What are Biometrics?
How is it used in security?

Biometrics are rising as an advanced layer to many personal and enterprise security systems. With the unique identifiers of your biology and behaviours, this may seem fool proof. However, biometric identity has made many cautious about its use as standalone authentication.

Modern cybersecurity is focused on reducing the risks for this powerful security solution: traditional passwords have long been a point of weakness for security systems. Biometrics aims to answer this issue by linking proof-of-identity to our bodies and behaviour patterns.

What are Biometrics?

For a quick biometrics definition: Biometrics are biological measurements — or physical characteristics — that can be used to identify individuals. For example, fingerprint mapping, facial recognition, and retina scans are all forms of biometric technology, but these are just the most recognized options. Researchers claim the shape of an ear, the way someone sits and walks, unique body odours, the veins in one's hands, and even facial contortions are other unique identifiers. These traits further define biometrics.

Three Types of Biometrics Security

While they can have other applications, biometrics have been often used in security, and you can mostly label biometrics into three groups:
1. Biological biometrics
2. Morphological biometrics
3. Behavioural biometrics

Biological biometrics use traits at a genetic and molecular level. These may include features like DNA or your blood, which might be assessed through a sample of your body's fluids.

Morphological biometrics involve the structure of your body. More physical traits like your eye, fingerprint, or the shape of your face can be mapped for use with security scanners.

Behavioural biometrics are based on patterns unique to each person. How you walk, speak, or even type on a keyboard can be an indication of your identity if these patterns are tracked.

Biometric Security Works

Biometric identification has a growing role in our everyday security. Physical characteristics are relatively fixed and individualized — even in the case of twins. Each person's unique biometric identity can be used to replace or at least augment password systems for computers, phones, and restricted access rooms and buildings. Once biometric data is obtained and mapped, it is then saved to be matched with future attempts at access. Most of the time, this data is encrypted and stored within the device or in a remote server. **Biometrics scanners** are hardware used to capture the biometric for verification of identity. These scans match against the saved database to approve or deny access to the system. In other words, biometric security means your body becomes the "key" to unlock your access.

Editorial...

Dear Readers,

We are very thankful to you for accepting our Newsletter. We are sure you must be finding the information in the Newsletters interesting and useful. Please give us your feedback on the same.

You may also send us Articles for this Newsletter or suggest us a few topics on which you would like to have more information.

We are also thankful for your valuable and encouraging feedback for our services. We are sure you will stay connected with us and recommend Anulom services to your relatives and friends.

Regards.

– Editor

History of biometrics

In the second century B.C. , the Chinese emperor Ts'In She was already authenticating specific seals with a fingerprint. Fingerprints were first used in a commercial setting in 1858 by **William James Herschel**, a British administrator in India. Having been put in charge of building roads in Bengal, he had his subcontractors sign contracts with their fingers. That was an early form of biometric authentication and a sure way of finding them quickly if they defaulted. At the end of the 19th century, **Bertillon**, a French police officer, took the first steps in scientific policing. He used physical measurements of specific anatomical characteristics to **identify reoffending criminals**, which often proved successful. The French police in Paris started to initiate this process in 1888 with its Forensic Identification Unit. In the U.K., the Metropolitan Police started using biometrics for identification in 1901. In the U.S., it was initiated by the New York police in 1902 and by the FBI in 1924.

Biometrics are largely used because of two major benefits:

- **Convenience of use:** Biometrics are always with you and cannot be lost or forgotten.
- **Difficult to steal or impersonate:** Biometrics cannot be stolen like a password or key can.

Some common examples of biometric security are Voice Recognition, Fingerprint Scanning, Facial Recognition, Iris Recognition, Heart-Rate Sensors. In practice, biometric security has already seen effective use across many industries. Advanced biometrics are used to protect sensitive documents and valuables.

Biometrics are incorporated in e-Passports throughout the world. In the United States, e-passports have a chip that contains a digital photograph of one's face, fingerprint, or iris, as well as technology that prevents the chip from being read — and the data skimmed — by unauthorized data readers.

Are Biometric Scanners Safe? – Improvements and Concerns

Biometrics scanners are becoming increasingly sophisticated. You can even find biometrics on **phone security** systems. For example, the facial recognition technology on a renowned Company's Mobile phone projects 30,000 infrared dots onto a user's face to authenticate the user by pattern matching. The chance of mistaken identity with the iPhone X biometrics is one in a million.

Another Company's smartphone combines facial and voice recognition with fingerprint scanning and keeps the data on the phone for greater security. A sensor manufacturer, links a heart-rate sensor to its fingerprint scanners for two-step authentication. This helps ensure that cloned fingerprints cannot be used to access its systems.

The challenge is that biometric scanners, including facial recognition systems, can be tricked. Examples of fingerprint cloning are everywhere. A fingerprint can be cloned reliably in short time.

Biometrics – Identity & Privacy Concerns

Biometric authentication is convenient, but privacy advocates fear that biometric security erodes personal privacy. The concern is that personal data could be collected easily and without consent.

Ways to Protect Biometric Identity

India's Unique ID Authority of India Aadhaar program is a good example. Initiated in 2009, the multi-step authentication program incorporates iris scans, fingerprints from all 10 fingers, and facial recognition. This information is linked to a unique identification card that is issued to each of India's 1.2 billion residents. Soon, this card will be mandatory for anyone accessing social services in India.

In summary, biometrics remains a growing way to verify identity for cybersecurity systems. The combined protection of your physical or behavioural signatures with other authentications gives some of the strongest known security. Now, it is at a minimum better than using a character-based password as a standalone verification.

Biometric technology offers very compelling solutions for security. Despite the risks, the systems are convenient and hard to duplicate. Plus, these systems will continue to develop for a very long time into the future.

बार कौन्सिल ऑफ इंडियाची कार्ये

– ॲड. अविनाश चाफेकर

बार कौन्सिल ऑफ इंडियाची कार्ये कोणती, ते ॲडव्होकेट्स ॲक्टच्या कलम ७ मध्ये सांगितली आहेत. त्यातील तीन कार्ये आपण मागील लेखात पाहिली आहेत. आता उरलेली पाहू.

४) कायद्यातील सुधारणा, त्यांची पुनर्रचना यांना साह्य करणे, प्रोत्साहन देणे.

५) या कायद्याच्या अंतर्गत निर्माण होणारी कोणतीही समस्या राज्य बार कोन्सिलने वर्ग केली तर तिच्यावर विचार करून, तपास करून निर्णय देणे व तो प्रश्न निकाली काढणे.

६) राज्य बार कोन्सिलच्या कामावर लक्ष ठेवणे आणि नियंत्रण करणे.

७) कायदेविषयक शिक्षणाच्या विकासासाठी प्रयत्न करणे, कायदा शिक्षणाचे मापदंड ठेवणे आणि हे करताना विद्यापीठ आणि राज्य बार कौन्सिल यांच्याशी विचार विनिमय करणे.

८) कौन्सिलच्या वकिलांच्या यादीत नाव नोंदले जाण्यासाठी कायद्याची पदवी असणे ही आवश्यक पात्रता कायद्यानेच ठरवून दिली आहे; परंतु कायद्याची पदवी कोणत्या विद्यापीठाची असेल,

तर ती ग्राह्य धरायची हे ठरविण्याचे काम बार कौन्सिल ऑफ इंडियाचे आहे. म्हणजेच विद्यापीठांना या हेतुपुरती मान्यता देण्याचे हे काम आहे. त्यासाठी विद्यापीठांना भेट देऊन पाहणी करण्याचे काम स्वत: करावे किंवा राज्य बार कौन्सिलना ते काम सोपवावे.

९) कायद्यातील विषयांवर व्याख्याने ठेवणे, सेमिनार ठरवणे, कायद्यातील विषयांवर नियतकालिक सुरू करणे, शोधनिबंध प्रसिद्ध करणे.

१०) गरिबांना कायद्याची मदत उपलब्ध करून देणे.

११) जे देश भारतातील कायद्याची पदवी मान्य करतील त्या देशातील कायद्याची पदवी वकिलीसाठी मान्य करणे.

१२) कौन्सिलच्या निधीची व्यवस्था पाहणे, गुंतवणूक करणे, कौन्सिल सदस्यांची निवडणूक घेणे वगैरे.

नियम करण्याचा मर्यादित अधिकार :

ॲडव्होकेट्स ॲक्टच्या कलम १५ नुसार, नियम करण्याचा अधिकार बार कौन्सिल ऑफ इंडियाला देण्यात आला आहे. तथापी, तो मर्यादित स्वरूपाचा आहे. या कायद्यानुसार जी कार्ये त्यांना करायला सांगितली आहेत, ती पार पाडण्यासाठी जे नियम करणे आवश्यक आहे, तेवढेच नियम करता येतील.

जेव्हा-जेव्हा अधिकारांचे उल्लंघन करून बार कौन्सिल ऑफ इंडियाने नियम केले, तेव्हा ते प्रकरण सुप्रीम कोर्टांपुढे गेले आणि कोर्टाने कौन्सिलच्या विरुद्ध निकाल दिला. वयाची ४५ वर्षे पूर्ण झालेल्या व्यक्तीला वकील म्हणून बार कौन्सिलकडे नाव नोंदवता येणार नाही, हा नियम योग्य नाही. त्याला कसलाही तात्विक वा कायद्याचा आधार नाही, असे एका प्रकरणात सुप्रीम कोर्टाने म्हटले आहे. बार कौन्सिल ऑफ इंडियाच्या अधिकार कक्षेच्या हे बाहेर आहे, असेही कोर्टाने म्हटले आहे.

कायद्याने सांगितलेली कार्ये परिणामकारकपणे पार पाडण्यासाठीच केवळ बार कौन्सिल ऑफ इंडिया नियम करू शकते, असे सांगून कोर्टाने म्हटले आहे की, कौन्सिलला कायद्याने सांगितलेल्या कोणत्याही कार्याच्या आधारे, वकिलांच्या एनरोलमेंटसाठीच्या पात्रतेचे नियम कौन्सिल नव्याने बनवू शकत नाही. तसा त्यांना अधिकार नाही. म्हणून एनरोलमेंट पूर्वी प्रशिक्षण पूर्ण करण्याची अट बेकायदा आहे, असे कोर्टाने म्हटले आहे.

एका प्रकरणात असे घडले की, एका व्यक्तीचे नाव वकिलांच्या यादीत नोंदण्यास (म्हणजेच वकील म्हणून मंजूरी देण्यास) बार कौन्सिलने नकार देऊन तो अर्ज फेटाळला. त्या व्यक्तीला ज्या विद्यापीठाची कायद्याची पदवी मिळाली होती, त्या विद्यापीठाला बार कौन्सिलची मान्यता मिळालेली नाही, या मुद्द्यावर तो अर्ज फेटाळण्यात आला होता. प्रकरण कोर्टात गेले. कोर्टाने म्हटले की, या मुद्द्यावर कौन्सिल अर्ज फेटाळू शकत नाही. कारण या कायद्याच्या कलम २४ व २४-अ यातील तरतुदीच फक्त एनरोलमेंटसाठी लागू आहेत. त्यात आणखी काही पात्रतेची अट कौन्सिलला लादता येत नाही.

A Dream come true....

काही विचारांची वर्षानुवर्षे अधून-मधून भेट होत असली तरी त्याची सतत उजळणी करावीशी वाटते. असा एक पुढील विचार माझ्या टेबल कॅलेंडरवर मिळाला -

'Dream written down with a date becomes a goal. A goal broken down into steps becomes a plan. A plan backed by action makes your dream come true.... and achieve goal'.

वरील विचारामधली पहिली पायरी ही, की आपले स्वप्न तारखेवर लिहून ठेवायचे आहे, हे अत्यंत महत्त्वाचे आहे. त्या तारखेपासून तुमची जबाबदारी सुरू होते. हे जे स्वप्न आहे ते नेहमीच्या अर्थाने स्वप्नाप्रमाणे अनुभवायचे नाही, ही नुसती सुरुवात आहे. हे स्वप्न म्हणजे रात्री झोपेत बघीतले आणि जाग आली की विसरले असे नाही.

Well begun is half done असे म्हणतात. तेव्हा ही सुरुवात म्हणजे स्वप्न सत्यात उतरविण्याची कार्यशील गांभिर्याने (म्हणजे sincerely), उत्साहपूर्वक, आत्मविश्वासाने पहिली पायरी आहे. त्यानंतरची पायरी म्हणजे हे स्वप्न म्हणजे ध्येय, असे निश्चितपणे समजून ते साध्य करण्यासाठी कुठल्या-कुठल्या गोष्टी करायला लागतील त्यासुद्धा पद्धतशीर, नियोजनपूर्वक उचलायची पावले आहेत. या गोष्टी फक्त कागदावर राहून चालणार नाहीत, तर कृती करणे आवश्यक आहे आणि त्यात अतिशय काळजीपूर्वक नियोजन करावे लागणार आहे. प्रत्यक्ष कृती करताना अडचणी येणारच, हे गृहित धरून त्याचा आडाखा बांधून पुढे जावे लागेल. चिकाटीने, आत्मविश्वासाने, बुद्धिचातुर्याने व काळजीपूर्वक वाटचालीने अनेकांचे सहकार्य घ्यावे लागेल. या प्रवासाने मनाचे स्थैर्य उत्तम ठेवावे लागेल. न डगमगता, लढाऊ वृत्तीने अडचणींचा सामना करावा लागेल. इथे पारंपरिक "God helps those who helps themselves". हे तत्व अनुभवायला मिळेल आणि शेवटी ध्येय गाठल्याने समाधान मिळेल.

– डॉ. अरविंद नवरे
डायरेक्टर, अनुलोम टेक्नॉलॉजीज प्रा. लि.
मोबाइल : ९५५२३८४९३१

FEEDBACK FROM OUR SATISFIED CUSTOMERS…

Fast & Excellent service. A fantastic organisation! Great customer support We had a great experience with Rm Komal, the appointment was scheduled in a timely manner. The support was wonderful through the whole process.

— TAFSEER HUSSAIN

Hassle Free experience even better than couple of years back. Got the fingerprint device for biometrics smoothly and everything done in under 20 mins. Customer. Service rep S. Aprosa was excellent in providing remote assistance and service. They deserve 5 stars.

— SQUARE SPACE

Very good service, supportive staff. Special thanks to Ms. Suchita. Keep it up.

— SUSHIL NALAWADE

I had a good experience with Anulom services, Ms Tejashree was very helpful and quick in response. Process was very simple and quick and all the assistance is provided timely.

— DHARMESH PATTNI

Important Days & Dates in April

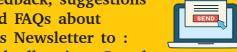| Date	Events
1 April	Odisha Foundation Day
1 April	Aprils Fools' Day
1 April	Prevention of Blindness week
2 April	World Autism Awareness Day
3 April	Holy Monday
4 April	International Day of Mine Awareness
4 April	Mahavir Jayanti
5 April	National Maritime Day
7 April	World Health Day
7 April	Good Friday
8 April	Holy Saturday
9 April	Easter Sunday
10 April	World Homoeopathy Day (WHD)
11 April	National Safe Motherhood Day (NSMD)
11 April	National Pet Day
13 April	Jallianwala Bagh Massacre
14 April	B. R. Ambedkar Remembrance Day
17 April	World Haemophilia Day
18 April	World Heritage Day
21 April	National Civil Service Day
22 April	World Earth Day
23 April	World Book and Copyright Day
24 April	National Panchayati Raj Day
25 April	World Malaria Day
26 April	World Intellectual Property Day
28 April	World Day for Safety and Health at Work
30 April	World Veterinary Day
30 April	Ayushman Bharat Diwas

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