

Biometric Authentication for Transaction Deprived of Card

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Abstract:- Biometric is the leading technology all over the world for authenticity and security. Here we are using Biometric for authorization as well as for the security. That is “Fingerprints” they are the one which we implementing here as it is unique for each individual for transaction. These days it is done through cards and other applications but cards have a single level security and there is a possibility that the card may be stolen, damaged or misused. Using biometric we capture two aspects that is for Authorization and also Security.

Keywords:- Biometric, Authentication, Transaction, Authenticity.

I. INTRODUCTION

Transaction these days are done through cards and other applications. Discounts are provided whenever we pay through cards and gross amount can be deposit to the respective account thereafter. Usage of cards issued by the banks has single level security and there will be a threat that the card may be stolen, damaged or misused.

In this paper we are discussing about the better way for transaction that is by using “Biometric”.

Biometric is the leading technology all over the world for security purpose. Here we are implementing on Fingerprints as these are unique for every individual.

We are using fingerprints not only for security but also for Authorization that is without using cards transaction and transfer is being done at both merchant level and individual transfer of amount.

As mentioned above fingerprints are unique there is no need of building extra security level for the access of account. It acts as a media for security as well. Passwords are the one which is used since a long time but it can be hacked and it will take more time to enter the password in malls where as our fingerprint would take a shorter time to scan the finger within approx. 20seconds. As with cards it needs to be swiped first and then the password need to be

entered but here with one scan authentication and transaction can be done. It utilizes less time and enhances Digital India.

II. RELATEDWORK

One of the most widely cited fingerprint enhancement technique is based on the convolution of the image with Gabor filters tuned to the local ridge orientation and ridge frequency [1].

Experiment using a mixture of both synthetic images and real fingerprint images are then conducted to evaluate the performance of the implemented techniques [2].

In Africa Master cards are piloting a credit card with the built in fingerprint reader following two separate trials with the major retailer and bank in South Africa. Here, people first need to visit their bank where the fingerprint is registered and encrypted on to the card.

It can be then used at Merchants to validate purchases[3].

III. SYSTEM ARCHITECTURE

We are using Single level authentication that is fingerprint which is unique for every person on the globe.

Biometric based authentication techniques, such as fingerprints, iris scan, or facial recognition, are not widely adopted as the above approach can be expensive.

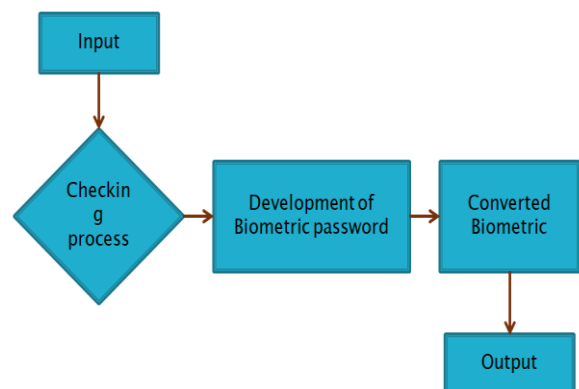


Fig 1:- Development of Conversion process

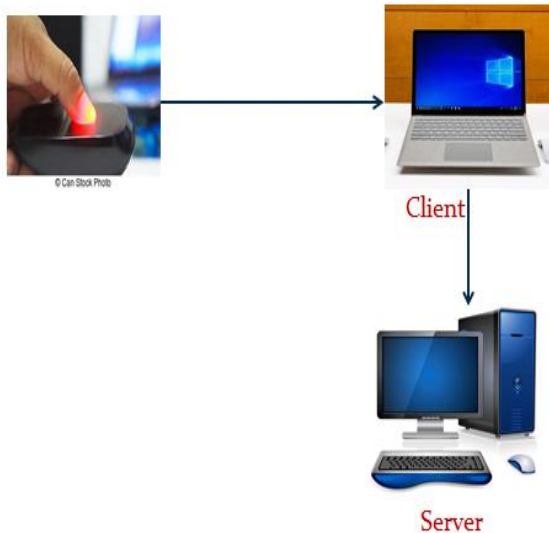


Fig 2:- working structure

➤ Requirements

- MFS100 fingerprint scanner
- Netbeans
- 2 computer system

The finger image is scanned through the scanner and converted to a processed image that is directly fed to the client system. The system is only storing the image in itself. In later stages even for comparison the image is not processed because the hardware has its own application embedded which converts the image in a format(.bmp) that system can be stored.

IV. IMPLEMENTATION

Here we come with a client-server model where Bank is the server where information is stored and shopping malls are the clients.

We follow three phases to authenticate user to the system:

- Registration phase
- Login phase
- Transaction phase

A. Registration phase

While creating a new account in the bank the details of the customer is given, in our case we are adding a fingerprint as well.

Meanwhile the information is stored in the database of bank and the fingerprint of the customer is named after the user.

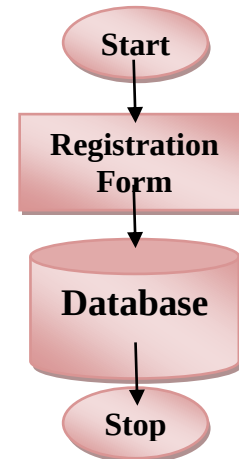


Fig 3:- Registration phase

B. Login phase

This page is available at the client side where firstly the user has to scan their finger after the billing of the purchases has been done.

Once the finger is scanned the request is send to the server if the user has already registered himself then the person will be authenticated and his details will be fetched from the database and sent back to the client where in it is displayed(name, transfer limit, account number). If the user wishes to continue he can do so when the login page directs to transaction page.

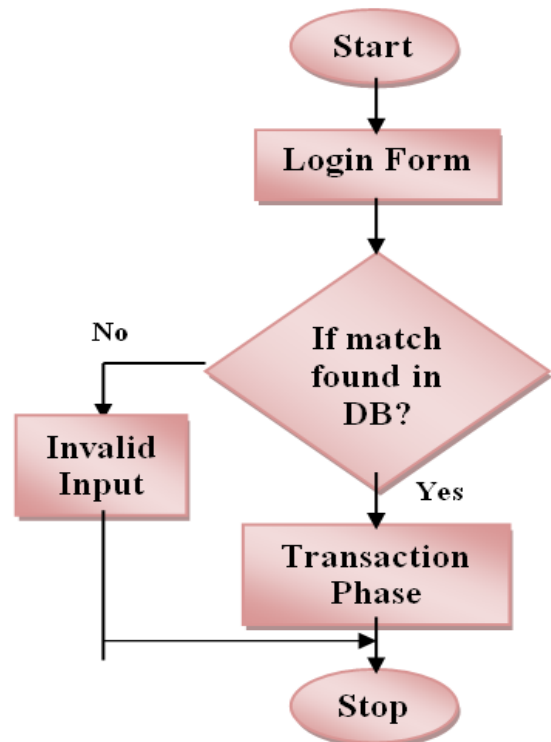


Fig 4:- Login phase

C. Transactionphase

Here the payee account number and the total amount to be transferred is given as input, if the billing amount is greater than the existing balance the transfer will fail. If balance is greater than the billing amount the transfer is performed. And a success pop-up message is displayed.

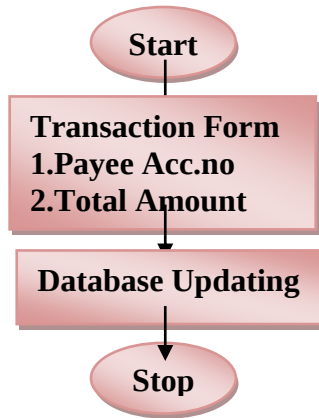


Fig 5:- Transaction phase

V. RESULT

Fig 6:- Registration page

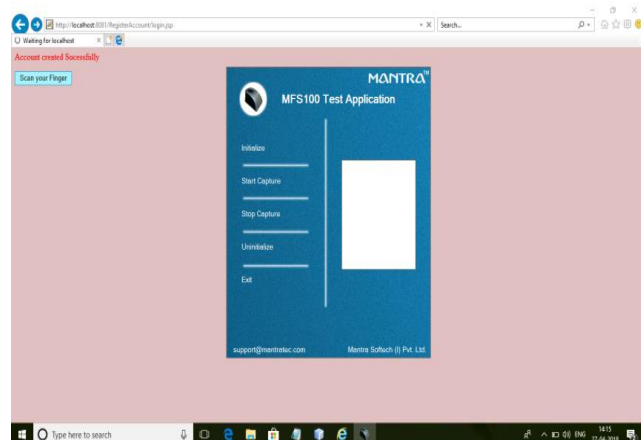


Fig 7:- Login page

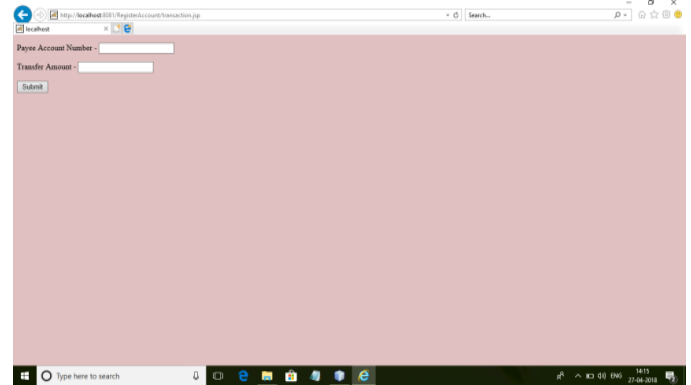


Fig 8:- Transaction page

VI. CONCLUSION

As we bring up barter system and global digitalization are highly developing technologies.

Cards being prior for transactions there liabilities associate with it made us implement this scenario. Verification using a finger print scanner has been followed; the result obtained in providing the security is quite reliable without cards. Authentication as well as for security purpose we go for a single concept that is biometric. Our plan have overcome some of the aspects existing with the present technologies, by the use of fingerprint Biometric as the authentication technology.

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