



Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE
(All Programs Accredited by NBA)

Department of Information Technology



AI Based Smart Attendance System

Group No. 20

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Introduction

- One necessary component of every education system is recording students attendance.
- The entire process could be time consuming if it is managed manually.
- Automation of recording student's attendance is beneficial for faculties as well as students and parents too.

Objectives

- To develop a smart attendance management system using facial recognition that will take care of the problems which are being faced in manual attendance systems.
- To develop a message alert system to notify parents about ward's attendance.
- To make a dashboard to review and visualize attendance of a student.
- To make it useful not only to wards but also to faculties for scheduling or rescheduling the lectures.

Problem Definition

- To record the attendance can be a great burden on the faculties if it is done by manually, and sending report of each student's attendance to respective parents also becomes tedious.
- To schedule the lectures for faculties at given time slot becomes easy.
- To provide visualization of ward's attendance can be easily done by parents.
- By utilizing this framework, the problem of proxies and students being marked present even though they are not physically present can easily be solved.

Technological Stack

- **Software and Languages:**

1. Python3 (libraries required OpenCV and Chart.js).
2. HTML, CSS.
3. MySQL.
4. Flask web framework

- **Algorithms used in face detection and recognition process:**

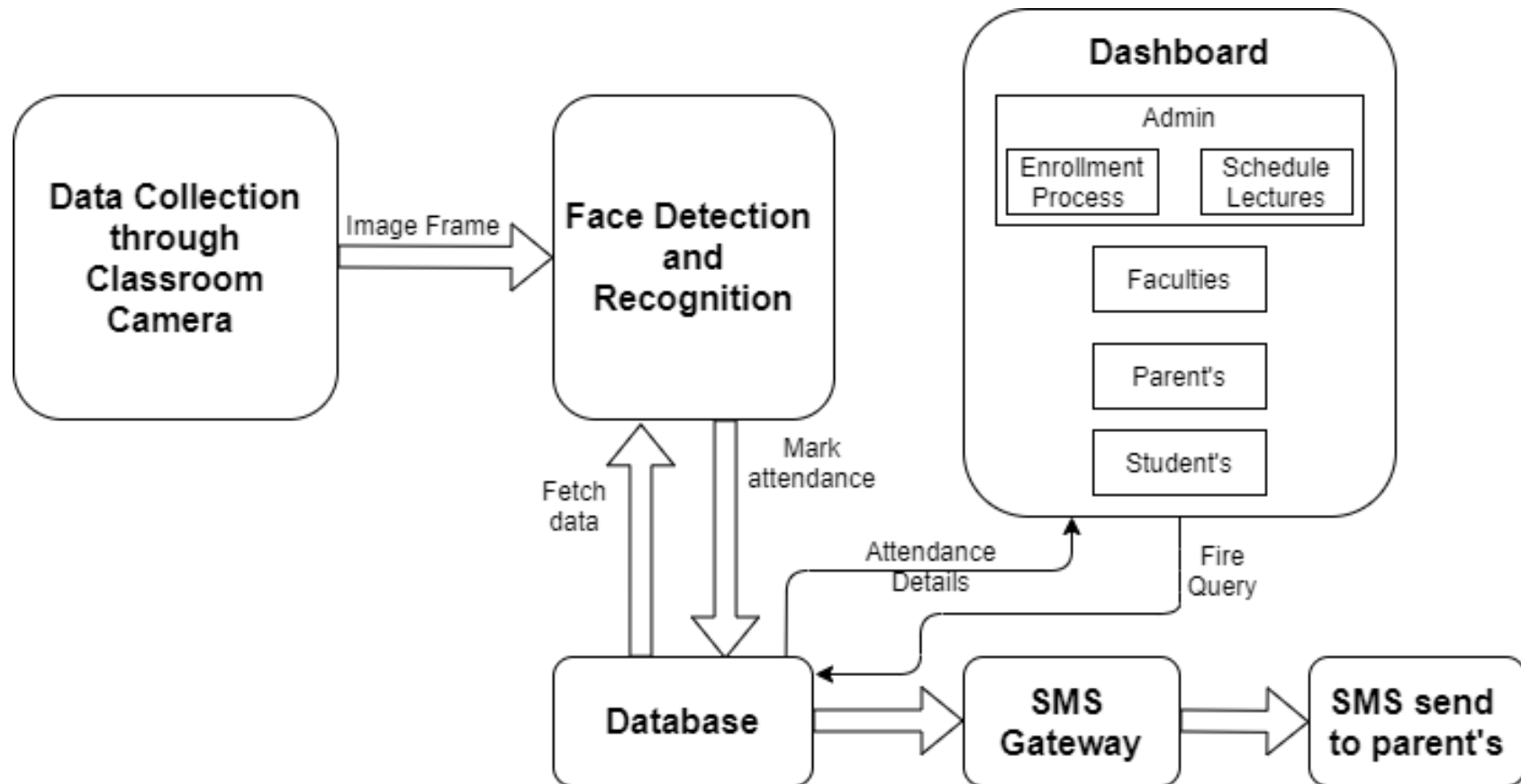
1. HCC (Haar Cascade Classifier)

- **Hardware:**

1. Webcam.
2. CCTV Camera.

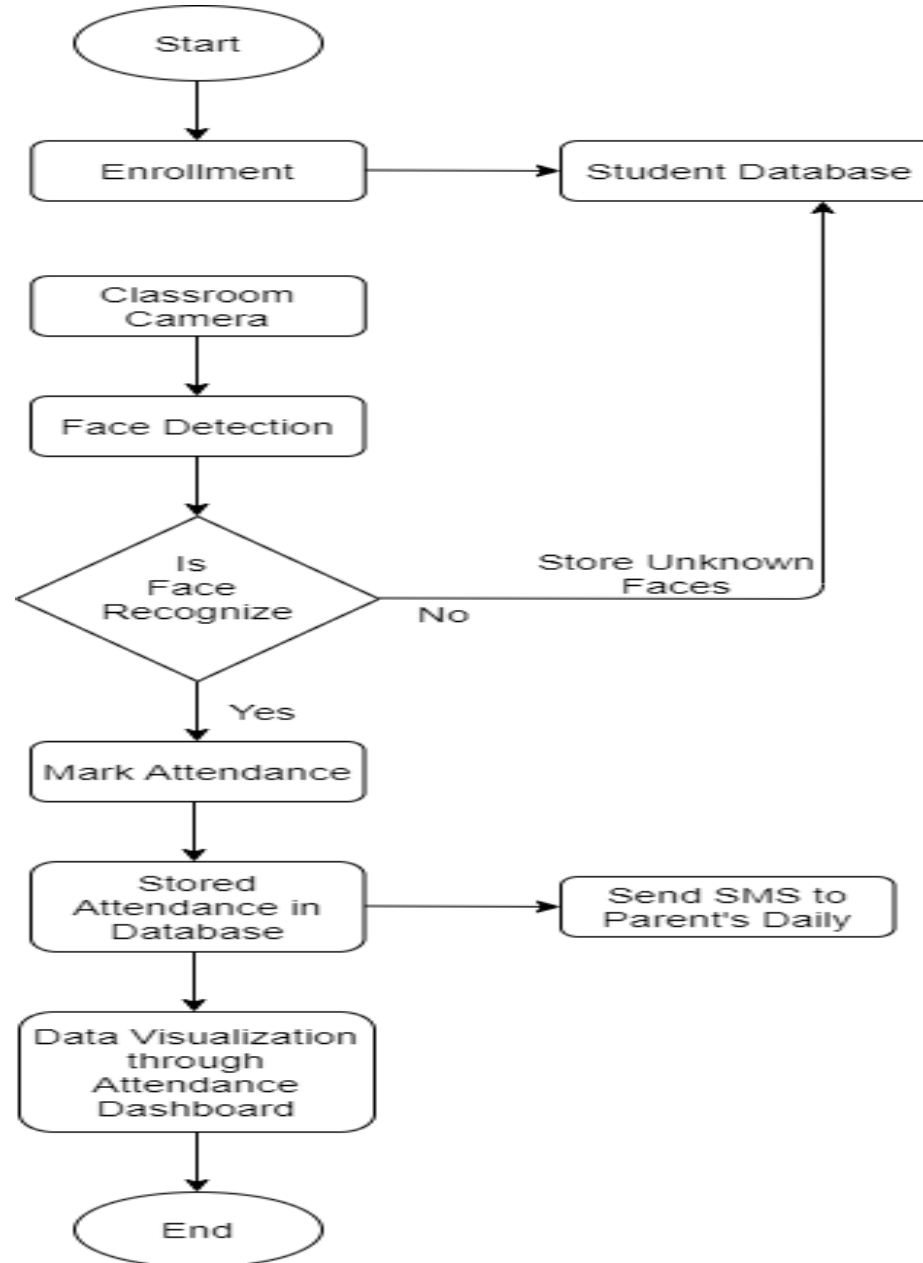
Proposed System Architecture/Working

- Architecture:



System architecture

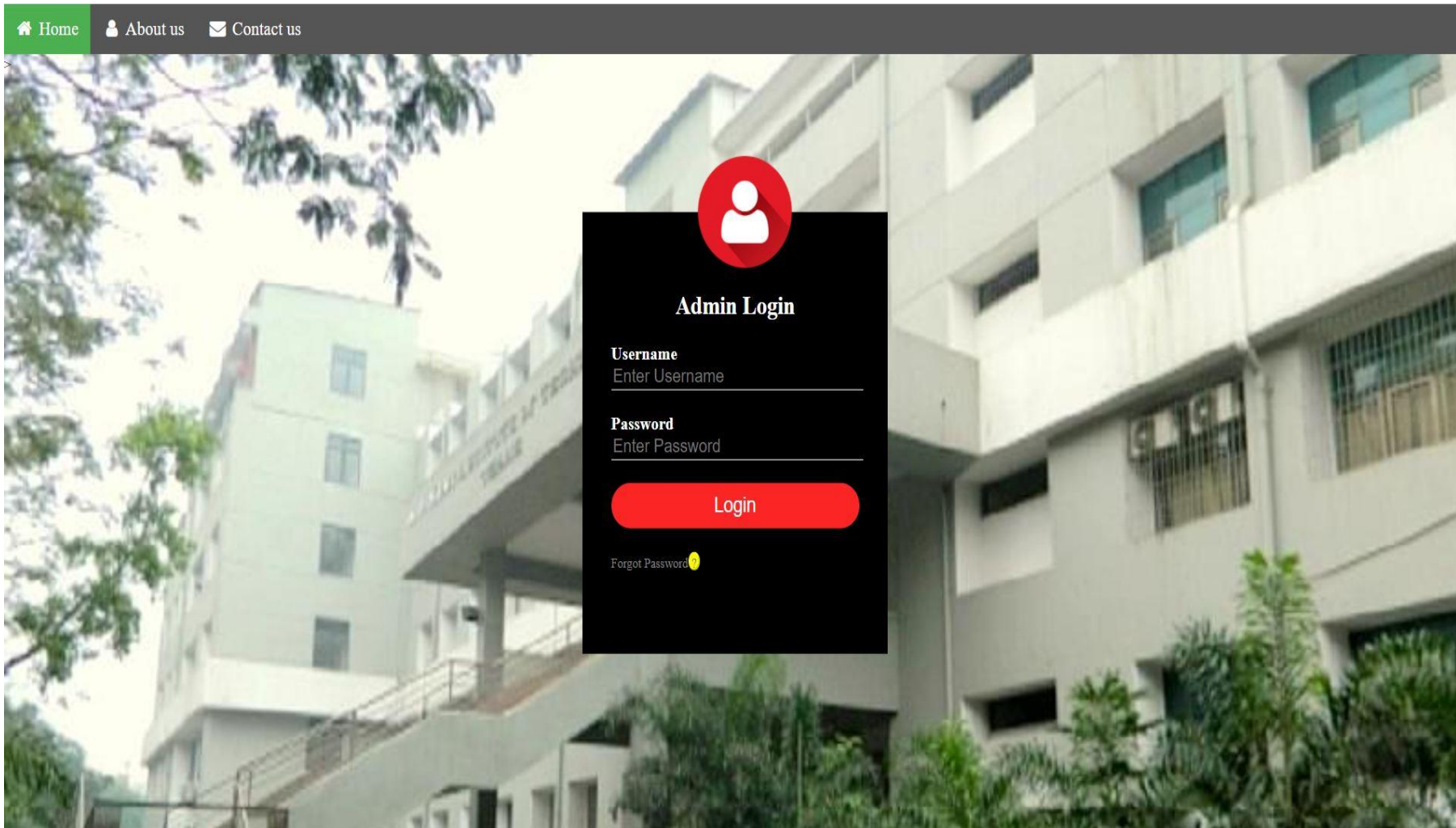
Proposed System Architecture/Working



Flowchart

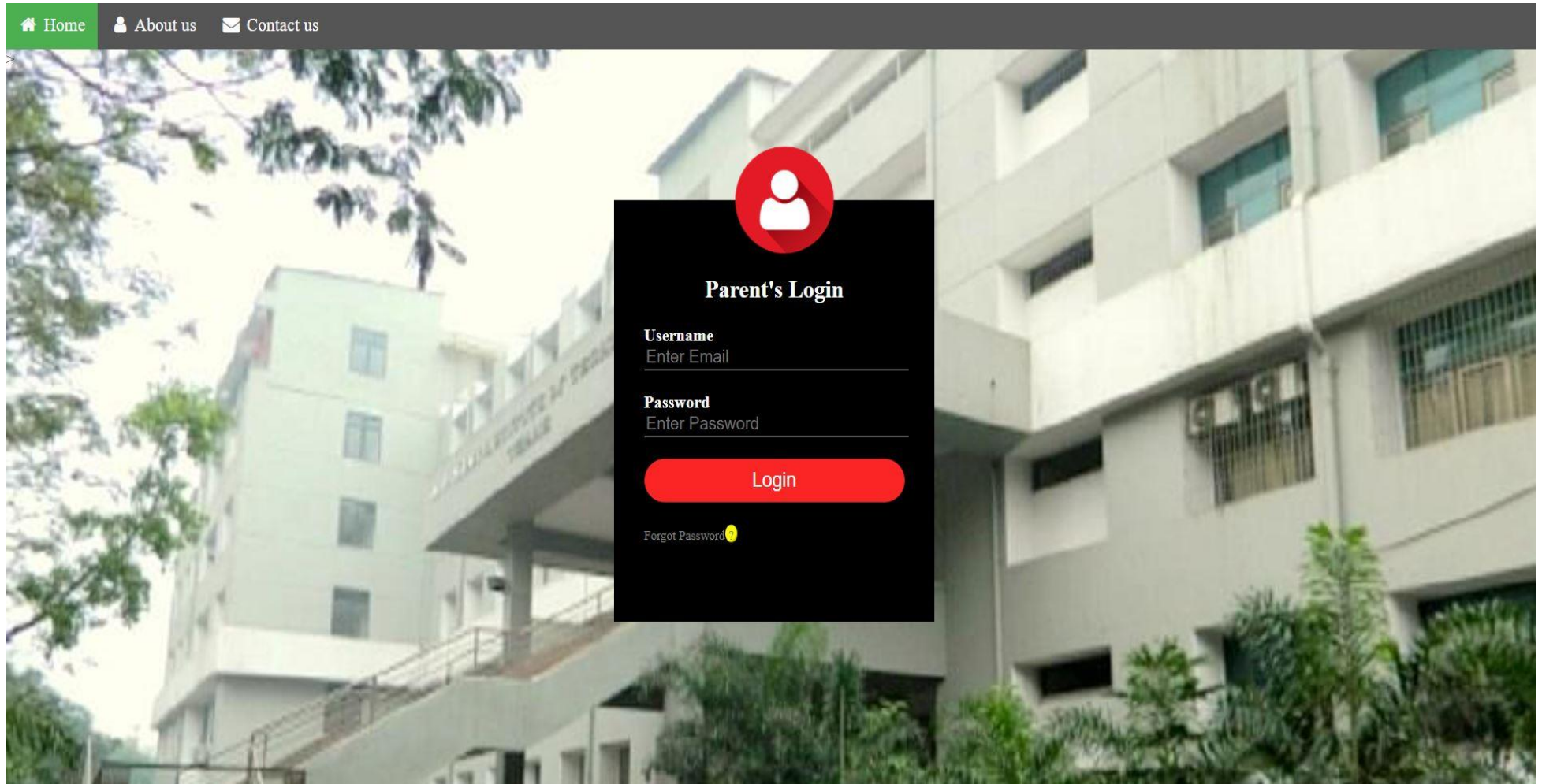
Prototype Design Demonstration

- **Admin login:**



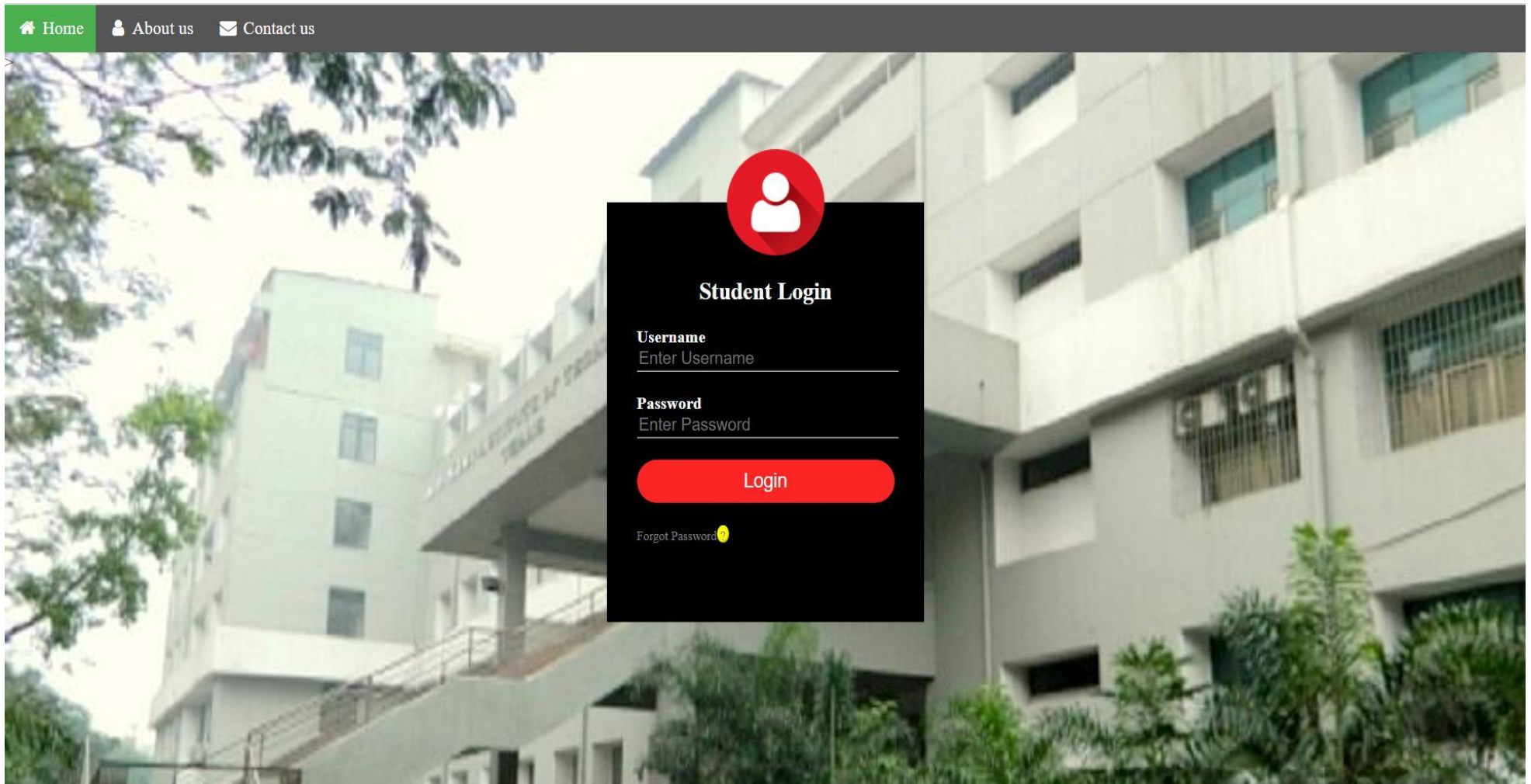
Prototype Design Demonstration

- **Parent's login:**



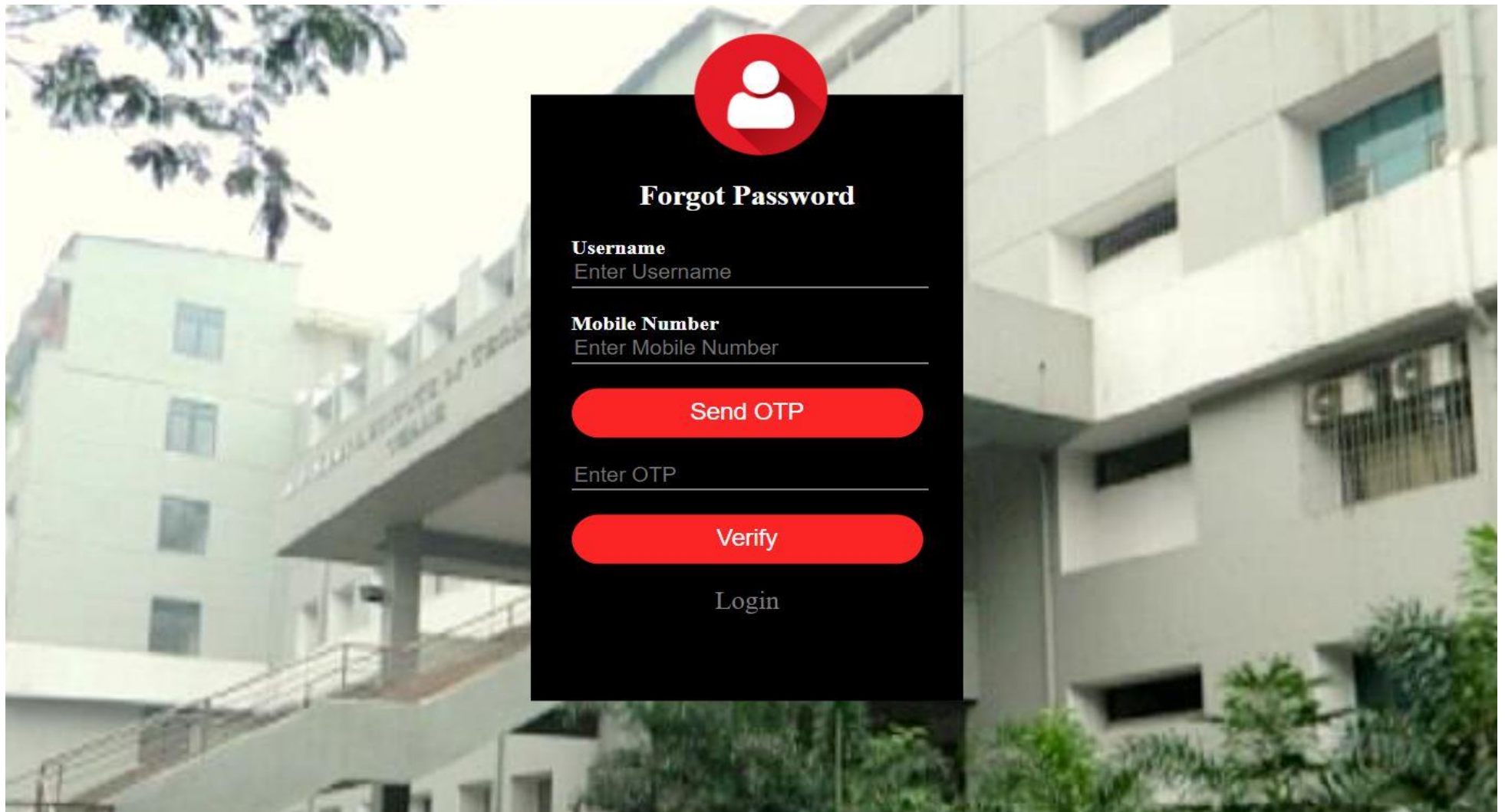
Prototype Design Demonstration

- Student login:



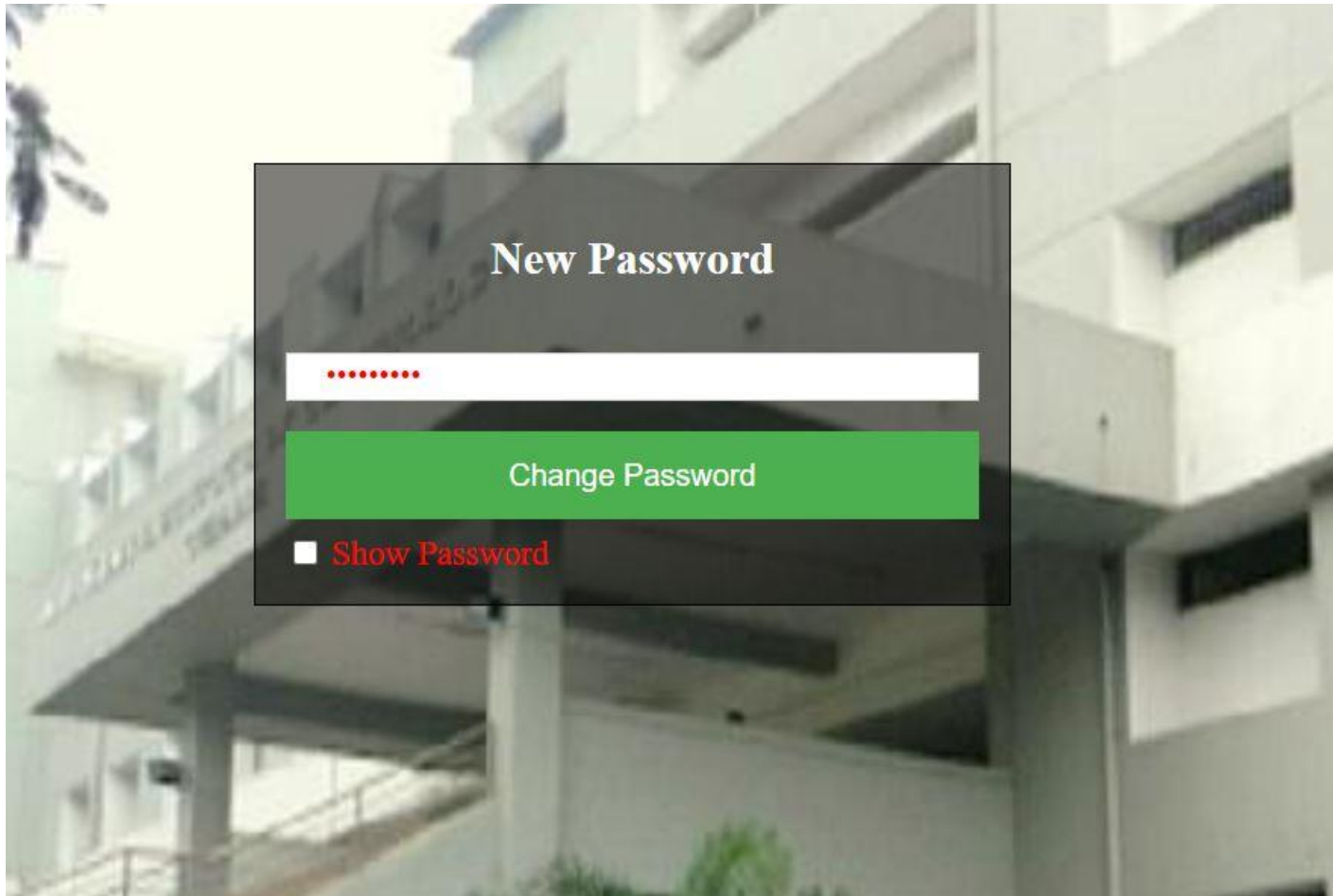
Prototype Design Demonstration

- **Forgot password:**



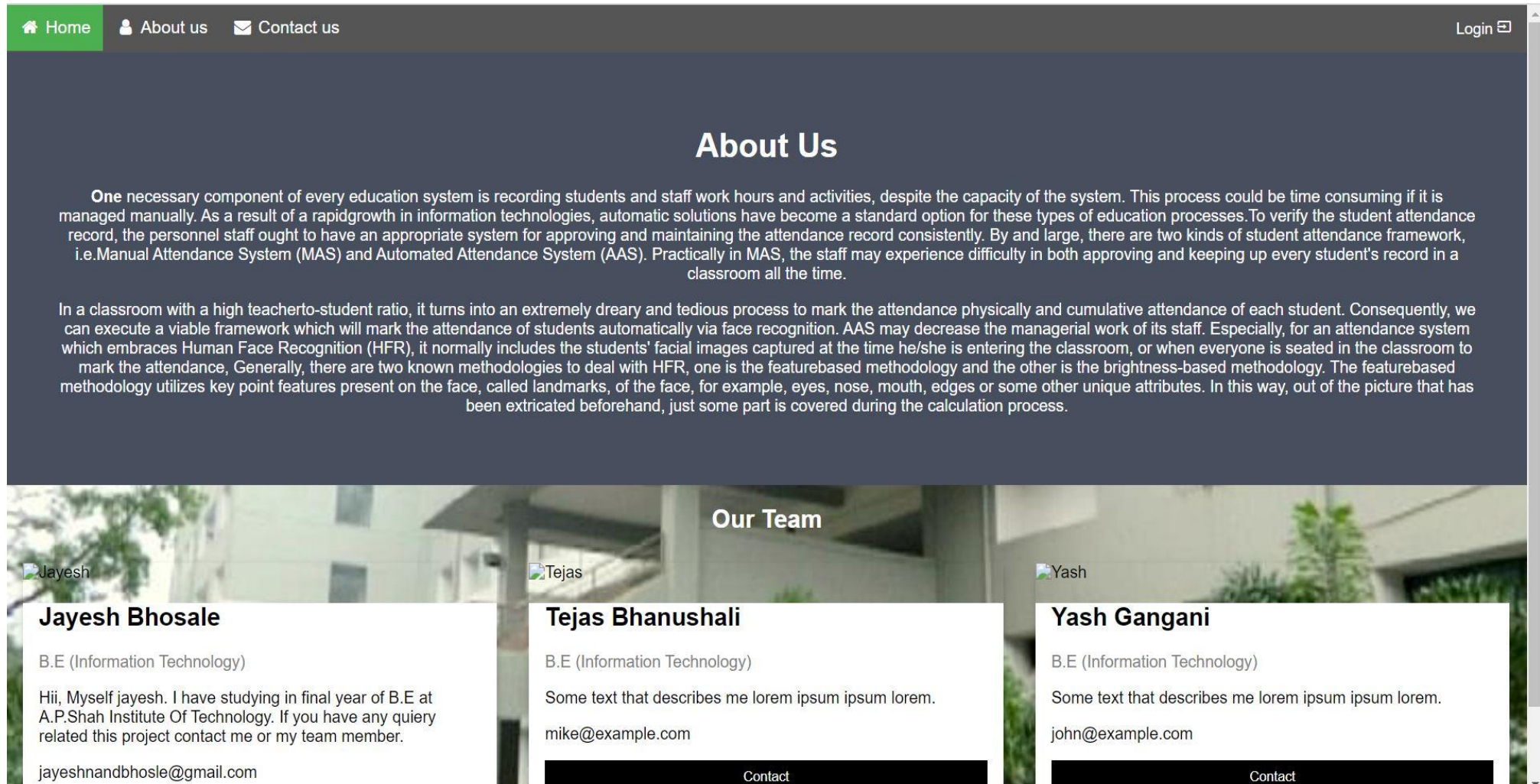
Prototype Design Demonstration

- **New password:**



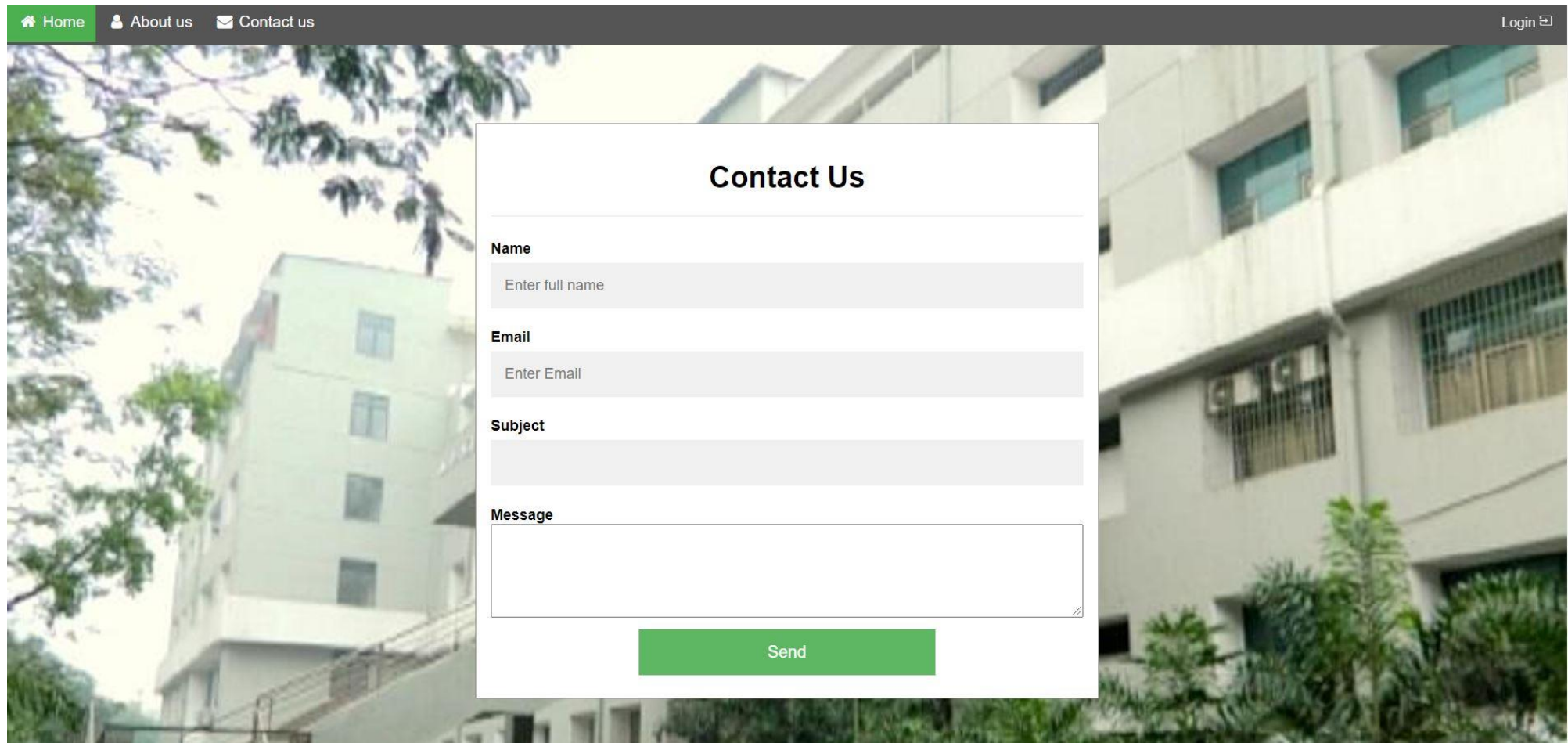
Prototype Design Demonstration

- About us:



Prototype Design Demonstration

- **Contact us:**



Home About us Contact us Login

Contact Us

Name
Enter full name

Email
Enter Email

Subject

Message

Send

Prototype Design Demonstration

- **Student Registration:**

Add Student's

Student Name	<input type="text" value="Student name.."/>
Parent's Name	<input type="text" value="Parent's name.."/>
Moodle Id	<input type="text" value="Enter Moodle Id.."/>
Class	<input type="text" value="FE"/>
Division	<input type="text" value="A"/>
Mobile Number	<input type="text" value="Mobile Number.."/>
Parent's Mobile Number	<input type="text" value="Parent's Mobile number.."/>
Upload Image	<div><div>Choose File</div><div>No file chosen</div><div>Upload</div></div>
OR	
Upload bulk file	<div><div>Choose File</div><div>No file chosen</div><div>Upload</div></div>
<div>Submit</div>	

Prototype Design Demonstration

- **Student Registration:**

The screenshot shows a web application interface for student registration. On the left is a dark sidebar with a menu containing: 'E-Attendance' (highlighted in blue), 'Registration' (with a dropdown arrow), 'Add Students' (with a dropdown arrow), 'Register Student', 'Face Enrollment', 'Add Parents', 'Add Faculty', 'Schedule Lectures', 'View Attendance', and 'Camera/Classroom settings'. The main content area has a grey header with the title 'Add Student's'. Below the header are several input fields: 'Student name..', 'Parent's name..', 'Enter Moodle Id..', a dropdown menu with 'FE' selected, another dropdown menu with 'A' selected, 'Mobile Number..', and 'Parent's Mobile number..'. At the bottom, there are two identical upload sections. Each section contains a 'Choose File' button, the text 'No file chosen', and a green 'Upload' button. Between these two sections is the text 'OR'. At the bottom right of the main area is a green 'Submit' button.

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E-Attendance

Registration ▾

Add Students ▾

Register Student

Face Enrollment

Add Parents

Add Faculty

Schedule Lectures

View Attendance

Camera/Classroom settings

number

Add Student's

Student name..

Parent's name..

Enter Moodle Id..

FE ▾

A ▾

Mobile Number..

Parent's Mobile number..

Choose File No file chosen

Upload

OR


Choose File No file chosen

Upload

Submit

Prototype Design Demonstration

- **Parent's Registration:**




Add Parents

Parent's Name	<input type="text" value="Parent's name.."/>
Email Id	<input type="text" value="Your Email Id.."/>
Student's Name	<input type="text" value="Student's name.."/>
Relation	<div>Father</div>
Moodle Id	<input type="text" value="Moodle Id.."/>
Mobile Number	<input type="text" value="Mobile number.."/>
Upload Image	<div><div>Choose File</div> No file chosen<div>Upload</div></div>
OR	
Upload bulk file	<div><div>Choose File</div> No file chosen<div>Upload</div></div>
<div>Submit</div>	

Prototype Design Demonstration

- **Schedule Lectures:**



Schedule Lecture

Subject

Classroom

Date

Timing

MAD

201

MM/DD/YYYY

00:00

To

00:00

Choose File

No file chosen

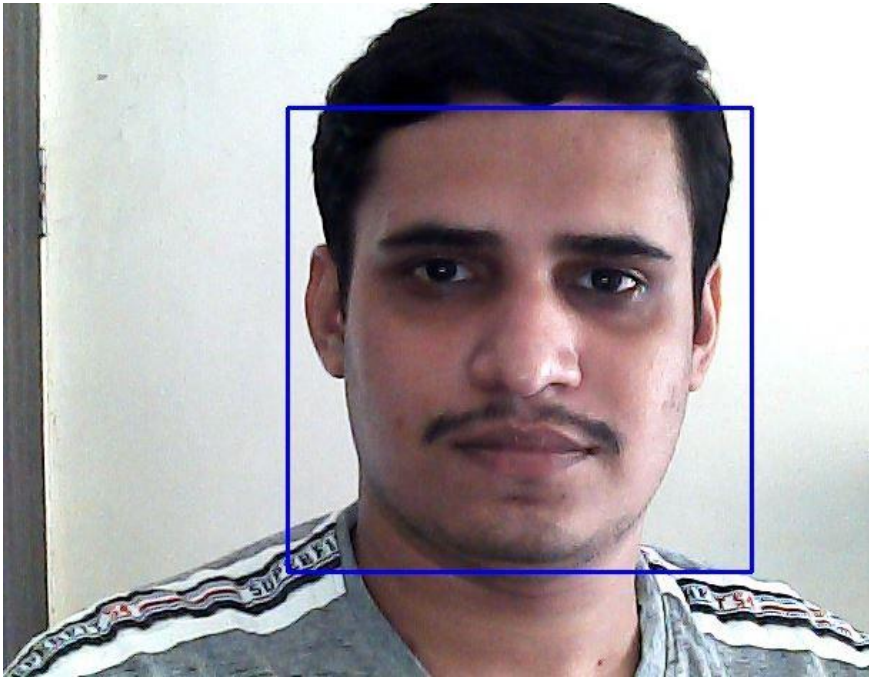
Upload File

Schedule

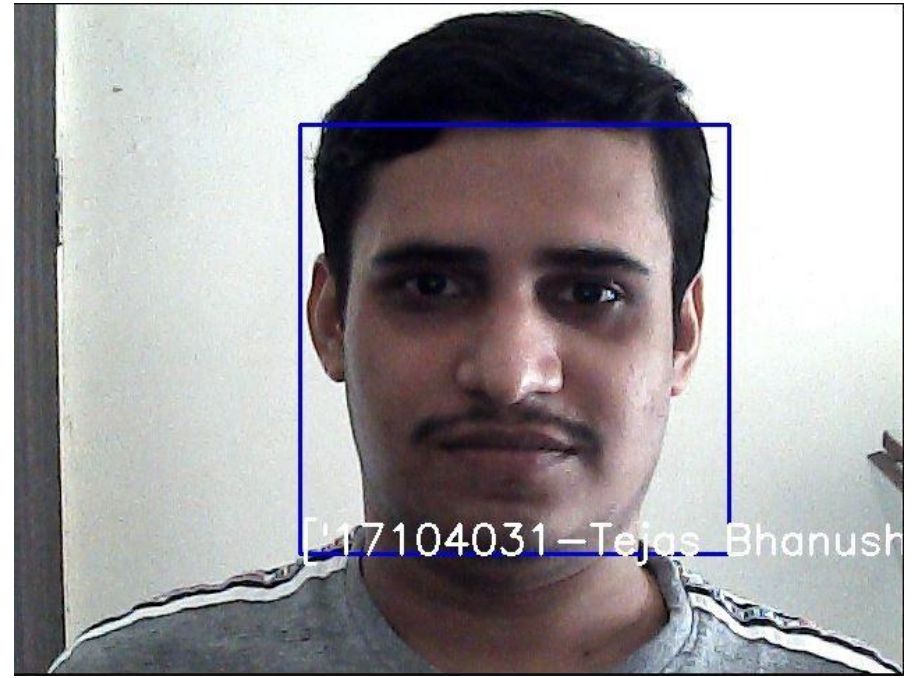
Edit Schedule

Submit

Prototype Design Demonstration



Detect face



Recognize face

Plan of Paper Publication

6th International Conference for Convergence in Technology 2021

Thank You...!!