**Facial Recognition**

Facial authentication of using live face detection.

**Step 1 Registration:** Capture a low resolution image preferably from a 5-10 year old photograph (160 \* 200px). This image is to be inserted/populated into the database using an API that we would provide.

**Step 2 – Authentication:** Authentication should take place based on the real time facial match done against the photograph retrieved from database using an API. Response should be a confidence score between 0 to 100.

**Step 3 – Live Detection:** Liveliness detection (is alive check) should also be done based on the real time image/video capture. Response for this should also be a confidence score between 0 to 100.

**Details of APIs:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| API Name/Details  🡪 🡪 | Insert face record in database  (For registration) | Get face details for authentication  (Single record fetch) | Get face details  (All records fetch) | delete face record  (To delete a single record) |
| Input | Team ID  AADHAAR No  User Name  Face Image(max 8Kb - 160 \* 200px) | Team ID  AADHAAR No. | Team ID | Team ID  AADHAAR No. |
| Response | Successful/Error | AADHAAR No.  User Name  Face Image | Team ID  AADHAAR No.  User Name  Face Image | Successful/Error |

**Signature Recognition**

Validate if the signature on the cheque is of the same person to whom the account belongs to. The machine is expected to compare the signature that is passed as the input with the signature retrieved from the signature repository based on the account no. The confidence score (0 - 100)needs to be calculated based on similarity of the two signatures based on parameters such as signature stroke, curves, dots and dashes and other parameters of a signature.

**Step 1 - Record Creation:** Image of customer’s signature to be captured against an account no and to be stored in database using an API.

**Step 2 – Validation:** Validation should take place based on the real time signature on a document/cheque, against the signature retrieved from database using an API.

**Details of APIs:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| API Name/Details  🡪 🡪 | Insert signature record in database  (For record creation) | Get signature details for validation  (Single record fetch) | Get signature details  (All records fetch) | Delete signature record  (To delete a single record) |
| Input | Team ID  Acct. Number  User’s Name  Signature Image(max 8kb, 200 \* 160px) | Team ID,  Acct. Number | Team ID | Team ID  Acct. Number |
| Response | Successful/Error | Acct. Number  User’s Name  Signature Image | Team ID  Acct. Number  User’s Name  Signature Images | Successful/Error |

**Voice based authentication**

Additional Factor of Authentication to access any application.

**Step 1 – Registration:** At the time of registration, voice sample will be captured and mapped with

customers account no and will be stored in database using an API.

**Step 2 – Authentication:** Authentication will be done using live voice feed match done against the voice sample retrieved from database using an API. Live voice feed will vary with dynamic text and timestamp.

**Details of APIs:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| API Name/Details  🡪 🡪 | Insert voice record in database  (For record creation) | Get voice record for validation  (Single record fetch) | Get voice details  (All records fetch) | Delete signature record  (To delete a single record ) |
| Input | Team ID  Acct. Number  User’s Name  Voice file | Team ID,  Acct. Number | Team ID | Team ID  Acct. Number |
| Response | Successful/Error | Acct. Number  User’s Name  Voice file | Team ID  Acct. Number  User’s Name  Voice files | Successful/Error |

**Automated on-us cheque processing**

Reading and capturing cheque details from cheque image

* Data capture (one time activity): Developers will upload image of cheques and also manually fill in the details, this will act as master data for us. Details to be captured in database using an API.
* Hack: Developers will retrieve the cheque images from our repository populated from the above step and extract data out of it. (looking for them to process a minimum of 50 cheques per team)
* Evaluation: We will use the master data stored earlier to evaluate the data extracted through the hack.
* Validation
  + Cheque is not stale
  + Amount in words and numbers are matching.
  + Additional points if you include standard Cheque image validations.

**Details of APIs:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| API Name/Details  🡪 🡪 | Insert cheque details in database  (For data capture) | Get cheque Image  (Single record fetch) | Get cheque details for validation  (Single record fetch) | Get cheque details  (All records fetch) | Delete signature record  (To delete a single record ) |
| Input | Team ID,  Cheque image,  Amount in words,  Amount in numbers,  Date (dd-mon-yyyy),  Cheque number,  MICR code,  Act type,  San no,  Beneficiary name,  Payee act number | Team ID  Cheque Number | Team ID  Cheque Number | Team ID | Team ID  Cheque Number |
| Response | Successful/Error | Cheque image, | Team ID,  Cheque image,  Amount in words,  Amount in numbers,  Date(dd-mon-yyyy),  Cheque number,  MICR code,  Act type,  San no,  Beneficiary name,  Payee act number | Team ID,  Cheque image,  Amount in words,  Amount in numbers,  Date (dd-mon-yyyy),  Cheque number,  MICR code,  Act type,  San no,  Beneficiary name,  Payee act number | Successful/Error |