

A high-angle, close-up photograph of a person's hands in a dark suit typing on a black computer keyboard. The person is wearing a silver-toned wristwatch with a dark leather strap on their left wrist. To the right of the keyboard is a computer monitor displaying a web application with various data fields and buttons. In the top-left corner, a blue book or manual is partially visible. The desk surface is a light-colored wood. A white text box with a black border is overlaid on the image, containing the main title and a subtitle.

Attendance Management Web-Portal

INTEGRATED WITH FACE RECOGNITION CAMERA

PROJECT
presentation



Presented By -

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Amrutvahini Polytechnic

Sheti and Shikshan Vikas Sanstha, Sangamner

Solution to the problem

- ✓ Helps managing records.
- ✓ Capture attendance automatically.
- ✓ Reduces human efforts.
- ✓ Maintaining records is easier task.
- ✓ Attendance gets marked from faces recognized.

A person wearing a white button-down shirt is shown from the chest down, pointing their right index finger towards a screen. The background is slightly blurred, focusing attention on the hand and the text overlay.

User Based Problem

- Traditional way of hand written registers.
- Time Consuming.
- Becomes complicated with increase in strength.
- Tedious job to maintain records of students.



Introduction

Attendance Management Web-portal
Integrated with Face Recognition Camera

Introduction

- ❑ Face recognition is an important application of Image processing owing to its use in many fields.
- ❑ Identification of a person in a classroom for the purpose of attendance is one such application of face recognition.
- ❑ The purpose of developing attendance management system is to computerize the traditional way of taking attendance.
- ❑ Performs the daily activities of attendance marking and analysis with reduced human efforts.

Software Requirements

XAMPP
Pycharm

Hardware Requirements

Computer System with -
Processor : AMD Ryzen 7
Solid State Drive – 500GB
Ram : 16 GB
Camera with good resolution

Programming Languages

HTML
CSS
JAVASCRIPT
PHP
PYTHON
MYSQL



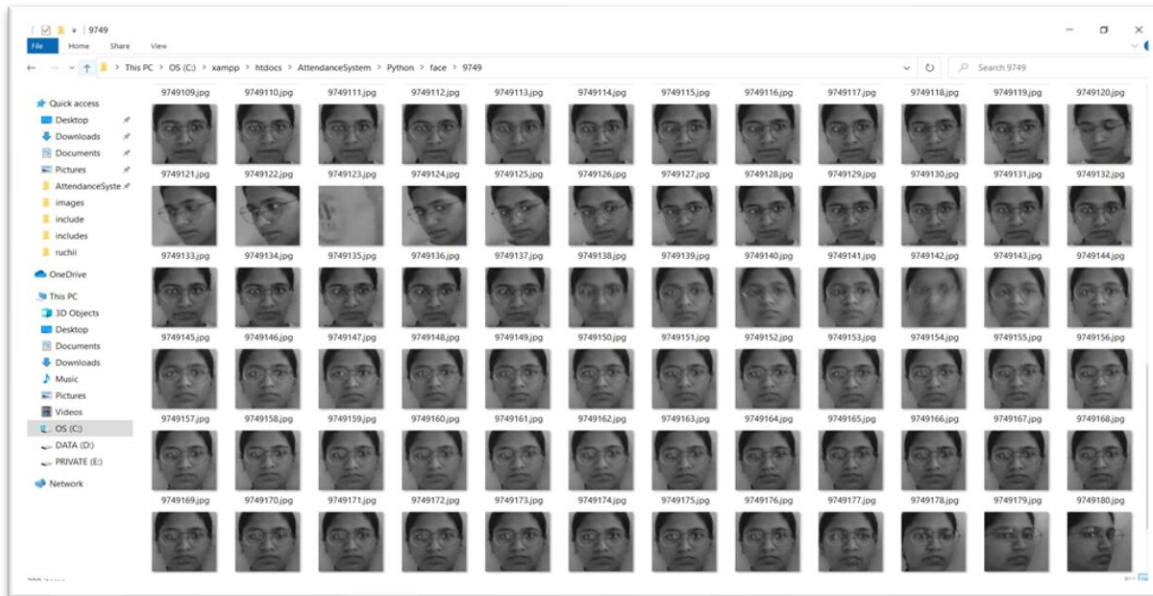
Procedure...

Following steps are taken into consideration while making project

- 1) Student Registration & Train Model
- 2) Login
- 3) Dashboard
- 4) Face Detection
- 5) Face Preprocessing
- 6) Face Recognition
- 7) Storing Attendance to Database

Student Registration & Train Model

1. Python code is used.
2. Manually done.
3. Student data fetched and stored in database.
4. Images are captured of each student.



Data Registration -

- Face Registration

```
C:\Windows\py.exe
Email: ruchitaamale.click@gmail.com
Enrollment No (4 Digit number): 9749
Roll No: 17
Mobile No: 8888926475

Select Department:
    1. Computer
    2. Mechanical
    3. IT
    4. Automobile
    5. E&TC
    6. Civil
Enter Choice: 1

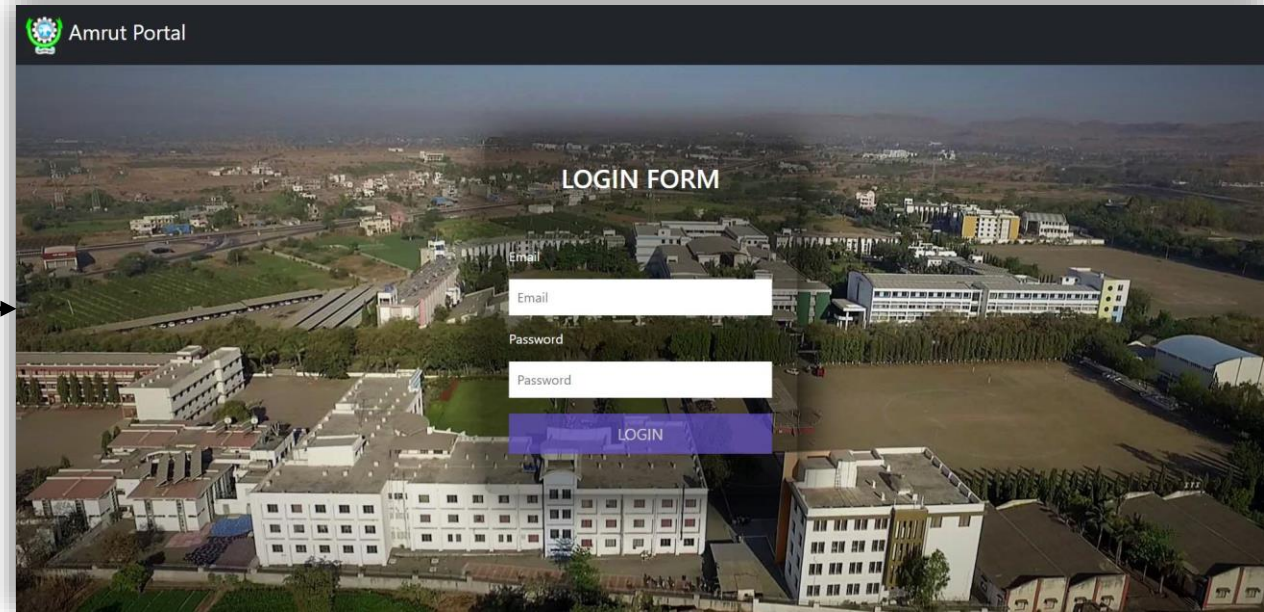
Select Semester:
    1. Semester 1
    2. Semester 2
    3. Semester 3
    4. Semester 4
    5. Semester 5
    6. Semester 6
Enter Choice: 6

Shift:
    1. Shift 1
    2. Shift 2
Enter Choice: 1
```


Login

Consist of three types:

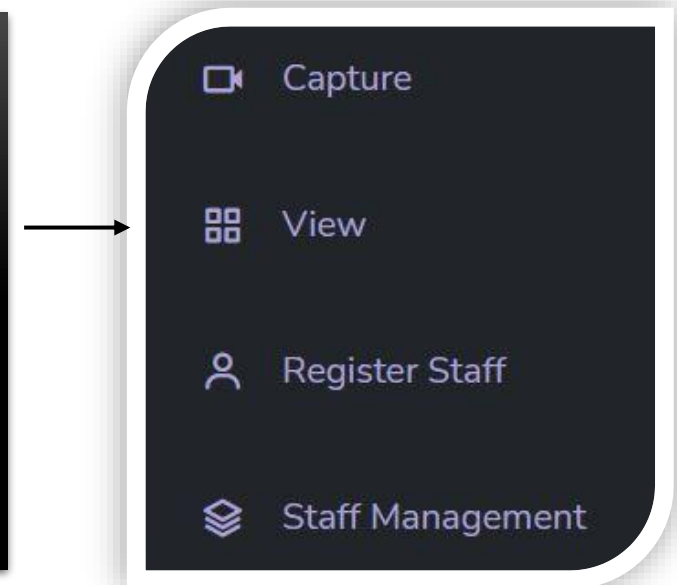
1. Student Login
2. Teacher Login
3. Admin Login



Dashboard

Consists of variety of Features :

1. Capture Attendance
2. View Attendance
3. Register Staff
4. Staff Management
5. Profile





View Attendance -

Here we take user input using form controls such as department, class shift and subject. When the user click on View button displays the attendance of selected subject.

Amrut Portal

View Attendance

SelectDepartment

--Select--

SelectClass

--Select--

SelectShift

--Select--

SelectSubject

--Select--

View Attendance

To view the Attendance Select the Department Class & Shift of your class and press Record Attendance

Amrutvahini Polytechnic - Attendance Web Portal

AMRUTVAHINI POLYTECHNIC

CONTACT

Amrutvahini Polytechnic, To provided Diploma course it has been established in the year 1983 on no grant basis at Amrutnagar as the outcome of hard efforts made by Late Hon. Shri. BHAUSAHEB THORAT, the President of the "Amrutvahini Sheti & Shikshan Vikas Sanstha"

Address: Amrutvahini Polytechnic, P.O. Sangamner S.K.,Tal. Sangamner, Dist. Ahmednagar-422608, Maharashtra, India.

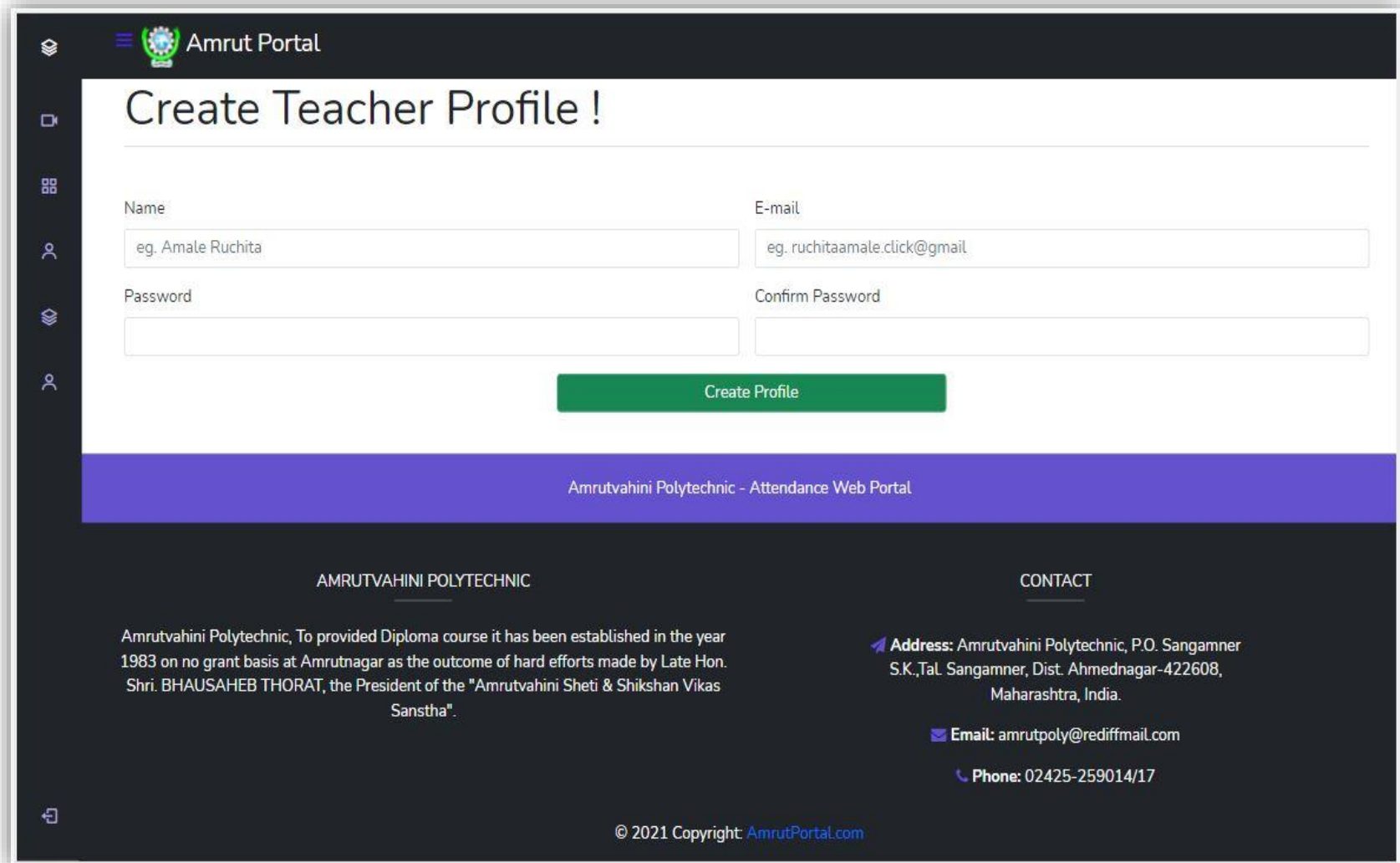
department: ComputerTechnology
class: CM1
shift: Shift1
subject: ENG

| date | present_students |
|---------------------|------------------|
| 2021-07-01 00:53:41 | 9749 |

Select other subject.

Register Staff -

It is used to create a new teacher profile. When the admin enter the data, the data in the form gets fetched and stored to the user table and teacher login is created.



The screenshot shows the 'Amrut Portal' interface for creating a teacher profile. The form is titled 'Create Teacher Profile !' and contains four input fields: 'Name' (with a placeholder 'eg. Amale Ruchita'), 'E-mail' (with a placeholder 'eg. ruchitaamale.click@gmail'), 'Password', and 'Confirm Password'. A green 'Create Profile' button is located below the fields. The footer of the page includes the text 'Amrutvahini Polytechnic - Attendance Web Portal', the institution's name 'AMRUTVAHINI POLYTECHNIC', a detailed description of the institution, contact information (Address, Email, Phone), and a copyright notice for 2021.

Amrut Portal

Create Teacher Profile !

Name

E-mail

Password

Confirm Password

Create Profile

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Email: amrutpoly@rediffmail.com


Phone: 02425-259014/17

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Manage Staff -

It is used to Manage Staff Profiles. Here, all the staff information is fetched and presented in table format.

 Amrut Portal

Staff Management!

| Name | Email | Department | Action |
|--------------|--------------------|---------------------|------------------------|
| Amol Shekar | teacher1@gmail.com | Computer Technology | delete |
| Baheti S. S. | teacher2@gmail.com | Computer Technology | delete |

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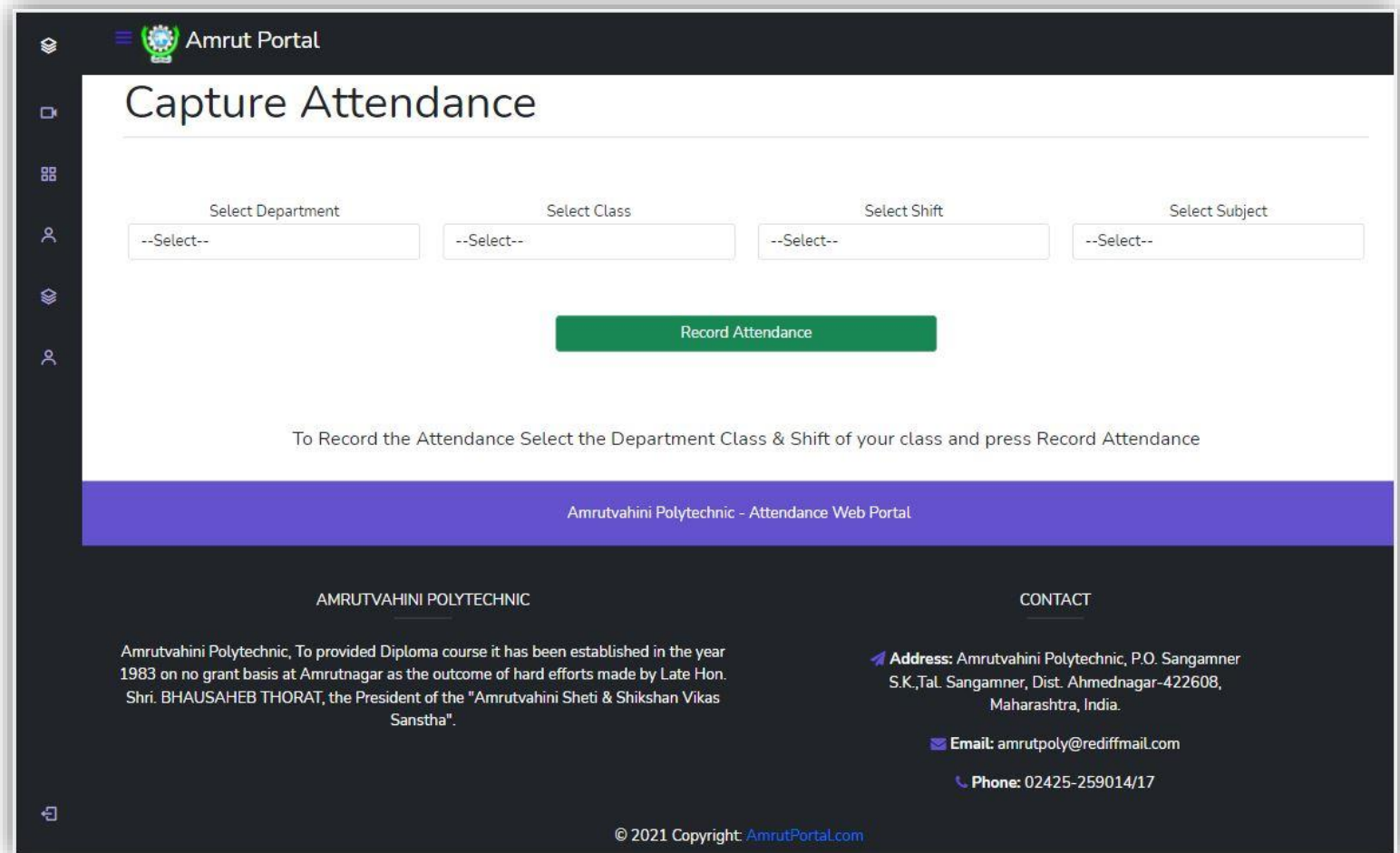
Address: Amrutvahini Polytechnic, P.O. Sangamner S.K.,Tal. Sangamner, Dist. Ahmednagar-422608, Maharashtra, India.

Email: amrutpoly@rediffmail.com

Phone: 02425-259014/17

Capture Attendance-

When user gives the input to the form, the camera connected to the system starts taking the pictures of the students in the classroom. There are many faces captured in this single image and finally this image is send for further processing.



The screenshot shows a web application titled "Amrut Portal" with a "Capture Attendance" form. The form includes four dropdown menus for "Select Department", "Select Class", "Select Shift", and "Select Subject", each with "--Select--" as the default value. A green "Record Attendance" button is positioned below these fields. A message states: "To Record the Attendance Select the Department Class & Shift of your class and press Record Attendance". The footer contains the text "Amrutvahini Polytechnic - Attendance Web Portal", "AMRUTVAHINI POLYTECHNIC", and "CONTACT". The contact information includes the address: "Amrutvahini Polytechnic, P.O. Sangamner S.K., Tal. Sangamner, Dist. Ahmednagar-422608, Maharashtra, India.", email: "amrutpoly@rediffmail.com", and phone: "02425-259014/17". The copyright notice at the bottom reads "© 2021 Copyright: AmrutPortal.com".

Amrut Portal

Capture Attendance

Select Department: --Select-- Select Class: --Select-- Select Shift: --Select-- Select Subject: --Select--

Record Attendance

To Record the Attendance Select the Department Class & Shift of your class and press Record Attendance

Amrutvahini Polytechnic - Attendance Web Portal

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Face Detection

Face detection is a process of locating a face inside an image frame. Face Detection targets on finding the faces (area and size) in an image and probably extract them to be used by the face recognition algorithm. In recent years, many methods are proposed for detecting the faces. Here, we will be using haar-cascade method.

Face Preprocessing

Not all the pictures have the same zoom on the face and may not all have the same size. Most of the algorithms for facial recognition require the same size for the entire training set. Pre-processing includes different modifications. First of all, the faces need to be centered in the picture in the same way. The aim is to have the eyes at the same level and the nose at the same position for all images.





Face Recognition

When the faces will be detected and sorted, then finally each of those faces will be taken into consideration one after another. Each face will be compared with the faces previously stored into the database at the time of training model.

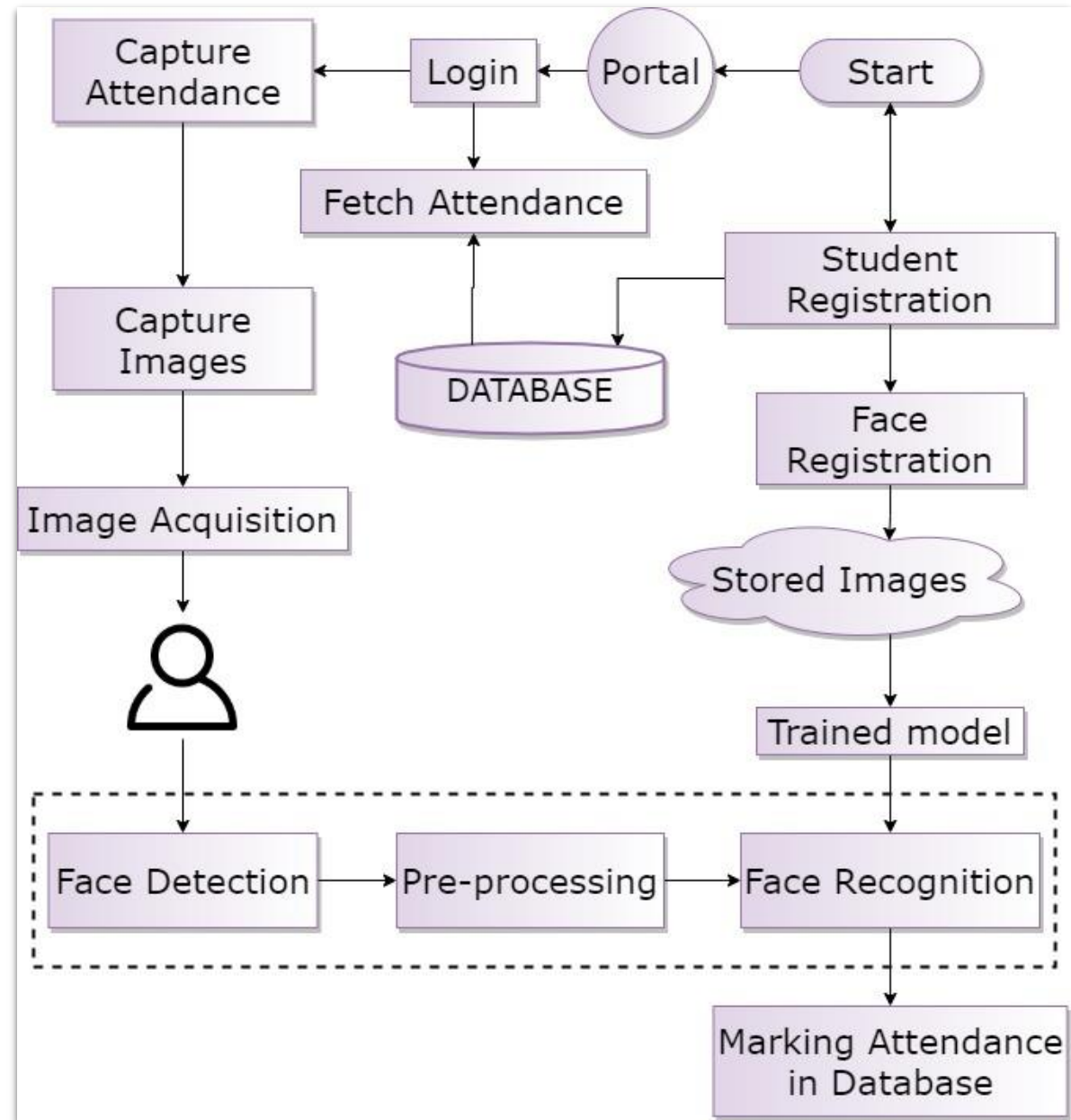


Storing Attendance to Database

Now finally, a specified data of the faces recognized by using LBPH method will be send to the server for marking Attendance.



System Diagram





Thank You

Amale Ruchita



Shinde Kalyani



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