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Face recognition ATM Machine

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Abstract -ATM Machine integrated with Face recognition technology. This is implemented by image with high quality along with various details has crucial role in the process of the recognition. The main purpose of images is for authentication. Which restrict the access of cards preventing the unauthorized usage of accounts helps to improve security in transactions.

Key Words:*Face Recognition, Authentication, passcode, gateway.*

INTRODUCTION

ATM – Automated Teller Machine

ATM machines are electronic outlets for banking which allows users to access cash and some other features remotely with the machines located near to them. Even though online transactions and UPIs transactions are available still money plays vital role in transactions in various sectors. ATM Machine integrated with Face recognition technology. This is implemented by image with high quality along with various details has crucial role in the process of the recognition.

EXISTING SYSTEM

In present ATM machines work based only on the interfaces with users by a screen and number keys. The transaction start with reading the information in the debit card and then going in to menu section with a four-digit passcode given specific to each user.

ATM Working

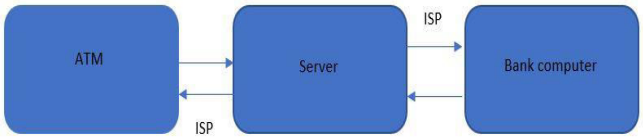
The ATM is a data end with dual inputs and quad output devices. These devices are interfaced with the processor. which is the heart of the ATM. All the ATMs are based on a centralized database system. The ATM has to link and communicate with the server.

The server is communicating with the internet service provider. It is the gateway through the networks available to the user. When a user needs to take a transaction, the user provides required data through a card reader and keypad. The ATM forwards this information to the server. The server enters the transaction request to the user's bank.

If the user requests the cash, the server takes the cash from the user's account. when the amount is sent from the user account to the server bank account, the server sends the conformation message code to the ATM and authorized the machine to dispense the money.

ATM Networking

The internet service provider plays a vital role in the ATM transaction. which provides communication link between ATM and server. When the transaction begins, the required data are fed by the user. These data are passed on to server by the ATM. The server checks these data with relevant authorized bank. after the matching of data, the server sends the conformation message to the machine and the hot cash is dispensed.



PROPOSED SYSTEM

Propose the Secure-PIN-Authentication- as-a-Service framework to enable obfuscated PIN authentication for ATM and other factor-of-carrier terminals using cloud-connected personal cellular and wearable devices. Let's in a user to experiment a QR code from the screen of a factor-of-carrier terminal and connects to the cloud-primarily based bank's server to attain comfy one-time-use PIN templates.

Here, a PIN template is a sequence of digits with marked positions for the consumer to enter the actual PIN code. The protocol is immune to shoulder-surfing attackers and ensures resistance towards relay and replay attacks

by proving co-vicinity with the ATM terminal to the cloud-based financial institution's server. Our layout requires minimal overhead computation at the private gadgets with maximum operations offloaded to the cloud and does no longer impose any hardware-orientated requirements at the terminals.

BLOCK DIAGRAM

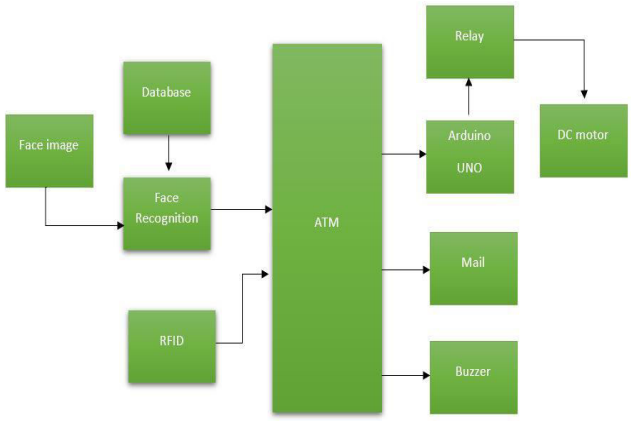


Fig -1 Block representation

Open CV

OpenCV is an open-source computer vision library. The library is written in C and C++ and runs under Linux, Windows and Mac OS X. There is active development on interfaces for Python, Ruby, Mat lab, and other languages. OpenCV was designed for a strong computer vision with great efficiency on real-time applications. OpenCV is written in optimized C and can grasp with an edge of multicore processors. OpenCV itself make uses of appropriate Integrated Performance Primitives library at runtime if it is installed. OpenCV promote to provide a simple-to-use computer vision infrastructure that helps humans build sophisticated vision applications. The OpenCV library contains over 500 functions that span many areas in vision, including factory product inspection, medical imaging, security, user interface, camera calibration, stereo vision, and robotics. OpenCV has a full, general-purpose Machine Learning Library (MLL).

Haar Cascade Classifier Algorithm

It is a object identification in machine learning technique helps to detect objects in an image or video on the basis of rapid object detection. Which is based on Haar Wavelet technique used to detect face of a person with trained from many positive images and negative images. Wavelet analysis is similar to Fourier analysis. Fourier analysis is a periodic waveform and it is used in trigonometric functions. It uses a square shaped function in order to every individual highlighted feature from the individual's face. In this classifier we employ "Ada Boost" algorithm. Which used to remove unessential features and choose the essential one.

Components or parts in ATM machine

Main board

It contains processors and CPU, memory that connects all other parts together with the processor.

Fig -2 Processor board

Display

Display shows the visual information about step-by-step interaction with the user.

Fig -3 Display screen

Cassette

Cassette is the part in which the cash is stored.

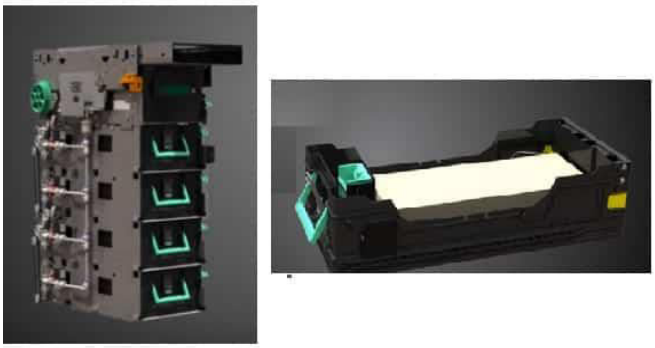


Fig -4 Cassette

Cash dispenser

It moves the cash from the cassette to the tray (out of ATM).

Fig -5 Cash dispenser

Printer

It is used for printing the receipts for the transactions as printed paper.

Fig -6 receipt printer

I/O Board

This is the circuit that connects the processor with the internet connection for communication between bank's sever and processor.

Fig -7 mother board with I/O interface

Card reader

This device reads the information such as account number from scanning the card. EMV enabled which is a standard for smart cards used for payments. This chip generates specific code for each specific transaction.

Fig -8 Card scanner

Camera

This camera is employed for scanning the face of the user as the first step for the face recognition process and send that information to the further process.

Fig -9 Camera

OUTPUT

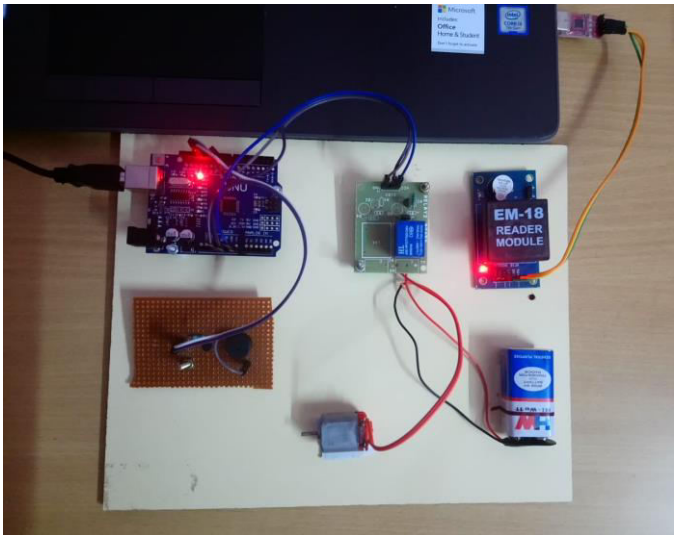


Fig -10 Final output

RESULT & CONCLUSION

The transactions through ATM machines still have huge numbers of usages among people.

Transactions through cashes have good shares in transactions area even though the virtual transactions like online transactions and UPI's transactions have grew up so good. ATM is a very easy way of getting cash from remote places with a distance from banks. Many people used to be on ATM machines. As it getting so popular some of the people try to mis use them with scams like cloning cards, skimming machine they exploit the others people's data, resources and money. To secure these transactions in the ATM machines by implementing the facial recognition technology in the process of the transactions. It adds a layer of security to the transactions in ATM machines. By refining with the available technologies, we can deliver acomplete efficient machine in a more productive way.

FUTURE WORK

further this facial recognition technology will be predominately recognizing on eye of the induvial for next step betterment in this area which makes usage of this technology in various application in different areas on our day-to-day life to improve secure lifestyle.

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