The White E-Wallet- A Technology Enabled Money Transaction: A Wide Application of Information Technology

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Abstract— **Black money transaction is a major drawback for country's economy. Taxes collected from the white money transactions are used for the development of society. In this proposal, we are introducing a technology which is going to eradicate the problem of black money transaction. The main function of this device is "Money Transfer" from one place to another with the help of a similar electronic device. This proposal prohibits the transaction between persons with hard cash. A transaction will prepare a log file consisting of details of the transaction which can be stored in computer for future reference.**

Keywords— **black money transaction, white money transaction, log book, advanced security, white e-wallet.**

I. INTRODUCTION

Financial transaction is a movement of money or payment from a buyer to a seller or between two individuals on an agreement or communication. Ever since the evolution of civilization transactions has been taking place within the society an evident example of this is barter system. In 1997, 1.3 billion dollars exchanged per day on foreign exchange market, 475 billion dollars annually.

Transactions can be carried out through different process notably purchase, loan, mortgage, bank account, credit card, debit card, e-banking etc. Each of these processes has their own advantages and disadvantages. Transactions can be broadly classified into two types black transaction and white transaction.

II. BLACK TRANSACTION

The monitory transaction made between two individual for any communication or agreement does create any computerized log file. This means none can trace where the transaction has been made, when the transaction has been made and how much money has been transferred between them. Furthermore there is no way to find out where and to whom the creditor is again transferring that amount of money. This kind of transaction is said to be black transaction. Therefore using black transaction a person can utilize huge amount of black money what he has kept under his/her possession.

III. WHITE TRANSACTION

For transferring money between two individual there are varieties of transaction where computer generates log file. For example the transaction using cheque or demand draft, net banking, fund transfer between two bank accounts, card to card fund transfer, transaction using Credit card etc. This kind of transaction is said to be white transaction. Using white transaction nobody can utilize of black money for his financial need. On the other hand the white transaction transaction keeps the record of payee's details and creditor's details. Therefore white transaction stops chances for the money to end up in wrong hands.

IV. THE WHITE E-WALLET

A new electronic controlled device can be introduced which will have a fool proof Security Systems Installed within it. Salient features of this device are firstly this device will be issued by government agencies like reserve bank, or any other government financial body on the basis of social security number of the individuals.
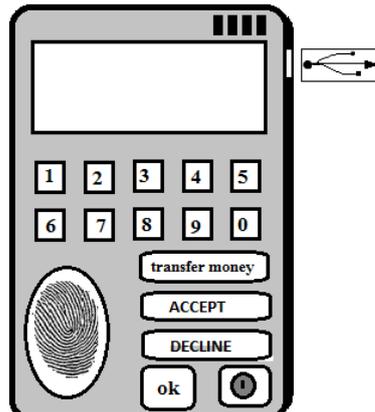
DEVICE :

Figure 1: The White E-WALLET

Thus the device can be handled by a single user only. Security features comprises of thumb impression, numeric passwords. The device will generate a log file after completion of every monitory transaction with a peered device. The device will be of small size and with numeric keyboard attached to it.
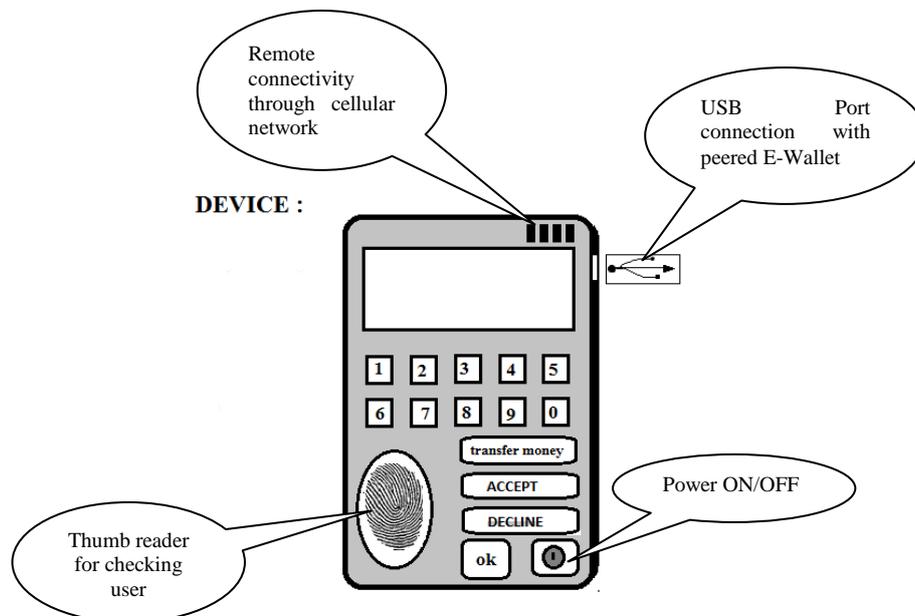

Figure-2: Salient Features of E-White E-Wallet

It will incorporate a thumb reader to read the thumb impression of the user and will check the authenticity of the user. The display screen is considered to be black and white to for low consumption of the battery as it runs on battery. The device also has a GPS system which tells about its location every time after performing a transaction. Also it has an USB port and it can be remotely handled. It will have conventional method of charging like solar panel, human temperature charged.

V. THE FINANCIAL TRANSACTION BETWEEN TWO E-WALLETs

STEP-1: START UP AND PEER CONNECTIVITY SETUP

The peer to peer connectivity between two E-Wallets can be done using the USB connectivity only means the physical presence the payer and creditor is always required. Initially when the scenario of transfer comes, one of the devices requests for transaction. The device is logged in by giving thumb impression. Then a password is given using the numeric keypad. After that the acknowledgement process takes place. Now both of them are agreed to do monitory transaction between them.
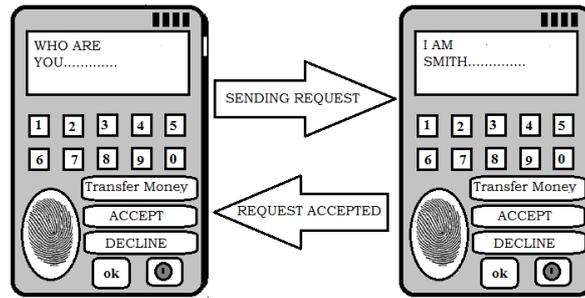
STEP 1:

Figure 3: Peer to Peer Connectivity between two E-Wallets

The steps required for peer connectivity has been illustrated in the following flow chart.
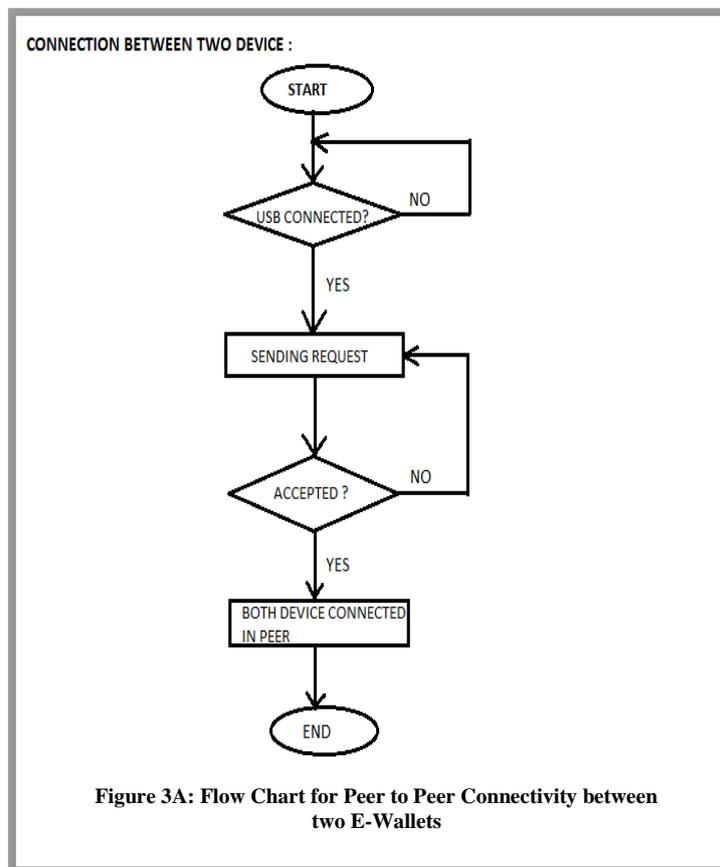

Figure 3A: Flow Chart for Peer to Peer Connectivity between two E-Wallets

STEP-2 MONEY TRANSFER BETWEEN THE E-WALLETS

After acknowledgement, the money transfer takes place. Prior to transaction the sender E-Wallet will check the amount to be transferred from it with the contents of its locally stored amount. If amount is less than its data then it will send a number only to the E-Wallet receiver.
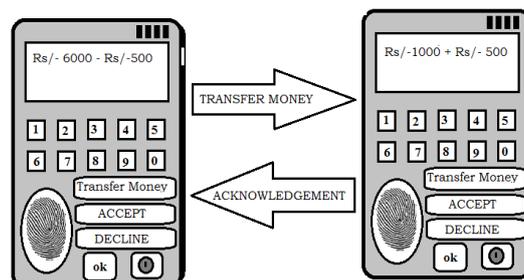
STEP 2:

Figure 4: Transferring money between the E-Wallets

The steps required for transferring between two E-Wallets has been illustrated in the following flow chart.
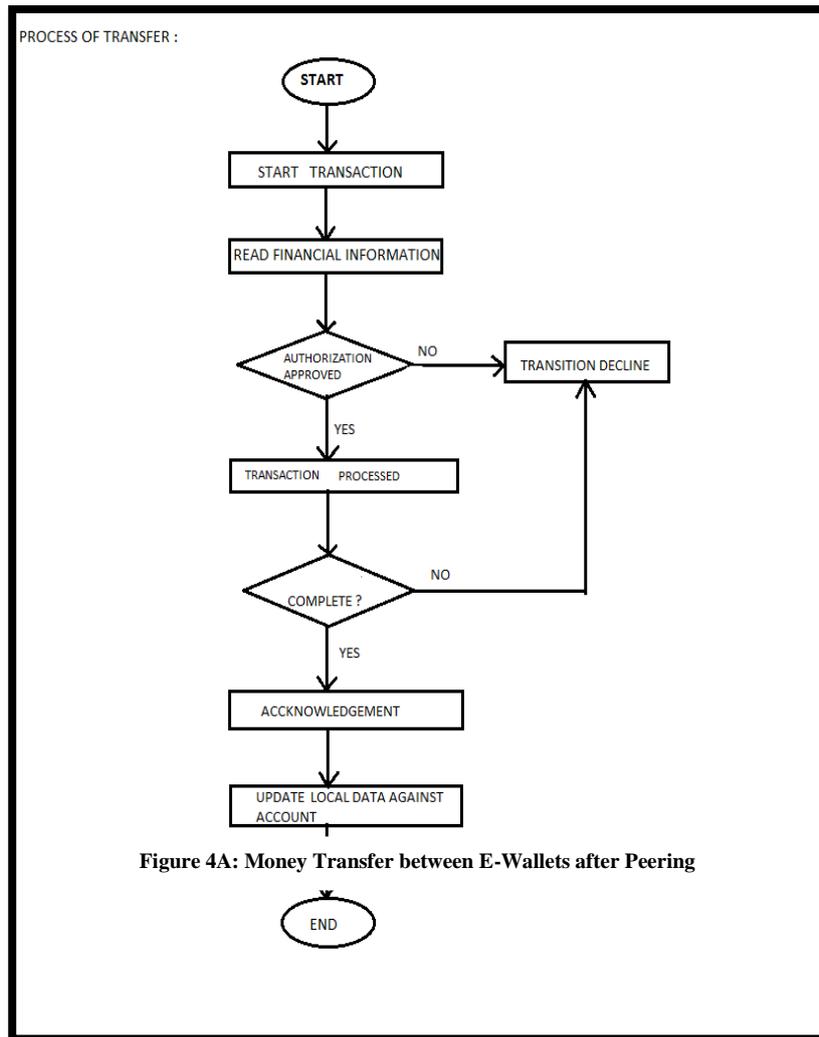

Figure 4A: Money Transfer between E-Wallets after Peering

STEP-3: UPDATING LOCAL DATA BETWEEN E-WALLETS

As the transaction is completed both the E-Wallets will update its financial data locally keeping the timestamp. It will also prepare a log file consisting of relevant information about the transaction. After that both devices will be ready for another transaction provided if the sufficient money is there in the E-Wallet.
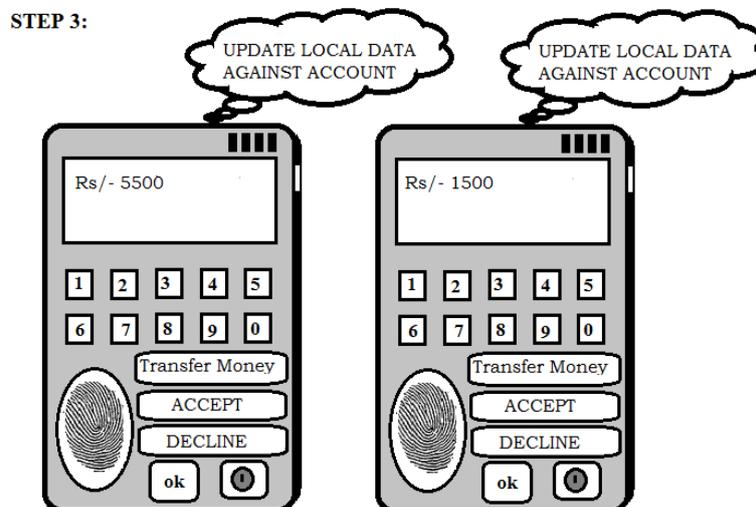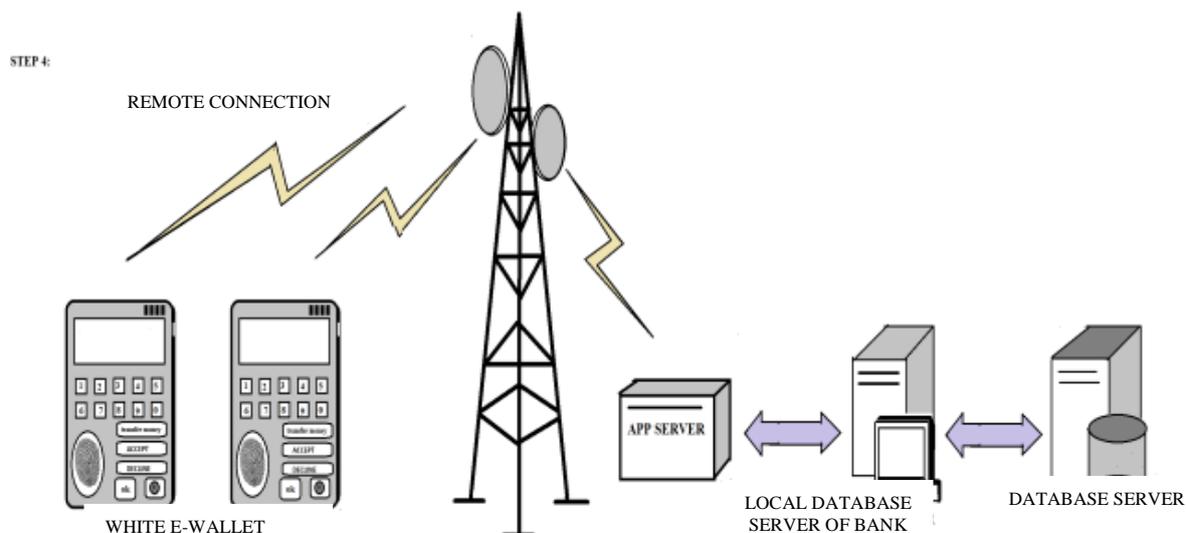

Figure 5: Local Data Updates after

STEP 4: UPDATING THE ACCOUNT STATUS REMOTELY
The transaction takes place irrespective of availability of wireless network as initially involve on the local data of the E-Wallet. After the successful transaction both the devices will search for a secured remote connectivity available.

It will also automatically connect to database server of the bank through web server. The necessary changes in the account database of both E-Wallet accounts will be done afterward. There may have some limitation like hundred transaction can be done in a day or any transfer above the denomination of 50,000 is reported.

VI   ADVANTAGES OF TRANSACTION USING WHITE E-WALLET

The advantages of this device can be briefly described in the following points:

A. Basically the E-Wallet is for stopping the transaction using hard cash means the transaction requires the physical presence of both the persons.

B. Black money can be backtracked with the help of log files specifying the accounts information, transaction details and users location. Transaction is up to a limited amount then reported so black money transaction can be administered.

C. Fake money can't be introduced as there is "NO HARD CASH INVOLVED".

D. There is no need of internet connection in the E-Wallet, so a chance of unknown or unwanted transaction is avoided.

E. In mobile banking transaction takes place from a person to another person's account and the process can't be carried forward. But in using E-Wallet multiple transactions can be carried out as the E-Wallet initially performs the transaction locally.

F. Amount of cost involved for introducing water marks in notes and minting would not be required any more.

G. Taxation can be charged in a proper way as log files can report actual financial capacity of a person. The problem of change can be dealt with.

H. Every criminal activity involves on monitory transaction between two or more persons, where the black transaction is always involved. Using E-Wallet such transactions will never be possible as because the E-Wallet can report physical location of the persons using its GPS technology.

VII.   RESEARCH CHALLENGES

REMOTE NETWORK UNAVAILABILITY:
        INDIA is a big country with different landscapes. Though there has been a remarkable development in technology. There are still parts of country which are not connected due to unavailability of establishment of wireless networks. As this device works on wireless networks, so at places where there is no network or interference there will be failure of transaction process.

DEVICE RELATED ISSUES:
The device can be manhandled or lost due to any accident. As every device works on unique key. So loss of such device will result in delay of months for issuing new device. There can also be loss of battery life. And thus the device won't be of any service till it is charged.

OTHER PROBLEMS
It is difficult for the handicapped people to use as it requires thumb impression. In that case a new verification system like retina scan or voice recognition has to be infused which would increase the cost. More battery will be consumed. This may reduce the device life.

LEGAL ISSUES
Such E-Wallet device stops flowing hard cash between two more persons. Many governments, public, private concern and individual may not accept such technology, because at the introductory time it cannot make that much level of trust of E-Wallet holders.

VIII. COMPARISON STUDY

COMPARISON POINTS	TRANSACTION BY CASH	DEBIT CARD	E-BANKING	E-WALLET
Where money comes from	Borrowing money from bank or organization or persons	Funds from a bank account	From a bank account	From a bank account
Thumb impression & Retina Verification	No	No	No	Yes
Legal liability laws	Strict	Lean	Moderate	Strict
Risk involving in transaction	High	High	High	Very low
Internet Requirements	No	No	Yes	No
Direct Fund Transfer	Yes	Yes	Yes	Yes
Physical presence of Payee	Not required always	Not always required	Not always required	Always required
Physical Location of Payee and Creditor	Not known always	Not known always	Very Hard to find	Always possible
COMPARISON POINTS	TRANSACTION BY CASH	DEBIT CARD	E-BANKING	E-WALLET
Stopping Black Transaction	Never Possible	Not Applicable	Not Applicable	Applicable because it will replace hard cash payments
Transaction by force illegally	Always possible	Possible sometimes	Not possible at all	Never Possible
Fake Bank Notes in Transaction	Yes Possible	Not Possible Always	Never	Never
Tracing the time, physical location of payee	Never Possible	Sometimes possible	Sometimes possible	Always possible

IX CONCLUSION

This E-Wallet is a breakthrough in eradicating black money transactions. As after every transaction log files are generated. Banking reports are filed. Less error as mobile network are used for keeping tracks. There are many

challenges to design such a technology enabled device. The E-Wallet incorporates many cutting edge technologies and tools like Thumb Impression Read and The Authenticity verification, number transfer through USB port, sending update account info remotely after very end of the transaction etc. As there is huge involvement of hard cash flow in the open market therefore introducing such E-Wallet device may be great challenges for Government concern like Reserve Bank.

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