STARGAZERS
MK200

प्रधान मंत्री
आवास योजना–ग्रामीण
Pradhan Mantri Awaas Yojana-Gramin

Challenges Right Now

- 8 crore plus images but no verification module.
- The end user belongs to a rural setting. Most of them unexposed to tech.
- Involvement of Middleman always. Have to mitigate this interaction if not completely removed.
- More the points of interaction, more the delay and need of government supervision.

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Why Stargazers?

- Awaas-centric “**Android App**” that streamlines data collection and beneficiary registration steps of this scheme.
- How it streamlines? Multiple checks are placed to ensure “**right**” documents and “**right**” images are stored into the govt databases.
- With added help and guide, we empower the rural demography and remove the middlemen.

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What's in it for the end user?

- Simple UI. People with little app knowledge can use.
- Multi Lingual Support. Ensures that he completes the form in his vernacular language. Upto 26 national languages.
- "**AatmaNirbhar Nagrik**": No involvement of middleman. He or she can upload the documents by themselves.Helpline number feature added for this.
- User gets to see his construction status similar to seeing PNR of railway.

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What's in it for the government?

- Pro Governance: A move towards successful scheme execution.
- Less Human Supervision, Less Delay.
- Reduces chances of malpractices.

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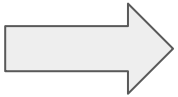
Flow In Detail

End User enters phone number and is asked for OTP



QR Code Scanning from Aadhaar.

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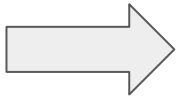
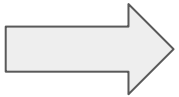
Flow In Detail



Submit Docs for Aadhaar Verification.



End user is submiting the documents one by one .

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Flow In Detail

Our server verifies these documents.

User gets to next step if verified else goes back to resubmit.

Helpline can be invoked if the user faces any issue.

Or else user proceeds to next step.

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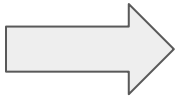
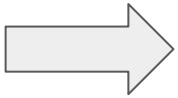
Flow In Detail



Submit House Pictures



Click to upload pictures 1, 2 and 3

AI module is invoked to verify all three pictures.

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Flow In Detail

User resubmits if all images were not verified else he is taken to next step.

If problem persists:

1. Call helpline
2. Request Admin help.

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Flow In Detail

If AI performance is low, image is sent to the admin for scrutiny.

If the AI performance is above a threshold, user proceeds to status page

User is sent to the status page where a tabular record depicting status and another record maintains fund transfer

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So what is the AI doing?

- Due to **lack of proper data as images** ,we **web-scraped some images** to classify & validate them on different construction stages like **Foundation** ,**Plinth** , **Lintel**.

- Our models does **validation** of Image (House or not) firstly and then **categorising** in what stage that house belongs to.

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Name	Bablu Bhopali
Aadhaar Card	7819 8990 8909
Progress of Awaas House	Foundation Stage
Records last updated	8th August 2020

Please enter bank details

Credit Status Table is created.

Status Flag (Red or Green)

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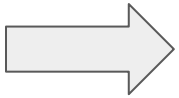
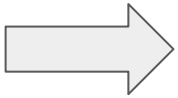
Flow In Detail



Incorrect Bank Details if supplied, user gets back to resubmit them.



This is a crucial step so end user can contact the Awaas helpline.

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In Loop

- User has now submitted the details for Foundation stage.
- He or she can now follow the same steps to upload the next stages.

Admin Panel

Email and Password styled login since Admin is a trained educated personnel from the government.

Admin enters and gets to see K number of Locations where the AI performance report depicted to be low.

He clicks on one of them to see all images clicked from that geotag.

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Admin Panel

On Manual Verification , Admin has the power to denote whether the images are consistent with Awaas requirements or not.

Admin submit his opinion (Approval of Images or Disapproval) and triggers the inspector verification run.

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Admin Panel : Why drag the admin into this?

- No system can be 100% robust in production stage.
- Thus, if not entirely mitigate Human supervision, atleast invoke some human verification layer only when model cannot be trusted.
- AI Model is a probabilistic machine in layman terms, thus many qualitative factors can get missed out if “human in the loop” is not done at doubtful instances .

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Extending This

- With successful acceptance of this app solution, our laser-like focus can then be scaled to other Yojanas and welfare policies of the government.
- With implementation of cloud functionality we can apply a Cron service that can automatically detect duplicate images and can remove them .

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Challenges we faced

1. No dataset provided.
2. Could not leverage cloud computing resources to use cloud functions.
3. For compatibility with older phones, depth camera features could not be used.

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Demo

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