ISSN (Online) 2456 -1304

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 6, June 2017

Project on Demonetizationsolution

[1] Aashika

Abstract:- **The project deals on the device looks like a smart card but include GPRS and RFID which is connected to network. All the users are given with this type of card, which is unique from one another. Here the two main technologies used are Nearfield communication (NFC) and Farfieldcommunication(FFC). The transaction occurs just by scanning of two cards.The main advantage of this project is complete elimination of corruption which now mainly relaying on hard cash.**

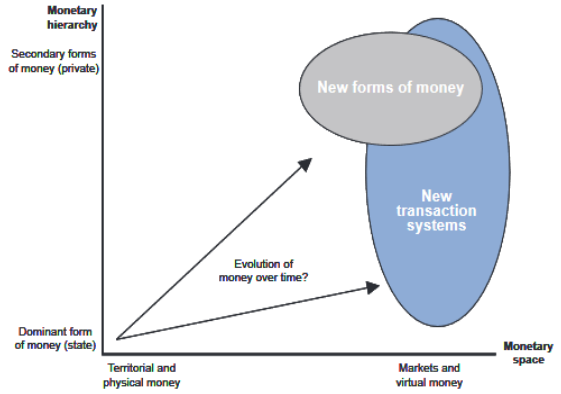
I. INTRODUCTION

Internet of things represents a general concept for the ability of network devices to sense and collect data from the world around us, and then share that data across the Internet where it can be processed and utilized for various interesting purposes. Electronic money, is the money which transfer between one account to another via network, it is in the form of digital code or signals. The communication technologies facilitated the new electronic payment systems and the organization of new types of payment instruments. This project is facilitated new type of electronic payment system with more easier, faster and secure way. Electronic money is introduced as a cost effective alternative to cash for small value transactions and as a convenient medium to pay over the network. Established alternatives to cash include cards: credit, debit, and more recently, prepaid. There is also a growing assortment of marginal electronic alternatives, such as the script that gets passed around in online games and social networks.

More interesting and much more ambitious are the cryptocurrencies, mainly Bitcoin, which is backed by no government and has a fluctuating value linked in part to a scarcity that is mathematically predetermined. Unlike other forms of digital cash, Bitcoin is truly untraceable and therefore, like cash, cannot be recovered if lost or destroyed. The biggest near-term threat to cash, though, will come from mobile payments.

2.1 System Study

The extent transactions will shift towards other quadrants as shown in figure 1, particularly the upper right, whereconditions contrast the most with those that pertain today. Two distinct andmutually reinforcing answersare dealt with in turn in the following sections: onebased on the long-run trends of monetarydevelopment, and the other rooted inan assessment of the implications for money of future economic and socialchanges.



2.2 Problem Statement

Proper usage of money is very important in the society. We need to go through a lot of formalities for money transactions. Nobody is able to track the money flow like where it is going, who has got how much amount with them because there is no common way for the flow of money. That is the reason corruption and black money are increased day by day. So, it is necessary to simplify this process which can be done using NFC (Near Field Communication) and FFC (Far Field Communication).

2.3 Existing System

Over the past ten years there have been hundreds of electronic payment schemes – some representing new forms of money, others re-inventions of old that have sought commercial acceptance. The list is long and notable for its successes and failures.

• Credit card

They provide financial backup in the event of an emergency, such as an unexpected healthcare cost, job loss or auto repair. But, credit card fraud is a possibility. When a consumer makes an online purchase using a credit card, for example, the only information actually moving over the Internet is the credit card information itself.

ISSN (Online) 2456 -1304

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 6, June 2017

• Signature Debit

They are known as Offline Debit Cards inthe processing industry. This processing can be used for debit cards that bear the VISA or MasterCard logo. This is the most common way of accepting debit payments. Signature debit has a flat fee of 12 cents per transaction.

• Pin Debit

Pin-Based Debit Cards are known as Online Debit Cards in the processing industry. These types of debit payments require the customer to enter a PIN number. Agency must purchase equipment. Cardholder may be charged by their card issuing bank " foreign ATM " fees. In this there was a drastic increase in transaction fee from 12 cent to 21 cents.

• Bitcoin

It is a payment system and this system is peer-to-peer, and transactions take place between users directly, without an intermediary. These transactions are verified by network nodes and recorded in a public distributedledger called the blockchain, which uses bitcoin as its unit of account. But it uses an exchange rate which is fluctuating.

• QR Codes

It is a square shaped bar code often seen on promotional posters. Merchants post a QR code sticker at each register, which customers use their phones to scan. But QR codes can also be used in reverse, a customer displays a unique QR code on the phone, and the cashier scans it at the point of sale, allowing the equipment there to process the transaction.

• Accelerometers

Accelerometers and geolocation are used to exchange money between phones in Bump App. To transfer money to a friend who also has the Bump Pay app, you just enter the amount, then bump the two phones together. But it's an extremely convoluted solution for proximity sensing.

• SMS

In countries where most people have basic mobile phones, SMS-based payment schemes are popular. Essentially, these allow you to "text-message" money to anyone with a phone. But this can be hacked and may cause severe effects.

2.4 **Proposed System**

• Near Field Communication (NFC)

When two persons are near to each other and if they want to transfer the amount then simply by swiping the card with each other, required amount can be transferred on the spot without going to bank or ATM along with the acknowledgments to both the users regarding the amount transferred and remaining balance.

• Far Field Communication (FFC)

When two persons are far from each other and they want to have the transaction then simply by entering the account number the recipient entering and required amount, the transaction can be done within no time.

• NFC allows phones, tablets, and laptops to share data with other NFC-equipped devices. NFC doesn't require any kind of manual pairing or device discovery to transfer data.

• NFC chips are good for a lot more than just mobile payments— opening digital locks, pairing wireless devices, or transferring data. But NFC proponents have long counted on mobile payments to be their killer app.

• Passive Human Body Communication (HBC) is realized by converting magnetic field to electric field of conventional NFC.

• Battery-less and rapid reaction is achieved in HBC with current NFC reader/writers and IC cards.

• Secure identification and payment by just finger touching has been done. It has a big potential to make the ambient intelligence and the smarter IOT world. Transaction of NFC is done in less than 1 minute.

III. MODULES USED IN THE PROJECT

The system consists of two different modules namely card module and bank server module. The details about the card module and the bank server module are as follows:

Card Module consist of the following components:

• ARM LPC2148 - An ARM processor is one of the family of CPU's based on the RISC (Reduced instruction set computer) architecture developed by Advanced RISC machines. It is a circuit which contains all the functions of the CPU. It has low Power consumption, high speed and also high memory capacity. The LPC21418 microcontrollers are based on a 16-bit/32-bit ARM7TDMI-S CPU with real-time emulation and embedded trace support, that combine microcontroller with embedded high speed flash memory ranging from 32 KB to 512 KB. Due to their tiny size and low power consumption, LPC2141/42/44/46/48 are ideal for applications where miniaturization is a key requirement, such as access control and point-of-sale.

• LCD-To display any character on LCD micro controller has to send its ASCII value to the data bus of LCD. For e.g. to display 'AB' microcontroller has to send two hex bytes 41h and 42h respectively. LCD

ISSN (Online) 2456 -1304

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 6, June 2017

display used here is having 16x2 size. It means 2 lines each with 16 characters.

• RFID reader -Radio frequency identification (RFID) technology is a wireless communication technology that enables users to uniquely identify tagged objects or people. RFID is rapidly becoming a cost-effective technology.The RFID technology is a means of gathering data about a certain item without the need of touching or seeing the data carrier, through the use of inductive coupling or electromagnetic waves. The data carrier is a microchip attached to an antenna, the latter enabling the chip to transmit information to a reader (or transceiver) within a given range, which can forward the information to a host computer.

• GSM -A GSM modem is a wireless modem that works with GSM wireless networks. A wireless modem is similar to a dial-up modem. The main difference is that a wireless modem transmits data through a wireless network whereas a dial-up modem transmits data through a copper telephone line. Most mobile phones can be used as a wireless modem.

• Fingerprint -Fingerprint are one of the type of biometrics used to identify individuals and verify their identity. It has three primary functions

1. Enrollment: Captures fingerprint image from the sensor plays an important role.
2. Searching: It searches the fingerprint registered from the database.
3. Verification: Verifies if it matches the individual fingerprints.

IV. DESIGN OVERVIEW

There are two technologies Near Field Communication and Far Field Communication (FFC). If the two persons are near to each other and if they want to transfer the amount then simply by swiping the card with each other, required amount can be transferred on the spot without going to bank or ATM along with the acknowledgments to both the users regarding the amount transferred and remaining balance, this technology is known as NFC. If the two persons are far from each other and they want to have the transaction then simply by entering the account number the recipient entering and required amount, the transaction can be done within no time, this technology is known as FFC.The project works in two technologies one is near field communication (NFC) and other is for field communication (FFC). This project is a complete solution to the money related issues where the concept of cash is eliminated and complete electronic transfer of the money has introduced with the introduction of the latest technologies like GPRS, Smart Card and advanced processors like ARM LPC2148.

The project mainly deals with an instant money transfer from one person to another irrespective of the distance between them. Every person will be having a smart card with them having their data base like Name, account number, balance and so on in the centralized server. If one person wants to give some amount to another person then simply he need to scan his card with another persons' card so that money can be transferred instantly to his account.

Now the person who has received the money, no need to go to an ATM to withdraw an amount, instead he simply needs to scan his card with the another persons' card to whom he wants to pay the amount. So this process will be continued among all the persons including all the banks and business fields.

5. System Architecture

An embedded system is a special-purpose computer system designed to perform a dedicated function. Since the system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product. Embedded technology uses PC or a controller to do the specified task and the programming is done using assembly language programming or embedded C.

The cards are the portable machines having embedded circuitry to give the user interface and a media to connect with the server with Wireless Sensor Technology. The cards are having the different hardware according to our requirement. The cards are having centralized Microprocessor for controlling the peripherals connected to it such as Digital display system meant of displaying the card status, entered password, amount and so on, a RFID Reader to read the information of another card, a Keypad to enter the password and amount while transferring the amount, a GSM/GPRS modem for connecting the cards to the server and allowing the transaction to occur.At the receiver end there will be web based application installed into

Fig 5.1 System Architecture

system which is having the data base of all the cards present in it. Whenever any person scan the card with another for transferring the amount he need to enter his password in the keypad of the portable machine the user has.After entering the password the user needs to enter the amount to be transferred, as and when he enters the amount the GPRS of the device will be active and sends the request to the server regarding the

ISSN (Online) 2456 -1304

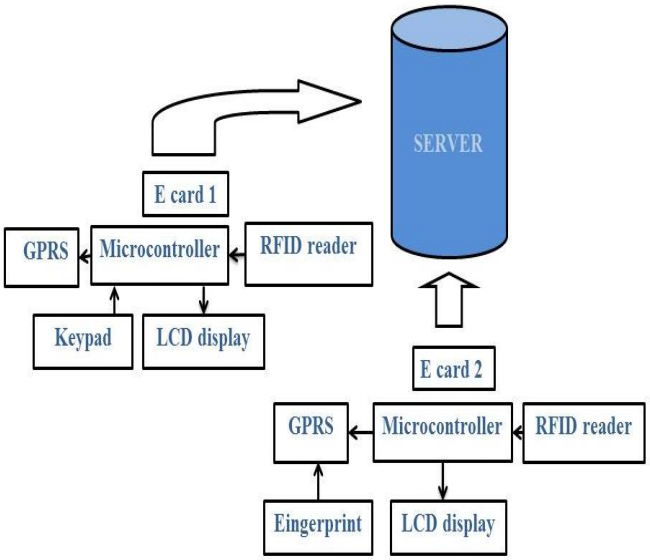
International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 6, June 2017

transaction. In the server amount verification and database verification is done amount will be transferred instantly within no time.

The database will be updated with the fresh data and both the card holders get the acknowledgments to their mobile phones regarding the status of the amount transferred or received at that time. In FFC instead of swiping the card account number of the person who is far and for whom amount to be transferred will be entered and the process of entering the password and amount repeats.

VI. RESULTS AND DISCUSSION

This section describes the screens of the "Demonetization Solution". The snapshots are shown below. Snapshot 1: Card Module 1



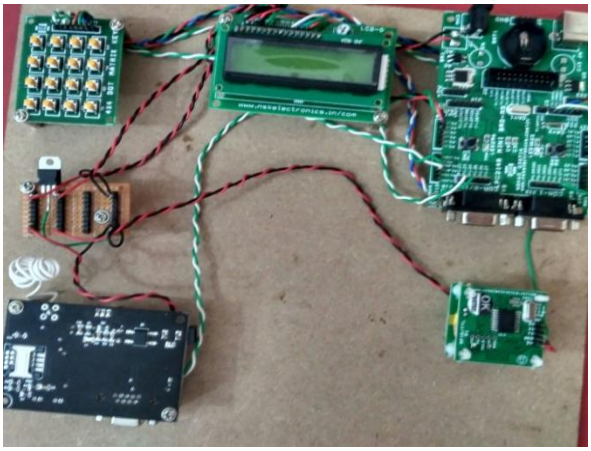


Figure 6.1 Card Module with password technique

Snapshot 2: Card Module 2

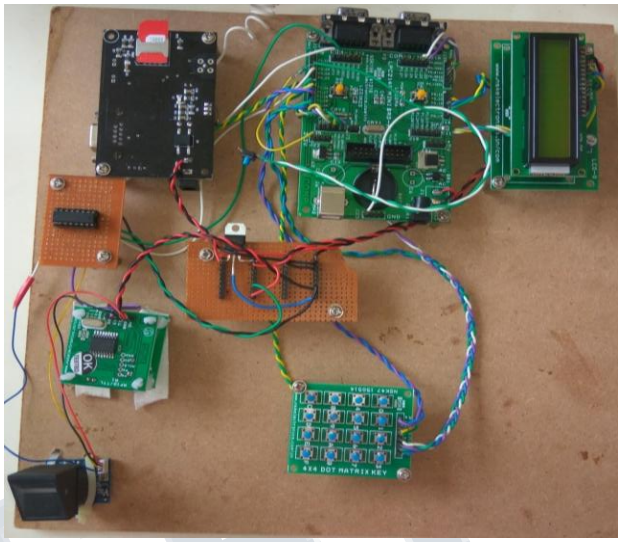


Figure 6.2 Card Module with Fingerprint technique.

VII. CONCLUSION AND FUTURE SCOPE

World's economy is trying its best to move towards a cashless economy through more and more dependence towards digital tools. Money's destiny is to become digital. This general conclusion emerges from an examination of money's long historical record and its likely relationship to future socioeconomic changes.

In social terms there is concern regarding the ways in which payment system costs are distributed and how accessibility issues will be addressed. Today the costs of cash (and near-cash instruments like cheques and credit cards) are largely hidden from consumers. For instance, there is little discussion of the equity dimension of the cross-subsidy, imposed when credit card companies prohibit merchants from offering discounts for cash payment, between people who pay cash (particularly the "unbanked" without other options) and those who pay with credit cards. Similarly, many clearing and settlement systems give rise to expensive service charges and lucrative floats that have serious social consequences in areas such as remittances by foreign workers, providing financial services to the excluded, or encouraging the start-up of micro-enterprises. Equally serious is the possibility that a major social fault line could develop in the future when access to digital money becomes the principal way to benefit from lower transactioncosts and burgeoning cyber markets.

ISSN (Online) 2456 -1304

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 6, June 2017

The fact represents both the most significant challenge and opportunity for change in payment systems in the coming few years. Indeed, the opportunities and drivers for change are best seen to exist in the inefficiencies and other non-monetary cost aspects of current payment systems and schemes. It is expected for the market to drive developments in these areas including innovations to address how fraud can be managed and who will bear its risk, the cost of hand-offs and processing times in complex payment systems, and changing profiles of customer concern for ease of use and security. Some of these may drive the development of new devices or chips that will create alternative payment methods in electronic commerce.

It is important to note that the non-cash technologies when used online are still principally linked to slow-moving book-entry clearing and settlement systems. Credit cards, cash and cheques dominate our money technologies. We do not expect any of them to disappear. In the coming few years some combination of today's electronic payment instruments such as card, NFC and FFC chips will overtake the current methods of transactions