

MANTRA
Innovation that counts

BIOMETRIC ENROLMENT

A Vital Step towards a Robust
Citizen Identification System

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I Overview

A reliable citizen identification enables a government to ensure national security and helps in executing various welfare schemes. Enrollment is a vital step to build a secure foundational identity infrastructure. The rising demand for designing a robust ID system has compelled innovation in the form of the biometric-based identification system. Biometric data is by far the most convenient and credible means of enrolling citizens and authenticating them. Governments and corporates are deploying a combination of face, fingerprint, and iris recognition to create a secure and accurate citizen identification system.

In this document, we will look at the role of biometric enrollment in making a credible citizen identification system. This paper further includes benefits, use cases, and the future of biometrics.

I What Is Citizen Identification?

Citizen identification is critical for any nation to ensure secure and credible population registration because it aids in the development and implementation of various government initiatives. An identification number (ID) for each citizen serves as a link between government welfare programs and their beneficiaries as it contains important personal information such as the bearer's full name, age, birth date, address, gender, and citizenship. Companies and government agencies may issue ID cards for security, identity verification, or qualification verification. Many governments use a national identification number to track a citizen's, permanent residents, taxation, government benefits, health care, and other government-related functions.

According to World Bank, there are nearly 1.1 billion people worldwide with no legal identity and are not able to avail government schemes. It is safe to say that a citizen identification system is a big difference between countries that carry out welfare programs efficiently and those struggles to do so. With governments recognizing the utility of the citizen identification system, the number of beneficiaries of government schemes could increase significantly.



I Role of Biometrics in Citizen Identification

Developing a reliable ID management system is not easy as it comes with its unique challenges such as security threats, improper infrastructure and maintaining a huge database. Thanks to biometric recognition technology, which emerged as a field-proven, cost-effective, robust, and flexible enrolment solution in a way that wasn't possible before. This cutting-edge technology reliably identifies and verifies individuals based on unique biological traits. The key reason which makes Biometric recognition one of the most suitable methods for authentication is that biometric traits like face, fingerprint, and iris can not be easily shared, lost, or duplicated.

The Biometrics business is experiencing enormous growth over few years. According to Global Markets Insights, the global biometric market could reach near USD 50 billion by 2024. When it comes to citizen enrollment, the most popular biometric techniques are fingerprint recognition and iris scanning. Several countries, including India, France, and China, have already begun to employ these biometric modalities for different purposes. The use of biometrics for citizen enrollment is vital for implanting many social welfare schemes and government initiatives.

I Advantages of Biometric Authentication

- ◆ Biometrics identifies and authenticates quickly and accurately
- ◆ It is convenient as a user doesn't need to remember username and password to access
- ◆ Easy to Operate and User Friendly
- ◆ Its non-transferrable as everyone has unique biometric traits
- ◆ Its Spoof-proof as Biometrics are near-impossible to replicate

I Use cases



Voter Registration

A democratic nation must conduct a reliable and fraud-free electoral roll to ensure transparency in the democratic process. Election frauds, such as voter impersonation, multiple voter registration, and multiple voting, influence the voting process's credibility. One of the most reliable ways to create an exhaustive, credible, and the reliable electoral roll is to use biometrics for voter registration.

Biometric voting registration has been used in over 50 countries to ensure fair elections. Easy and quick voter identification, more accurate data, and no long lines at voting booths are among the key benefits enjoyed by these countries. The use of biometrics in voter registration has significantly reduced multiple registrations, impersonation, identity theft, and the misuse of deceased voter records.



Social Welfare Schemes

A Government must ensure that only the intended beneficiaries enjoy social welfare schemes. Biometrics may be critical to the success of social welfare programmes such as medical care, unemployment benefits, family allowance benefits, and housing programmes.

The main issue that most countries are dealing with is the unfair or erroneous distribution of subsidised goods. The biometric solution plays a key in commodity distribution because it ensures that only the intended beneficiaries receive the goods.



Customer Verification (KYC)

Banks, fintechs, telecom operators and other organisations are making KYC (Know Your Customer) procedures for customers even more efficient and easy to use with the help of biometrics. These firms use KYC to collect and authenticate the identity of their customers to prove their eligibility to access services. The key driver of using Biometric identification for KYC management is that it delivers a higher degree of security than manual KYC processes such as PINs, and passwords which are vulnerable to hacking.



Vaccine Passport

The Covid-19 vaccination campaign is gaining momentum globally, giving us more hope that we could defeat the pandemic. As more people are vaccinated, there has been much discussion about using vaccine passports to prove that a person is fully vaccinated. It assists health and border officials in determining whether visitors have received all of the required vaccine doses for entry. While physical vaccination cards are inconvenient, biometric passports may be the most convenient and secure way to determine a person's vaccination status anywhere.



Education

Education is fundamental for any nation to make a significant and sustainable development. The absenteeism of the teachers and students, especially in schools and colleges is a major factor that hinders engaged learning. The application of biometrics could help to develop a transparent and secure attendance management system which will further help in increasing the presence of staff and students.



Law Enforcement

With crime on the rise in recent years, it is critical to employ smart technology to deter criminals. Biometric modalities such as fingerprint and iris scanners have been used for years to identify and verify criminals, and their effectiveness is increasing as technology advances. It could also assist police officials in identifying a missing person, as it would just take a fingerprint to know the details about an individual.

MANTRA'S BIOMETRIC REGISTRATION KITS

A Rugged Case for Smooth Biometric Enrollment



Mantra is the most admired company in the field of biometrics. The biometric registration kit from Mantra is an all-in-one solution for registration, identification, and verification. The kit includes a fingerprint scanner, an iris scanner, a camera, a printer, a document scanner, an extra battery pack, a signature pad, a notebook, and illumination. Mantra's biometric kit is already enthusiastically supporting the Indian government's 'Aadhaar'.

Mantra's ten-finger (4-4-2) scanner captures fingerprints with greater accuracy and speed. It can capture fingerprints in direct sunlight, making it useful in the unavailability of shed or enrolment is required in remote areas. Talking about the dual iris scanner in the kit, it effectively captures both irises simultaneously. It complies with eye safety regulations and meets ANSI, NIST, and ISO standards. The compact biometric enrollment kit is ideal for transportation as it gets protected by aluminium and ABS cases. Its one-of-a-kind customised inlay also shields the components from water and dust. Optionally, the inlay allows the equipment to remove easily, enabling operators to choose the best ergonomic setup based on the conditions.

I Fast scanning with high accuracy

A fingerprint scanner and an iris scanner can capture biometrics with greater accuracy and speed. Mantra's ten-finger (4-4-2) scanner captures the fingerprint accurately even in dusty conditions. Local or central government organisations, UID-Aadhaar, the World Bank, and UNESCO schemes all use it to enrol citizens.

Mantra's dual iris scanner is another innovative device that captures both irises simultaneously with greater accuracy and speed. It has an auto-capture feature for collecting double iris images quickly and easily. It complies with eye safety regulations and meets ANSI, NIST, and ISO standards.

| Enrollment under direct Sunlight

One of the most significant challenges encountered during enrollment is the lack of proper shedding, which reduces the biometric capturing device's efficiency. Mantra's scanner can capture fingerprints in direct sunlight, making it useful in the unavailability of shed or enrolment is required in remote areas.

| Compact in size

Mantra's compact biometric enrollment kit is ideal for transportation as it gets protected by aluminium and ABS cases. Its one-of-a-kind customised inlay also shields the components from water and dust. Optionally, the inlay allows the equipment to remove easily, allowing operators to choose the best ergonomic setup based on the conditions.

| Future of Biometrics



Both public and private firms are increasingly using biometrics to verify the identities of people. As this cutting-edge technology is still evolving, its applications may expand across a wide range of industries. Despite its many merits, privacy concerns continue to challenge the technology developers and manufacturers. However, Cryptography-based biometrics and two-factor authentication ensure that authentication is secure against a wide range of security threats.

MANTRA

www.mantratec.com



+91-79-49068000 Ext-2



sales@mantratec.com