बैंक ऑफ़ बड़ौदा
Bank of Baroda

Technology Partner
Microsoft Azure

Bank of Baroda Hackathon - 2022

Your Team Name : MNI

Your team bio :Experienced solution architect with exp of 15+ years

Date :1-09-2022

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Problem Statement?

Bank handles large volumes of cheques in the clearing process. The process involves many technical verifications including signature verification. Some of these steps are manual and require human intervention to complete the process. The current process requires the high human capital deployment and longer processing time.

I have selected this problem statement as I have good experience of Image processing and form reorganisation using Azure AI services. I will be able to build perfect solution needed for this problem statement

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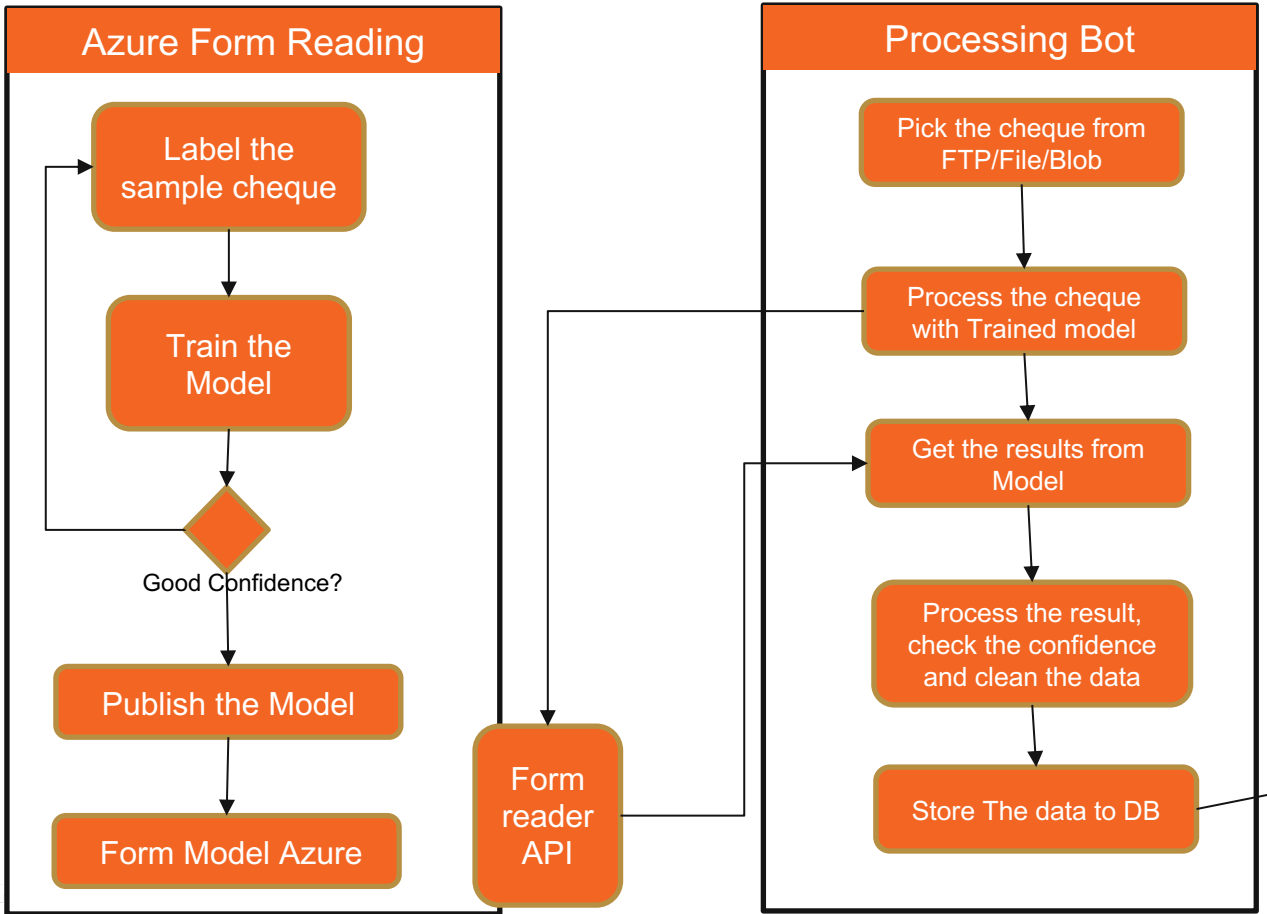
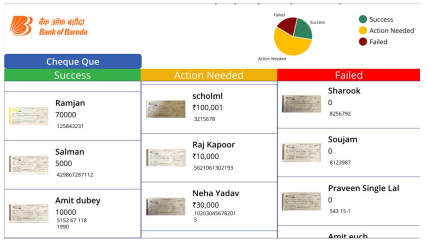
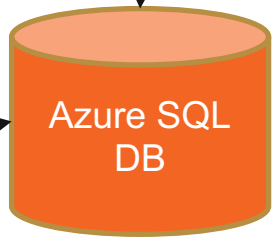
Solution Architecture





PowerApps App



Microsoft Tools Used

1. **Azure Form Recognizer studio** for labeling the cheque
2. Azure Form Recognizer service to publish the model
3. Blob to store the cheque files
4. .Net Core Console application created and hosted on Container to process the files
5. Azure SQL database to store the data
6. PowerApps App to develop the dashboard

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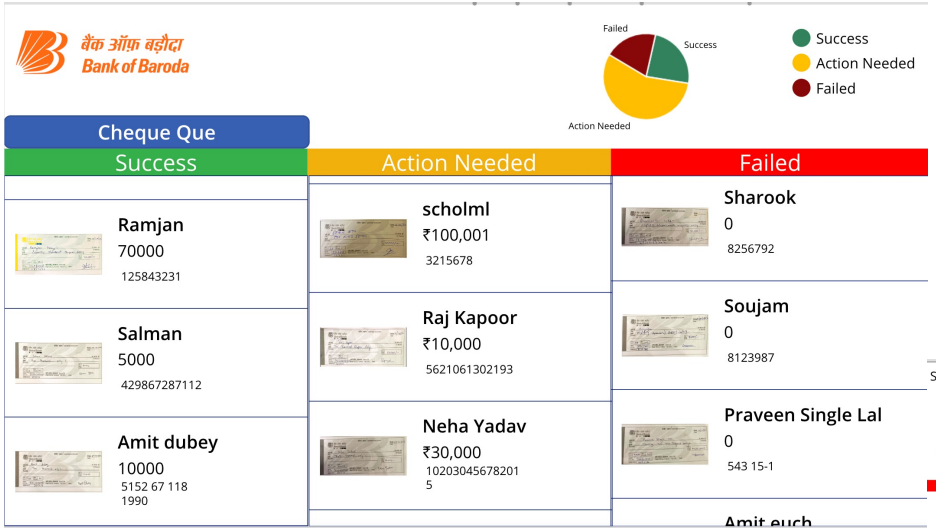
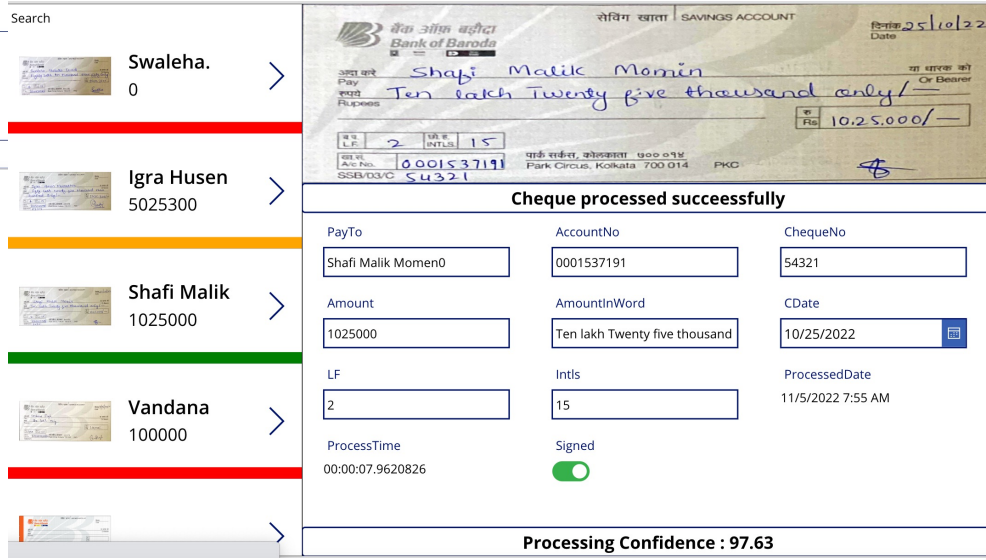
Prototype in Glance



A Dashboard to show the cheque processing details.

Cheque processing que to view/edit the cheque



Features of solution

1. Process the cheque files and Identify the key fields like PayTo, Date, Amount, cheque No, Account No, LF, Intls,
2. Identify the valid signature present or not
3. Classification of the cheque data into 1) Success 2) Intervention Needed 3) Failed
4. Option to view and edit the file

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Features Yet to be developed

1. Multilingual support, Current it supports English and Hindi, we have to label with other language
2. Verifying the signature. Was not able to do this due to time constraint. I have made design as following but need to implement it

    a) With form recognizer will identify the coordinates of the signature location

    b) Crop the image with co-ordinates

    c) Use classification AI model to validate signature image with images from the database

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Dashboard Home page

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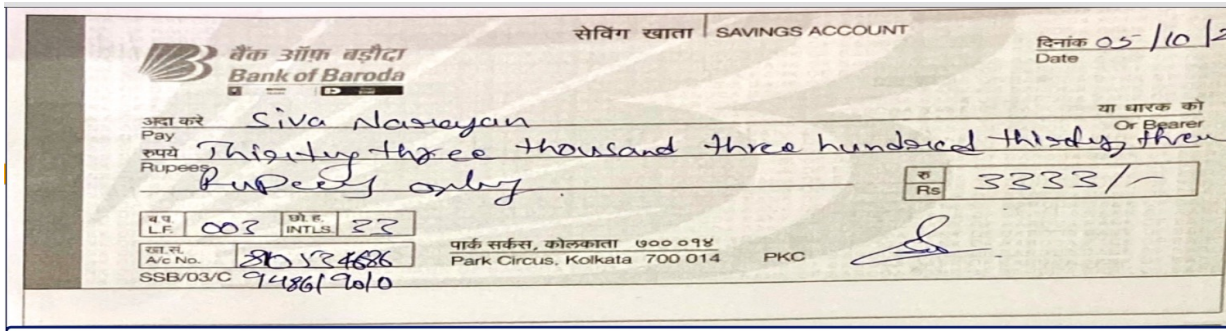
Cheque Que

Success	Action Needed	Failed
Mohsin Abbas 11000 11102425161780	**scholml** ₹100,001 3215678	**Sharook** 0 8256792
Janifcon. Shaikh. 10000 825811053	**-** ₹10,000 01532148	**Soujam** 0 8123987
Siva Narayan 3333 80534686	**-** ₹10,000 01532148	**Praveen Single Lal** 0 543 15-1
. Praveen Singh	no	Amit ouch

4.dynamics.co...

Successful processed cheque



Cheque processed succeessfully

PayTo	AccountNo	ChequeNo
Siva Narayan	80534686	948619010

Amount	AmountInWord	CDate
3333	Thirty three thousand three hu	10/5/2022

LF	Intls	ProcessedDate
003	33	11/5/2022 8:19 AM

ProcessTime	Signed
00:00:06.7525012	

Processing Confidence : 97.31

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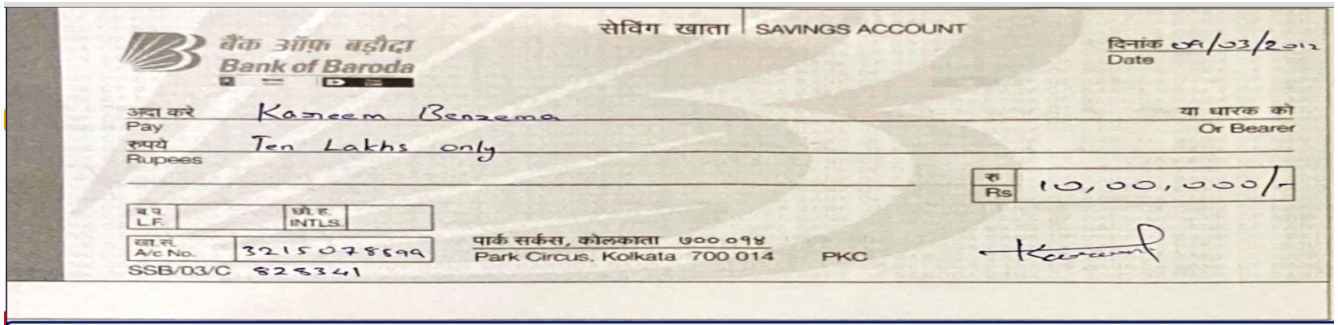
Date is missing

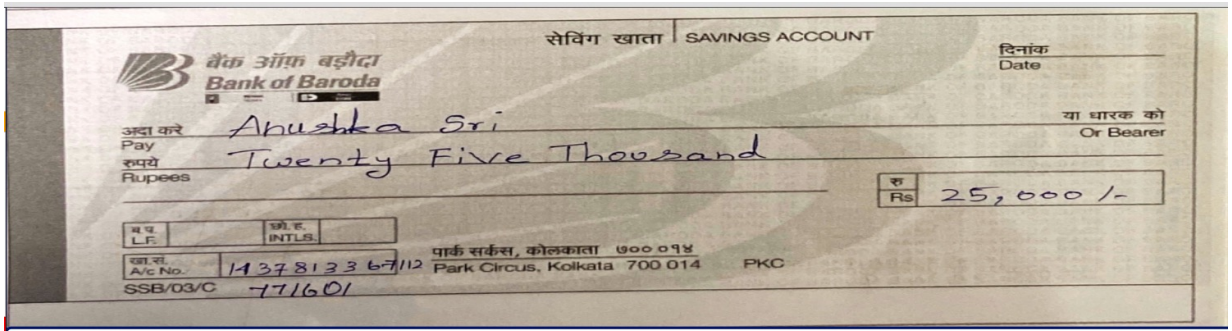


Key fields present but other need verification

PayTo	AccountNo	ChequeNo
Kareem Benzema	3215078899	828341
Amount	**AmountInWord**	**CDate**
1000000	Ten Lakhs only	12/31/2001
LF	**Intls**	**ProcessedDate**
		11/5/2022 7:36 AM
ProcessTime	**Signed**	
00:00:06.0346202		

Processing Confidence : 87.44

Cheque with signature missing



Failed as Key fields missing

PayTo	AccountNo	ChequeNo
Anushka Sri	1437813367112	771601
Amount	**AmountInWord**	**CDate**
25000	Twenty Five Thousand	12/31/2001
LF	**Intls**	**ProcessedDate**
		11/5/2022 7:35 AM
ProcessTime	**Signed**	
00:00:08.7048770		

Processing Confidence : 97.64

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Thank You

Team member names