

Unique Digital Address And Digital Repository In Public Administration

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Abstract: Person name will not be unique in the any part of the word, we will find more than one person with same first name and last name. Email id is digital address that person being recognized and used to communicate in today's world. As email address, will be created by using person names, as person name is not unique, so email address also cannot be unique which leads to confusions in communication and identity. This paper is intended to illustrate and demonstrate implementation and usage of unique digital address and digital repository.

Keywords: Unique, Digital Address, National Identifier, SSN, Aadhar, Public Administration.

I. INTRODUCTION

We are all leaving in digital world and being global citizen, we use electronic communication as major communication channel. In this digital world, each country is using email as prime communication channel for their internal correspondence with their citizens and with foreign citizens for international correspondence. Email address is being formed by names of the person particularly in official communication. As the same name of the person are being repeats within and across the generations, so email id will have random additional text suffixed with additional characters like 007,2,1947,2000,123,99 etc. to ensure uniqueness. Here we want to introduce new concept of generating & usage of unique email id across the nation and the world, this can be primarily used for official communication. This can also be used to create unique digital repository.

II. CURRENT CHALLENGES

As name of the person is not unique so creating unique email address is near impossible, email ids being formed using names but with little suffixed text to make unique, which may not be meaningful and difficult to recognize right person. Due

to this email id similarity, email id owners face many challenges in correspondence as listed below.

- ✓ Unknowingly one person email might be sent to another person.
- ✓ Irrelevant recipient may come to know other person's confidential or Personal Information.
- ✓ Actual recipient may not get right information at right time.
- ✓ Currently email services has been provided by third party services, which may be stopped by the email service provider or due to policies of the country or may move to paid services.
Example: In 2001, usa.net was moved to paid mode. Many users lost their email id.
- ✓ Data security policy under discretion of third party email service provider, which may change over period.

III. GENERATION OF UNIQUE DIGITAL ADDRESS (EMAIL ADDRESS)

Every country is following its own standard process to identify its citizens and foreign citizens uniquely. Let's see some popular countries' unique identification examples

Country	Unique id Name	Unique ID Pattern	Example
India	Aadhar Number	12-Digit Number	1234 1234 1234
USA	Social Security Number (SSN)	9-Digit Number	123 45 6789
UK	National Insurance Number	LL NN NN NN L	AA 01 23 44 B
Russia	Individual insurance account number (SNILS)	11 Digit Number	123 456 789 12
Australia	Tax File Number	8 or 9 Digit Number	123456782
Japan	My Number	12 Digit	1111 2222 3333

Table 1

- ✓ Government authority can generate unique email id by prefixing country ISO code and by suffixing government website domain to trimmed unique ID number.
- ✓ As email address need to have alphabet as first character, so prefixing ISO code is required.
- ✓ Prefixing ISO code also makes it unique across the world.
- ✓ Suffixed domain name can be decided by government authority.

Example:

Country	Country ISO Code	Unique ID Example	Proposed Unique Email Address
India	IND	1234 1234 1234	IND123412341234@GovDomain.com
USA	USA	123 45 6789	USA123456789@GovDomain.com
UK	GBR	AA 01 23 44 B	GBRAA012344B@GovDomain.com
Russia	RUS	123 456 789 12	RUS12345678912@GovDomain.com
Australia	AUS	123456782	AUS123456782@GovDomain.com
Japan	JPN	1111 2222 3333	JPN111122223333@GovDomain.com

Table 2

IV. IMPLEMENTATION METHODS

Unique digital address will have unique email id and corresponding email box (storage).

This can be implemented in two modes

- ✓ Complete Interactive Mode
- ✓ Partial Interactive Mode
- ✓ Read-Only Mode

A. COMPLETE INTERACTIVE MODE

Under Complete Interactive mode, Government Authority will create an email box and allow user to use as the authorized email communication channel with Government for legal activities.

This method follows same email services as now being provided by most popular email service providers. Citizen will

get user id and password to access his/her dedicated email box.

ADVANTAGES

- ✓ Secured dedicated repository for important documents that user can preserve for his lifetime.
- ✓ User can send his/her personal non-Government authorised documents to this mail box for his/her personal references.
- ✓ User can send emails from this mail box to anyone.

DISADVANTAGES

- ✓ Mailbox will be used by user as primary mail box; user mail box may need large amount of storage.
- ✓ As user, can send emails from this email id to anyone, which impacts the network traffic.
- ✓ As user is free to feed any document to mail box, it may bring virus into system.

B. PARTIAL INTERACTIVE MODE

Under Partial Interactive mode, Government Authority will create an email box and allow user to send emails from affiliated email ids.

In this mode, citizen will get email box which can be used as read purpose means citizen can download the contents from email box and allowed to send emails from affiliated email addresses which can be controlled by user, at account settings level.

ADVANTAGES

- ✓ Secured dedicated repository for important documents that user can preserve for his lifetime.
- ✓ User can send his personal non-Government valid/authorised documents to this mail box for his/her personal references.
- ✓ Acts as life time digital locker for government approved/sanctioned documents related to user and can maintain user's personal documents in same email box.

DISADVANTAGES

- ✓ Mailbox will be used as semi interactive, user may push many documents which may not be useful.
- ✓ As user, can send email from his side there is no control on the storage and maintenance.
- ✓ As user is free to feed any document to mail box, it may bring virus in to system.

C. READ-ONLY MODE

Under Read-Only mode, Government Authority will create an email box and allow user to use as the authorized repository for references in a read only mode. This method will allow user to use his email box just for reference and only Government authority can send emails to email box. All other emails will be rejected.

ADVANTAGES

- ✓ Most secured document repository of a person that can be referenced lifelong.
- ✓ Only Government authority systems will send emails, repository will consume less storage and most relevant information will be preserved.

DISADVANTAGES

- ✓ Repository will be read-only, user cannot contribute from his end.
 - ✓ Only inserts/appends, no updates.
- By considering the efficient and optimized usage, we would like to proceed with Read-Only Mode as most preferred approach as initial implementation. We can move to Interactive or partial interactive mode based on the feasibility.

V. EXECUTION PROCESS

- Assumptions:
- ✓ Execution activity will be taken care by dispatch section of Government Authority.
 - ✓ In every Government process, applicant's Unique Identification Number (UIN) should be specified in the application as mandatory.
 - ✓ Every Government dispatch office should be well equipped with computer facility having scanner & internet.

EXECUTION

- ✓ Every Government application should have UIN specified by applicant, UIN will be associated in every step of process as one of the mandatory field, this value can be encrypted if required.
- ✓ Dispatch section employee should scan the approved or signed document.
- ✓ Dispatch section program should pick UIN associated with application request and compose the unique email id by prefixing predefined country ISO code and suffixing email domain value.
- ✓ Email with attached scan copy of approved or signed document will be sent to composed unique email id.

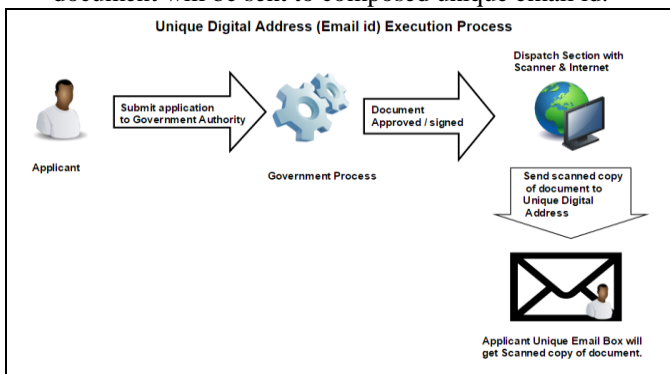


Figure 1

VII. UTILIZATION

With presumption of Read-Only mode implementation, utilization of unique id at Government authorities in different phases of human life cycle as below.

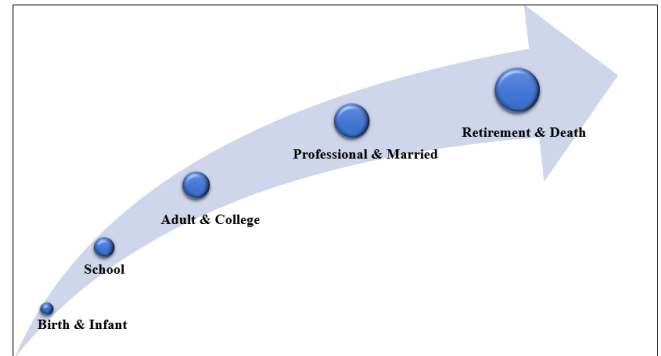


Figure 2

GENERATING UNIQUE ID

Unique id should be generated immediately after allocation of national unique identification number. Email box also created at that time only.

PHASE: BIRTH & INFANT

In this phase below specified documents are being issued by Government authority and should be sent to document recipient. The very first document of a baby will be a birth certificate. Since UIN for a baby cannot be generated at that time, birth certificate will be sent to parents of a baby.

Life-Milestone	Document Type Issued	Owner of Document	Document Recipient
Birth	Birth Certificate	Baby	Parents of Baby
Unique Identification Number (UIN) Generation	Unique Identification Number or Document	Baby	To: Baby Cc: Parents
Passport	Passport First & Last Page	Baby	Baby
Tax File Unique Id (If applicable)	Tax file number or approved document	Baby	Baby

Table 3

PHASE: SCHOOL

In this phase, below documents are issued by Government authority and will be sent to document recipient. This phase covers from kinder garden to 12th standard.

Life-Milestone	Document Type Issued	Owner of Document	Document Recipient
School Admission	Income Certificate (If applicable)	Baby	To: Baby Cc: Parent

School Admission	Caste/Religion Certificate (If applicable)	Baby	To: Baby Cc: Parent
1 st standard Registration	Admission approved by Government	Kid	To: Kid Cc: Parent
10 th Standard Completion	10 th Marks Card	Kid	Kid
12 th Standard Completion	12 th Marks Card	Kid	Kid

Table 4

PHASE: ADULT & COLLEGE

In this phase, below documents are issued by Government authority and will be sent to document recipient. This phase covers from start of graduation to pre-employment.

Life-Milestone	Document Type Issued	Owner of Document	Document Recipient
Driving License	Driving License	Applicant	Applicant
Academic Milestone	Certificate of Graduation / Post Graduation / Doctorate	Applicant	Applicant
Government Awards /Recognition	Award/Recognition Certificate	Applicant	Applicant
Property Registration	Registration Document	Buyer	Buyer & Seller
Vehicle Registration	Registration Document	Buyer	Buyer & Seller
Government Scheme	Scheme related documents	Applicant/s	Applicant/s

Table 5

PHASE: PROFESSIONAL & MARRIED

In this phase, below documents are issued by Government authority and will be sent to document recipient. This phase covers from start of Employment to Married Life.

Life-Milestone	Document Type Issued	Owner of Document	Document Recipient
Business Start/Stop	Registration / License Certification.	Applicant/s	Applicant/s
Government Job Appointment/Resignation	Appointment Order /Resignation approval	Applicant	Applicant
Government Awards /Recognition	Award/Recognition Certificate	Applicant	Applicant
Marriage	Marriage Certificate	Applicant-Spouse	Applicant-Spouse
Divorce	Divorce Certificate	Applicant-Spouse	Applicant-Spouse
Court Orders	Court Orders	Applicant/s	Applicant/s
Property Registration	Registration Document	Buyer	Buyer & Seller
Vehicle Registration	Registration Document	Buyer	Buyer & Seller
Tax and Insurance payment of Property & Vehicle	Receipts	Applicant	Applicant
Government Scheme	Scheme related	Applicant/s	Applicant/s

	documents		
Taxation (Every year)	Tax document and Return File document	Applicant	Applicant
Child Birth	Child Birth Certificate	Parents	Parents
Child Unique Generation	Unique Id Document	Applicant	To: Applicant Cc: Parents

Table 6

PHASE: RETIREMENT & DEATH

In this phase, below documents are issued by Government authority and will be sent to document recipient. This phase covers from start of retired life to End of Life.

Life-Milestone	Document Type Issued	Owner of Document	Document Recipient
Retirement	Retirement Confirmation Letter and benefits letter	Applicant	Applicant
Senior Citizen	Sr. Citizen benefits / scheme certificates	Applicant	Applicant
Death	Death Certificate	Dead Person	To: Dead Person Cc: Applicant Cc: Spouse Cc: Kids
Post Death	Affiliated Will	Nominee	To: Nominee Cc: Spouse

Table 7

VIII. ADVANTAGES

Unique digital address will provide the digital identity for a person across the world. This plays key role in creation of digital repository for a person under Government affiliation. Let's see the below listed advantages of the digital repository powered by unique digital address.

A. DIGITAL REPOSITORY

This implementation will bring up secured-huge document repository facilitated by Government Authority for the people. These documents are being preserved under Government supervision.

B. GOVERNMENT AUTHORITY

Government authority will have a copy of document issued which can be looked back in finger tips. Government will not have a necessity to ask for documents from the public as required to look on history of process. There will be no room for any kind of mall practice in the documents.

C. JUDICIAL

Most of the times Judicial will ask public to submit original document as proof. In all cases it very difficult to produce all original document as documents might have damaged or lost. During such incidents, judicial section can refer to this Digital repository and verify the genuineness of the documents produced.

D. INDIVIDUALS

As approved/signed documents will be available in his/her mail box, no need to carry original hard copy of documents everywhere as it can be downloaded or referred at that time and any place. This implementation plays very vital role in online document submission/verification process.

E. FAMILY MEMBERS

As person's life cycle will be captured under this implementation in digital form. A nominated family member/s can always get history of their ancestors and documents. This plays very key role in family/asset related disputes.

F. PREVENTION OF DOCUMENT MALL PRACTICE

Document mall practice will be become impossible as copy of original document will be available in Government Digital Repository and can be cross verified immediately and document under Government repository will be considered as golden copy/record.

G. PROPERTY/VEHICLE SALE-PURCHASE

The biggest frauds will happen in property related transactions. Most of the individuals will suffer due to unclear titles and hidden transactions. With this implementation individual, can refer to the complete history of the property or vehicle. In any property/vehicle purchase transactions both buyer and seller will get copy of the document.

H. CONCLUSION

Enabling my unique digital address and digital repository will make every citizen as digital unique universal citizen. This will prevent ambiguity in email id due to duplicate names within country and across the country. This will also help to build his/her personal digital repository for life time events. These captured life time events in the form of documents will help in his/her lifelong as well next generation. This implementation will help government administration.

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