

# Electronic Money for Cashless Transactions

Sreenivasa T & Lavanya C P

Professor, CS & E Dept. Sri Jayachamarajendra College Of Engineering Mysuru, Karnataka  
Sree.cs07@gmail.com

Student CS & E Dept. Sri Jayachamarajendra College Of Engineering Mysuru, Karnataka  
Lavanyacp.lavs@gmail.com

**Abstract**— *The venture for the most part manages a moment cash exchange starting with one individual then onto the next independent of the separation between them. Each individual will be having a shrewd card with them having their information base like Name, Account Number, Balance et cetera in the incorporated server. On the off chance that one individual needs to give some add up to someone else then basically he have to swipe his card with another people's card so cash can be exchanged in a split second to recipient's record. Presently the individual who has gotten the cash, no compelling reason to go to an ATM to pull back a sum, rather he just needs to swipe his card with the another people's card to whom he needs to pay the sum. So this procedure will be proceeded among every one of the people including every one of the banks and business fields. Subsequently there is just flow of Imaginary cash in the general public and there is no inclusion of hard money.*

**Keywords-** *Electronic cash, Organize cash, Card- based electronic cash, Programing- based electronic cash.*

## I. Introduction

An implanted framework is a unique reason PC framework intended to play out a devoted capacity. Since the framework is devoted to particular assignments, plan architects can improve it, decreasing the size and cost of the item. Inserted framework contains both equipment and programming. Implanted framework is quickly developing innovation in different fields like modern mechanization, home machines, vehicles, air transportation and so on. Inserted

innovation utilizes PC or a controller to do the predetermined assignment and the writing computer programs is finished utilizing low level computing construct programming or installed C.

The Consumer Electronics is the basic piece of the Embedded System to help the general population. A normal individual uses around 50 Embedded System consistently. It primarily utilized as a part of robotization for the home individuals. In day today life we are utilizing many shrouded installed items like clothes washer, portable, TV remote and so forth

This venture is an entire answer for the cash related issues where the idea of money is dispensed with and finish electronic exchange of the cash has presented with the presentation of the most recent advances like GPRS, Smart Card and propelled processors like ARM LPC2148.

## II. LITERATURE SURVEY

Albeit electronic cash in the advancement procedure, a wide range of sorts of items with various components have been presented electronic cash. Yet, in the plan of all they have attempted every one of the components of national bank cash (money) must be considered. When all is said in done, electronic cash items can be partitioned into two classifications of specialized terms.

1. The brilliant card-based electronic cash: electronic cash items in light of keen cards, to encourage installments with low esteem retail exchanges "up close and personal" composed so it is normal that e-cash items in view of shrewd

cards, the utilization of national bank cash and in addition less utilization of charge cards and pay for coordinate installments decrease. The in all likelihood utilization of Czech, installment cards and Visa installments will likewise lessen aberrant.

2. PC programming based electronic cash: Manufacture of PC programming based electronic cash through decreased exchange costs by encouraging cash exchanges among various sorts of records, banks and nations and also learning floods, request stores influenced, and it will lessen. The most critical element of electronic cash, the transnational or borderless its effect on other financial factors assumes an essential part in the legislature. In spite of the fact that it is viewed as a wellspring of some negative outcomes electronic cash yet to advance the across the board scattering of worldwide exchange execution, considerable help.

Actually, the utilization of electronic cash, universal assets exchange expense, will be decreased fundamentally. Obviously with the uncommon increment the effectiveness of worldwide installments, may build the insecurity of the worldwide fiscal framework and cause clashes amongst distributors and customers of electronic cash from one viewpoint and then again will lead national banks. Different components of electronic cash, genuine cash or cash that it would be distributed in early stages, it decreases open acknowledgment. Furthermore, electronic cash and different methods for trade against the cash today, requires the physical nearness of the payer and the beneficiary does not pay at all for conviction, in light of electronic cash can be made through PC systems to an (ISP) will exchange.

### III. PROBLEM DEFINITION

In everyday life, Everyone are procuring the cash in either way. Yet, appropriate use of which as per the need is vital. Some of the time we have enough cash with us in our records yet in the event that we need to give a similar cash to some person who is in necessity, at that point we have to experience parcel of customs like going to bank, pull back the sum and

give them or go looking for the ATM. It will end up being an issue if there is no adjacent ATM and furthermore when banks are shut amid occasions. Additionally on the off chance that we buy something then we confront part of issue related with offering careful change. No one can track the cash stream like where it is going, who has got how much sum with them in light of the fact that there is no regular path for the stream of cash. That is the reason defilement and square cash is expanding step by step.

### IV. PROPOSED WORK

Electronic cash, or e-cash, is the cash adjust recorded electronically on a put away esteem card. These cards have microchips installed which can be stacked with a money related esteem. Another type of electronic cash is organize cash, programming that permits the exchange of significant worth on PC systems, especially the web.

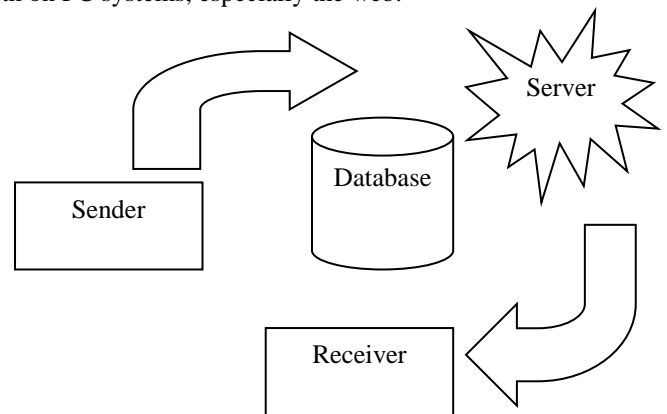


Figure 1: Block diagram

### WORKING

The venture works in two advances. one is near field correspondence (NFC) and other is far field correspondence (FFC). Two clients are given the shrewd cards and the information with respect to name account number and the saved measure of both the clients which is put away in the database. There is a server where the exchange happens and affirmation to both sender and recipient can be given at the season of each exchange.

On the off chance that the two people are close to each other and on the off chance that they need to exchange the sum then basically by swiping the card with each other, required sum can be exchanged on the spot without going to bank or ATM alongside the affirmations to both the clients in regards to the sum exchanged and remaining equalization.

In the event that the two people are a long way from each other and they need to have the exchange then just by entering the record number the beneficiary entering and required sum, the exchange should be possible inside no time.

Fundamentally cards are the convenient machines having installed hardware to give the UI and a media to interface with the server with Wireless sensor innovation. The cards are having the diverse durable goods as indicated by our necessity. The cards are having brought together Microprocessor for controlling the peripherals associated with it, for example, Digital show framework implied of showing the card status, entered secret word, sum et cetera, a RFID Reader to peruse the data of another card, a Keypad to enter the watchword and sum while exchanging the sum, a GSM/GPRS modem for interfacing the cards to the server and enabling the exchange to happen.

At the collector end there will be electronic application introduced into the pc which is having the information base of the considerable number of cards display in it. At whatever point any individual swipe the card with another for exchanging the sum he have to enter his secret key in the keypad of the convenient machine he has. Once subsequent to entering the secret key he have to enter the sum to be exchanged, as and when he enters the sum the GPRS of the gadget will be dynamic and sends the demand to the server with respect to the exchange. In the server sum confirmation and database check is done sum will be exchanged in a split second inside no time. The database will be refreshed with the crisp information and both the card holders get the affirmations to their cell phones in regards to the status of the sum exchanged or gotten around then. In FFC as opposed to swiping the card account number of the individual who is far

and for whom add up to be exchanged will be entered and the way toward entering the secret word and sum rehashes.

## V. RESULTS

### *Test Cases:*

#### 1. Unit testing

Unit testing includes the plan of experiments that approve that the inward program rationale is working legitimately, and that program inputs create substantial yields. All choice branches and interior code stream ought to be approved. It is the trying of individual programming units of the application .it is done after the finishing of an individual unit before reconciliation. This is an auxiliary testing, that depends on learning of its development and is obtrusive. Unit tests perform essential tests at segment level and test a particular business process, application, and additionally framework setup. Unit tests guarantee that every one of a kind way of a business procedure performs precisely to the recorded details and contains plainly characterized inputs and expected outcomes.

#### 2. Integration testing

Coordination tests are intended to test incorporated programming parts to decide whether they really keep running as one program. Testing is occasion driven and is more worried about the essential result of screens or fields. Reconciliation tests exhibit that despite the fact that the parts were separately fulfillment, as appeared by effectively unit testing, the mix of segments is right and steady. Coordination testing is particularly gone for uncovering the issues that emerge from the mix of segments.

#### 3. System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process description and flows, emphasizing pre-driven process links and integration points.

As a result, when the sender enters the beneficiary's record number, add up to be exchanged and the secret word, the server will check the clients record and after that sum will get exchanged. Assume if sender enters wrong record number or wrong secret word or enter the sum more than what they have in their record, at that point the sender will get a mistake notice.

Once the sum gets exchanged, notification message will be sent to both the clients and database will be refreshed.

## VI. CONCLUSION AND FUTURE SCOPE

The venture "ELECTRONIC MONEY" has been effectively planned and tried. It has been produced by coordinating elements of all the equipment segments utilized. Nearness of each module has been contemplated out and put painstakingly hence adding to the best working of the unit.

Furthermore, utilizing exceptionally propelled IC's and with the assistance of developing innovation the venture has been effectively executed.

### FUTURE SCOPE

The proposed framework in this venture have a few constraints and it incorporates

1. Here, the gadget utilized for exchange can't be utilized by the visually impaired individuals and in future it can be intended for daze individuals as well.
2. Here in the proposed framework, exchanges require strong support of web availability. From the viewpoint of Indian foundation, there is as yet poor web availability in provincial territories.
3. India has sadly poor proficiency level in provincial territories. This is the greatest impedance with respect to government to force advanced economy in the nation.

In future, all the above constraints can be totally dispensed with and Money squandering on creation of notes and coins will be totally spared. Defilement will be totally killed

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