

Biometrics: A Near Future Technology



Computer Science

KEYWORDS :

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ABSTRACT

Biometrics becomes a strong research area. The reason is not only individuals demand greater security for their personal devices and transactions, but enterprises will as well. This technology combine with other technologies can solve many difficult problems.

1.Introduction

Biometrics term is derived from ancient Greek: 'Bios' means 'life' and 'Metric' means 'to measure'. The is usually asso- associates with the use of unique physiological characteristics to identify an individual such as finger print, eye or face. Since a person's biometrics features are part of a person body they always be with him/her where ever they goes and available to prove identity.

2.Types of Biometrics

Different types of biometrics are there for ex. DNA matching, Iris recognition, Face recognition, Finger print matching, voice verification etc.

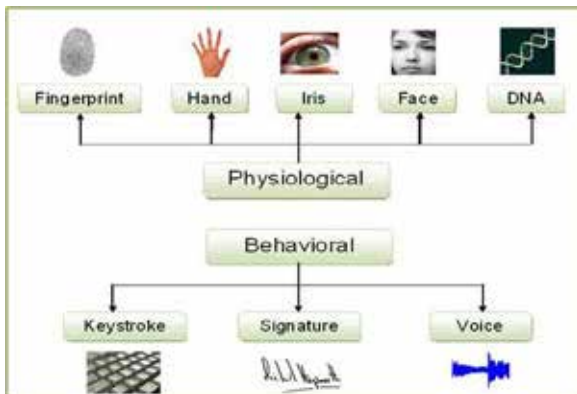


Figure 1: Different Types of Biometrics.

3.Working of Biometrics

All biometrics systems works in the same manner.

Step1: We need to enrol a person in to a database using the specified method.

Step2:Information about a certain characteristics of the human is captured.

Step3:When the person needs to be identified, the system will take the information about the person again and then compare the new code with the one in the database to discover a match and hence identify. It is very difficult to copy a persons biometric features.

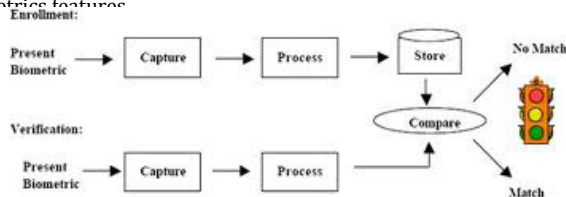


Figure: Biometrics working process

4.Long date use of biometrics

The use of biometrics in the law enforcement and forensic is more Known from long date. It is used mainly for identification of criminals.

5.Biometrics win-win solutions

Biometrics if properly implemented offers a win-win solutions. Biometrics can be applied to more than just computers. It can be combined with different new technologies to provide required solutions.

Table: different biometrics usage Table

Biometrics Method	Usage Percentage
Iris	21 %
Fingerprint	45 %
Face	24 %
Others	10 %

6.Recent Research

Today biometrics technology is not restricted to any particular area. Because this technology can be combine with any technology. Recent research in biometrics solved many problems. Following are few advanced applications of biometrics among which some are implemented and other are under development.

6.1 Network Access

One area where the biometrics could be used is for enhancing security for internet.A host of networking Associated companies have recently added biometric authentication features to their products. Companies such as Novell, Baltimore technologies are Some of the first to take advantage of biometric scheme. Imagine that someone wishes to access their e-mail through a PC which is inviting them to log on. The message on the screen reads Place your right-hand index finger on the reader and hold for two seconds. The person does so and almost immediately the screen reads *Welcome*.

For high value transaction such type of biometric verification provides security not only to the customer but all so to the internet banking.

6.2 ATM iris recognition

Using an iris recognition of biometrics, a customer simply walks up to the ATM and looks in a sensor camera to access their accounts. The camera instantly photographs the customer's iris. If the customers iris data matches the record stored then a access is granted. At the ATM, a positive authentication can be read through glasses, contact lenses and most sunglasses. Iris recognition proves highly accurate, easy to use and correct proof to verify customer's identity.

6.3 Biometrics in Airports

In July 2000 biometrics authentication entered a new area of use as airports began iris scanning of passengers as part of an effort to streamline boarding and security processes. The system use camera to take a picture of the eye from few inches away. Once passengers enrol, their codes will be stored for further use. Air line get scanned in one second. The scanned iris is compared to a database to authenticate. Then the passenger can be issued a boarding pass.

This will reduce queuing as well as offers new opportunities.

6.4 Mobile Phones with biometrics

Mobile phones, with its unique features as small size, low cost, computing power in addition to its wireless communication ca-

pability is opening up new area in biometrics. By adding strong security to mobile phones using unique individual features, biometrics on mobile phones will facilitate trustworthy electronic methods for commerce, financial transactions and medical services

6.5 Driver's licenses

In many countries the driver license is also used as identification document, therefore it is important to prevent the duplicate emission of the driver license under different name. With the use of biometric this problem can be eliminated. however

it is important that the data must be shared between state, because in some country such as United States, the license are controlled at the states as opposed to the federal level.

7. Conclusion

further development of biometric technologies will significantly change the world. This technologies can be surely not only used for making the life easier, but also for more perfect invigilation. biometric technologies are still largely under development despite the fact that they have been used in various applications over the past 40 years.

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