A MEDIUM OF CASHLESS TRANSACTION THROUGH DIGITAL PAYMENT (E-WALLET)

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ABSTRACT:

An E-wallet or electronic wallet is a digital mode of payment which doesn’t require any physical mode of transaction. This paper deals with new technical approach regarding the cashless service or the E-wallet concept. Through this paper we will enhance the present level of knowledge of people from classical concept of money transfer to the cashless mode of transaction (Digital mode of payment) by taking the orientation in close proximity to peer-to-peer communication. Electronic transaction will develop a new layout for the present scenario of money transfer. The electronic prototype of the E-wallet deals with the android platform which emulates by the NFC. Our electronic prototype of E-wallet concept will include the secure, efficient and the futuristic way of transactions which is implemented in this paper via a proposed architecture of the secured mobile application which helps in the process like transfer of money, card payments, receipts and other transactions, which is possible with a single click of button.

Keywords: E-Payments Architectures; E-Money; E-Transfers; Mobile Payments, NFC

[1] INTRODUCTION

Cashless Transaction is a new way of digital payment technology that has witnessed a remarkable development in past several months and still it is growing day-by-day. Cashless or digital mode of payments is now becoming a well accepted way of payment in almost every field. Be it E-Commerce websites or any type of recharge. Cashless or Digital transactions are now proving to be the Upcoming hope of transaction services, with minimum or no use of physical cash. It is also being considered an alternative to hard cash. Our goal in this paper is to create a new structural design in which the users are able to directly transfer money from user to another using a secured and fast application of e-wallet. At prototype stages this application will run on client-server basis from computers and once implemented on a large scale, will make use of Smart phones through Near Field Communications (NFC).
[2] LITERATURE SURVEY

There are some applications of virtual cash or e-wallet on the internet. Some of them are PayTM, Freecharge, Mobikwik, Phonepe, Jio money and etc. All these applications provide facilities like bill payments, any type of recharge, transfer of money, online transaction etc. PayTM also holds its own online shopping portal where a registered user can shop and pay via this application itself. All these applications work on credit system. The user has to give his credit card number or debit card number or upi address once and then his account is linked to the app. So whenever he makes a transaction, the application automatically sends a request to the respective bank for credit the payment. many people’s found these applications is very useful and capable. E-wallet saves lot of time and energy when we use these application in place of physical or hard cash transaction. An article that was published on 1st of July 2015 in The Economic Times stating that “Whether you have to pay for a taxi ride or teach your child the basics of managing money, a preloaded mobile wallet could be the answer.” Pralay Mondal, Senior Group President, Retail Banking, Yes Bank, said “Prepaid wallets will increasingly replace physical cash in the upcoming future. They will not replace debit or credit cards, but will be used for specific needs and micro transactions.” The balance in semi-closed wallets which are issued by non-banking entities like Paytm, Mobikwik, phonepe and ITZCash, cannot exceed Rs 1 lakh. Unless offered in association with banks by the process of KYC (know your customer) and you cannot use your mobile wallets for cash withdrawal.

The following table illustrates the use, inception and initiatives of electronic wallets in other countries:

[3] CHARACTERISTICS, RISKS AND NEEDS FOR ELECTRONIC PAYMENTS

<table>
<thead>
<tr>
<th>Country</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>• The operators launch the payment made via the SMS;</td>
</tr>
<tr>
<td>Great Britain</td>
<td>• Vodafone and Citigroup announce a collaboration protocol for the payments from the mobile environment;</td>
</tr>
<tr>
<td></td>
<td>• Contactless type combined cards between Barclays and Oyster;</td>
</tr>
<tr>
<td>France</td>
<td>• NFC (Near Field Communication) type pilot systems in Caen, Strasbourg, Grenoble, Paris;</td>
</tr>
<tr>
<td>Italy</td>
<td>• The CartaSi cards processor launches the payment service for the ski paths;</td>
</tr>
<tr>
<td>Norway</td>
<td>• Telenor and several banks launch the BankID system;</td>
</tr>
<tr>
<td>Holland</td>
<td>• NFC type pilot systems that use credit and debit cards;</td>
</tr>
<tr>
<td>Germany</td>
<td>• NFC implementations within the transport public system from the Frankfurt area;</td>
</tr>
<tr>
<td>Austria</td>
<td>• The Paybox operator attains 300, 000 users;</td>
</tr>
<tr>
<td>Croatia</td>
<td>• 50% of the parking fees are paid via mobile phones.</td>
</tr>
</tbody>
</table>

Source: Adaptation after (Jong, 2007)
The electronic payment systems have to meet several minimal characteristics in order to be efficient:

- **Atomicity:** This characteristic takes into account that during the transfer no existing money is lost or no money is created.

- **The impossibility of the non-reputation:** None of the users involved in the transaction can decline his responsibility conferred by the electronic signature.

Also, the solutions of the electronic payments represent the central point of different requests, more or less economical:

- **Security:** the system must retain the possibility of frauds within the electronic environment.

- **Availability:** the systems must be accessible and available at any moment in time.

- **Cost efficiency:** The transaction cost must be reasonable even in the case of the micro-payments.

- **Integration and scalability:** The systems must be inter-operable with all the other existing systems; also they must integrate themselves with the new payment methods from the online environment.

- **The ease of using:** Any system of electronic payments must be accessible through different types of hardware terminals and from different software platforms.

- **Confidentiality:** the data regarding the parties involved into the transactions must be available for the others only up to the confidentiality level established by the collaboration protocol.

According to the requests imposed to the solutions of electronic payments, the digital currency has to observe several defining restraints, thus it has to be:

- Universally accepted

- Electronically transferable

- Divisible
Impossible to falsify or remove without authorization

Private (nobody except those who are involved in the transaction, knows value of the transaction)

Anonymous (nobody can identify the payer)

Able to also be operated off-line, without needing a previous on line verification.

[4] ARCHITECTURE OF E-WALLET

As it can be seen in the figure no. 1, we can implement the e-money transfer between User1 and User2, supposing that both users have smart devices with NFC capabilities included. The money is stored in our secured application and it is transferred through the NFC tags. This stage of the transfer makes use of the Android platform. The prototypical stage involves transfer between two computers using the client-server model. At each stage of transaction process, messages will be transferred. Every message includes information about:

- The amount of transferred money
- The security certificate of every monetary unit
- The payer
- The receiver
- The date and time of the transfer
[5] APPLICATIONS

There will be various applications of e-wallet. These can be as follows:

- Bill payments
- Money transfer
- Faster payments in shops
- Ticket booking (Air, Train, Bus)
- Bank account management
- E-Commerce
- M-Commerce

[6] CONCLUSION

Taking into account the foreseen technological evolutions, the strategies announced by the banks and by the card issuer companies, as well as the increased needs of the buyers and merchandisers regarding the security and flexibility of the transactions, we consider that the future of the electronic payment systems will be based on the following defining elements: the mobile environments and devices, the electronic wallet and standards meant to increase the flexibility of the transactions. This application will definitely pave the way for a secure, fast and futuristic way of transactions. The e-wallet will give a user the liberty to shop and pay from anywhere with just a click of a button and without any kinds of worries regarding the security. The transactions that took a lot of time will now be completed in a matter of seconds

REFERENCES