

# AttendEase

## Face Recognition

### Attendance System

#### CS 203- DSA

# Team Members :

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# Introduction

This Project on automatic face recognition system is a way of simplifying the orthodox style of taking attendance and rather take it through camera captures. This application provides seamless and Easy way of implementing attendance quickly.

AttendEase - is the app that provides the basic functionality of adding student photos, and allowing the teacher to upload the class pic of the day and thereafter generating the students who have been detected in the photograph.

# Project Overview

This Project on automatic face recognition system is a way of simplifying the orthodox style of taking attendance and rather take it through camera captures. This application provides seamless and Easy way of implementing attendance quickly.

AttendEase - is the app that provides the basic functionality of adding student photos, and allowing the teacher to upload the class pic of the day and thereafter generating the students who have been detected in the photograph.

# Project Pipeline

## Face Detection

Detection of Faces present in the class image

## Create Encoding

The model generates unique encodings for each face detected in the photograph

## Compare Faces

Finding the Best match of detected faces with existing Student Photos.

## Generating Results

Getting the Present students and storing and allowing the teacher to get attendance.

## Website Integration

Finally creating a interface for a seamless Project running for the user

# Face Detection

## FACE DETECTION

We tried to do Face Detection through various models such as face-recognition, retina-face, opencv and insightface.

However all the Models gave different Accuracies while detecting faces. However InsightFace performed best in it.

# Creating Encoding

## CREATING ENCODING

For this we used face-recognition, retina-face, and insightface.

Although face-recognition model gave good accuracy with the faces it detected. However due to less number faces being detected, the overall accuracy of people being marked present was low so it did not work out. And Here also, InsightFace performed the best.

# Comparing Faces

## COMPARING FACES

Finding the least distance of a unknown face from the known faces. If faces matches upto a certain deviation, we mark that student present.

# Website Integration

## WEBSITE INTEGRATION

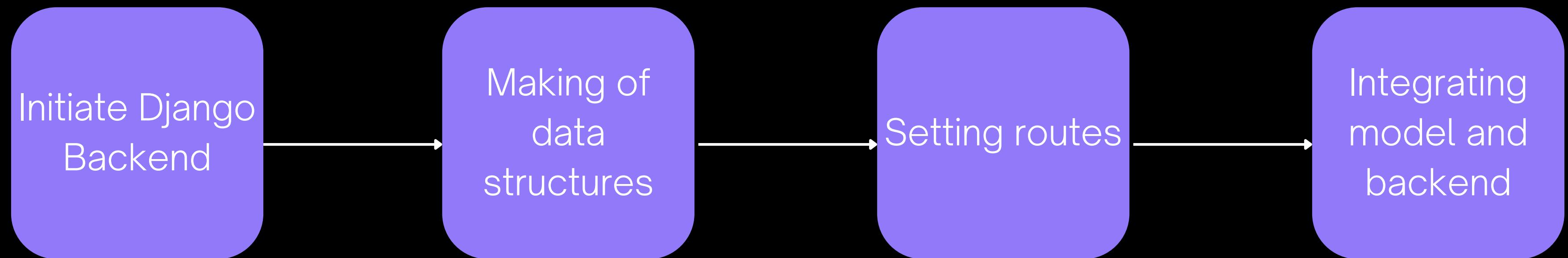
To implement the model smoothly for the user using it, a website with login/logout for the teacher is provided so that they can upload the image through the website. and

# Tech Stacks

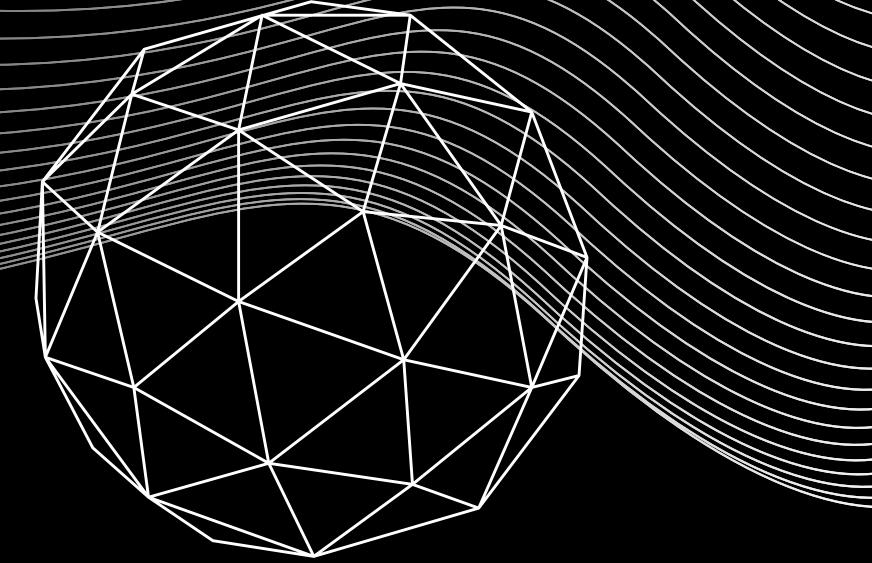


Insightface

# Backend WorkFlow:



# Data Structure Used



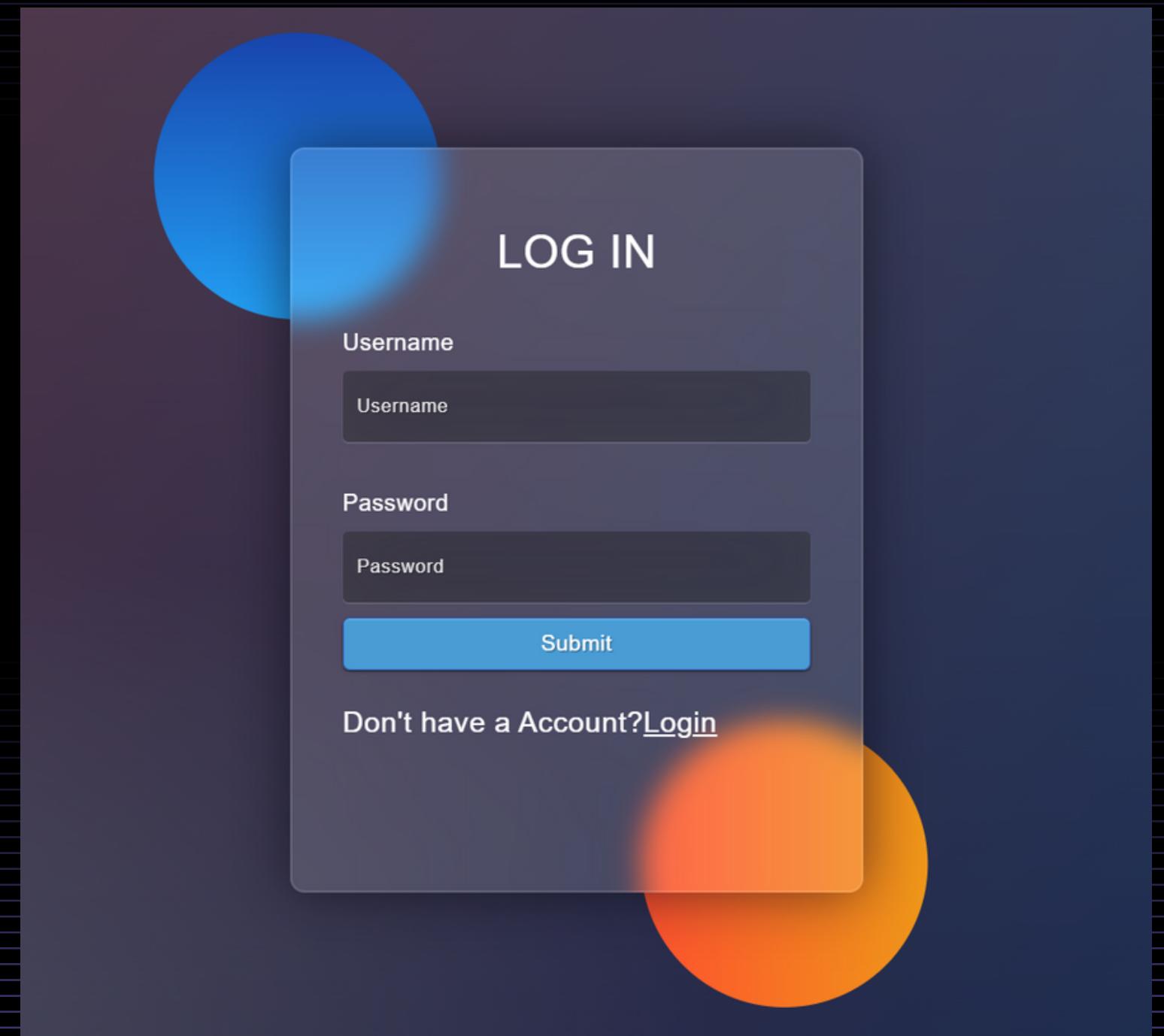
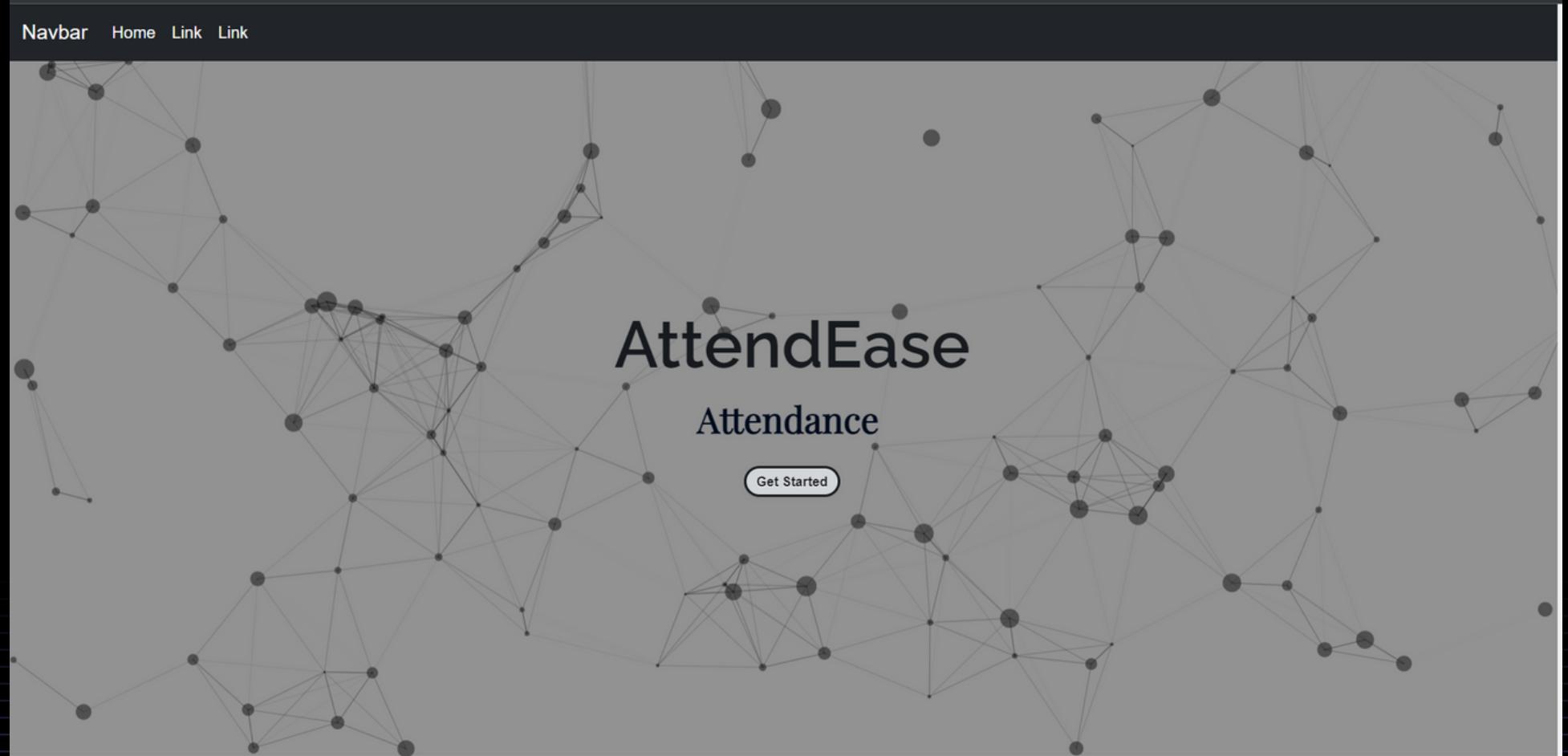
**Numpy Array**

**Python List**

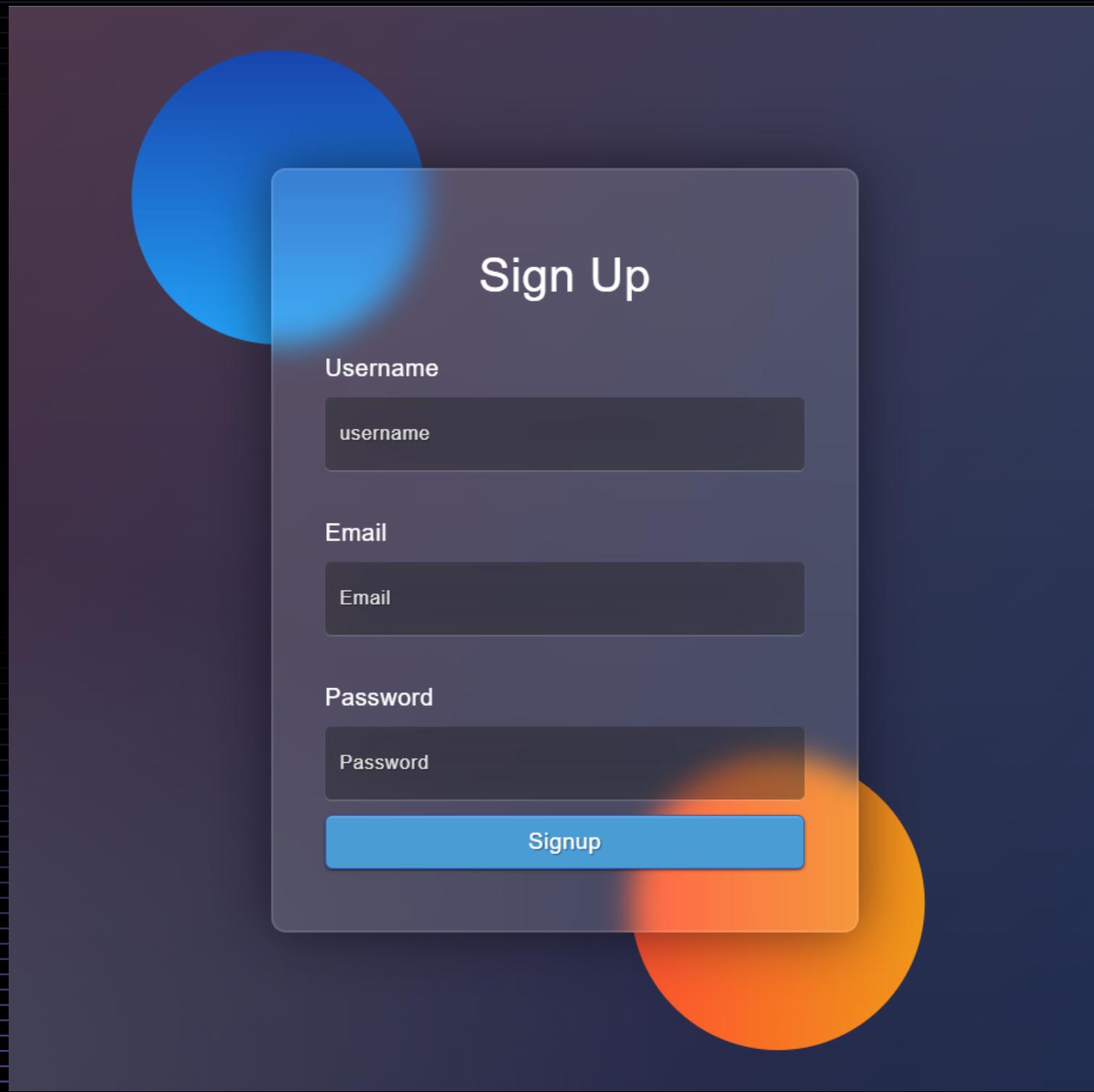
**Hash Tables**

**Json**

# Project Screenshots



# Project Screenshots



# Project Screenshots

AttendEase Home Profile Take Attendance Logout

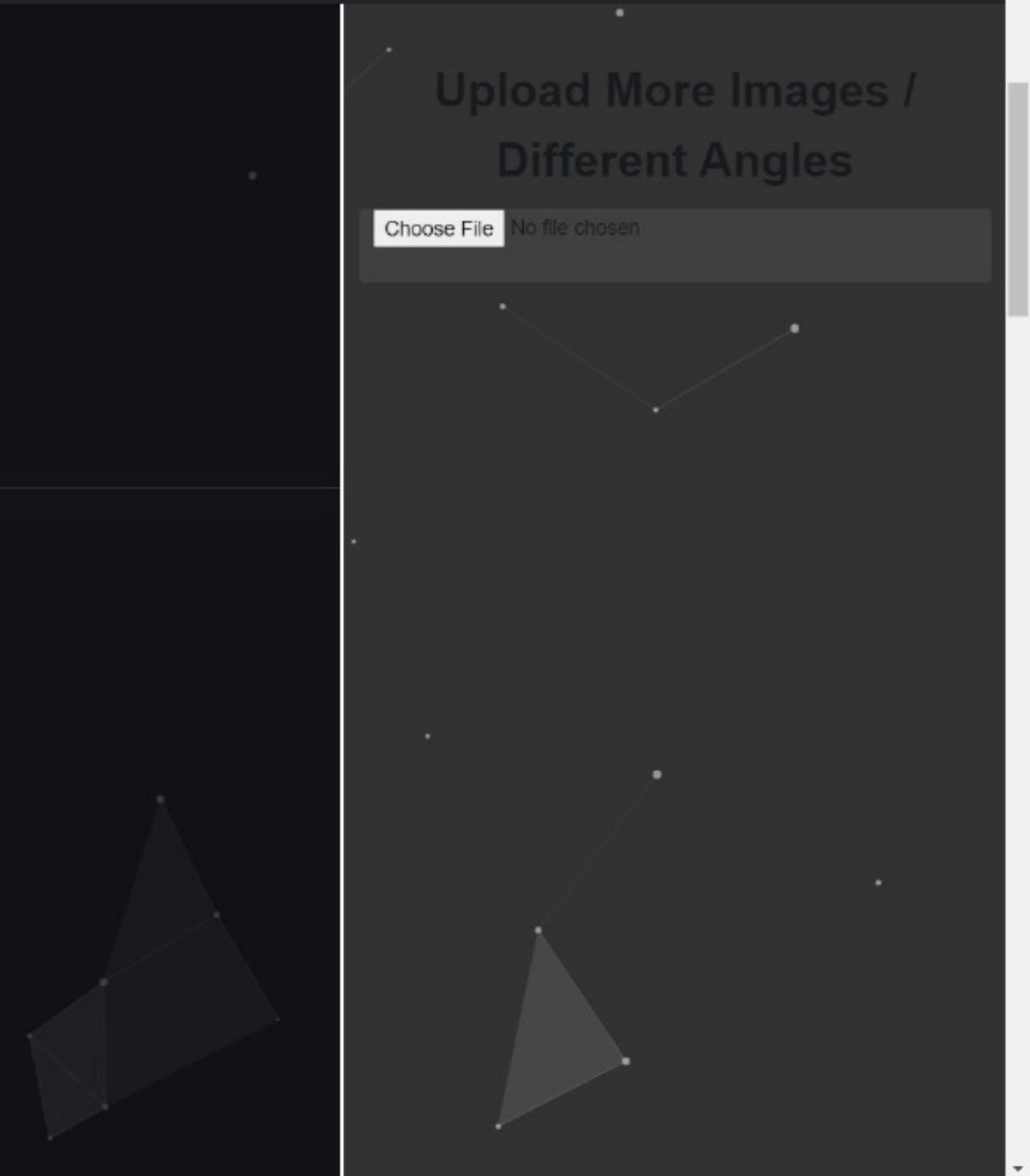


S. no.	Roll No.	Attendance
0	220001001	1
1	220001002	0
2	220001003	1
3	220001004	1
4	220001005	1
5	220001006	1
6	220001007	0
7	220001008	1
8	220001009	1
9	220001010	0

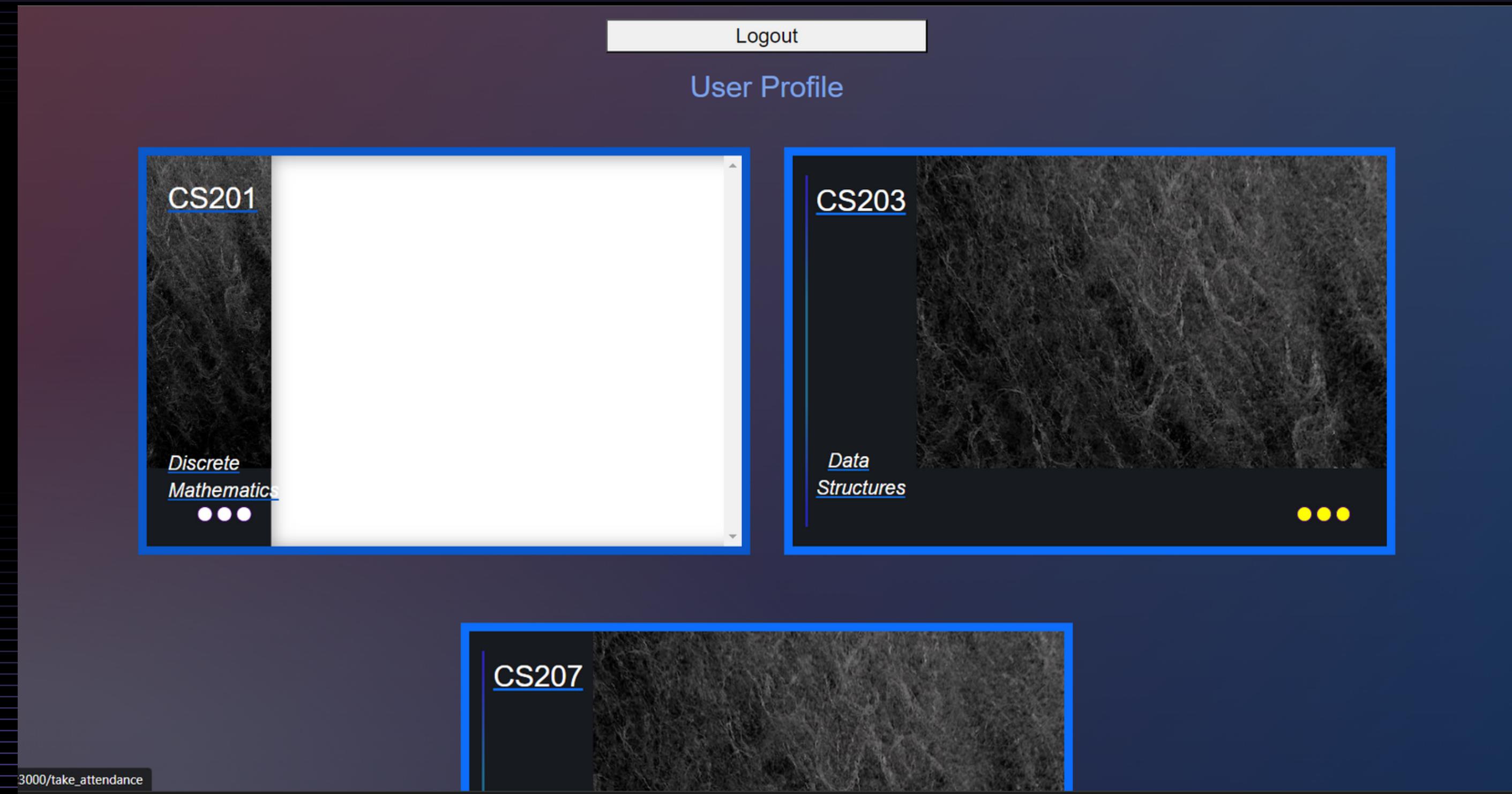
28

Upload More Images / Different Angles

Choose File No file chosen



# Project Screenshots



# Thank You

