

# Bank of Baroda Hackathon - 2022

## Team Name : Neoteric Liquidators

Your team bio : Always ready to fire

Date : 19/09/2022



# Problem Statement?

Why did you decide to solve this Problem statement?

- We decided to solve this because:
  1. We want to make the banking process fully digital.
  2. To curb and reduce the processing time to few seconds.
  3. Humans are too best but due to few members , the transparency lags.
  4. And for our education expenses.

# Cheque Format of our project.

Bank name

ASCI Date stamper

Payee \_\_\_\_\_

Account number : \*\*\*\*\*

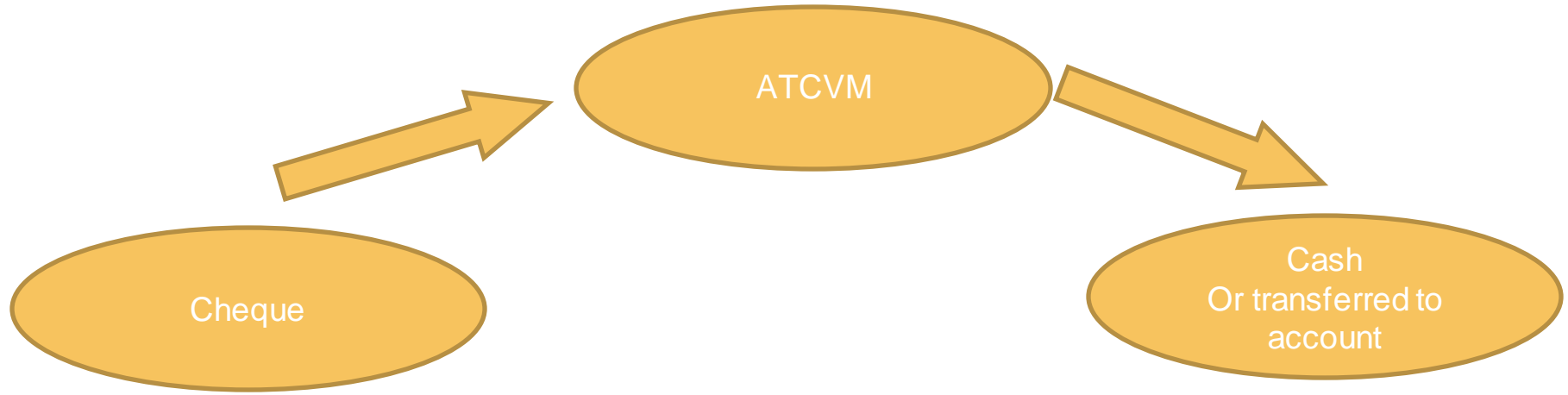
Funds.	∴	Multiples				
1,00,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Payee fingerprint  
impression

Payer account details in ASCII codes

Payer fingerprint  
Impression

# Working Principle



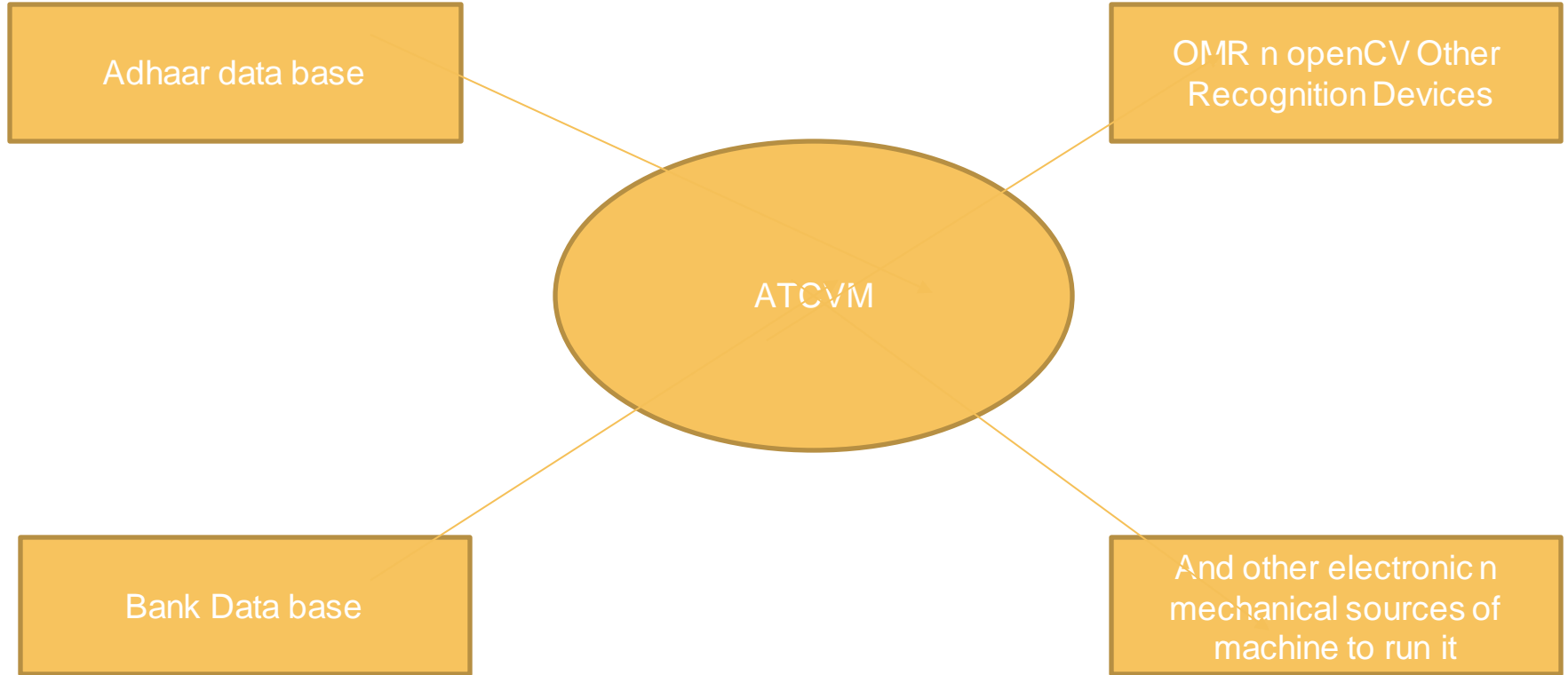
ATCVM: Automatic cheque,cash vending machine

When the cheque's inserted in that ATCVM machine


It will recognise the fingerprint impression and read the funds details with the help of Optical Mark Recognition (OMR).

When the details are matched and verified with bank data base, then the cash are dispensed.

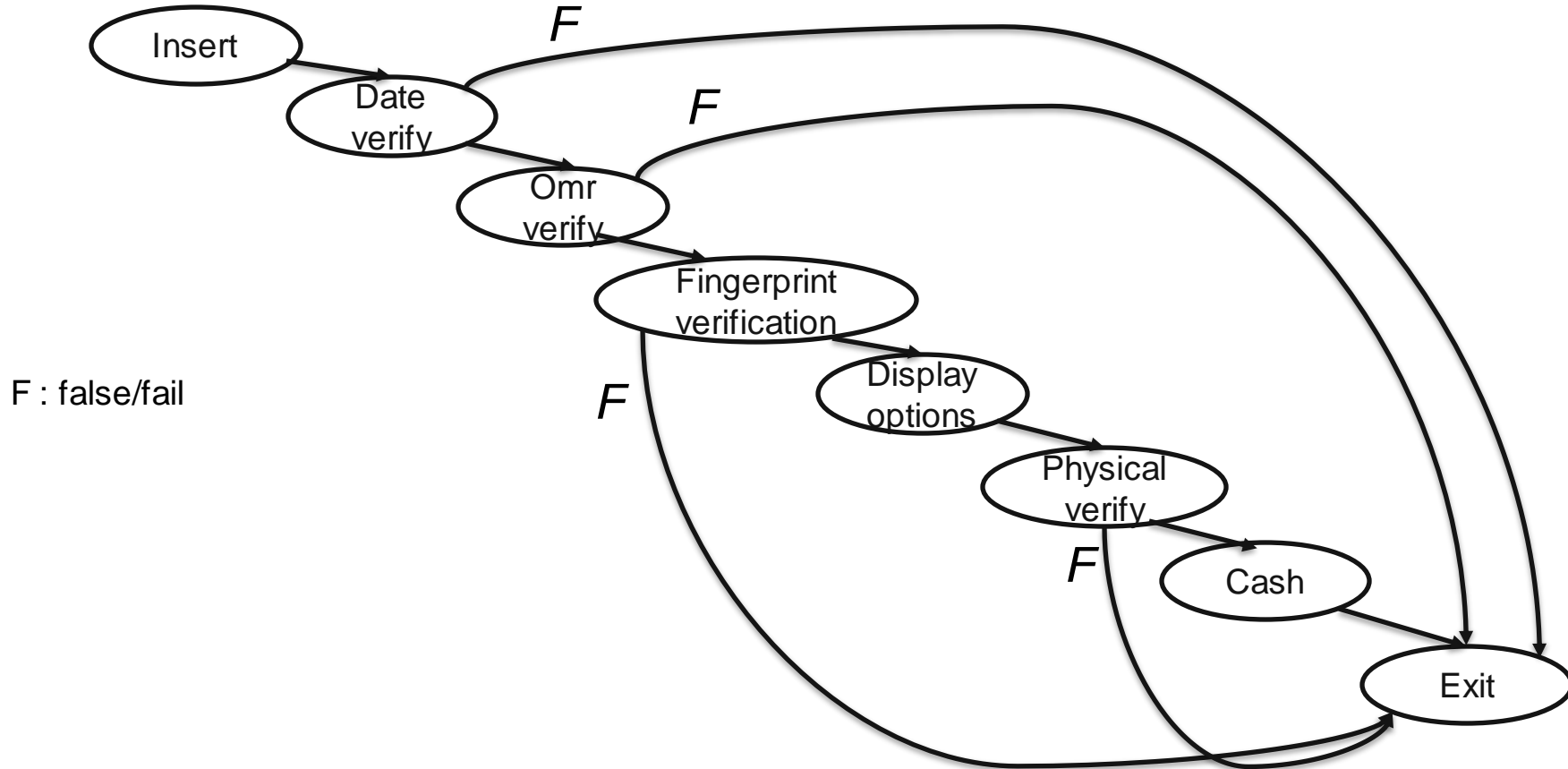
# ATCVM consists:



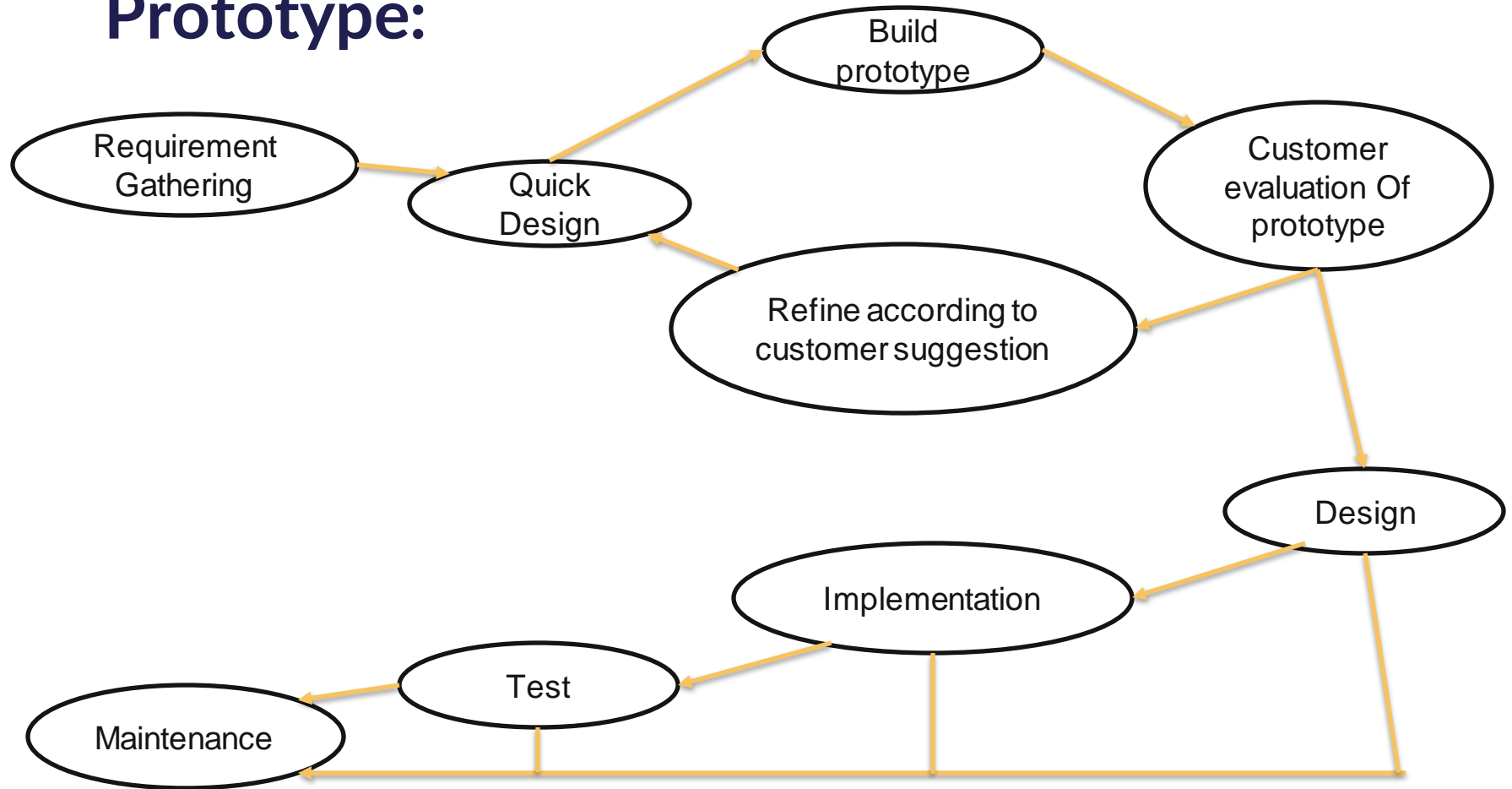
# Working algorithm:

- On insertion of cheque
  1. Firstly verification of date.
  2. secondly it will recognise the funds details as filled in that omr Block.
  3. with the help of Aadhar data base the fingerprint impressions are verified.
  4. Payer Account details are detected by openCV tech(source link provided at the last).
  5. Account details are compared with payer fingerprint impression With both data bases . If matched n success
  6. Then, the fingerprint of payee is matched with the bank data base.
  7. Then all account Numbers Of payee are displayed Along with the option of cash.
  8. He/she, now can choose Any option, and with respect to the option ,the cash transferred to di payee account number or cash are dispensed at that instant.
  9. Just before the 8<sup>th</sup> step a physical verification Of fingerprint is done  . To check whether it matches with payee details of cheque.(where a third person can't draw a cheque, security enhanced).
  10. Payee name block added for the general enquiry purpose if any error found, a assistance(employee of bank) will be provided to him. And after all verification the assistance have rights to dispense cash from that machine after logged in, When the machine fails to perform that function .

# Working flowchart



# Prototype:





# OMR filling type

For eg : for

Two crore fifty three lakh

twenty one thousand

Four hundred

This eg block can explain  
all details

Where ever there is  
perfect circle that is  
counted, and those  
sticked out of the circle  
not considered.

Funds.	..	Multiples			
1,00,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,00,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1,000.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100.	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Alternate ideas:

- **Alternate to cash:** The machine can generate a receipt, with the help of it the user can withdraw funds from counter after all verification done by officer.

# Frauds

1. Due to fingerprint impression there's 100% verification , rather than sign verification, because it can't have 100% and the sign can be copied.
2. So in that fingerprint there is 0% risk.
3. If the payee tries to mark those other unfilled circles of OMR then The Machine will not dispense any cash , Because it had been stricken Off with long line out of the circle, and for investigation the cheque will be sent to the counter.
4. If any condition not meet then , for further assistance a member will check and pass the cheque.
5. If any error found a complaint can be raised.

# Microsoft Azure services lists:

- **Azure cosmos DB** – for the API service ,to link bank with machine.
- **Active directory** – for login purpose, to login in his account with help of fingerprint.(like AEPS)
- **Azure data lake** – for the storage of transaction details, like funds details along with client Photoshoot.
- **Signal IR** – for the live support if they don't understand the use age of machine.
- **IOT**

And other services will be added based on customer's feedbacks.

## ***Source links:***

(Which lead to generate idea)

OpenCV idea : <https://www.hindawi.com/journals/acisc/2020/8535861/>

OMR : [https://en.m.wikipedia.org/wiki/Optical\\_mark\\_recognition](https://en.m.wikipedia.org/wiki/Optical_mark_recognition)

# Why do you want to select our project?

- Easy accessible , no language issues .
- Everyone can use our methods even if they Have Little Knowledge.
- It will save the bank's lot of money and time.
- It is more secure and less time consuming compared to previous methods.
- It make's banking easy by allowing instant cash transfer or instant cash withdrawal.

Hello 🤝

Don/Dona,

“If you raise funds to our project we are  
capable of building it”

Along with your live support.



# TECHGIG

# Thank You

Team member names

  Support of all ,our Dedicated Teacher's

1. Hari om Mali
2. Abilash R Ramesh
3. Abdul naeim
4. Sathya.