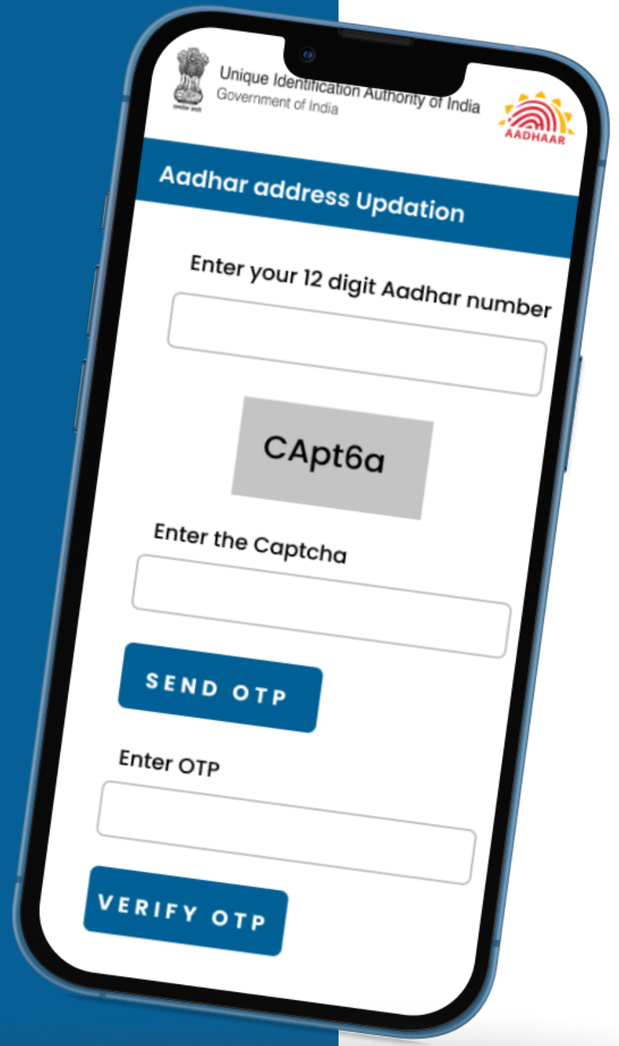
Aadhaar Hackathon 2021

Theme 1 -> Problem 1

Address Update Challenge in Urban Areas



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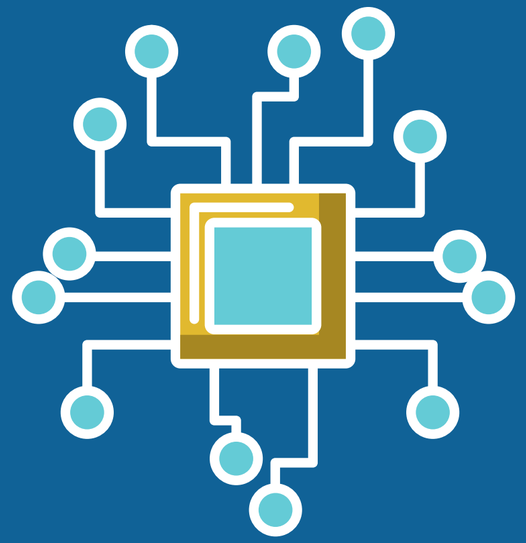
IMPORTANT POINTS



Landlord and Neighbour are the same

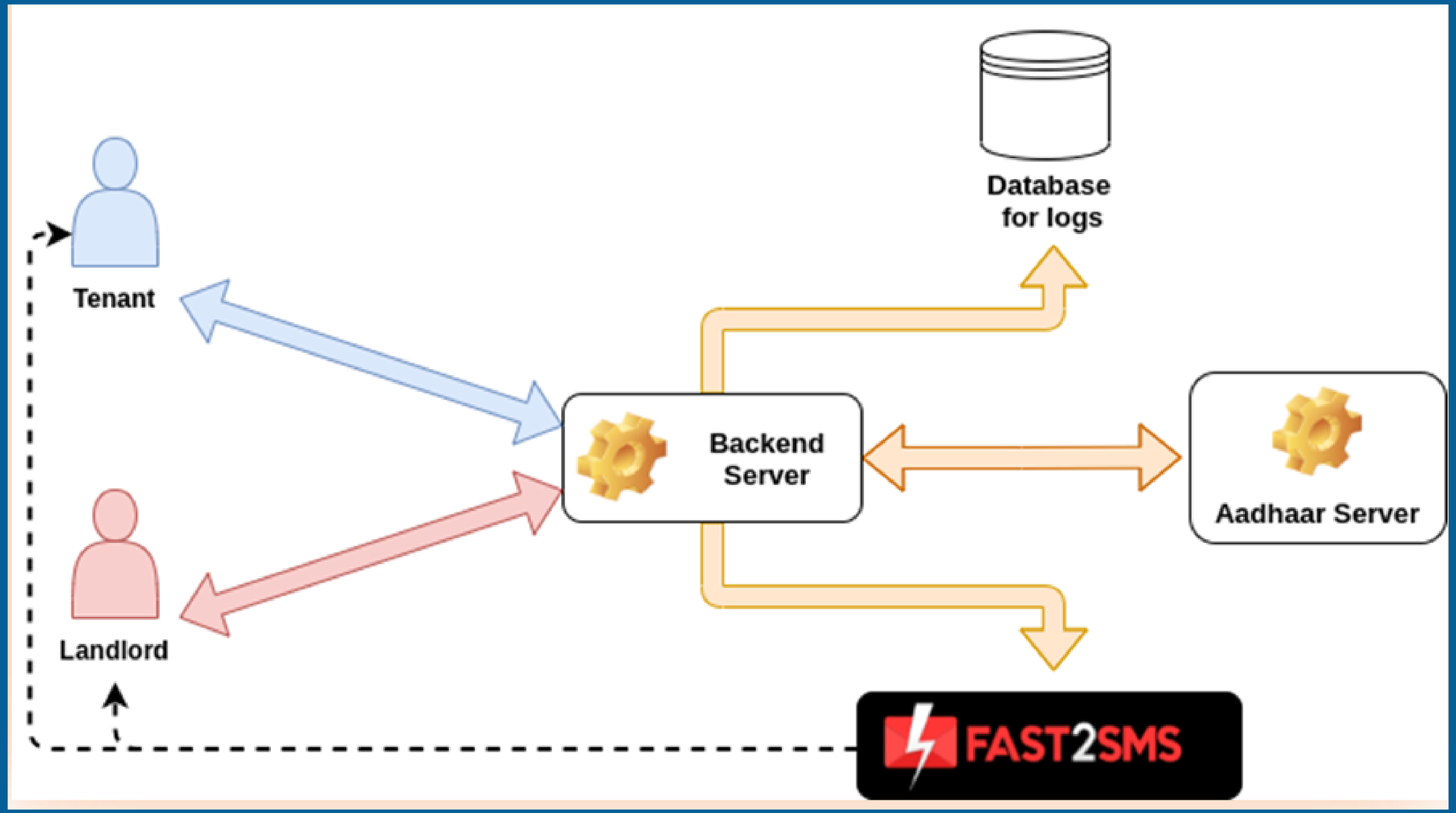
In the slides, everywhere we refer to Landlord, it is also applicable for Neighbour or the entity who is sharing the address.

Every step is in electronic form

There is no exchange of **Aadhaar letters** at any point in time. Also, the only Aadhar related data which is shared is the name and photo of the tenant and address of the landlord, which is also done after proper consent digitally.

*AADHAAR NUMBER IS NOT SHARED AT ANY POINT OF TIME

ARCHITECTURAL DESIGN



DATABASE SCHEMA

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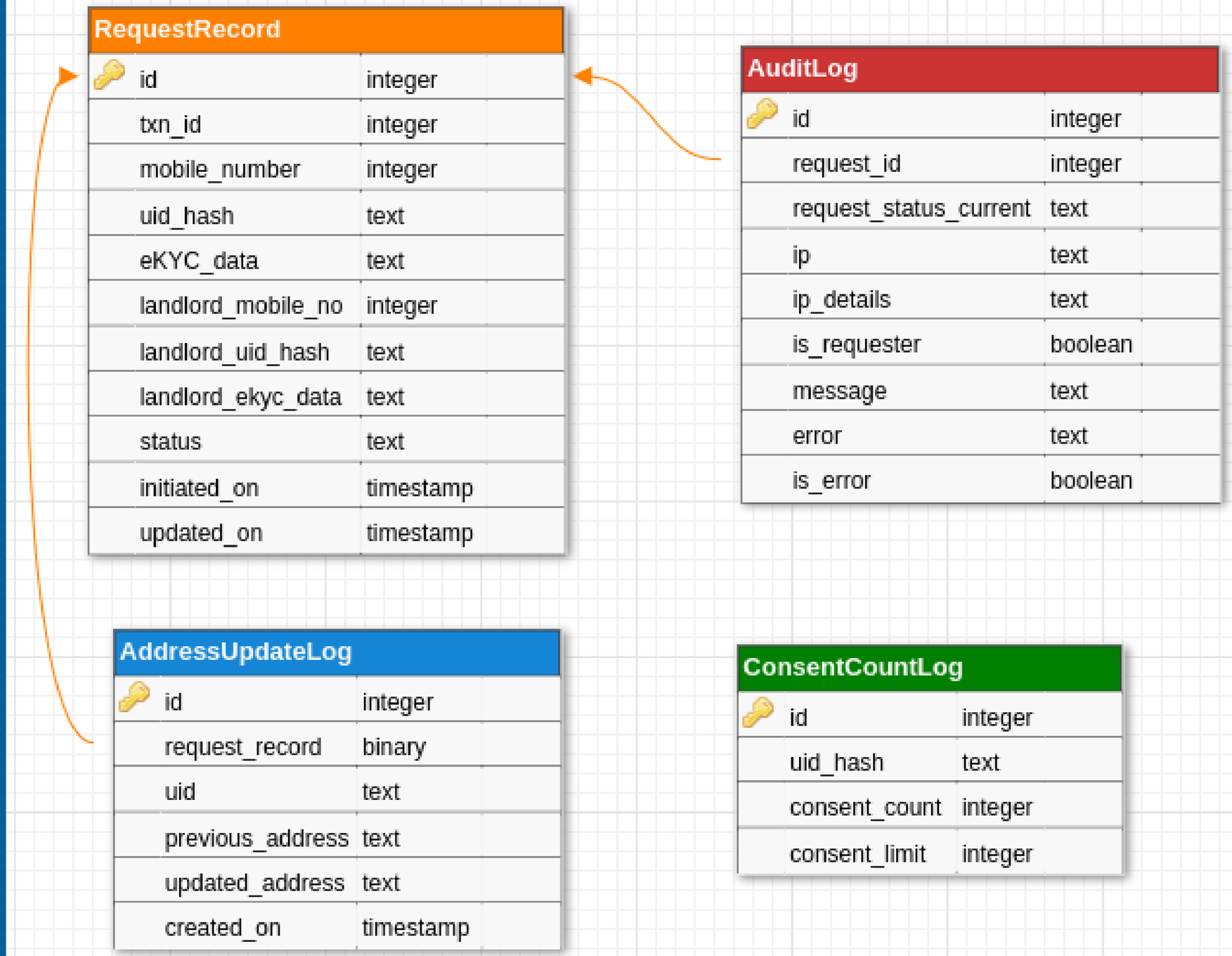
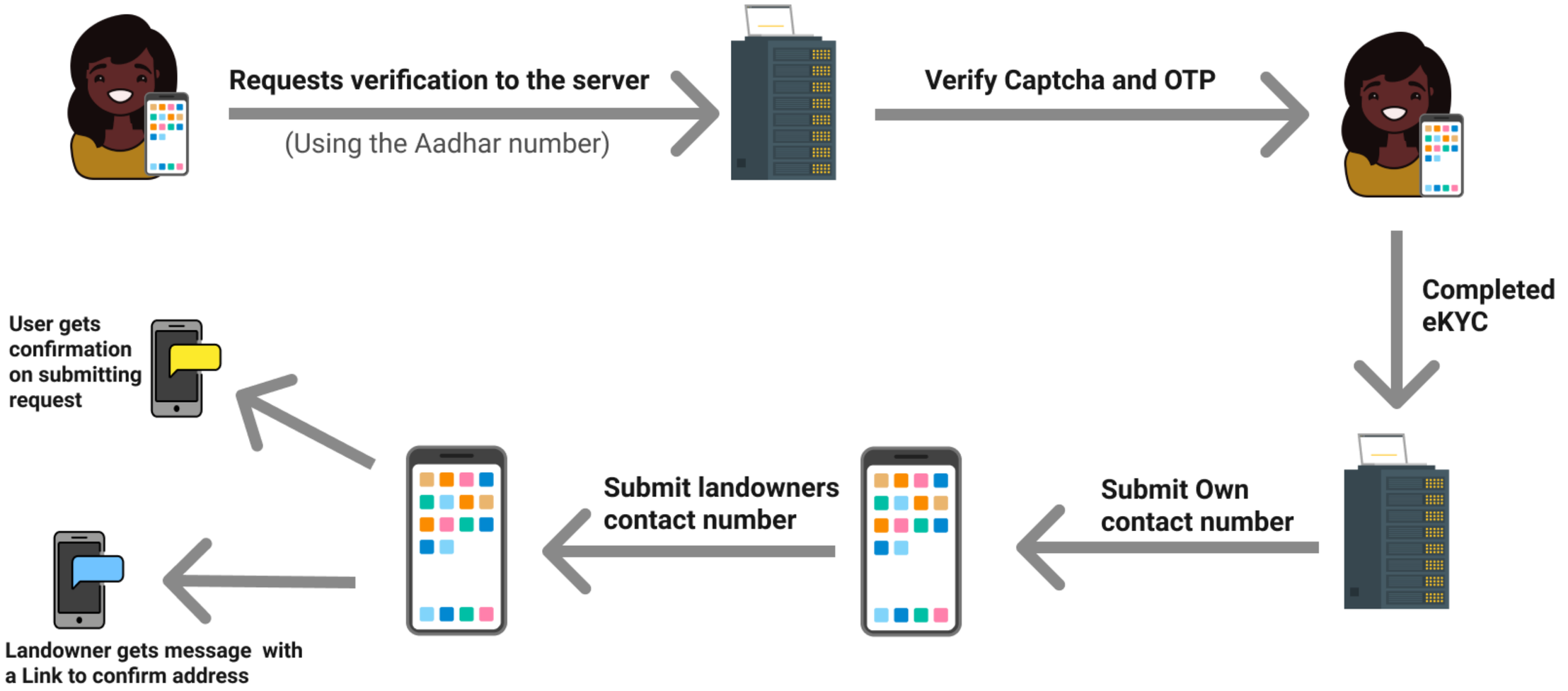


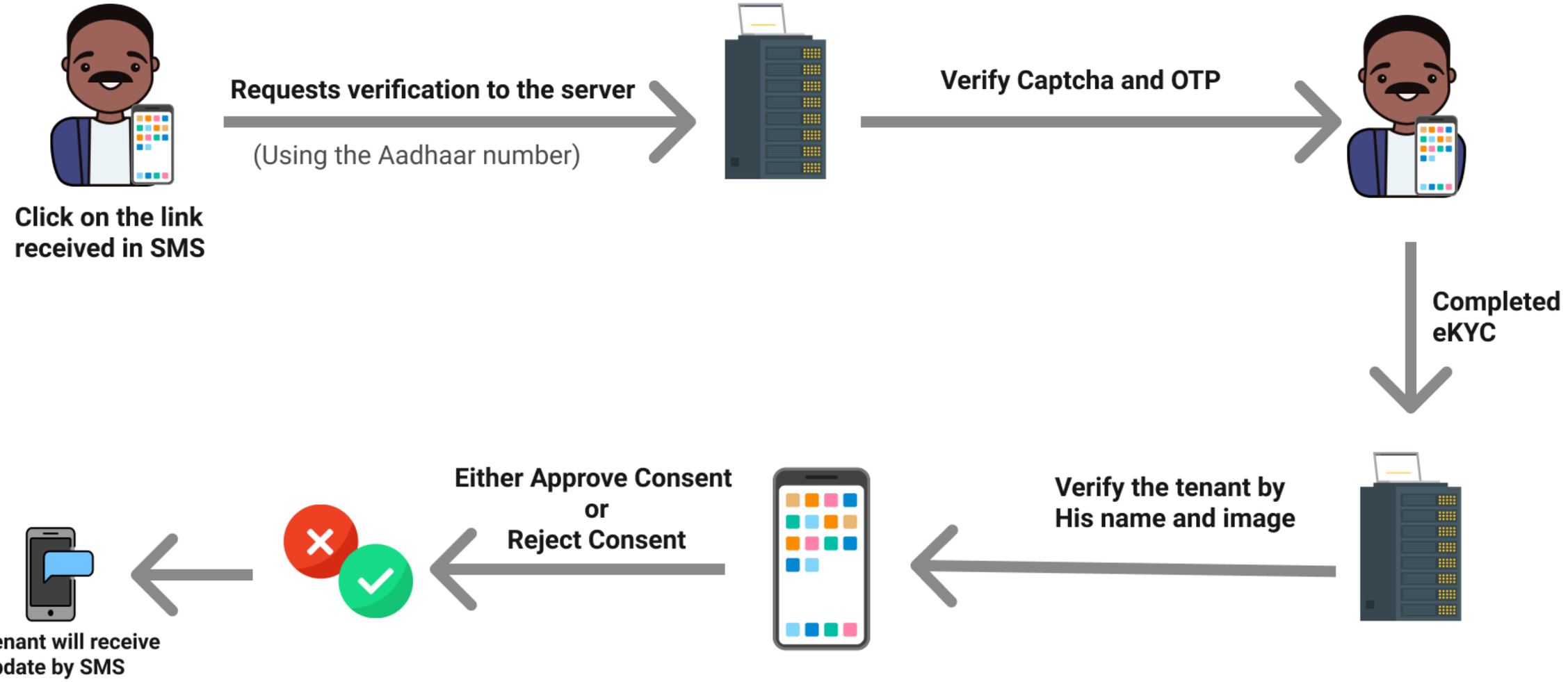
FLOWCHART PART 1

Verification of the tenant and generation of request by the tenant to change the address



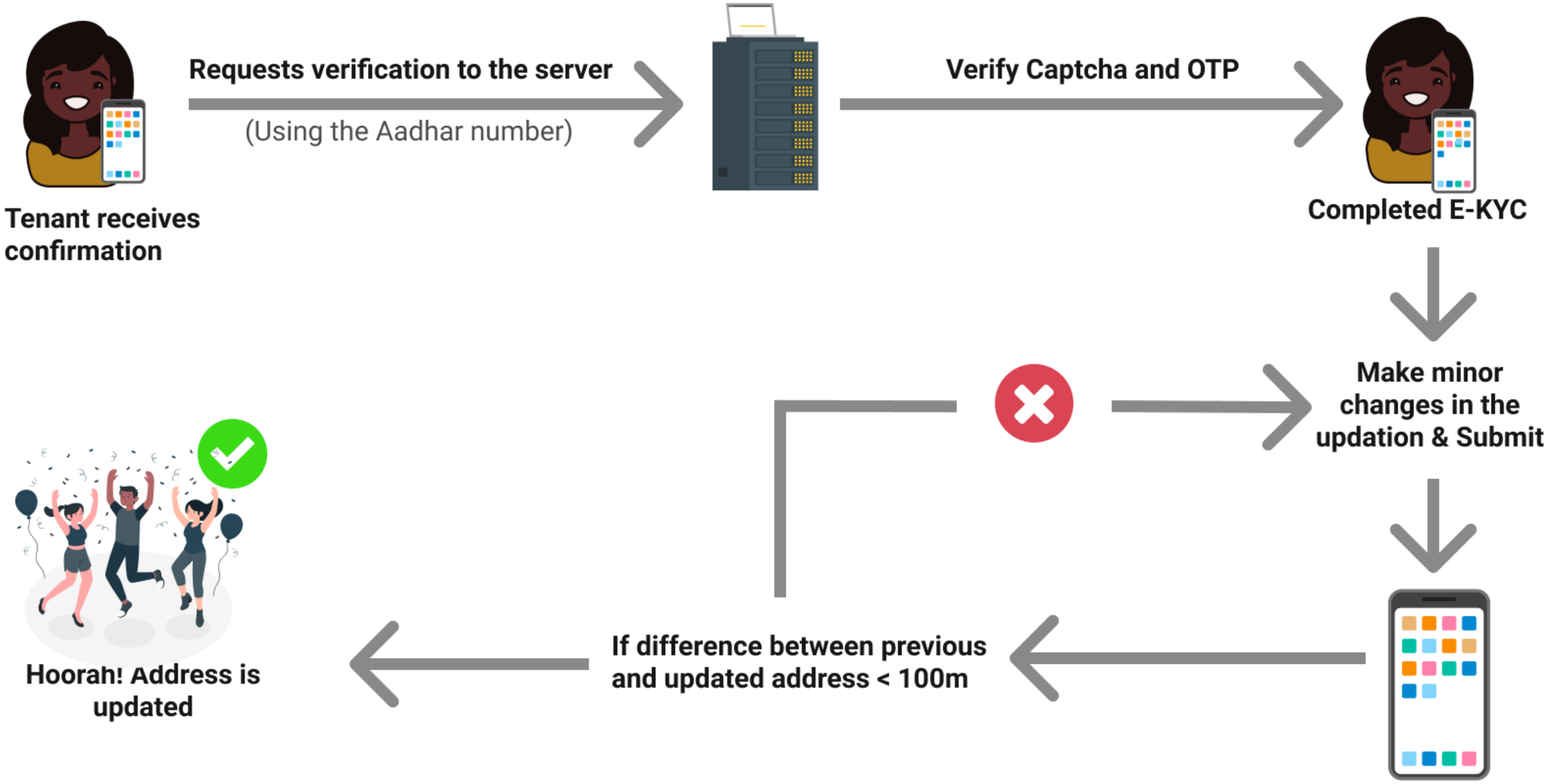
FLOWCHART PART 2

Landlord receives request, completes eKYC, verifies the tenant and approves/rejects consent

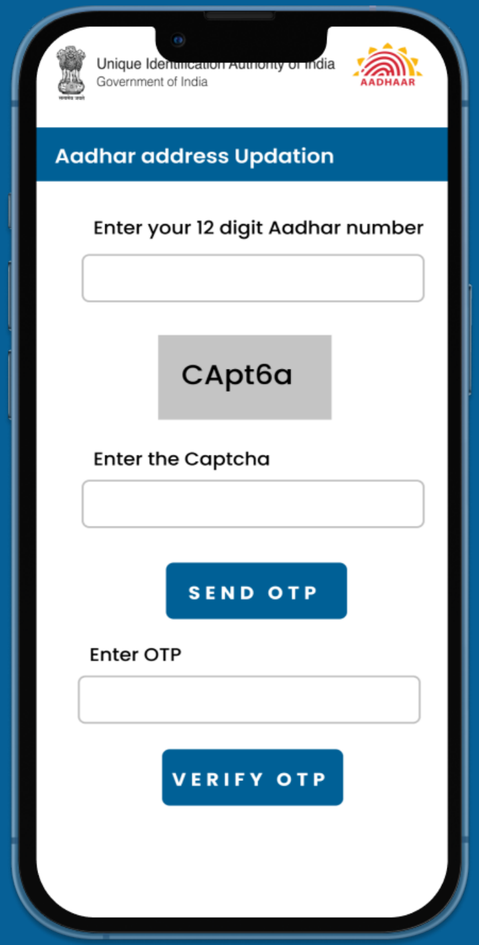


FLOWCHART PART 3

Tenant verifies themself again, makes minor changes in address if needed, and gets his/her address updated.



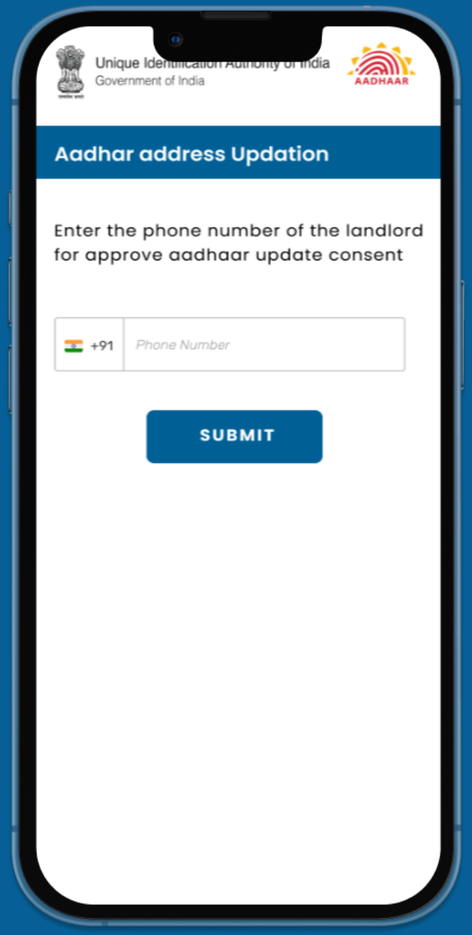
Tenant will first authorize himself in the portal and fillup landlord's number



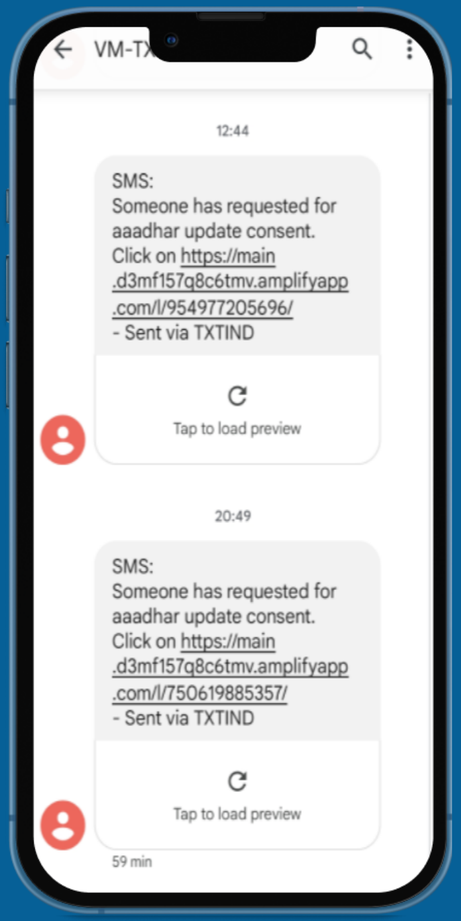
Landlord's number need not be Aadhaar registered number

This way no Aadhaar related data is being shared by both the parties, other than the name and picture of the tenant which is a mandate for verification.

A request link will be send to the landlord by SMS

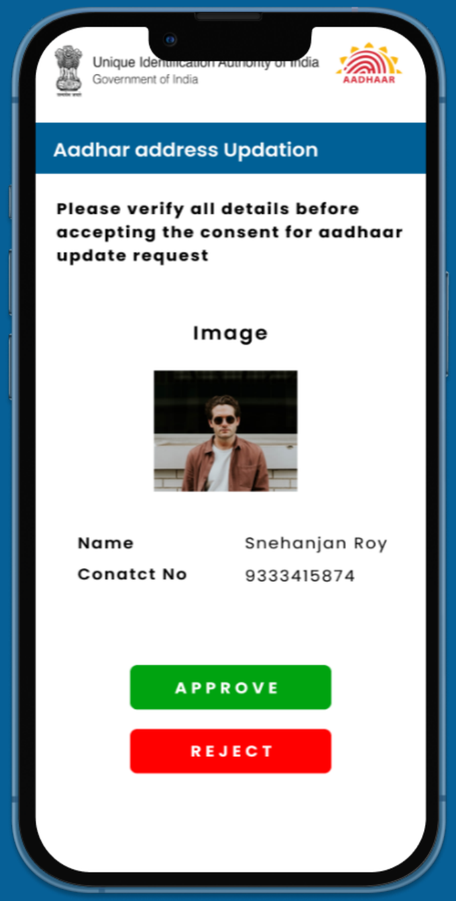


Landlord will authorize himself in the portal by self Aadhaar details after opening the link



This will prevent address updation by unauthorized entities

Landlord will check the identity of the tenant by name and profile picture and accept or reject the request



Tenant will be notified of the same via SMS

The landlord's name, Aadhaar number, Aadhar linked phone number are never shared even once in the overall process.

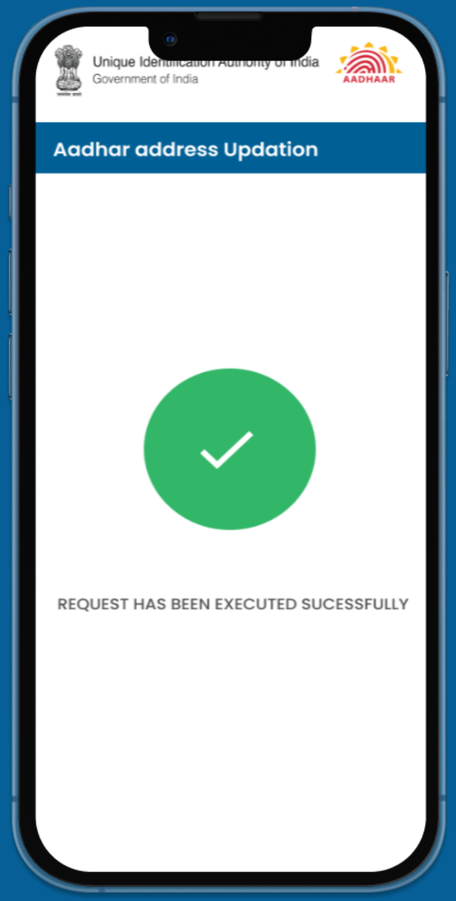
If the request is accepted, tenant will be able to view the address of the landlord

Tenant can also do minor edits within 100m range*

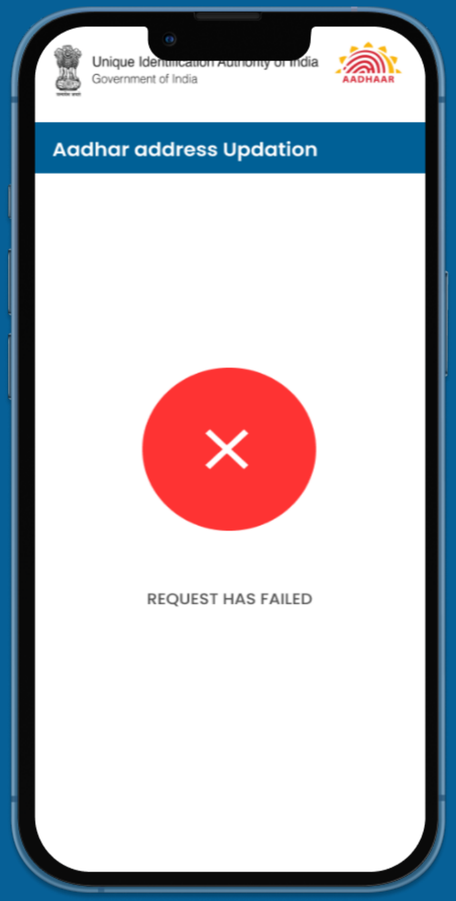
The distance will be calculated by Google Maps API.

*The distance threshold can be configured through the environment variable settings for flexibility

If all conditions are passed, the tenant can submit an address change request.



The request status will be display real-time on the tenant's side.

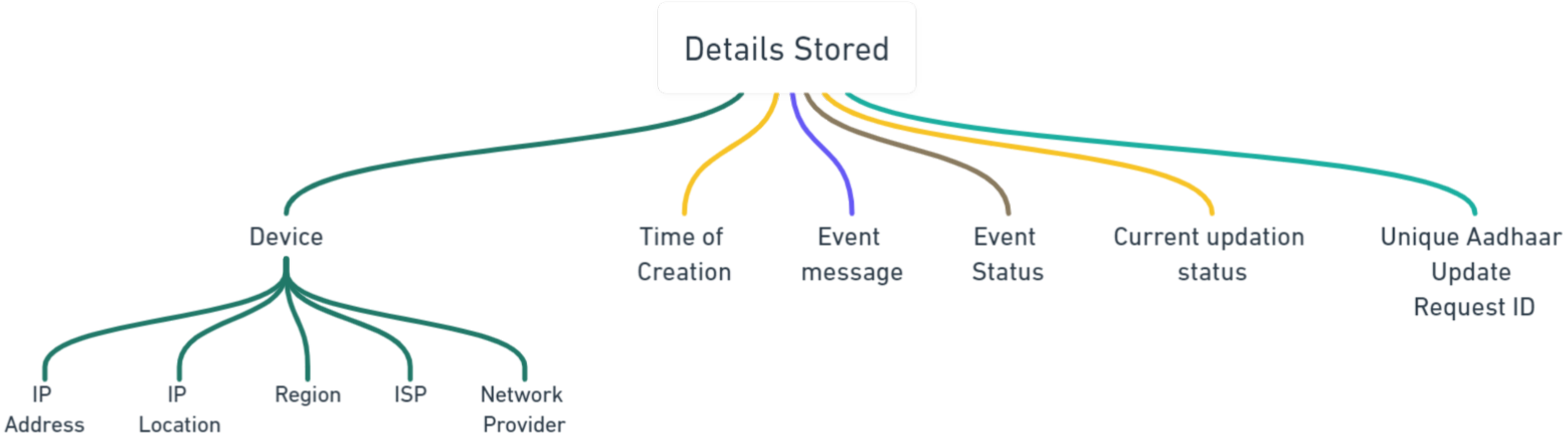


The request will once again be verified on the server side and address will be changed.

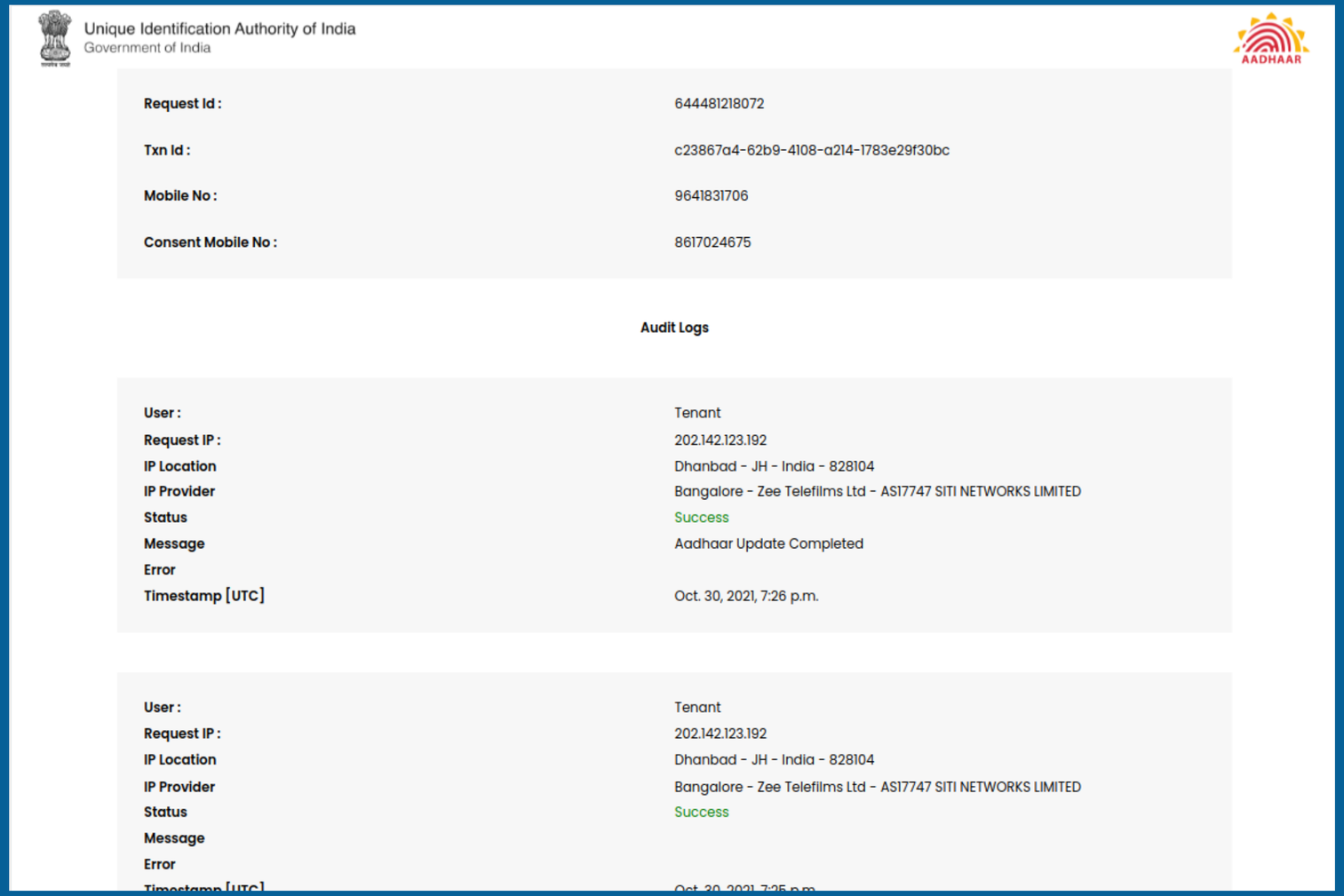
SECURITY AND FRADULENT USAGE PREVENTION

- The Aadhaar number is never stored in database in plain text format. For audit logs and to identify user we are calculating hash of Aadhaar number using sha512 algorithm and storing the calculated hash which is non-reversible.
- A unique link is generated on each address change request initiation and it can be accessed only by the landlord whose number is provided, the identity of whose is verified via eKYC.
- In case of detection of any fradulent usage, the updated address of the tenant can easily be rolled back to the previous one from server side.
- There is a limit on the number of requests a landlord can approve during a stipulated time period so as to prevent fraudulent usage.
- In case the landlord has a lot of tenants(such as in case of a mess or hostel), there is a flexible option to increase his/her limit from the server side on a request basis.
- During every event, all necessary details such as IP address, Location etc are recorded on the server side to take actions in case of a fraud as well as for audit purposes (More info on next slide)

DETAILED EVENT RECORDS ARE STORED FOR AUDIT PURPOSES



FRAUDULENT USAGE PREVENTION : REQUEST ID BASED LOG



Unique Identification Authority of India
Government of India

AADHAAR

Request Id :	644481218072
Txn Id :	c23867a4-62b9-4108-a214-1783e29f30bc
Mobile No :	9641831706
Consent Mobile No :	8617024675

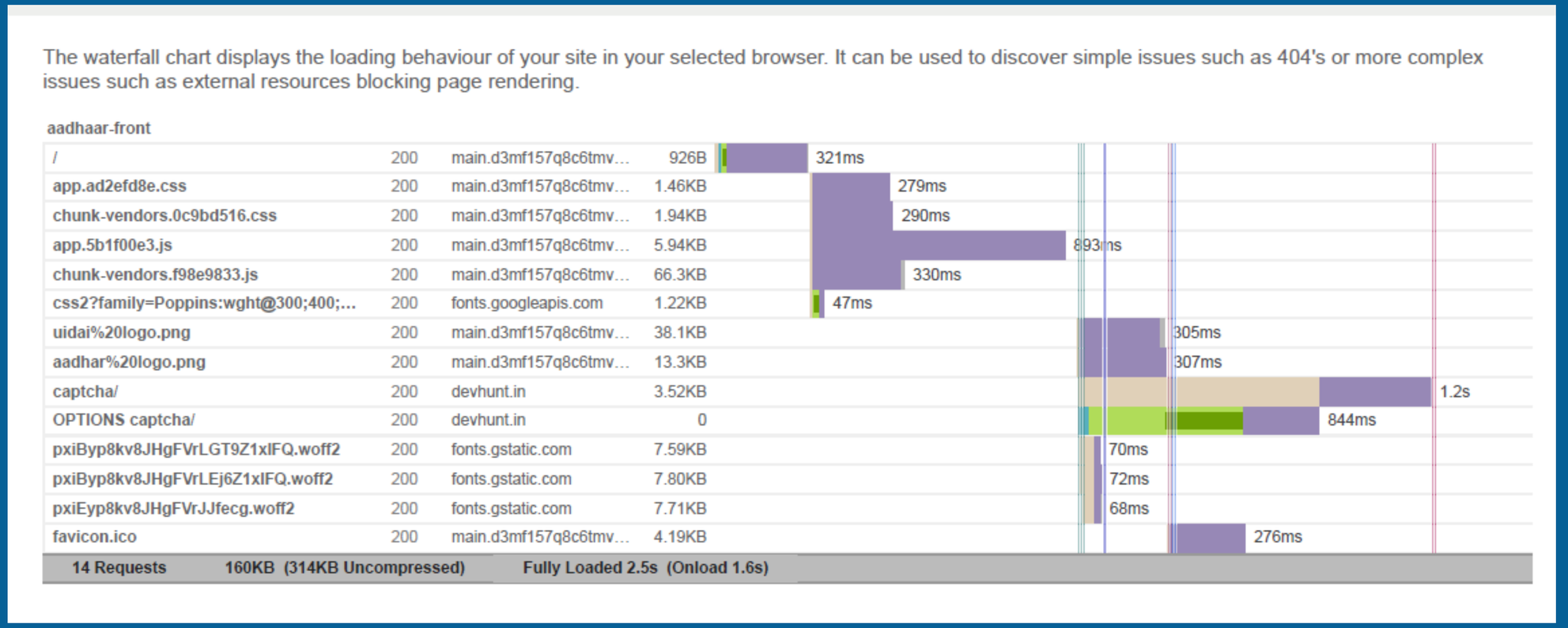
Audit Logs

User :	Tenant
Request IP :	202.142.123.192
IP Location	Dhanbad - JH - India - 828104
IP Provider	Bangalore - Zee Telefilms Ltd - AS17747 SITI NETWORKS LIMITED
Status	Success
Message	Aadhaar Update Completed
Error	
Timestamp [UTC]	Oct. 30, 2021, 7:26 p.m.

User :	Tenant
Request IP :	202.142.123.192
IP Location	Dhanbad - JH - India - 828104
IP Provider	Bangalore - Zee Telefilms Ltd - AS17747 SITI NETWORKS LIMITED
Status	Success
Message	
Error	
Timestamp [UTC]	Oct. 30, 2021, 7:25 p.m.

A unique request ID is generated on attempting address updation. All the details corresponding to the event **related** to this request ID including but not limited to approval of eKYC, approval by landlord, successful as well as failed address change attempts are recorded in the log. From the server side, we can also search for any request ID and view it's log in cases of fraudulent usage suspicion.

LOW DATA REQUIREMENT



The waterfall chart displays the loading behaviour of your site in your selected browser. It can be used to discover simple issues such as 404's or more complex issues such as external resources blocking page rendering.

aadhaar-front

/	200	main.d3mf157q8c6tmv...	926B	321ms
app.ad2efd8e.css	200	main.d3mf157q8c6tmv...	1.46KB	279ms
chunk-vendors.0c9bd516.css	200	main.d3mf157q8c6tmv...	1.94KB	290ms
app.5b1f00e3.js	200	main.d3mf157q8c6tmv...	5.94KB	893ms
chunk-vendors.f98e9833.js	200	main.d3mf157q8c6tmv...	66.3KB	330ms
css2?family=Poppins:wght@300;400;...	200	fonts.googleapis.com	1.22KB	47ms
uidai%20logo.png	200	main.d3mf157q8c6tmv...	38.1KB	305ms
aadhar%20logo.png	200	main.d3mf157q8c6tmv...	13.3KB	307ms
captcha/	200	devhunt.in	3.52KB	1.2s
OPTIONS captcha/	200	devhunt.in	0	844ms
pxiByp8kv8JHgFVrLGT9Z1xlFQ.woff2	200	fonts.gstatic.com	7.59KB	70ms
pxiByp8kv8JHgFVrLEj6Z1xlFQ.woff2	200	fonts.gstatic.com	7.80KB	72ms
pxiEyp8kv8JHgFVrJJfecg.woff2	200	fonts.gstatic.com	7.71KB	68ms
favicon.ico	200	main.d3mf157q8c6tmv...	4.19KB	276ms

14 Requests 160KB (314KB Uncompressed) Fully Loaded 2.5s (Onload 1.6s)

Our app uses ~160 KB just once to load and function completely according to the GT Metrix report attached **here(click to view)**. This is way below the average Internet Network speeds in India which stands at 4.9Mbits/s(~627KB/s) according to the research **here(click to view)**

AADHAAR APIs USED IN THE SOLUTION

- **Captcha API** is used during the eKYC of tenant and landlord to generate captcha.
- **OTP Generation API** is used to handle OTP requests and send OTP to the Aadhaar registered number.
- **eKYC API** is used to authenticate users and fetch their KYC data. Also used to get the landlord's address after consent approval

The web app is accessible on every device.

Thank You!