

“E-WALLET: MOVING TOWARDS CASHLESS ECONOMY”

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Abstract-The objective of this article is to propose the implementation, advantages and future scope of an electronic wallet. An electronic wallet is a cashless service used as a substitute for physical cash. It is a new way of buying commodities without application of physical transaction. The main objective is to provide the ability to carry out secure transactions that are quick but also efficient with the click of a button. The main concern in such types of transaction methods is security.

Using this e-Wallet the transaction procedure can be as simple as: the customer or the user goes to the point of sale then does the purchasing and when it comes to the payment, the customer submits his e-Wallet to vender who connects it to his terminal (PC).

Keywords: POS , NFC ,Smart Card Technology,Virtual Cash.

I. INTRODUCTION

Virtual cash or Cashless Transaction is an upcoming technology that has seen a tremendous growth in the past year. Cashless payments are now becoming a popular trend in almost every field. Be it E-Commerce websites or DTH recharge. This can include purchasing items on-line with a computer or using a smartphone to purchase something at a store. Cashless services will surely be the future of transaction services, with minimal or no use of physical cash. It is also being considered an alternative to plastic cash. Our main objective in this paper is to create an architecture which enables users to instantaneously transfer money from user to another using a secured and fast application of e-wallet. At prototype stages the application can run on client-server basis and after it get implemented on a large scale, it will make use of smart phones through Near Field Communications (NFC)

A) Server-side electronic wallet

It stores the user's information on a remote server that's belongs to a particular merchant or wallet publisher. Example:-Yahoo Wallet

B) Client-side electronic wallet

Stores a consumer's information on his or her own computer. In particular considering these pros & cons in view, the Smart Technology is introduced to develop a new class of cards. This stream of Smart Technology can be termed as Smart Card Technology

(SCT). This smart card has a microprocessor embedded in it. It has the processing power to serve many different applications. Such type of cards can be referred as e-Wallet or electronic Wallet. The electronic wallet looks like a small pocket Calculator with a plug which enables electronic connection with another wallet, whether through direct connections or through telephone lines. It can store an unforgeable amount of money, and enables unforgeable transactions with other wallets. It is safer than cash money since only the legitimate owner who knows the password can operate it. It can replace credit-cards, checks and traveler's checks and saves the paper work involved in their use.

II. LITERATURE SURVEY

Some applications of virtual cash are PayTM, Freecharge and Mobikwik etc. All these applications provide commodities like bill payments, DTH recharge etc. PayTM also has its own online shopping portal where a registered user can shop and pay via the app itself. All these applications work on credit system. The user has to give his credit card number once and after that the user account is linked to that app. Whenever user makes transaction, the app automatically sends a request to the respective bank for credit payment. These apps are found not only to be very useful but also efficient as these app saves time instead of using physical or plastic cash. The user has to only use plastic cash once while registration. 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."

III. HOW E-WALLET WORKS?

E-Wallet is a small browser extension that users "carry" as they move from one Web site to another on their shopping spree. It contains all the necessary credit information that user otherwise have to type into e-commerce sites over and over. E-Wallet icon in the Windows task bar, enter the PIN number, and drag their choice to site's order form. E-Wallet then automatically fills in the necessary data and the site will prompt users to complete any blanks. Users also are free to over ride any field e-Wallet has completed wherever they fill necessary.

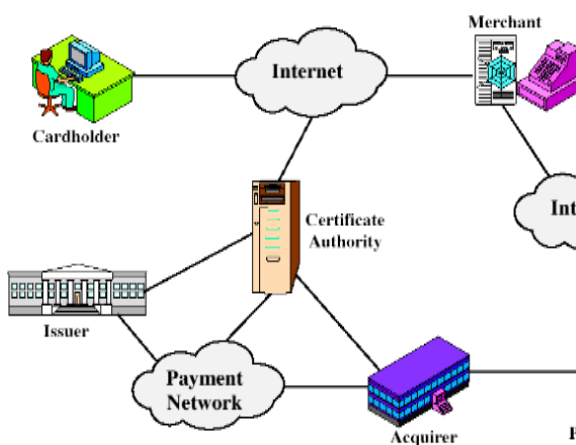


Fig 1. Architecture of E-Wallet

A) CHARACTERISTICS, RISKS AND NEEDS FOR ELECTRONIC PAYMENTS

- 1) Atomicity: This characteristic takes into account that during the transfer no existing money is lost or no money is created.
- 2) The impossibility of the non-reputation: None of the users involved in the transaction can decline his responsibility conferred by the electronic signature.
- 3) Security: the system must retain the possibility of frauds within the electronic environment.
- 4) Availability: the systems must be accessible and available at any moment in time.
- 5) Cost efficiency: The transaction cost must be reasonable even in the case of the micro-payments.
- 6) 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.
- 7) The ease of using: Any system of electronic payments must be accessible through different types of hardware terminals and from different software platforms.
- 8) 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:

- 1) Universally accepted
- 2) Electronically transferable
- 3) Divisible
- 4) Impossible to falsify or remove without authorization

- 5) Private (nobody except those who are involved in the transaction, knows value of the transaction)
- 6) Anonymous (nobody can identify the payer)
- 7) Able to also be operated off-line, without needing a previous on line verification.

A) ENCRYPTION

E-Wallet really does offer powerful protection for all your data. The program uses the strongest encryption which the US government permits which means using the RC4 encryption algorithm with a 56 bit key. There is even stronger encryption on offer for users in the US and Canada, and there are some countries where the US government won't allow.

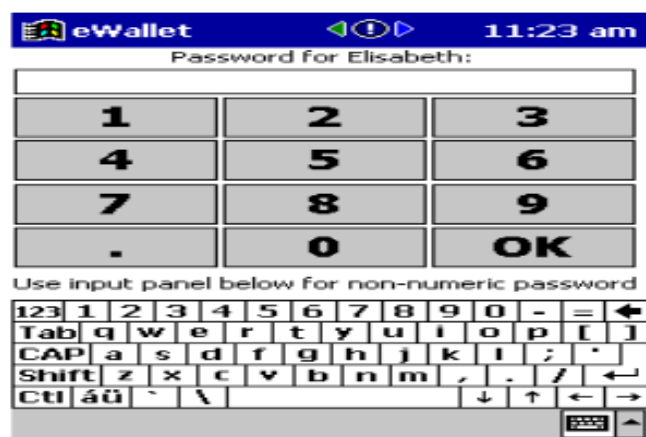


Fig 2.: Input panel of E-Wallet

B) INSTALLATION

Installation from the PC calls up the familiar Add/Remove Software which works through ActiveSync to automatically add software to your connected mobile device. This is the easiest way to install software, as the correct version is selected and installed to your mobile machine automatically.

C) GLOBAL PAYOUT

Global Payout offers a highly secure payments system that you configure based upon your country specific corporate needs. The E-Wallet platform leverages our international banking relationships to provide a single portal to manage all payments for the company whether made locally or globally. It also provides the recipient of those payments with a very flexible system that can move funds to their own bank account, a Visa or MasterCard prepaid/credit card, to another account or back to the payer for purchases, recurring fees, or reimbursement. Whether your organization operates in one country or many, Global Payout's solution provider has created a secure payment. Network so that you can send and receive

payments anywhere in the world, in the shortest amount of time and at the lowest possible cost. The e-Wallet platform delivers a secure payment solution for multi-national organizations that require access to a global banking system. Global Payout specializes in customized payment solutions tailored specifically to business, government and financial services companies through secure and compliant technologies recognized worldwide.



Fig 3.: Global Payout Platform

D) ABOUT E-WALLET PAYMENT (SECURE ACCESS TO YOUR CASH AT ANYTIME)

E-Wallet is an innovator and developer of online digital payment in multi-currency services. We are revolutionizing the way in which ecommerce is transacted both on and off the Internet. Through a link to digital Multi currency services, our systems have devised methods of payment from your e-Wallet to your debit card, as well as make email transfers to your checking or savings account. You can even transfer funds using your cellular telephone. In addition to these methods of fund transfers; our services also enable EFT (electronic fund transfers) and ACH (automated clearinghouse) transactions for approved customers. With these technologically advanced options, and the dedicated efforts of our research and development team, e-Wallet will continue to allow payments to be made from virtually anyone to anywhere with Multi currency in the world, continuing our leadership in the industry. This new industry has yet to take advantage of both expanding global markets and the full capacity of modern telecommunication technology. All payment transactions will be processed between consumer to business, business to consumer and business to business, and we are committed to providing the best in service and constant support for all of our members. Consumers have embraced debit cards as a convenient and secure alternative to cash. Prepaid debit cards can withdraw cash from any ATM or make purchases (pin-based transactions) from any merchant displaying the financial network logo.

All Cardholders can access their card balance and transaction history online at e-Wallet's website www.ewalletpayments.com.

Multi-Currency Pricing enables card-not-present merchants to attract and close more international sales by displaying pricing and allowing customers to pay in their chosen currency, while you continue to receive funding and reporting in your local currency.

As merchants look to expand their business by selling internationally, they are in need of solutions that simplify the shopping experience for their customers, including providing customers with the ability to shop, view and pay in the currency they know best -their own. The new E wallet multi-currency functionality does just that, effectively turning international browsers into purchasing customers by providing complete price transparency - those from Japan enjoy the clarity of browsing and paying in Yen, while those from Britain enjoy the certainty of paying in British pounds.

- Merchants can target new international markets and increase global sales
- International customers view pricing and pay in their own currency
- Available in over 60 currencies, with the added convenience of settlement and reporting in your local currency

IV. 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.

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