**Face Recognition Attendance System Using Python in Linux Environment**

The "Face Recognition for Attendance" project in a Linux environment is a cutting-edge solution designed to revolutionize attendance management systems by harnessing the power of open-source tools and Linux-based technologies. Traditional attendance tracking methods often suffer from inaccuracies, inefficiencies, and a lack of security. This project leverages the robust capabilities of Linux to implement a secure, efficient, and scalable facial recognition attendance system.

**Problems identified:**

* Lack of security in modern IOT based attendance, where any non-organizational person get mark attendance from ID Card, and have entry.
* Such problems can be logged in Linux environment and when unauthorised access is detected, respective authority is alerted.
* Use of Faster and efficient technologies for better performance.
  + Eigenfaces (1991)
  + Local Binary Patterns Histograms (LBPH) (1996)
  + Fisherfaces (1997)
  + Scale Invariant Feature Transform (SIFT) (1999)
  + Speed Up Robust Features (SURF) (2006)

Each method follows a different approach to extracting and matching the image information with the input image. Fischer-faces and Eigenfaces have almost similar approaches as well as SURF and SIFT. LBPH is a simple yet very efficient method but is slow compared to modern face recognizers.

These algorithms are not faster compared to modern days face-recognition algorithms. Traditional algorithms can’t be trained only by taking a single picture of a person.

**Advantages:**

* Face recognition technology can be used to build practical systems for attendance tracking, security access control, and more.
* The face recognition system can be built using Python programming language and popular libraries such as OpenCV and face recognition.
* Once the face recognition model is built, it can be integrated with an attendance system using Python programming and database management tools.

Project area of Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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