenshots



```
Windows PowerShell
*****
***** Face Recognition Attendance System *****
*****

***** WELCOME MENU *****
[1] Check Camera
[2] Capture Faces
[3] Train Images
[4] Recognize & Attendance
[5] Auto Mail
[6] Quit
Enter Choice: 5
Email Sent!
(env) PS C:\Users\riyaz\Documents\MY PROJECTS\Riyazyx\FRAS>
```

# Screenshots



**THANK YOU**