Biometric Encryption using Facial Recognition

Shubham surve [1], Chaitrali Kulkarni [2], Akshay Deshpande [3]

MCA II Year, SINHGAD INSTITUTE OF MANAGEMENT AND COMPUTER APPLICATIONS (MCA), NARHE, PUNE

Abstract– **Over last decades of rising crime face recognition is tremendously necessary within the contexts of computer vision, psychology, police investigation, fraud detection, pattern recognition, neural network, content-based mostly video processing. This paper is intended towards the implication of Biometric Encryption. The paper also describes about the various methods for the facial recognition. The paper also elaborates on various works and research done by the various researchers, papers, reports, published and unpublished reports. The paper aimed towards the future research for the security using Biometric Encryption using Facial Recognition.**

Keywords - Security, Face recognition, Biometric devices, Automation system, Database, Online use of facial recognition.
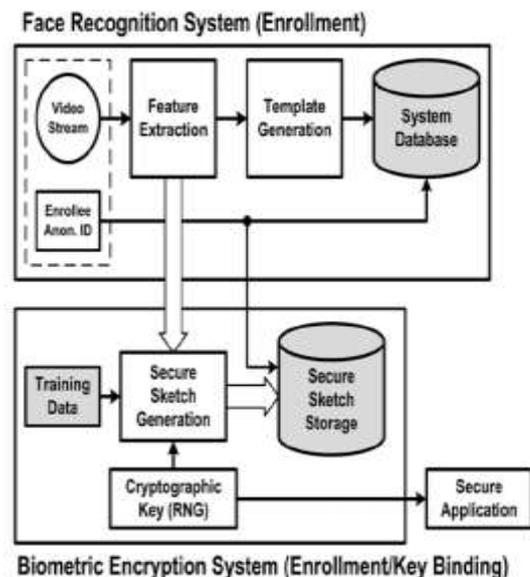
INTRODUCTION OF TECHNOLOGY

Biometric refers to the automatic recognition of individuals based on their psychological and/or behavioural characteristics, such as faces, iris and gate. In this paper, we focus on the application of the face recognition technology.Face recognition is one of the three identification methods used in e-passport and it has an importance advantage over other popular biometric technologies: it is non intrusive and easy to use.The Face recognition technique was discussed in 2008 in conference of IEEE standard. Advantages:1)The Improvement of Security Level.2)Easy Integration Process. 3)High Accuracy Rates. 4)Full Automation. 5)Forget the Time Fraud.Disadvantages:-1)Processing & Storing. 2)Image Size & Quality.3)Surveillance Angle. Future Scope:- 1)Identifiable online daters.2)Face scan for your phone.3)Facial recognition as advertising.4)Your face as currency.
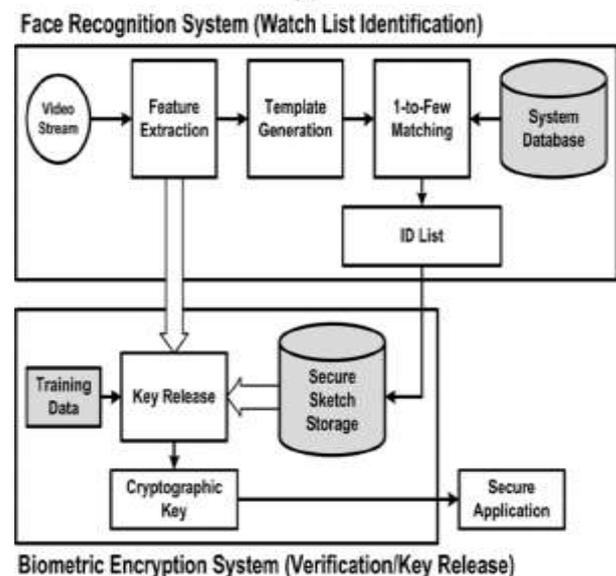
HARDWARE REQUIREMENT:-CAMERA

Camera is a necessary device for the facial recognition. The main benefit of face recognition camera is that the recognition process can be done on the front end. "It can be widely used in field such as police identity verification. The camera is used to capture the face of person to save in the database.The specific programming for the camera is to scan the face of the person where the has open their eyes for retina scan and not a fraud person.

ARCHITECTURE OF TECHNOLOGY

Biometric Encryption System (Enrollment/Key Binding)

(a)

Biometric Encryption System (Verification/Key Release)

(b)

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SENSORS

Sensors are sophisticated device that are frequently used for detect and respond to electrical or optical signals. A sensor converts the physical parameter for e.g. Blood pressure, temperature, humidity, speed, etc. The HVC sensor can detect faces of various sizes quickly and accurately.

SOFTWARE REQUIREMENT

Attendance system:-Our hi-tech world has brought to us so many machineries which made our lives quite easy.Amongst these equipment, one popular technology is biometric attendance system and the face recognition attendance system is one of them.

FACE RECOGNITION DATABASE

Face recognition database is a record of identified images of human faces taken by a face recognition device.When a face recognition device scans a human face, it then matches the identified image against the enrolled image that is stored in face recognition database.Face recognition database can store facial measurements and information for one year, or even for longer period of time.

FACE RECOGNITION: LITERATURE REVIEWS

Author:- Ahmad S. Tolba, A. H. El-Baz, A. A. El-Harby .Published 2006.A. Eigen faces: Eigen face is one of the most thoroughly investigated approaches to face recognition. It is also known as Karhunen- Loève expansion, Eigen picture, eigenvector, and principal component. B. Neural Networks The attractiveness of using neural networks could be due to its non-linearity in the network. Hence, the feature extraction step may be more efficient than the linear Karhunen-Loève methods. One of the first artificial neural networks (ANN) techniques used for face recognition is a single layer adaptive network called WISARD which contains a separate network for each stored individual.

C. Graph Matching

Graph matching is another approach to face recognition. Presented a dynamic link structure for distortion invariant object recognition which employed elastic graph matching to find the closest stored graph.

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