# Human PokéDex

**TEAM 5:**

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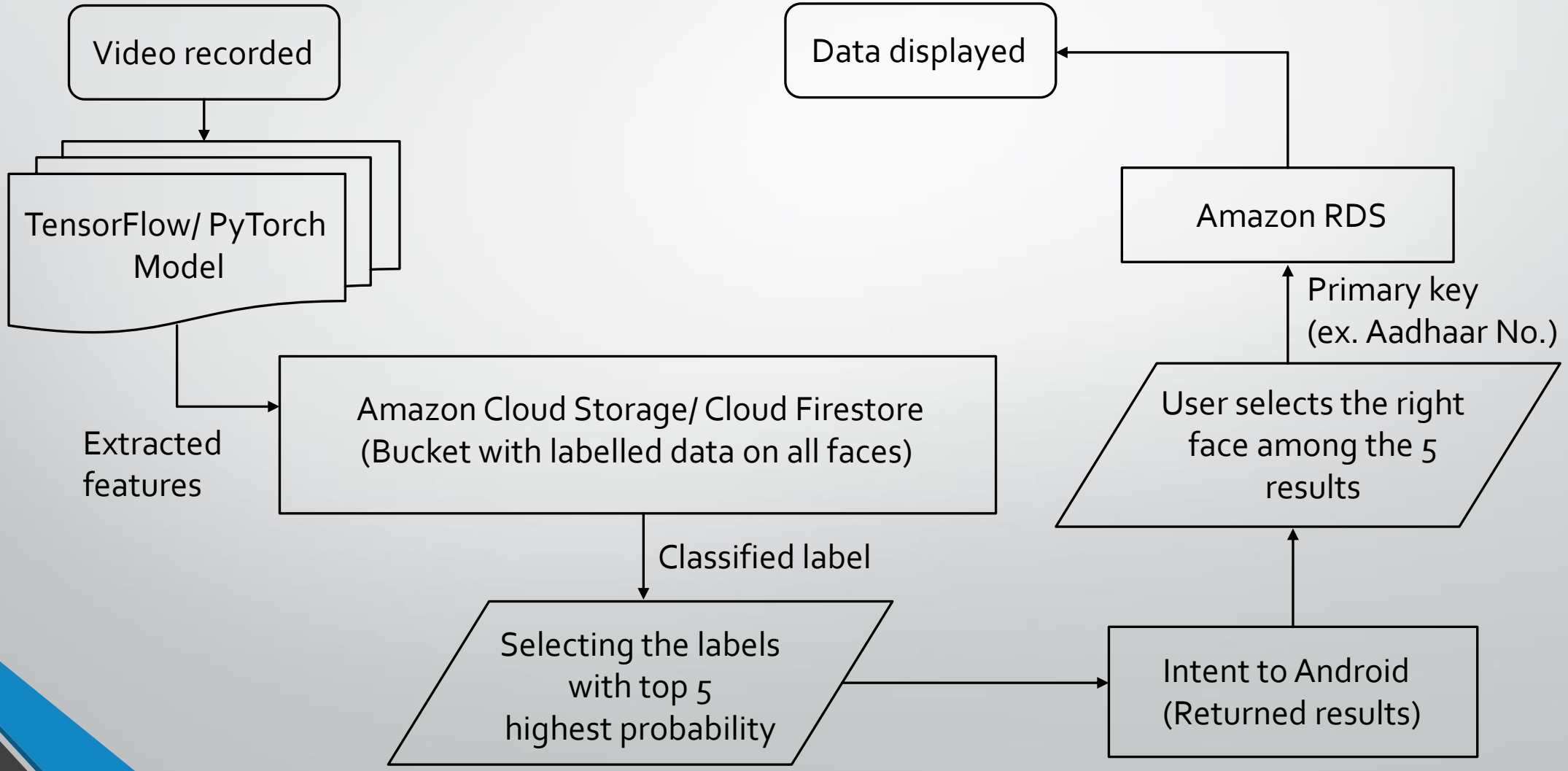
# Need of the hour

- We come across public offenders more often than we think.
- Offences or inconveniences cause by people in public are noticed by many, but we choose not to confront or waste our time or energy in reporting these events.
- What if reporting crimes or ill-deeds could be reported in profound detail from your fingertips?
- As observers, we may not want to deal with offenders ourselves, but we can extract some clear information about them from our mobile phone.
- From minor offences like littering and being a nuisance, to major crimes like eve-teasing and stalking, the app will enable observers to play their role as a responsible citizen.
- Moreover, the app can be used to identify lost children, keep records of stray beggars and unwarranted child labour, and also in school/ college campuses.

# Proposed solution

- An Android application can record a video/ capture photos and recognize the person in frame.
- The app can also use pre-recorded videos and photos.
- The app will
  - Immediately pull up details of people in the existing database, whose features overlap the most with the person in the video
  - Provide first-hand publicly available data on the person from the city's municipal records/ database (more data if the app is used bureaucratically).

# Working


Video recorded
TensorFlow/ PyTorch Model
Extracted features
Amazon Cloud Storage/ Cloud Firestore (Bucket with labelled data on all faces)
Classified label
Selecting the labels with top 5 highest probability
Intent to Android (Returned results)
User selects the right face among the 5 results
Primary key (ex. Aadhaar No.)
Amazon RDS
Data displayed

# Tech Stack

- OpenCV
- Firebase and ML Kit
- Amazon Web Services/ Google Cloud
- TensorFlow 2.0
- Android App Development
- CamxAPI
- Convolutional Neural Networks

**Languages:**

- Python
- XML
- Java (for Android)

# Challenges

- Needs an existing database
- Can't really hold a video camera in front of an offender
- Video quality may not always be good
- Real-time facial recognition is subject to delays and depends on Internet connectivity
- Not entirely accurate, especially when biological abnormalities are involved (ex. twins)

# Future enhancements

- Pairing the model with CCTV cameras
- Extensions on browsers in school or cyber cafés
- Faster additions to the database
- Self sketching based on description
- Speech recognition for the appropriate person
- Integration with smart watches

# QUESTIONS?

# THANK YOU!