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BIOMETRICS FOR GOVERNMENT

SAFETY AND SECURITY FOR GOVT. APPLICATIONS

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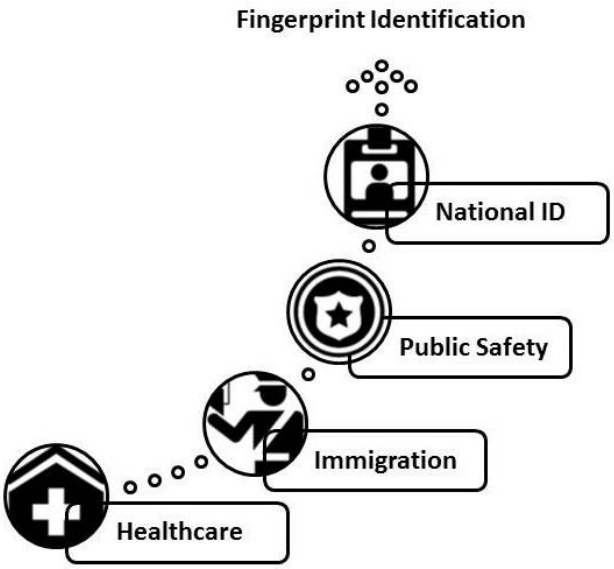
INTRODUCTION

Biometric technology authenticates individuals based on their unique biological traits such as fingerprint, face, iris etc. A report by Research and Markets predicts that the biometrics market in the government sector is expected to grow globally at a CAGR of 11.9 % during the period 2016-2020. This exponential growth is attributed to the rising instances of terrorist attacks and identity thefts. Government agencies have to ensure the rights and security of citizens and at the same time facilitate proper access to public and private services.



It is critically important to establish the correct identity of citizens in order to maintain public security, eliminate identity thefts and reduce welfare fraud. Fingerprint biometrics guarantees identification accuracy as it is inherent to the individual and even twins have different sets of fingerprints. Thus fingerprint technology is able to provide the assurance that citizens are indeed who they claim to be and has the flexibility to be applied in multiple government applications.

FACTORS DRIVING THE ADOPTION OF BIOMETRICS IN THE GOVERNMENT SECTOR

Maintaining the flow and security at airports and border control is a constant challenge for government agencies. On any given day, thousands of passengers pass through border control and they need to be accurately identified. Traditional identification techniques such as paper passports, ID cards are time consuming and also risk being lost or stolen. Moreover, they cannot guarantee reliable authentication as they can easily be spoofed. The inability to implement proper authentication techniques at airports can pose a serious threat to the country's security. Government agencies need accurate techniques to identify criminals from a large number of people and safeguard the country against intruders.

Technology has evaded all aspects of modern living and people now use websites and web apps on a regular basis from shopping to performing financial transactions. Online consulting and sharing of health-related results are becoming very popular. This convenience has also resulted in the rising numbers of identity and data thefts. Hackers are using sophisticated and complex techniques to break into the servers of healthcare organizations and steal confidential data.

Biometric technology verifies individuals based on their inherent and unique physiological or behavioural characteristics. Biometrics is therefore a very reliable and secured method of identification. Government agencies are thus keen on adopting biometrics to fight the increasing cases of terrorist attacks and identity thefts. Fingerprint authentication is the most

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popular and widely used biometric technology in the government sector for verifying individuals.

WHAT ARE THE VARIOUS GOVERNMENT APPLICATIONS THAT CAN UTILIZE FINGERPRINT TECHNOLOGY?

Border control and immigration: Maintaining the security of international borders is a very critical and challenging task for government agencies. Multiple cross-checking of passports are mandatory at many airports and border security checkpoints. These checks are conducted to verify the identity of travellers and ensure that only individuals with proper travel documents are allowed to enter the country. The pressure on border security continues to grow with the rising number of travellers and international crime. Manual identification methods are time-consuming and obsolete.

Government agencies are implementing fingerprint identification systems as they are automated and eliminate the need for manual identification checks. Border management agencies can quickly and accurately verify that the traveller is indeed who they claim to be with fingerprint biometrics. It prevents criminals from using fake identity documents and protects the country against intruders. Implementing fingerprint biometrics in border control system facilitates quick and smooth crossing for common travelers as well as boosts commerce and tourism.

National Identification System and Voter Database: Providing identity documents and establishing the identity of citizens is essential for establishing a safe environment and ensuring proper disbursement of government welfare. Citizens can use their government-issued identification card for a wide variety of purposes – from opening a bank account availing public services and accessing automated border control during travel. A biometric ID is an undeniable proof of the citizen's identity. A biometric identification system replaces the need for a physical ID and is also more reliable since it is based on the individual's fingerprint. It guarantees that each identification card is associated with one and only one individual and provides strong protection against identity fraud. It is also very convenient and intuitive since every individual has a fingerprint.

Biometrics can also be applied to create a national database of verified voter data. The storing of voter's fingerprint templates allows for reliable storage and quick retrieval of voter records. Fingerprint recognition technology has a very high accuracy rate and the searches through a fingerprint database can be completed very quickly owing to the small size of fingerprint templates.

ePassport: Travelers need to be authenticated quickly and accurately to increase convenience and maintain the flow of border control and security. A fingerprint system can complete identity verification in less than few seconds and provides the highest level of security while maintaining privacy. Many countries are adopting ePassport programs to facilitate easy, quick and secured authentication of travellers. ePassports are a combination of paper passports and biometric information such as fingerprint stored on an embedded chip. They contain protection mechanisms to deter hacking and criminal attacks on user's biometric information and are also designed to be non-traceable.

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An ePassport program creates great convenience for travelers by providing a faster and secured method of identity verification. More resources can be allocated to verify the identity of unknown travelers and reduce the delays at airport security.

Public Safety: The growing crime rates and terrorism stresses the need for an efficient and reliable prison management system to ensure public safety. This has put additional pressure on the law enforcement agencies to securely manage the growing number of prisoners and the subsequent increment in the number of identification records. Prisons have rapid population turnovers and need access control methods. Frequent access also needs to be provided to official and non-official visitors. Conventional prison management systems based on identity cards or photos are not reliable and unable to manage the growing number of prisoners and visitors. Such antiquated systems are also vulnerable to spoofing and can cause serious problems.

A fingerprint jail management system is a fail-safe system and extremely difficult to exploit. A fingerprint system provides the most accurate form of authentication as it is based on the inherent characteristic of the individual. It provides better security and reliability as fingerprints cannot be forgotten or transferred. Fingerprint scanners are placed at strategic points throughout the jail that enables real-time monitoring of inmate activity. Thus fingerprint biometrics in jail management system creates accountability and assures reliable identification of individuals entering and exiting the prison. Wrong release of prisoners due to human error is eliminated with fingerprint biometrics and helps to maintain public safety.

Healthcare and Welfare: Accurate identification of citizens is extremely important so that critical health information can be linked to the correct medical record and to ensure citizens have access to government welfare schemes. Any error can cause serious damages to citizen's health, data integrity and improper welfare allocation. This can subsequently drive up healthcare and welfare costs. Medical identity thefts are rising and millions of people have been affected by it.

Traditional identification methods based on ID cards or PIN numbers prove to be highly inefficient in combating healthcare and welfare frauds. These methods have many loopholes and an insecure infrastructure that are targeted by unscrupulous individuals to commit fraud. Fingerprint biometrics provides a strong identification platform and helps governments to maintain the security and integrity of their welfare programs.

Fingerprint biometrics acts as a strong deterrent to identity fraud and aids government agencies to effectively distribute healthcare, welfare and pension distribution. Fingerprint systems are flexible and scalable enough to be applied in diverse applications and can handle millions of records.

INTEGRATING FINGERPRINT RECOGNITION IN GOVERNMENT APPLICATIONS

Integration of fingerprint biometrics into different government systems can be achieved easily and quickly with ready-to-use software solution Touch N Go. Fingerprint integration does not take months or hours but can be done rapidly with this developer friendly biometric solution. Touch N Go has a unique integration methodology that allows fingerprint technology to be incorporated into any existing application

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with just four lines of code and even with no previous experience in biometrics programming.

Various inbuilt features such as fingerprint deduplication and fingerprint quality checks are performed in the background. These checks ensure that duplicate fingerprints are not enrolled and only the best quality fingerprints get enrolled in the system. It is thus able to provide a high degree of accuracy, security and a solid infrastructure for government applications.

Touch N Go also supports many programming language and developers can access sample codes in different languages. It supports a variety of fingerprint scanners available in the market and proves to be a cost-effective and high performing biometric solution.

ADVANTAGES OF FINGERPRINT BIOMETRICS IN GOVERNMENT APPLICATIONS

Fingerprint biometrics helps to secure network and digital assets with a very strong authentication method. It establishes the identity of citizens accurately thereby assuring rightful and authorised access to government welfare programs. It increases passenger satisfaction by expediting the security check process at airport and border control. Since fingerprints are inherent to individuals, it is the most reliable form of authentication and eliminates cases of identity frauds. The low-cost and wide availability of fingerprint readers further promotes the deployment of fingerprint biometrics in government applications.

CONCLUSION

Fingerprint technology has proven to be a more reliable method of authentication as compared to physical identity documents and numeric codes. The advancements in the field of pattern recognition, hardware, sensors have made fingerprint technology a cost-effective and widely available solution. All these factors have further propagated the integration of fingerprint technology in government applications. Deploying fingerprint biometrics in government systems will provide a strong identity verification mechanism along with affordability and easy integration capabilities.

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Danny Thakkar is the CEO and Co-Founder of Bayometric, one of the leading biometric solution providers in the world. He has been in the Biometric Industry for 10+ years and has extensive experience across public and private sector verticals. Currently, he is chief evangelist for Touch N Go.

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