


Citizen & Identity

Ganesh

Trying to be an Independent Researcher, Hacker & Activist

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Overview

Clearing the Fog

UIDAI & Aadhaar

Technical Perspective

Privacy Perspective

Economic Perspective

Social Perspective

Remember



Hey There !

Technology
is

Neither *Good*

Nor *Bad*

Not even *Neutral*

Melvin Kranzberg

There are 2 things !

mechanism

is the core set of ideas for implementing a solution

policy

is the set of ideas for governing the solution itself

technology \equiv mechanism + policy

Its time to clear the fog !

What is a Citizenship

In general :

Status of a person recognized as being a member of sovereign state.

Linking a person with the State, giving **Universal Identity**
as a legal member of a specific Nation.

Reference : *Social Contract Theory to learn more*

CASE : INDIA

*Ethnic **identity** is not a criterion for citizenship*

Constitution & Fundamental Identity

CASE : INDIA

On agreeing to basic set of norms & principles of constitution

People have :

- ▶ Political Identity (*as individual*)
- ▶ Moral Identity (*as individual*)
- ▶ National Identity (*as country*)

What is an ID

A name(label) that identifies a unique object or class of objects (*idea, physical substance, class*)

Identification



Identification Number



National Identification Number



Unique Identification Number

Reference : *Reach Wikipedia to Learn Deeper !*

Function (or) Mission Creep

In general :

- - - - -

Expansion of a Project or Mission beyond its original goals

Note : *A success does not mean, it can be extended to other realms
without **breaching democratic system of checks & balances**
without **critical thinking & public review***

:D

Let's talk UIDAI & Aadhaar

What UIDAI is ?

UIDAI : Unique Identification Authority of India

A statutory authority established under
the provisions of Aadhaar Act

Aadhaar : Targeted Delivery of Financial and Other Subsidies, Benefits and Services

What UIDAI is ...

Responsibilities:

- ▶ Enrolment process
- ▶ Authentication process
- ▶ Other functions related to both

Powers & Functions: *interesting ones...*

- ▶ Specifying demographics & biometric information
- ▶ Generating & assigning AN to individuals
- ▶ Performing authentication of AN
- ▶ Omitting & deactivating of AN
- ▶ Establishing, operating & maintaining of CIDR
- ▶ Promoting R&D for advancement in Biometrics

What is Aadhaar ?

Aadhaar Number is a Unique Identification number
generated & assigned by UIDAI
on voluntary request by a resident individual in India

People always pester about SSN ! (well this is not USA)

<i>Parameter</i>	<i>Social Security Number</i>	<i>Aadhaar Number</i>
Governance	Federal Legislation, Social Security Act, Privacy Act	Planning Commission
Implementation	Legislation, SSA, formal roll out	Direct trials first, then legislated
Purpose	Number keeping, Track individual earnings	Proof of Identity in a transaction, reducing frauds in PDS, better service
As Identity ?	Alone, Not for citizenship	Residential proof of identity & Address
Applicability	Citizens, Non-Citizens (authorized to work)	Residents of India
Storage	Numbident (Central DB)	CIDR (DC + DW + BIT)
Access	Individuals can access their own personal info.	Not Clear
Disclosure	Regulated & Protected by Privacy Act	No explicit protection for Aadhaar Number
Use by Public/Private Entity	Yes, with proper explanation to individual. Private requests can be refused by individual	Yes
Verification	Even with SSA's response, verification is not guaranteed	Claims to verify in any transaction
Loss	Individual can apply for replacement on loss, stolen or for new SSN	Claims on uniqueness, and individual is re-enrolled
Enrolment	Social Security Administration	Hierarchical contract - UIDAI, Registrars, Enrolling agencies

Reference : *Centre for Internet & Society*

Note : *Both are Mission Creeped, One is no better than other*

Do we need UIDAI ?

What Critical Thinking, Common Sense leads to ?

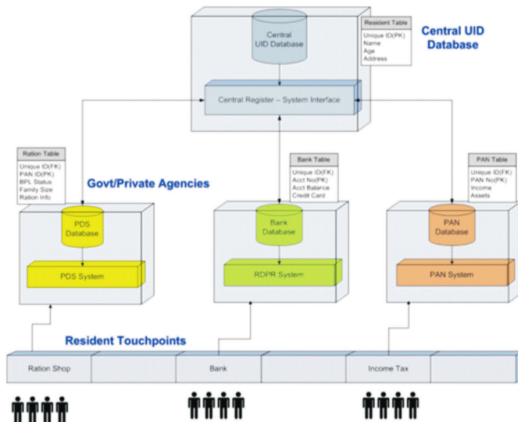
- ▶ infallibility of biometrics is deeply flawed in design
- ▶ design disasters can't be thwarted by band-aid policies
- ▶ iris can be captured with remote high-res camera
- ▶ intrigues commercial motivation to create ghost-identities
- ▶ **decentralisation** & privacy are preconditions for security (*gnupg*)
- ▶ citizens are not allowed to store biometrics of politicians and bureaucrats
- ▶ state authenticates the citizen but the citizen cannot conversely authenticate the state
- ▶ biometric exacerbates power asymmetry between citizens & state
- ▶ **privacy protections should be inversely proportional to power**
- ▶ solving corruption: the state shall become more transparent to the citizen and not vice versa
- ▶ if biometrics are infallible, then criminalising attempts to defraud the system can be deleted

Reference : Sunil Abraham replying Praveen Chakravarty : opinion column, Business Standard

:)

Let's talk Technology Perspective

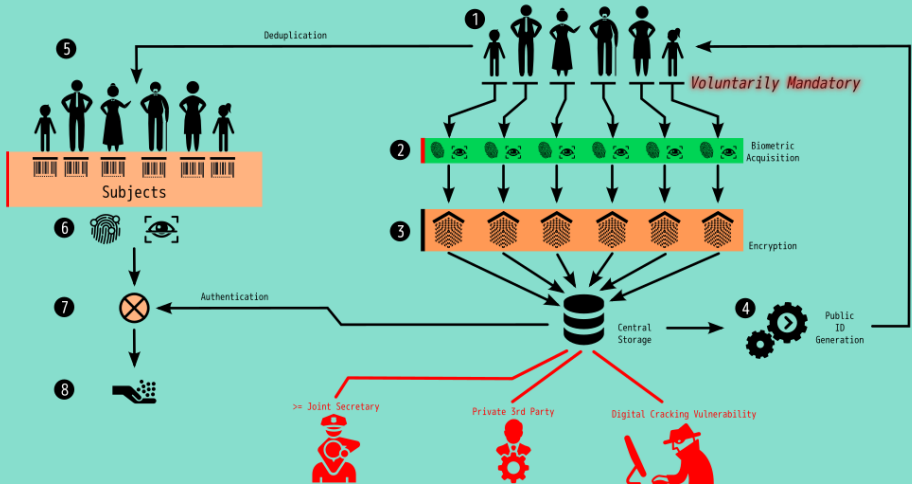
UIDAI - Technology Architecture



Reference : Aadhar Technology Architecture - UID Technology Components

Note : Both are Misson Creeped, One is no better than other

How UIDAI/Aadhar Works ???



Comparison of Regulations in terms of body corporate & individual.

<i>Parameter</i>	<i>Information Technology Act(43A)</i>	<i>Aadhaar Act</i>
Compensation & Penalty	Provides compensation on failure to protect data	Provides - penalties, offences, but not talks about damages to affected party
Privacy Policy	Provide accessible private policy	Does not require privacy policy for UIDAI or other actors
Consent	Obtain consent before collecting information (written/fax)	Not clear (-ve implication) makes it <u>quasi-compulsory</u>
Collection Limitation	Furnish necessary & lawful purpose to collect personal information	Every resident is entitled through its quasi-compulsory process
Notice	Provide purpose, intended recipients, (collecting agency, retainer) name & address	Silent regarding the agency collecting the information (name & address)
Retention Limitation	Retained till stated purpose is fulfilled or required by law	Silent regarding the duration retained by the contractors
Purpose Limitation	Info. must be used only for the stated purpose	<u>Contravenes with itself</u> (Section:57 against Sections:8,29)
Right to Access & Review	Provides individual the ability to review the info. provided	AN holder may access ID, except core biometric info.
Opt Out Right	Provides option for opting out and withdrawing at any moment	<u>No Opt out</u>
Grievance officer	Must be designated to address redressal, & must be addressed within a month of receipt	Silent, & contractors follow IT act

Reference : Centre for Internet & Society

Comparison of Regulations in terms of body corporate & individual.

<i>Parameter</i>	<i>Information Technology Act(43A)</i>	<i>Aadhaar Act</i>
Disclosure with consent	Gov. agencies can collect only upon written request & with consent. Further disclose & publishing is prohibited	Silent on consent. Disclosure in the interest of national security following directions of Jt. Secretary or higher rank CIDR can reveal info. upon order from District Judge or higher. But shall not be published publicly.
Require for Transfer	Transfer only if country ensures same level of protection	Silent & lacuna
Security of Information	Must adhere to ISO27001 - with annual auditing & Upgradation	No clear explicit standard statements for security, but contractors may be covered by IT act itself.

Reference : *Centre for Internet & Society*

:)

Let's talk Privacy Perspective

What is Privacy, anyway ?

Ability of an individual or group to seclude themselves or information about them, to express themselves selectively.

★ It is the **control** we have over information about ourselves.

- ▶ Form of Bodily Integrity (*Unique biological information* \Leftrightarrow *Biometrics*)
- ▶ Can be **voluntarily** sacrificed
- ▶ Almost all government, in some way limits privacy
- ▶ States : Solitude, Intimacy, ♣ **Anonymity**, Reserve

Surveillance

sur = from *above* ; **veiller** = to *watch*

Technology that measures, analyze, store - human physical, behavioral characteristics from its **patterns** for authentication, identification, screening purposes, by an establishment.

Usually done in centralized & hierarchical way

Biometric surveillance:

- ▶ Fingerprints
- ▶ Palmprints
- ▶ Iris
- ▶ DNA
- ▶ Facial
- ▶ Voice
- ▶ Gait

Mass Surveillance in India

Yussss, we have it for many years now :X

- ▶ CMS
 - *telephone interception*
- ▶ NETRA
 - *internet traffic interception*
- ▶ NCCC
 - *coordination in crime investigation, prevention strategies*
- ▶ NATGRID
 - *integrated intelligence grid*
- ▶ IT Act - 2008
 - *power to tap all comms. without a court order or warrant in the interest of sovereignty*
- ▶ UID + NPR
 - *real time tracking :[fingerprint] + [iris] + [GPS of house hold]*

Note : *They are all deeply connected, some of them lack legal framework too !*

What UIDAI says ?

Aadhaar act, Chapter 4 : Protection of Information

"Biometric information deemed to be sensitive personal information."

What is Profiling ?

Process of construction and application of
profiles generated by
computerized data analysis

Identification



Profiling



Tracking



Surveillance

Public Key Infrastructure U say ?

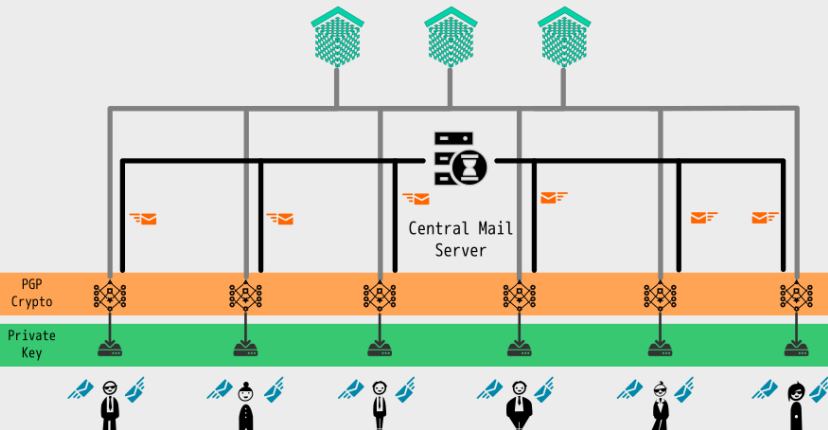
is that a
claim or Promise
???

- **The Security design** secures all the above components from logical/physical attack. This includes.
 - o Server Security – firewall, intrusion prevention and detection systems (IPS, IDS)
 - o Network, Client Security – Encryption, PKI etc *do they even know what is PKI ???*
- The Administration system will help administer the UIDAI's operations. This includes
 - o Account setup – creation/modification of Registrar, enrolling and authenticating agency accounts.
 - o Role based access control – Assign rights over UID resources based on role.
 - o Audit trailing – track every access to the UID system.
 - o Fraud detection – detect identity theft and cyber crimes using audit trails
 - o Reporting and Analytics – Visual decision support tools – GIS, Charting etc.

Reference : UIDAI - Strategy Overview

How GNU PG Works ???

Public Repository -- storing only Public keys



Why cry ? people share "private" information in Internet

Sharing private information is the individuals liberty

Subscribing to any shitty service is individuals liberty

Volunteering to compromise privacy is individuals liberty

- - - - -

**It does not mean, that democratic & republic government can enforce the citizens
to reveal what they consider private, in the name of Security & Safety**

- - - - -

It is upto the user to decide what they want to do with their private information

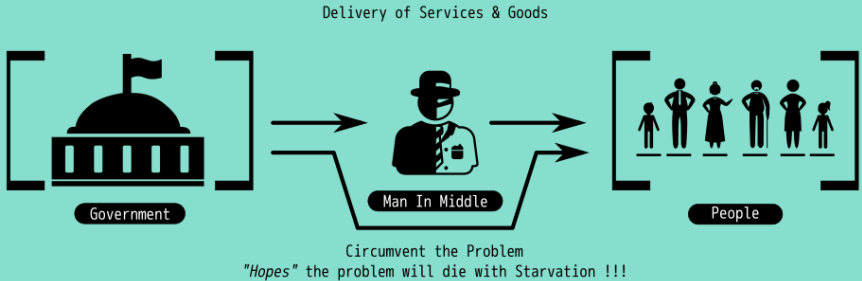
**Those who would give up essential Liberty,
to purchase a little temporary Safety,
deserve neither Liberty nor Safety.**

Benjamin Franklin

:)

Let's talk Economic Perspective

What UIDAI hopes for ???



What is Direct Benefit Transfer ?

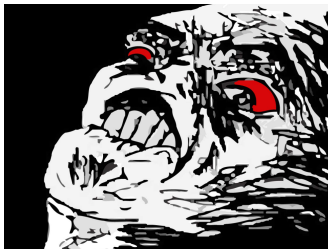
To bring "**transparency**" and terminate "**pilferage**" from distribution of funds sponsored by Central Government of India.

In DBT, benefit or subsidy will be directly transferred to citizens living Below Poverty Line.

What Direct Benefit Transfer is ... really ? :D



In March 2016, the [International Institute for Sustainable Development](#) released a report that the benefit from Aadhaar-linked LPG subsidy scheme for 2014-15 was [₹14 crore](#) and for 2015-16 was [₹120.9 crore](#). This sum was much lower than the number stated by [Finance Minister Arun Jaitley](#) in the Lok Sabha. He had said in March 2016 that the government had saved [₹15,000 crore](#) from the scheme. The paper said that the government was also including the savings from the efforts of oil marketing companies (OMCs) prior to the introduction of Aadhaar. The method used by the [OMCs](#) to weed out duplicates and ghost customers was 15-20 times more effective than the Aadhaar-based method.^[120]



LoooooL : UIDAI + Gov. of India, goes rage face ! :D

:)

Let's talk Social Perspective

What is Voluntariness anyway ?

A legal and philosophical concept
referring to a choice being made of a person's free will,
as opposed to being made as the result of coercion or duress.

- - - - -

The will of the people shall be the basis of the authority of government

Reference : *Universal Declaration of Human Rights, Article 21, 1948*

Why must i listen to a Gov. that ignores Court ???

why are they
morbidity
pestering us ???
don't we have
the liberty ???
:X

On 2 February 2015, the Supreme Court asked the new government to clarify its stance on the project. This was in response to a new PIL filed by Mathew Thomas, a former army officer. Thomas had claimed that government was ignoring previous orders while pushing ahead with the project and that the project was unconstitutional as it allowed profiling of citizens. The government in a reply on 12 February said that it will continue the project.^{[123][124]} On 16 July 2015, the government requested the Supreme Court to revoke its order, saying that it intends to use Aadhaar for various services.^[125] On 21 July 2015, the Court noted that some states were insisting on Aadhaar for benefits despite its order.^[126]

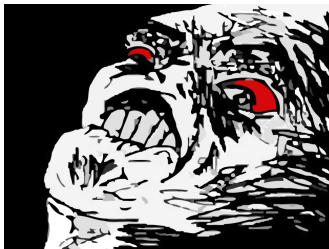


Gov. of India : "Hail me, my subjects .. ! else be banished" :X

We are all potential CRIMINALS ?



The UIDAI appealed in the [Bombay High Court](#) saying that accepting such a request would set precedent for several more such requests. The High Court rejected the argument and on 26 February 2014 in an interim order directed [Central Forensic Science Laboratory](#) (CFSL) to study technological capability of the database to see if it can solve such a crime. The UIDAI then appealed in the Supreme Court. It argued that the chance of a false positive was 0.057% and with 60,00,00,000 people in its database it would result in lakhs of false results. [129][130]



Gov. of India : "God ! Why this happens to me ? I want to protect my beloved subjects !" :(

What is false +ve, false -ve ?

False Positive : *Type I error*

Incorrect rejection of a true null hypothesis.

Indicates a given condition has been fulfilled, when it actually has not been fulfilled.

False Negative : *Type II error*

Failure to reject a false null hypothesis.

Indicates that a condition failed, while it actually was successful.

Opinion

If it is just hypothesis & numbers, OK, but when applied to people... sucks

Reference : *Hypothesis testing*

Remember : *A well worked up hypothesis is half the answer to research question*

De - Duplication - really ?

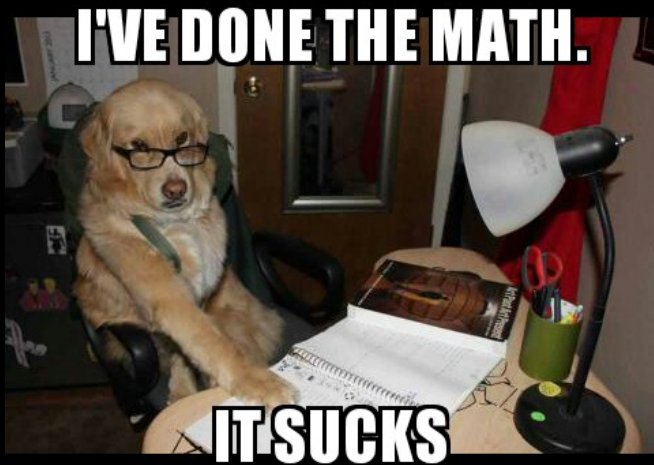
AADHAAR TECHNOLOGY STRATEGY

common dude.. hey.. i can do the math..

420,000 : how much is few for UIDAI ???

The False Negative Identification Rate (FNIR) was measured to be 0.035%. This implies that 99.965% of all duplicates submitted to the biometric de-duplication system are correctly caught by the system as duplicates. Given that currently approximately 0.5% of enrolments are duplicate submissions, only a few thousand duplicate Aadhaars may possibly be issued when the entire country of 120 crores is enrolled.

Based on the analysis, it can be stated with confidence that Aadhaar enrolment system has proven to be reliable, accurate and scalable to meet the nation's need of providing unique Aadhaar numbers to the entire population. It is now safe to conclude that the system will be able to scale to handle the entire population.



★ Have you done your math ?

**Disobedience is the true foundation of liberty.
The obedient must be slaves.**

Henry David Thoreau

:)

Remember , Remember

....

If People fail to keep its Government in check

Government will keep the People in check

Know Further....

- ▶ John Dreze - Development Economist (Architect of MNREGA)
- ▶ Software Freedom Law Centre (Web, Documents)
- ▶ Centre for Internet & Society (Web, Documents)
- ▶ Colonel Mathew Thomas IISC panel meeting (Videos)
- ▶ Databased Citizens - Usha Ramanathan (Videos)
- ▶ Wages of Impunity - K.G.Kannabiran

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Dont get Paranoid...