Aadhaar Hackathon 2021

Enrolment Problems

About Aadhaar

- **World's Largest Biometrics Based Identity Platform**
  - **We Provide 12 Digit Unique Identification Number to the Residents of India**
  - **Uniqueness of Aadhaar is Achieved Through Demographic and Biometric DeDuplication**
- **We Collect Minimal Set of Demographic and Biometrics Data From Residents**
- **130 Cr+ Residents have been Enrolled to the Aadhaar Platform**
  - **The first Aadhaar number was issued on 29 September 2010.**
- **Integrated with Most of the Govt Welfare Schemes and Applications for Authentication and Identity**
  - **MNREGA, DBT**
- **Helped in Reduction in Leakage in Service Delivery**
- **Facilitating Financial Inclusion of the Underprivileged and Weaker Sections of the Society**
- **Aadhaar Number is Devoid of any Intelligence and does not Profile people based on Caste, Religion, Income, Health and Geography**
- **Developed Using Open Source Technologies**
  - **Designed to Operate at India Scale**

About Hackathon

- **First Ever Event being Conducted by UIDAI - Custodian of Aadhaar**
- **Coinciding with "Azadi Ka Amrit Mahotstav" - To Commemorate 75 years of Progressive India**
- **Five Problem Statements**
- **Two Themes**
  - **Based on Real Life Challenges Around Address Update**
  - **Authentication Reimagined**
- **Minimum One to be Solved**
- **Solution will Impact 130+ Cr Population of the Country**
- **Open to All the Students of Engineering Colleges**
- **Maximum Five Members per Team**
  - **Complete your Team Formation as Early as Possible. Last Date : 25 Oct 21**
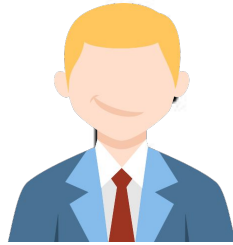- **Exciting Rewards and Placement Offers**

Stay Tuned to
hackathon.uidai.gov.in

Problem Statement - 1

Address Update Challenge in Urban Areas

- Imagine you move to a new city. Initial days are usually not smooth.
- For getting basic needs like gas connection or to get hold of internet to be online using broadband, you are asked for current Proof of Address.
- A problem statement designed to solve the address update problem even when Proof of Address (PoA) Document is not there.
- A common problem being faced by many migrant residents.

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Requests Address
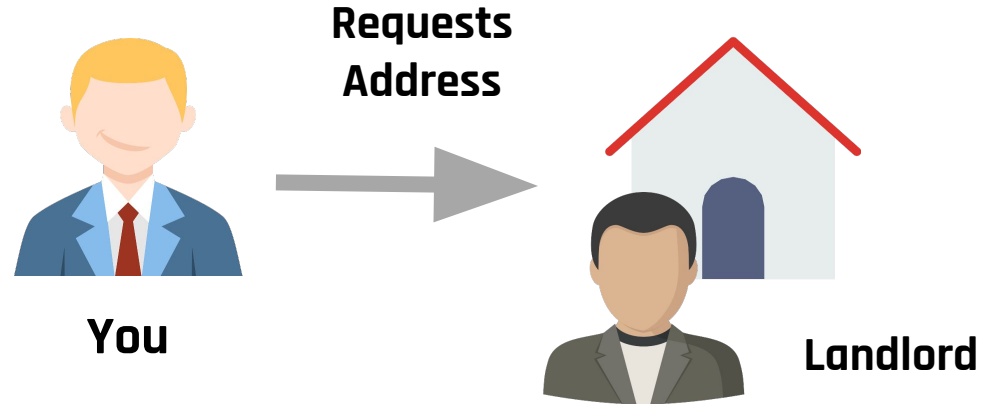
You → Landlord

- **You can update your aadhaar with the Help of Landlord or PG Owner**
  - **Provided Landlord is having the Address of Your Accommodation in his Aadhaar**
  - **Landlord/PG Owner Agrees to Help You in Updating the Address**
  - **Landlord must have Registered his Mobile Number with Aadhaar**
- **You request the Landlord to Borrow his Address and Use to Update Your Aadhaar**
  - **Communication Between You and Landlord is through the App/Portal**
  - **Process is Completely Auditable**

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Gets request notification

Landlord

- **Post Your Request to Borrow Address**
  - ○ **Landlord gets Notification on the Phone**
  - ○ **Landlord Reviews the Request for Address**
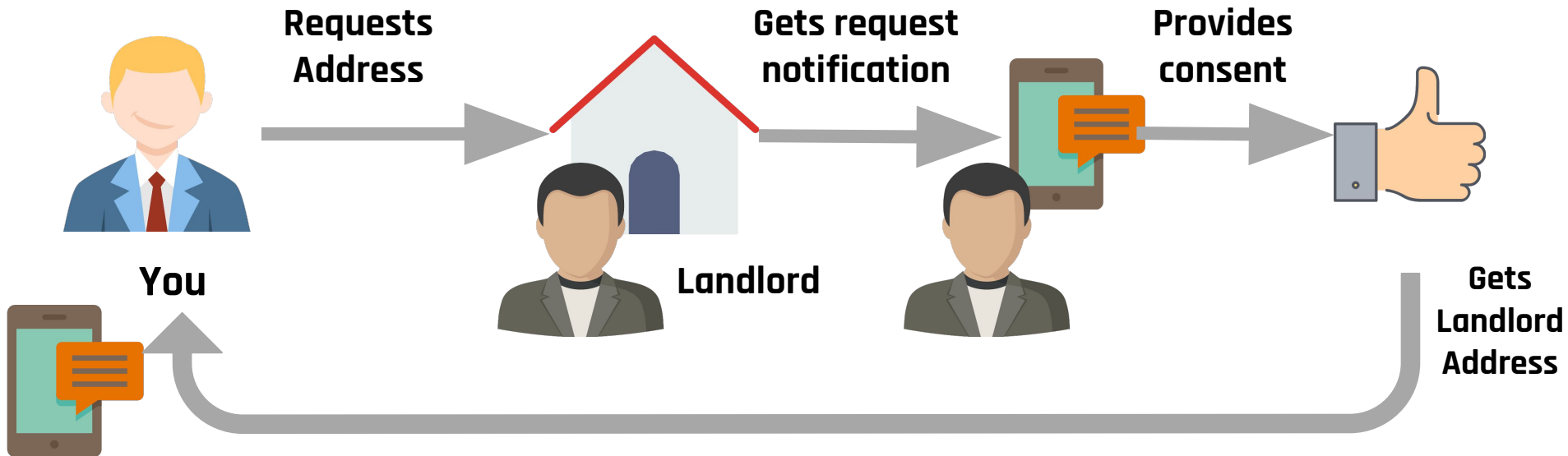 - ○ **Landlord may or may not Agree to Share Address**

Requests Address → **Gets request notification** → **Provides consent**
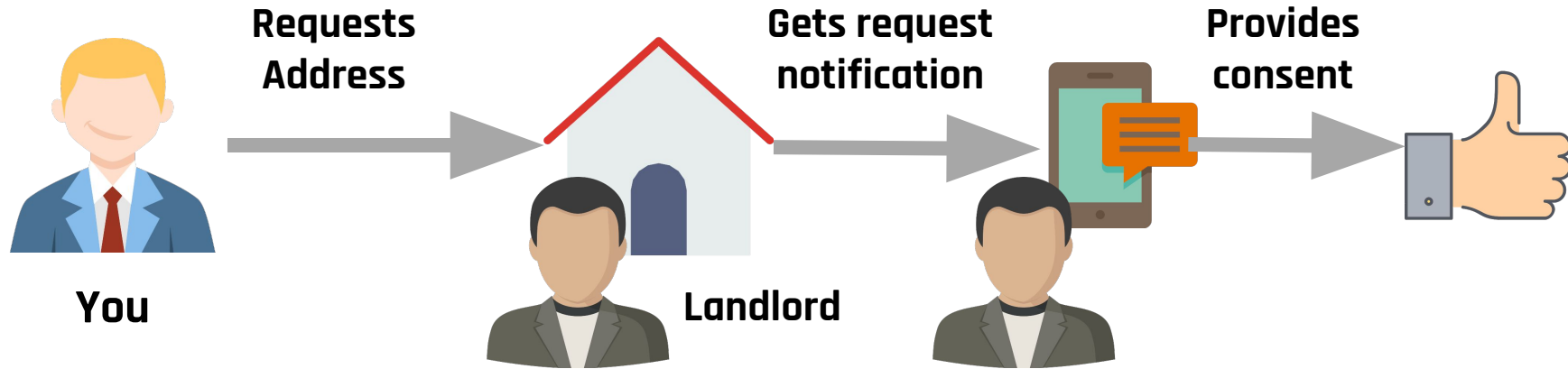
You   **Landlord**

- **If Landlord Agrees to Share Address**
  - **Agrees to Share the Address Through a Consent**
  - **Consent Logs Should be Preserved for Audit Purpose**
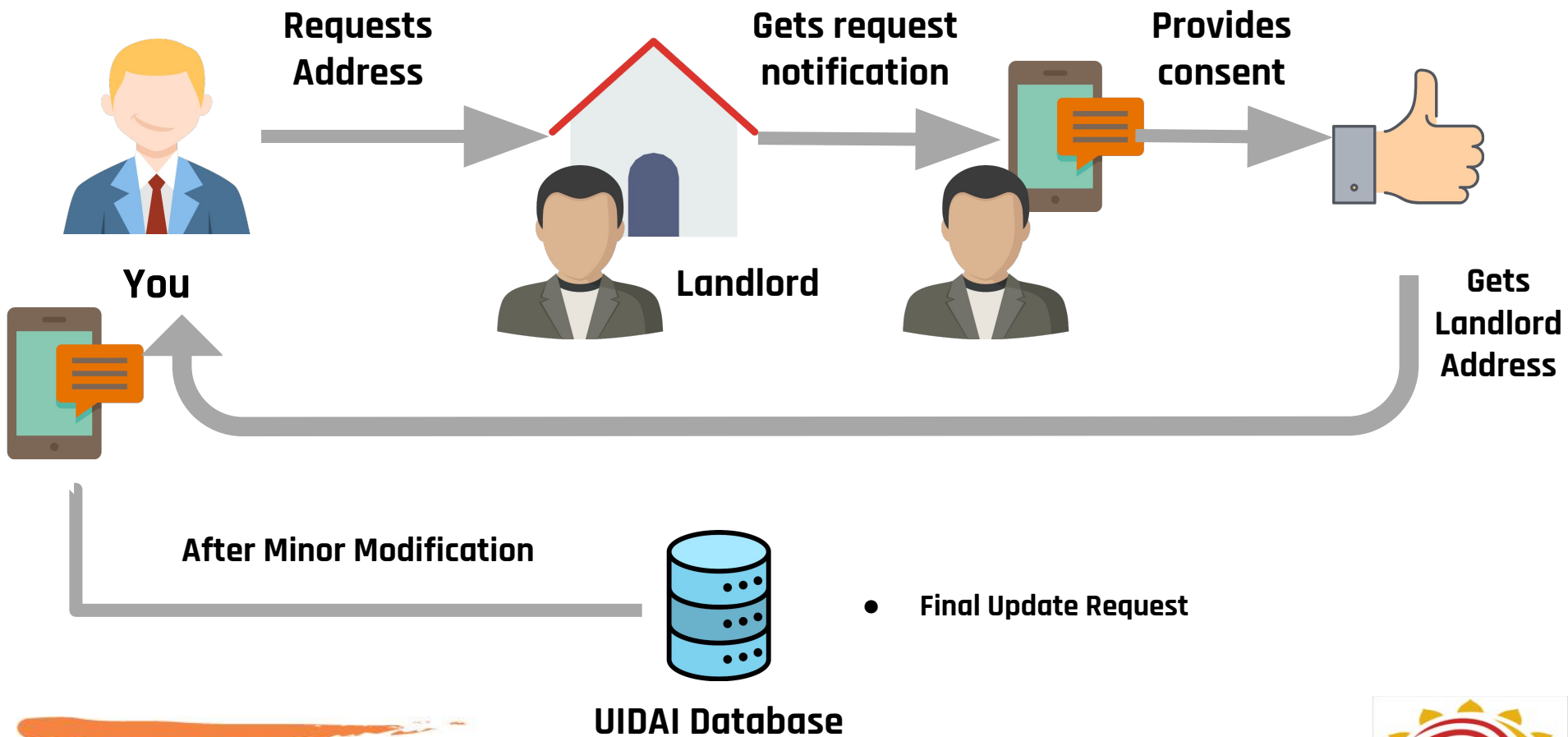- **Complete Process is Auditable and Free from Fraudulent Usage**

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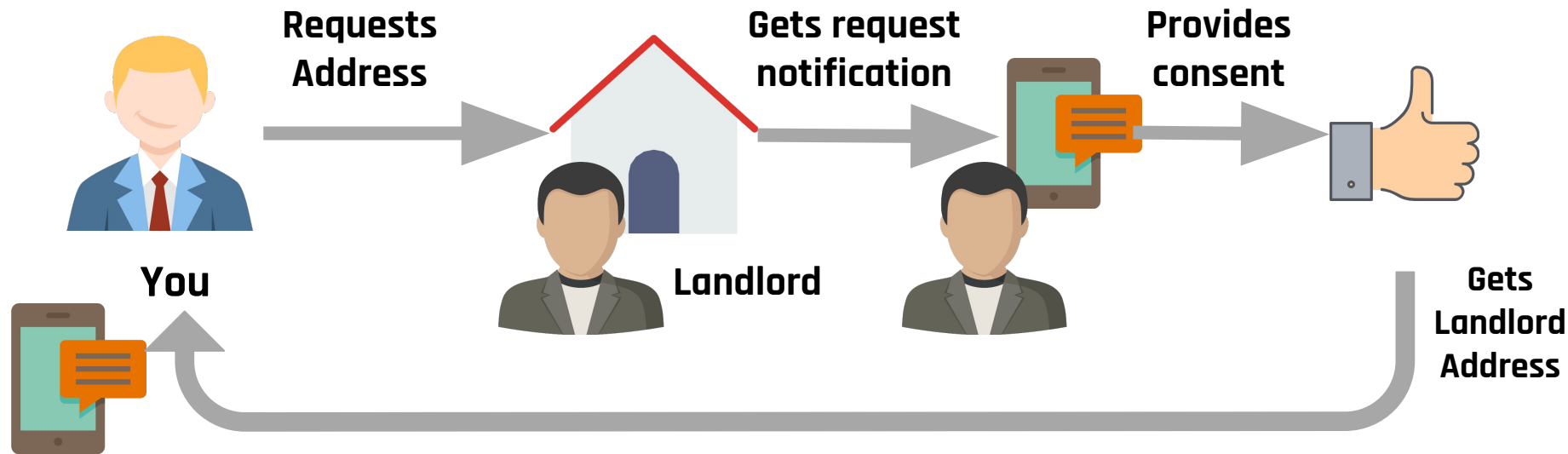
- **Landlord Requests for Offline eKYC**
  - **Offline eKYC Contains the Address of the Landlord**
- **Exchanges his Offline eKYC with You with the Passcode in Electronic Form**
  - **eKYC and Passcode Should be Shared Separately Between You and Landlord**
  - **Passcode and eKYC to be Safely Destroyed After Usage**
- **Landlord Consent Notification, Offline eKYC and Passcode received by You**
  - **Strength of the Solution Lies on the Secure Exchange Mechanism**

You → Requests Address → **Landlord** → Gets request notification → Provides consent → Gets Landlord Address → **You**

- Application Extracts the Address from the Offline eKYC
  - Address is Presented to You for Review
  - You Can do Minor Changes to the Address Like Addition of Flat Number or Street Name
    - Compare and Validate the Updated Address and Landlord Address
    - Both Should Geographically Point to Same Location
      - Use of GPS and GeoCode API Recommended

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Requests Address

You

Gets request notification

Landlord

Provides consent

Gets Landlord Address

After Minor Modification

UIDAI Database

- Final Update Request

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Other Requirements

- Validate modified address using GPS of device,
  - Terminate of update process if major changes to landlords address
- Near Real Time communication
- Electronic mode of communication only through the applications that are being developed
- Secure against fraudulent usages
- Audit logs
- Any other good to have features for extra points

Available API's to use

- Aadhaar eKYC API to fetch landlords address, which is protected by OTP Authentication
  - UIDAI would Give an Understanding of the APIs

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Problem Statement - 2

Address Update Using Supporting Document
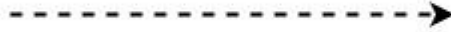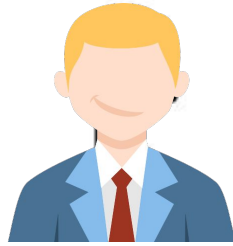
- **Imagine you move to a new city and taken a Flat on Rent**
- **You have a Rent Agreement with the Landlord.**
  - **Rent Agreement Captures the Address but, misses on Street Name or Locality**
- **UIDAI Address Object Consists of Common Fields Like**
  - **House/Building/Apartment, Street/Road/Lane, Area/Locality/Sector, Landmark, Village/Town/City, Pincode, Sub District, District, State**
  - **Requires Matching with Supporting Documents**
- **Common Problem in Address Update Requests**
- **Impacting Rejection of Address**

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Address Update Using Supporting Document
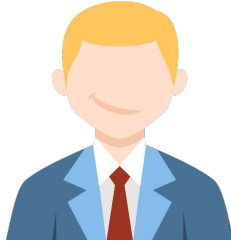
- **You want to Update the Address Using the Supporting Document**
  - **For Example, Say Electricity Bill**
- **Electricity Bill Contains**
  - **Apartment Number, Apartment Name, City, Locality**
  - **Misses on Street Name, City, PinCode, Sub-District, District**

Address Update Using Supporting Document

- **Develop an Application for Our Mobile Operator (APK or Portal)**
  - **Must be Smartphone Friendly (android/ios)**
- **Application would be Used by Our Mobile Operator**
  - **Move from Doorstep to DoorStep for Address Update**
- **Application to be Used to Update the Address Using the Supporting Document**
  - **Extract the Address from the Document**
  - **Provision to Undertake Minor Edit to the Address**

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Address Update Using Supporting Document

- **Application to be Used to Update the Address Using the Supporting Document**
  - **Capture the Document Using Smartphone Camera**
  - **Extract the Address from the Document**
  - **Provision to Undertake Minor Edit to the Address**
    - **Addition of Street, Sub District, District**
  - **Validate the Address Using GPS and GeoCode API**
- **Store the Document, Extracted Original Address, Updated Address, Validation Outcome in a Data Structure**
  - **JSON Data Structure**

Address Update Using Supporting Document

Other Requirements

- Design the Address Update Process Keeping You and Your Requirement in the Focus
  - Experience is Important
- Resident Experience Through Enhanced Process and Intuitive Design
  - Minimum Number of Data Entry/Mouse Clicks/Page Changes
- Validate modified address using onboard GPS and GeoCode API,
  - Terminate of update process if major difference between the Document and Updated Address
- Accurate Extraction of Address from Document Image
- Optional Support for Local Languages
- Secure against fraudulent usages
- Audit logs
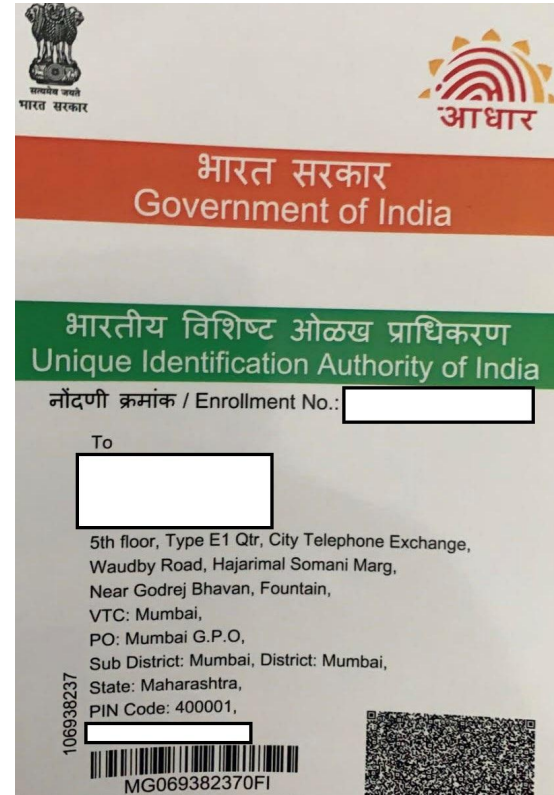- Any other good to have features for extra points

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Problem Statement - 3

- **UIDAI Address Object Consists of Common Fields Like**
  - **House/Building/Apartment,**
  - **Street/Road/Lane,**
  - **Area/Locality/Sector,**
  - **Landmark,**
  - **Village/Town/City,**
  - **Pincode,**
  - **Sub District,**
  - **District,**
  - **State**

damaravancha
gudur mandal
Damaravancha
Dameravancha, Warangal
Andhra Pradesh - 506134

भारत सरकार
Government of India

भारतीय विशिष्ट ओळख प्राधिकरण
Unique Identification Authority of India

नोंदणी क्रमांक / Enrollment No.:

To

5th floor, Type E1 Qtr, City Telephone Exchange,
Waudby Road, Hajarimal Somani Marg,
Near Godrej Bhavan, Fountain,
VTC: Mumbai,
PO: Mumbai G.P.O,
Sub District: Mumbai, District: Mumbai,
State: Maharashtra,
PIN Code: 400001,

106938237

MG069382370FI

- **Often Address in Urban Area Contains Repetition of Texts**
  - **Example : "Mumbai"**
- **De-Clutter the Address**
  - **Identify Repetitive Constituents**
  - **Merge and Format the Address**
- **Optionally Solve for Local Language Address**
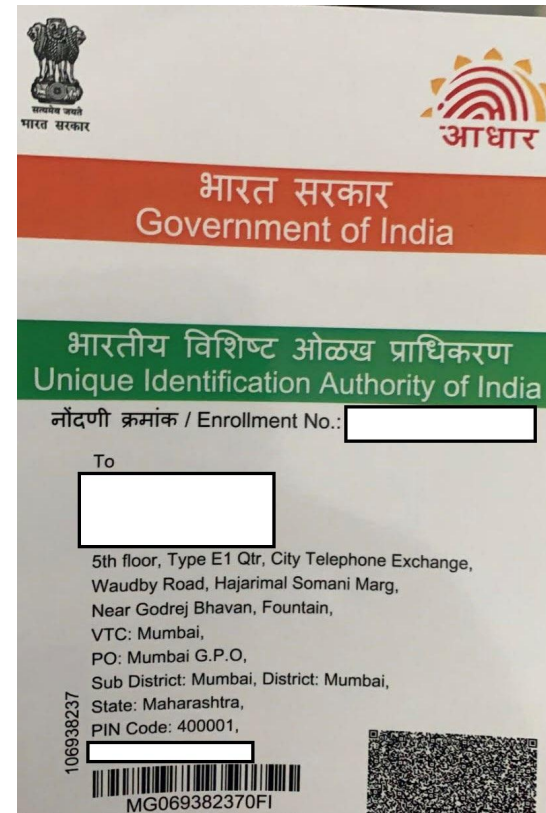
- **Develop the API which will undertake Address Formatting**
  - **Accepts the Address in Raw Form (English and Local Language Address)**
  - **Formats the Address and Presents as an Output**
- **Must be a Scalable Design**