Final Year Project Use Guide

Machine Learning Incorporating Surveillance & logging Using Computer Vision

1. Abdul wahab   (20015020-013)
2. Khurram Saeed   (20015020-018)
3. Ahmed Abid   (20015020-006)
4. Mariyam Lateef   (20006105-009)

Submitted to:

Hammad Naqvi   Signature: _____

Session

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User Guide for Face Recognition Application

1. Introduction

Welcome to the Face Recognition Application user guide. This application is designed to enhance security and convenience by automating the process of logging entry and exit times using face recognition technology. Key features include real-time face detection, automatic logging, user management, and camera feed customization.
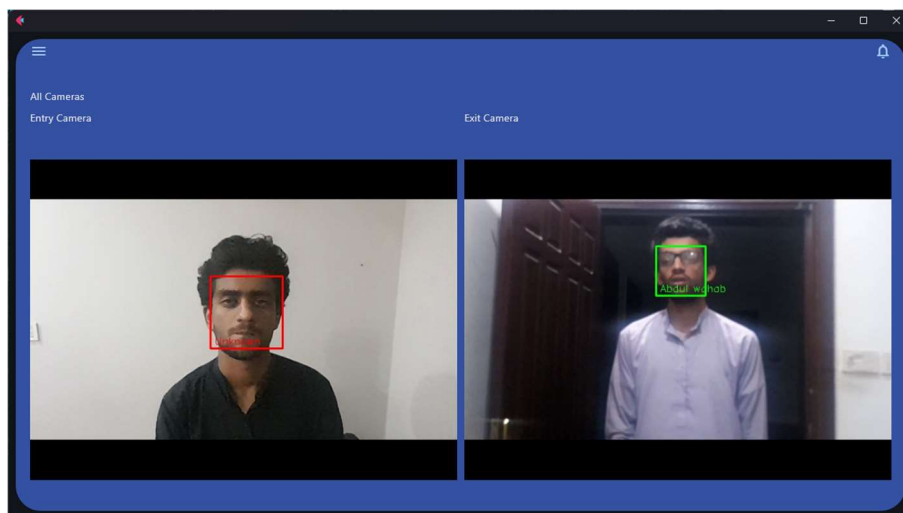
2. Setting Up the Application

Step 1: Download and Install

To get started, download the application from the official website or provided link. Once downloaded, run the installer and follow the on-screen instructions to complete the installation.

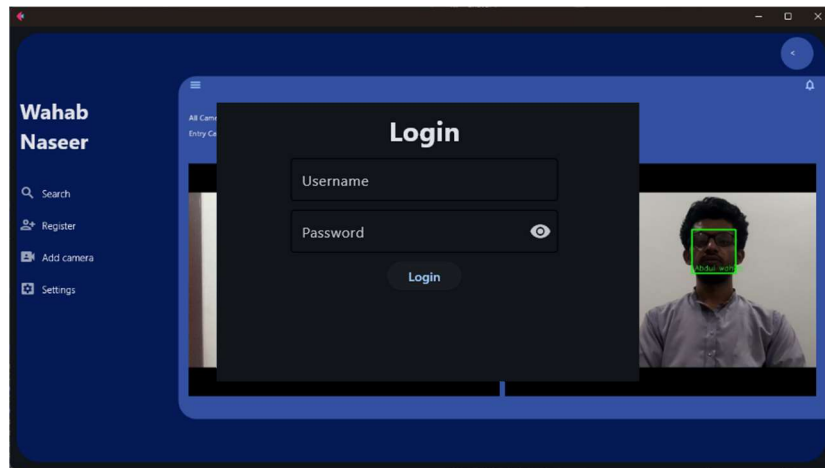Step 2: Launching the Application

After installation, you can launch the application by double-clicking the desktop icon or finding it in your start menu. Upon first launch, you may be prompted to configure your admin account.
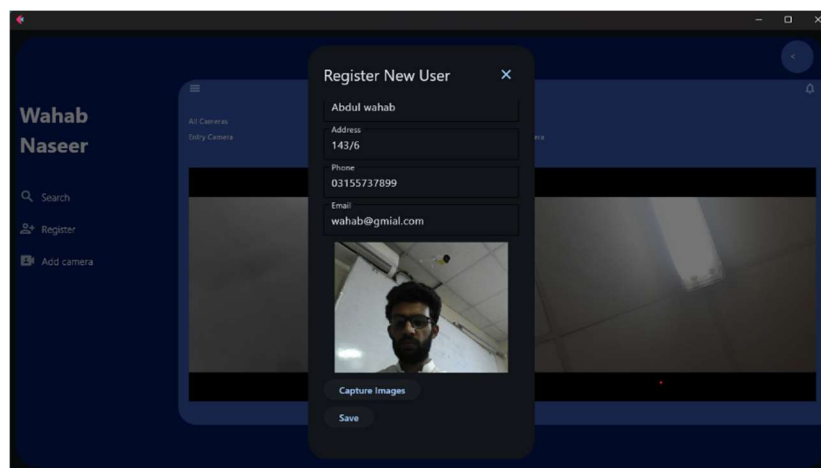

3. Configuring the Application

Step 3: Admin Setup

When you first open the application, you will need to set up an admin account. This account will have the authority to manage users, view logs, and configure system settings. Fill in the required details and save your credentials securely.
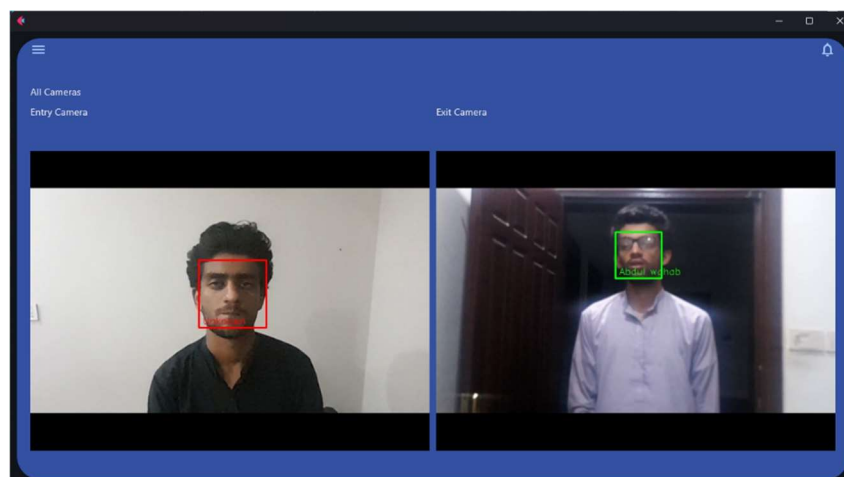
Step 4: Adding Users

As an admin, you can add new users to the system. Navigate to the 'User Management' section, click on 'Add New User,' and fill out the necessary fields including name, email, phone number, and a reference image for face recognition.

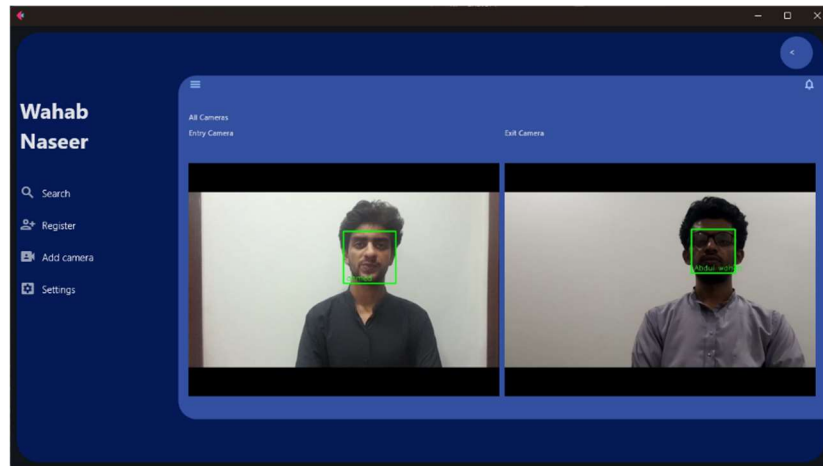# 4. Using the Application

Step 5: Starting the Camera Feed

To begin the face recognition process, start the camera feed by clicking on the 'Start Camera' button. Ensure the correct camera is selected from the dropdown menu if multiple cameras are available. The live feed will display in the main window.
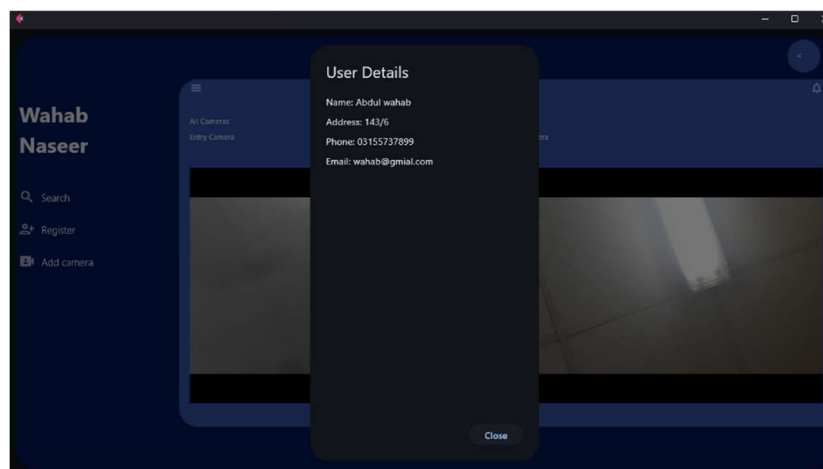
Step 6: Face Recognition Process
The application will automatically detect and recognize faces in real-time. When a face is recognized, the system logs the entry or exit along with the timestamp. If an unknown face is detected, the system alerts you with a beep sound and logs the event as an unrecognized entry.
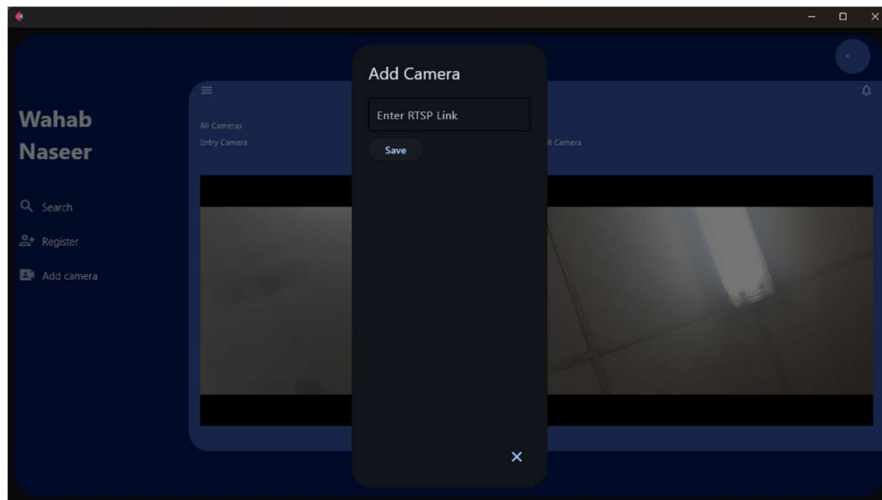

Step 7: Searching User Records
You can search for user records by navigating to the 'Records' section. Enter the user's name or other identifying information to retrieve their entry/exit logs, including time stamps and captured images.

Step 8: Adding a New Camera Feed
To add a new camera feed, go to the 'Settings' menu and select 'Add Camera.' Enter the RTSP link of the camera feed you wish to add and click 'Save.' The new feed will be available for monitoring and face recognition.
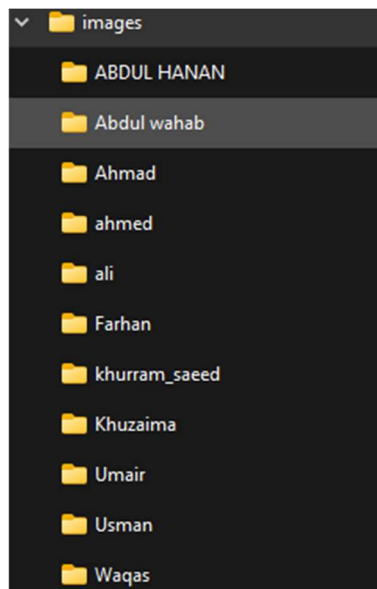
5. Advanced Features

Step 9: Customizing Tolerance Levels
The tolerance level determines the sensitivity of the face recognition system. You can adjust this setting by going to the 'Settings' menu and selecting 'Face Recognition Tolerance.' A lower tolerance increases recognition accuracy but may require better quality images, while a higher tolerance allows for more flexibility.

Step 10: Training the Model
You can train the face recognition model with new faces by adding reference images to the designated folder and running the training script. The model will update its database with new faces, improving recognition accuracy.

6. Troubleshooting

Step 11: Common Issues and Solutions

- Camera Not Opening: Ensure that your camera is properly connected and that no other applications are using the camera. Restart the application if the issue persists.

- Face Not Being Recognized: Check the lighting conditions and ensure the user's face is within the camera's frame. You may need to adjust the tolerance level or retrain the model with updated images.

- Database Errors: If you encounter database errors, verify that your database service is running correctly. Ensure that your database configuration settings in the application are correct.

7. FAQ

Step 12: Frequently Asked Questions

- Q: Can I use an external camera with the application?
  A: Yes, you can use any camera that provides an RTSP link. Simply add the link in the 'Add Camera' section.

- Q: How many users can the system handle?
  A: The application can manage up to several thousand users, depending on your system's hardware capacity.

- Q: What should I do if the application fails to recognize a user?
  A: Ensure the user's reference image is clear and well-lit. You may need to retrain the model with updated images if the problem persists.

8. Contact Support

Step 13: Getting Help

If you encounter any issues not covered in this guide, or if you need further assistance, please contact our support team at 599.wahab@gmail.com or call +92 3155737899. We are available Monday through Friday, 9 AM to 5 PM.