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FACE RECOGNITION

A MINI PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this project report “**HASH-ENC**” is the bonafide work of “**DONIE SWEETON R (95071912023), JULIUS G (95071912041)**”who carried out the project work under my supervision.

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INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT:

The face recognition is one of the easiest ways to distinguish the individual identity of each other. Face recognition is a personal identification system that uses personal characteristics of a person to identify the person's identity. Human face recognition procedure basically consists of two phases, namely face detection, where this process takes place very rapidly in humans, except under conditions where the object is located at a short distance away. Face recognition systems are used in practically every industry in this digital age. One of the most widely utilized biometrics is face recognition. It can be used for security, authentication, and identity, among other things. Despite its low accuracy relative to iris and fingerprint identification, it is extensively utilized because it is a contactless and non-invasive technique. Face recognition systems can also be used to track attendance in schools, colleges, and companies. Because the existing manual attendance system is time consuming and difficult to maintain, this system intends to create a class attendance system that employs the concept of face recognition. There's also the possibility of proxy attendance. As a result, the demand for this system grows. Database development, face detection, face recognition, and attendance updating are the four steps of this system. The photos of the kids in class are used to generate the database. Faces are discovered and recognized from the classrooms live streaming footage. At the end of the session, the attendance will be mailed to the appropriate faculty.

INTRODUCTION:

Face recognition identifies an already detected object as a known or unknown face, often the problem of face recognition is confused with the problem of face detection. Face Recognition on the other hand is to decide if the "face" is someone known, or unknown, using for this purpose a database of faces in order to validate this input face.

Face Based Recognition System: Biometric detection technology will be used to record attendees with a high-definition camera that detects individual faces so the machine compares known faces with student faces stored within the website.

This is a project for educational institutions on a facial recognition-based attendance system. The traditional way of marking commute to work can be a tedious task in many skills and colleges. It is also an additional responsibility for schools to mark an attendance by naming Individuals which may take up to 5 minutes for a full session.

EXISTING SYSTEM:

There various biometric systems such as fingerprint recognition systems which include issues such as sometimes failing to accurately read fingerprints, particularly if the user's hands are wet ,modified etc, these online based systems can be time consuming and disruptive in nature. Face recognition has set a very important biometric feature, which is easily accessible and unobtrusive. Implementing a fingerprint-based attendance system can be costly, particularly if it requires significant infrastructure changes, such as the installation of fingerprint scanners in multiple locations.

PROPOSED SYSTEM:

1. The system will require a camera or cameras placed at the entrance of the building or room where attendance is taken. The cameras should be capable of capturing high-resolution images of individuals' faces in various lighting conditions.
2. Software: The system will need software that can process the images captured by the cameras and compare them to a database of known individuals. The software should be able to accurately recognize individuals' faces and identify them in real-time.
3. Database: The system will require a database of individuals' faces to compare against. This database can be populated manually by taking photos of individuals and adding them to the database, or it can be integrated with an existing system that already contains images of individuals.

SYSTEM ARCHITECTURE:

MODULES DESCRIPTION:

Android Studio:

Android Studio provides a unified environment where you can build apps for Android phones, tablets, Android Wear, Android TV, and Android Auto. Structured code modules allow you to divide your project into units of functionality that you can independently build, test, and debug.

Java:

Android apps in the java programming language using an IDE called Android Studio. Based on JetBrains' IntelliJ IDEA software, Android Studio is an IDE designed especially for Android development.

Encryption & Decryption Algorithms:

We want to secure users' communication overall on social media. So here we proposed a system where the user will enter the plain text and choose the algorithm type from AES, DES, MD5,..... and supply the key, a chipper text is going to be formed which will be sent via any communication application and the user can decrypt the text by selecting an equivalent algorithm type and must enter an equivalent sender secret key.

OS:

SOFTWARE REQUIREMENTS:

- 8 GB RAM or more (Minimum Required)
- Windows Operating System 8, 10, or 11 recommended
- 8 GB of available disk space minimum
- 1280 x 800 minimum screen resolution
- Internet connection(recommended)

SYSTEM IMPLEMENTATION:

Sample Coding:

IMPLEMENTATION RESULTS:

CONCLUSION:

Face recognition attendance systems offer a convenient and efficient way to track attendance in various settings such as schools, universities, and workplaces. With its accuracy and speed, it eliminates the need for manual attendance taking, reducing the risk of errors and fraudulent activities. This solution is both cost-effective and efficient when contrasted to other biometric solutions. The cost and time saved are even larger because the data acquired from the face recognition attendance system is accurate in real-time.