



Case Study

Our Achievements

- ➔ Biometric Solution Provider (BSP) and Biometric Subject Matter Expert (BSME) for India's UID project
1.2 Billion Residents
- ➔ The world's first large scale unique citizen ID database for Andhra Pradesh PDS project
90 Million Residents
- ➔ The world's first multi-biometric citizen ID project for United Nations World Food Programme (UNWFP) in Orissa
1 Million Residents
- ➔ The world's fastest de-duplication project for AP ration cards
6.2 Quadrillion matches in a record time of 60 days
- ➔ The world's largest corporate ID system for one of India's leading petrochemical conglomerate
430,000 Employees
- ➔ India's second largest enrolment agency for Aadhaar project
12 Million Residents

World's largest Biometric Identification System for providing Unique Identification (UID) to all the residents of country by Government of India

Background

The Unique Identification Authority of India (UIDAI) is an agency of the Government of India responsible for providing biometric based unique identification (UID) or aadhaar to all the residents of India. The world's largest biometric identity exercise and India's Unique ID/ Aadhaar project was initially conceived by the Planning Commission, Government of India, as an initiative that would be primarily used for efficient delivery of welfare services. The project is primarily aimed at ensuring inclusive growth by providing a form of identity to those who do not have any identity. It seeks to provide UID numbers to the marginalized sections of society and thus would strengthen equity. Apart from providing identity, the UID will enable better delivery of services and effective governance. The Identity provided by Unique Identification Authority of India (UIDAI) will serve as a universal proof of identity allowing residents of India to establish their credentials anywhere in the country.

The Key benefits of the project are

1. Aadhaar will become the single source of identity verification. Residents would be spared the hassle of repeatedly providing supporting identity documents each time they wish to access services such as obtaining a bank account, passport, driving license and so on.
2. By providing a clear proof of identity, Aadhaar will also facilitate entry for poor and underprivileged residents into the formal banking system and the opportunity to avail services provided by the government and the private sector.
3. Giving migrant labour the mobility of identity.
4. Financial inclusion with deeper penetration of banks, insurance and easy distribution of benefits of government schemes

The UIDAI since issuing the first Aadhaar number on September 29, 2010 has enrolled close to 200 million resident and has generated over 143 Million UIDs as of March 21st 2012, making it one of the largest biometric systems in the world. 4Gid has made significant contribution to this World's largest Biometric Identification System in different aspects right from the conceptualization stage till deployment and execution.

World's largest Biometric Identification System for providing Unique Identification (UID)



4Gid Role in UID Project

Biometric Subject Matter Expert

4Gid has shared its experience of design, development and deployment of large scale multimodal biometric projects with UIDAI. 4Gid has been associated with UIDAI right from conceptualization, selection of biometric modalities, devices and technologies and design stage of the UID project. The success of Biometric based Ration card Project of UNWFP and Iris biometric based de-duplication Project for Government of Andhra Pradesh executed by 4Gid has enabled UIDAI to take a decision to design multimodal biometric system and compulsory inclusion of iris biometric in the UID project. UIDAI has published a white paper on inclusion of Iris technology in which projects of 4Gid have been referred to. 4Gid worked with UIDAI in defining and validating the biometric device specifications, vendor neutral device interface, enrolment software and enrollment processes, biometric enrollment best practices, biometric image quality parameters and accuracy limits.

Proof of Concept for the UID project

Prior to the UID project, there was insufficient reliable biometric data available for residents of India that could be used to analyze and reach conclusions relevant to the implementation of the UID program except for the Iris De-duplication project of Andhra Pradesh and Multimodal Biometric Project of UNWFP. Even outside India, there was limited data available from anywhere in the world regarding deployment of any national scale Identity Projects with multi biometric modalities that could be used to analyze and reach conclusions relevant to the implementation of the UID program. Therefore, the UIDAI felt it necessary to conduct Proof-of-Concept studies before the start of ambitious UID Project. The enrolment PoC was conducted to evaluate technical, operational, and behavioral hypotheses related to both the use of biometric devices and the overall enrolment process itself. It was also conducted to establish a baseline for the quality of biometric data that could be collected in India especially in rural areas.

4Gid developed and deployed the enrolment application for the first proof of concept of UID. One of the important features of the enrolment software was that all biometric images went through a software quality check process. The quality check would indicate a pass or fail based on minimal acceptable quality of the image. One important aspect of the enrolment software was the capture of process data along with biometric and demographic data.

Solutions

Government

- >> National ID Solutions
- >> Election ID Solutions
- >> Public Service Delivery Infrastructure
- >> Public Distribution System
- >> NREGA
- >> Pensions

Enterprise ID

- >> Recruitment
- >> Time and Attendance
- >> Access Control
- >> Visitor management

Banking & Financial

- >> Authentication
- >> Micro ATM
- >> Biometric ATM
- >> Financial Inclusion
- >> Bank on Wheels

E.National Access Mgmt

- >> Immigration
- >> eVisa
- >> ePassport

Law Enforcement

- >> AFIS
- >> ABIS
- >> Live scan
- >> Mobile ID
- >> ID management for Prisons
- >> ID management for Courts

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Services

- >> Enrollment Services
- >> De-Duplication Services
- >> Authentication Services
- >> Consulting Services
- >> Data Management Services

Suites

- >> Corporate ID
- >> Recruitment ID
- >> Health ID
- >> Education ID
- >> Airport ID

Products

- >> 4G Multi Modal ID Platform
- >> eAccess
- >> Enrollment Devices
- >> Authentication Devices
- >> Smart Cards

Thus the number of capture attempts and timestamps captured at numerous points in the capture process were written into an XML file during enrolment. This enabled UIDAI to eventually carry out a detailed analysis of the process.



The proof of concept being monitored by the Deputy Director General (DDG) of UIDAI

4Gid has carried out the biometric enrolment operations for the first proof of concept and worked with UIDAI in defining the enrollment process, best practices, and enrollment station / centre specifications. 4Gid has also won contract for supply, installation and commissioning of biometric devices to UIDAI that required for deployment of Proof of Concept.

The PoC study was an important precursor to the main project as it has validated lot of hypotheses regarding biometric enrolment and provided the belief that the biometric accuracy levels necessary for deduplication of all residents of India are achievable. The time needed for capture of biometrics in typical rural conditions is small enough to support large scale enrolment. In conclusion, the PoC study was a productive part of the ongoing rollout of the UID program.

Biometric Solution Provider

- ➔ Design, Supply, Integration and Installation, Commissioning and maintenance of Multi-modal biometric solution as part of consortium of 4GIdentity Solutions (4Gid), L-1 Identity Solutions (L-1) and Hewlett Packard(HP)



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- 1:N Automated Biometric Identification Solution (ABIS) to enable issuance of UID
- Assist the client in performance benchmarking of the biometric solution, monitoring enrolment data quality, analyzing de-duplication performance and results and tuning the solution for improved accuracy and throughput
- Designed for scalability to 200 million residents
- To serve peak de-duplication (1:N) of 1 Million requests per day
- Technologies: Automated Fingerprint Identification System (AFIS) and Automated Biometric Identification System ABIS

Supply of Biometric devices and Registration Kits



- 4Gid is UIDAI (Unique Identification Authority of India) and STQC (Standardization Testing and Quality Certification Directorate), Department of Information Technology, Government of India Certified Supplier of Biometric Enrolment devices for India's National UID project and National Population Registrar (NPR) Project.
- Supply, Installation, Commissioning, Maintenance and Support of more than 2000 Fixed and Mobile enrolment kits and enrolled more than 14 Million residents across India. The kits contain the camera for face capture, Fingerprint Live Slap Scanner, Dual Iris Camera, Laptop, Printer, monitor for the residents to verify their data, Data Cards, Memory stick for data transfer, UPS and Optional external battery for backup
- Supply chain logistics for assembly of enrolment kits centrally and transfer of kits to more than 500 locations spread across the country in 12 different states.
- Won the first biometric devices contract from Unique Identification Authority of India (UIDAI) in global tendering process for supply, installation and commissioning of 4-4-2 fingerprint scanners and Dual Iris Cameras
- Supply, Installation and Commissioning of more than 12,000 4-4-2 Fingerprint slap scanners across India for the National Population Registrar (NPR) Project of India which also using the same Biometric System of UIDAI Project

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4Gid team with officials of UIDAI



4Gid team with Ranjna Sadashiv Sonawane, the first recipient of Aadhaar and his five year old son Hitesh the second recipient of Aadhaar during the national launch

Launch of UIDAI Project

4Gid has been invited by UIDAI for the national launch of Aadhar project. UIDAI launched AADHAAR program in the tribal village by name Tembhli, in the Nandurbar district of Maharashtra on 29 September 2010. The program was inaugurated by Prime Minister, Manmohan Singh along with UPA chairperson Sonia Gandhi. 4Gid provided the necessary operations and technology support required to the UIDAI for the national launch of UID project.



Hitesh Sadashiv Sonawane receiving Aadhaar from Honourable Prime Minister of India Manmohan Singh

Biometric Enrolment Services

- ➔ 4Gid is nationwide empanelled agency by UIDAI for carrying out Enrolments across India.
- ➔ 4Gid has been selected by State Bank of India, Union Bank of India, Department of Posts, Government of Sikkim for carrying out the UID enrolments
- ➔ 4Gid has carried out enrolments in more than 12 states across India
- ➔ 4Gid has deployed more than 2000 multi biometric Fixed and Mobile Enrolment kits across India for carry out the registration of resident for the UID programme
- ➔ 4Gid has so far enrolled demographics and biometric data of more than 14 Million residents that amounting to several terabytes of data
- ➔ Training and capacity building for more than 3000 Operators, Supervisors and Project Managers for carrying out effective implementation of registrations.
- ➔ Secure data transfer from more than 2000 client systems spread across 12 states in India

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Key Success Factors

- Central Data Aggregation and removal of extraneous files
- Data upload to Central Identity Repository of UIDAI
- Manage the Registrar copy of the data of each and every resident
- Reconciliation to ensure the data packet for each and every resident
- Providing MIS reports on data as per the requirements of the stakeholders

Impact

Governments

- Ensuring inclusive growth by providing identity to each and every resident especially to those underprivileged and poor who do not access the government services due to lack of identity
- Remove duplicate and ghost identities to reduce leakages in the Government welfare schemes
- Creation of platform for better delivery of services and effective governance
- Enhance accountability and traceability of service delivery to true beneficiaries

Residents

- Enhance Accessibility to government services and benefits especially for the poor and underprivileged residents.
- Portable and universal identity that can be used to authenticate anytime anywhere. Useful especially for migrant labour
- Financial inclusion for the unbanked and under banked rural masses

Industry

- World's largest Biometric Identification Database
- Multimodal Biometrics is the way ahead for large scale Civil ID projects
- Improved accuracy of de-duplication on a large scale
- Encouraging other countries to go in for Multi-modal Biometric instead of Single Biometric
- Established best practices and technologies that could be incorporated into the national scale ID programmes

About Us

4G Identity Solutions Private Limited (4Gid) is a Pioneer (since 2001) & Global leader in providing large scale Identity Management Solutions using biometrics. 4Gid specializes as an End-to-End Identity Management Solutions provider & System Integrator in Civil ID, Homeland Security & Law Enforcement for Government, Corporate, Banking and Defence sectors.

4Gid has re-defined ID Management business space by providing thought leadership and proof of concepts that led to the world's largest ID programmes. 4Gid has executed many of the world's first large scale Identity Management Solutions for federal governments, multilateral agencies and top notch Corporates, and is currently delivering the world's biggest Civil ID Project – India's Unique ID / Aadhaar.