

# CAREER POINT UNIVERSITY

## TECHNOVATION



### TEAM

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# What is CPAS

CPAS (CAREER POINT ATTENDANCE SYSTEM) is basically an Automated Attendance System designed by undertaking the scenario of Career Point University. Its base function is to recognize student faces in a class and mark their attendance. Besides just marking attendance, we have provided a lot more features which makes it user-friendly.

# Why CPAS

So now a question arises that why CPAS or why Automated Attendance System? For answering this let us discuss why our traditional attendance system lacks.

1. Inaccurate and subject to manipulation ('time theft')
2. Calculating overall and pulling student data is laborious
3. High possibility of human error
4. Low scalability and no integration with other system

So to solve this problem technology comes into work. Which is more precise and accurate, less work load for attendance management, full integration with other systems and many more features. Which make process very easy. So that's why CPAS can be a good choice.

# Technical Specification

## 1. Facenet

For recognizing faces we have used FaceNet by Google.

FaceNet is a Deep Learning architecture consisting of convolutional layers based on GoogLeNet inspired inception models. FaceNet returns a 128 dimensional vector embedding for each face. Having been trained with **triplet loss** for different classes of faces (by classes I mean faces from different people) to capture the similarities and differences between them, the 128 dimensional embedding, returned by the FaceNet model, effectively clusters faces. Hence this vector would be closer for similar faces and farther apart for dissimilar faces. This FaceNet architecture is trained over a dataset with a very large number of faces belonging to numerous classes.

## 2. Flask

For server side we have used Flask.

Flask is a micro-framework for Python. It allows you to build websites and web apps quite rapidly and easily, It's really good and light.

### 3. Web

To give it a better UI we have choose web.

It contains

- a. HTML (Hyper Text Markup Language)
- b. CSS (Cascading Style Sheets)
- c. JS (Java Script)

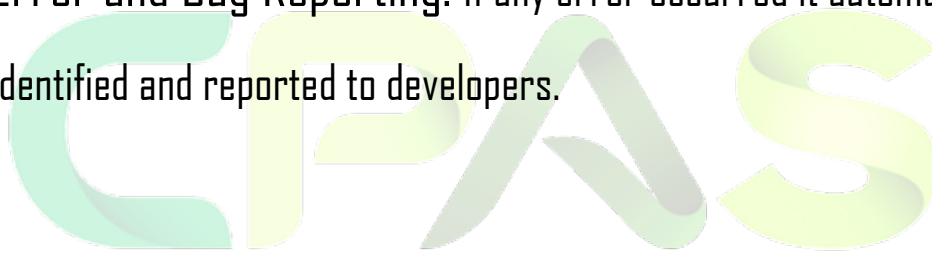
### 4. System Requirement

- a. PROCESSOR: Quad core Intel Core i7 Skylake or higher
- b. RAM: 16GB of RAM
- c. STORAGE: M.2 PCIe or regular PCIe SSD with at least 256GB
- d. GRAPHIC CARD: Premium graphics cards: 1080s or 1070s
- e. CAMERA: resolution of 5 MP or higher (up to 16 MP)

# Features

1. **User-Friendly:** CPAS is very user-friendly. Anyone can use it easily without any kind of problem.
2. **Real Time:** CPAS is totally real time that means as the attendance taken it fill the data. Which get updated on server automatically. And by this student always get real-time data.
3. **Automated:** This is the most important feature. CPAS is totally automated. The instance you give it command to mark attendance it recognize students mark their attendance, make up complete data and add to the database.
4. **Proper Representation:** CPAS contain excels data to present you the attendance statistics. It uses bar graphs, tables to represent the complete student data.
5. **Expandable:** Another important feature that you can easily add or remove students, faculty's and admins. Their data get automatically created. No matter how much are they it easily maintains their data and present them.
6. **Easily Maintainable:** CPAS is easily maintainable. Student can change their settings according to their requirement.

7. **Attendance Report:** Again very important that all the students get their monthly attendance report at the end of the month. Which contains the kid, name, and overall percentage.
8. **Details:** CPAS gives student all the brief details that when their attendance get marked, by which faculty it gets marked, time, class and lot more details.
9. **Admin Power:** As usual admin has given most of the power. So as to solve any conflict.
10. **Error and Bug Reporting:** If any error occurred it automatically get identified and reported to developers.

The logo for CPAS is displayed in a large, stylized font. The letters are light green with a 3D effect, featuring shadows and highlights that give them a ribbon-like appearance. The 'C' and 'P' are connected, as are the 'A' and 'S'. The 'A' has a unique shape with a diagonal bar.



# Sections

1. **Home Section:** This is the first page that come when a user open CPAS. It contains buttons to the faculty and student section. For Admin section you have to type the url in the address bar.
2. **Faculty Section:** First you have to login to enter the faculty section and if you forget password you just click onto forget password, then type your email and a password reset link will be send to your email. Each faculty has their unique id like 'F0001'. After successful login faculty portal will open. In which faculty has a details to fill to start the attendance. There is also a setting page in faculty in which faculty can change their editable settings. And at the top right side of page there is a logout button from which logout from CPAS.
3. **Student Section:** Firstly, students have to sign in to enter the student page. They have to enter their kid and password and if the credentials are right the will get redirected to the student home page. In student home page there will be graphical representation of their attendance subject wise. Then there is an another section which represent student in tabular form. And from there he will also get the detail of complete

detail of a particular subject. There is a setting section also in which he can maintain its settings.

4. Admin Section: After writing the url of admin section admin will be redirected to the admin login page. Where he to put his login credentials to enter the Admin page. In admin section there are four section:
- a. Dashboard: It just shows the number of admins, students, faculty, and number of times attendance taken. It also contains the button to send monthly report to the students.
  - b. Faculty: This section allow admin to add or delete faculty.
  - c. Student: This section allow admin to add or delete student.
  - d. E-mail: In this section admin can go through admin email.
  - e. Admin Setting: This section allow admin to add another admin.
  - f. Account: It allow admin to modify or change admin details.

# WORKING

So now let's see the working of CPAS. Firstly, faculty have to fill the require fields to start the attendance. As the faculty click the start button the camera of that room will start recording for a particular period. After recording it will start recognizing students as the student get recognized it creates the list of present students and send it to the other programme that will compare the present list with the list of total strength of class and only mark the attendance of present students.

When the student opens its portal it will get the data of that particular student and show it in different forms.

# FUTURE

So as the time increases technology become more advanced. In present time FaceNet gives the accuracy of approx. 90%. CPAS is just a graphical representation of implementing the FaceNet in a particular field. So as technology grows these biometric methods will achieve more accuracy. Which can help organization and societies to get more to become more advanced and also save time.

The logo for CPAS features the letters 'C', 'P', 'A', and 'S' in a stylized, rounded font. The 'C' is a light teal color, while the 'P', 'A', and 'S' are a light lime green. Each letter has a subtle 3D effect with a darker shade on its right side.

**THANK YOU**