Smart ATM Using QR

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Abstract **-** Nowadays, dependency on banking in the virtual world has been increased to the peak position. To make it consistent advanced technologies should be used. As OTP is currently used worldwide for security purposes, it can be overruled by QR code. Main advantage of QR code over OTP data storage.OTP can only confirm that the user is authorised user and not some third party is involved in this transaction while QR code not only confirms the authorised user but QR code itself can store information such as transaction id, transaction date, time and also amount of transaction. So, there is no need of explicitly keeping track of transaction every transaction. Aim of this paper to enhance the functionality of ATM machine using android application. Proposed system is combining the ATM and mobile banking and minimizes the time of withdrawing cash from ATM. This will increase the speed of transaction almost three times fast; could have excellent impact on customer's satisfaction. With the help of QR code information get encrypted so it also increases security. As the population increasing ATM queues will be longer day by day. By implementing proposed system current

Keywords—QRcode, Cash withdrawal,, Smart Application

I. INTRODUCTION

In previous decades, to withdraw the money, we have to visit nearest banks, standing for our turn in long queue, fill form with our credentials to give particulars/bank worker; only then we get the money. It was like a big task to withdrawal cash from our banking account and also we have to wait for a lot of time. Also customer needs to be present physically. There were many security issues. After some period, technology gear up and some great developers invented cash vending machine called ATM machine, which

gives cash from specific banking account using a debit card. Then banks started to install ATM machines, which gives you money from your banking account within few minutes without filling any form like previous bank era. You can find ATM machine everywhere. But still sometimes, you have to wait in the long queue in front of ATM machine. Customers are mostly using their smart cards while shopping or other transaction. But still there is need of physical cash at some places, for those consumers have to visit nearest ATM to get cash from his banking account. Nowadays, large numbers of ATM machines are available worldwide. In 2016, about 34000 ATM machines are available only in India. But because of increasing population which leads to increased users, still sometimes, we have to wait in a queue in front of the ATM machines. Sometimes, customers are in hurry, but to withdraw cash from ATM. Customer have to wait long queue by doing nothing. Not only this, inside ATM also customer have choose many unwanted options repeatedly. Customers have to choose hiss language, type of account every time which is very hectic and time consuming process. Can't we do something to save our time to withdrawal the cash by doing some modification in existing ATM system, while standing in the outside waiting queue or on the way to ATM machine? Yes we can, by using this proposed system. 'Efficient Cash withdrawal using QR code technology.' Nowadays use of mobile applications are increasing; people are very habitual to use mobile app.

II Proposed System

Proposed System will consist android application and QRcode scanner in the ATM system.

A. Role of ATM machine

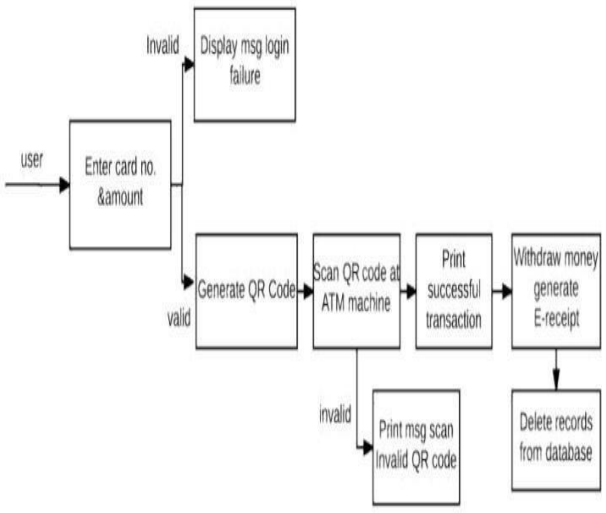
A QRcode scanner is required to detect code and decrypt information in stored in QRcode. Scanner need to be installed in the ATM machine to take input credentials from the user. We will provide extra feature to an existing system, so traditional withdrawing option is also there. On other end, ATM machine will scan the QRcode generated by 'GetNote'-android application and decrypt it with the key stored in the database. After decryption ATM will get required credentials such as card number, amount, pin, cvv number on card etc. It will authenticate all the details with the banks database. After successful authentication, cash will be dispensed by the ATM machine. ATM machine will responsible for validating the QRcode such as difference in generation time and scanning time is not more than five minutes. ATM will able to detect QRcode from image uniquely, duplicate QRcode will be rejected. System will detect QRcode generated by GetNote (android application) only.

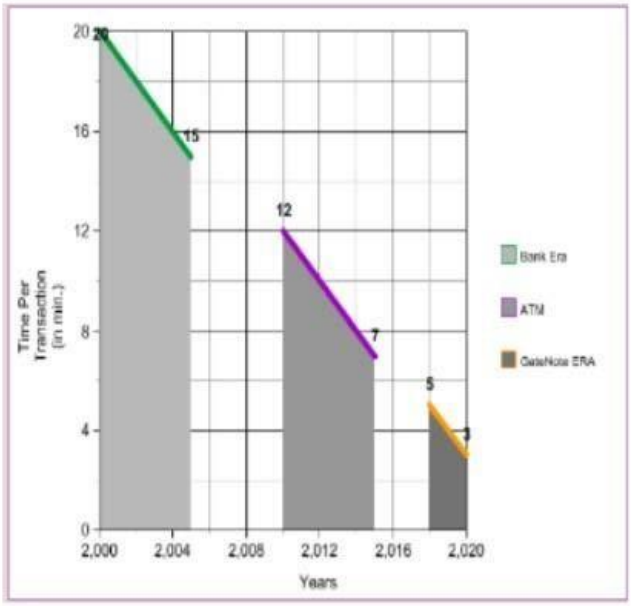
B. Role of QRcode Scanner Detect QRcode from various resolution images as every user has different mobile phones after detection it will be able to decrypt the image and send accurate input to ATM machine

C. Role of Android Application-GetNote

While standing in front of or on the way to withdraw cash, users can operate their mobile phones. Users have to register into the app once after installing. It will create unique username for each user default card details will be saved in user account so every time user only has to enter amount and pin. Application is responsible for validating the input such as accept amount in multiples of 100 only, authentication of valid card number and other details like expiry date, cvv number. Detailed flow of application is as follows :(refer block diagram 1.1) Application will register the new user first take all credentials and validates it. After successful registration, user will login to his account; user's virtual card will appear. If users want transaction by other card so he can update card runtime. Next it will accept and authenticate ATM four digit pin, after successful authentication application will ask for amount. User will enter amount and application is responsible for generating unique QRcode. Generated QRcode consist information such as timestamp, card number, pin, cvv, expiry date, amount etc. After 5 minutes application will invalidate the QRcode. Along with minimizing cash withdrawal time, it will provide other functionality like balance check, money transfer, find nearest ATM. Purpose of all these transformation is to save customer time, to increase the accuracy and to increase security of system

III .SYSTEM ARCHITECTURE





. Shows comparison between times required for transaction in minutes to year. Time is decreased almost exponentially by proposed system. According to analyst, costing of transaction using mobile phone is about ten times less than ATM and about fifty times less, if physical bank branch used. By using QRcode technology, security level is enhanced comparative to traditional ATM system. In ATM system, there was risk of hidden camera so this risk can be reduced by current system.

IV CONCLUSIONS

A. Minimizes cash withdrawal time

Reducing time of transaction is the most beneficial motto of this research paper. It will make the system three times faster than the current system making it three times less time consuming. Also, waiting time in the queue has been taken into consideration which is completely useless in terms of transaction. That's why, main purpose of this paper is to utilize that time in first step of authorisation by inputting the credentials. The main aim of this research is to save customer time to withdrawal cash from ATM machine, by utilizing waiting time in the ATM queue. The traditional system of withdrawing the cash use to consume more amount of time also it use to make use of human resources and paper work it used to take 20 to 30 min. With invention of ATM then came into use ATM machine which use to require about 7 to 8 min. to perform all the operation and withdraw the cash With QR code technology. Normally successful cash withdrawal transaction takes at least 30 seconds, more in case of wrong attempts; but using this feature, successful transaction will be done only in 10 seconds. That means transaction of cash withdrawal using this feature will take less than half time, so there is more than 50% time saving.

B. ATM Pin Privacy

The main aim of this research paper is to replace QR code system with ATM PIN system. Reason behind this replacement is the security provided by QR code is of much more higher degree. Due to this, there will be no need to hide ATM pin. Customer doesn't have to worry about ATM pin at all because he will not be requiring the ATM PIN during the whole transaction.

C. Security Enhancement

Using new technology the security level will be enhanced by many levels. Using this feature, threads like peeking the credentials, storing user's Card number and PIN through the chip can be control. Also, reverse tracking of the transaction is possible. It can be achieve because QR code can save the information such as transaction id, transaction date, transaction time etc. This adds even more levels of security to the transaction.

D. Availability of Existing System

While using this new system, there is also scope for existing system. Both of these systems can go hand in hand. When there is ATM available user can just walk in and can do the transaction in same old fashion way.

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