

Security of Credit Card Using Security Code Displayed On Customer Mobile to Prevent Any Unauthorized Access

Anu Sharma, Deepika Jasuja, Namit Gupta

^{1,3}Department of Computer Science, ²Department of Management
Teerthanker Mahaveer University, Moradabad (U.P), India

Abstract--- As we know that over the past three decades, consumers have been largely depending on and trust Credit to conveniently meet there Credit needs The main objective of this is to develop a security code, which is used for credit card security system. In this we have to plan that as soon as the credit card is swapped , the text message on the customer mobile is to be received so that any unauthorized person may be prevented to conduct any unauthorized activities such as shopping, purchasing ticket, reservation etc with the credit card of the customer.

Index Terms --Security, credit card, Crime, Security Code, Phone.

I. INTRODUCTION

"Credit cards are synonymous with a 'buy now, pay later' mentality. This intriguing study published in the Journal of Consumer Research suggests that this way of thinking also applies to the contents of the shopping trolley being paid for by plastic - the consequences of certain purchases are just not being thought through. We encourage consumers, especially those living on tight budgets, to use cash only when shopping for groceries and foods and to stick to a set shopping list. This will make it harder to splurge on expensive, bad junk food or not consider the necessity of certain additional items that are not on their list." [1]. Credit cards provide benefits to consumers and merchants not provided by other payment instruments as evidenced by their explosive growth in the number and value of transactions over the last 20 years. A credit card is a payment card issued to users as a system of payment. It allows the cardholder to pay for goods and services based on the holder's promise to pay for them. The issuer of the card creates a revolving account and grants a line of credit to the consumer from which the user can borrow money for payment to a merchant or as a cash advance to the user. The size of most credit cards is $3\frac{3}{8} \times 2\frac{1}{8}$ in (85.6053.98 mm), [3] conforming to the ISO/IEC 7810 ID-1 standard. Credit cards have an embossed bank card number complying with the ISO/IEC 7812 numbering standard. [2] A credit card is a financial instrument that allows the cardholder to obtain funds at interest from a credit institution, at her own discretion, up to some limit. The funds usually can be used only to make Purchases, but sometimes they can be obtained as cash. If repaid within a certain period, usually about a month, the loan is interest-free. If not, the

loan may be carried for an indefinite period, always accruing new interest charges, by paying a minimum amount each month. In essence, a credit card is a preapproved loan with flexible repayment options; it is distinguished from other financial instruments by the freedom it gives borrowers to determine the size of the loan and the pace at which it is repaid. As a flexible and readily available source of funds for consumption, credit cards may be used by individuals as a shield against the hardships of income loss, much as they might use precautionary savings or the welfare system. [3]. the credit card has provided an important piece to the portrait of the ever-changing relationships between humans, technology, and culture. With this single piece of technology, people have gained a new means in which to foster for themselves an illusion of higher status and mastery over the world. The process of legitimizing credit card technology in society is still recent, while in various accounts some form of consumer credit has been a consistent element of our economic history. Credit is itself a form of distancing, an even higher level of abstraction than money. The credit card is socially constructed and used according to the various meanings people adopt, should they even choose to accept it. . As the credit card as a piece of technology has many of these consumerist implicit values associated 4 with its creation in the first place,. People's behavior with credit cards becomes tied to particular cultural goals [4]. A credit card is issued by a credit card provider, like Capital One, and they are designed to pay for things in shops or online. You can also use credit cards for balance transfers and taking out cash from an ATM. You can use your credit card worldwide as they are accepted in millions of places at home and abroad, so they are very handy in any language. There are often fees or charges for using your credit card overseas, so check you credit card agreement before you go. When you get a credit card you will be given a credit limit. This is the total amount you have available to spend using the credit card. You should always leave some available credit on your credit card for any interest to be applied.

Details of all transactions you make will be shown on your statement, along with:

- the minimum amount you must pay
- the date by which your credit card provider must receive at least your minimum payment

If you do not pay off your balance in full each month, you will be charged interest on the amount remaining on your account. Check your credit card agreement to make sure you know how much you will be charged[9]. Credit cards have a maximum amount -- or credit limit -- the user can borrow during a given period. The credit limit is pre-determined by the card issuer based on the cardholder's credit rating and credit history. When an individual uses a credit card to make a purchase, he or she is authorizing the credit card issuer to pay the merchant on their behalf. Merchants are required by law to verify that the individual using the card is its rightful owner by obtaining proper identification via a Personal Identification Number (PIN), and/or a driver's license or state-issued ID card. Merchants generally prefer payment by credit card because they are immediately paid by the card issuer -- despite the fee the merchant must pay to the card processing company for each transaction. Credit card issuers require the cardholder to pay his or her balance in full, usually on a monthly basis. If the user does not pay the balance in full, the issuer adds interest to the balance, and this interest compounds for as long as the balance is outstanding. As with credit limits, the cardholder's credit rating and credit history can influence the interest rate on the card. In some cases, the issuer can raise the interest rate. There is no federal limit on the interest rates credit card issuers can charge, although many states impose different caps. Many card issuers offer "teaser rates" that start out very low and increase over time. Credit card interest rates are higher than personal loans or lines of credit. Many credit cardholders underestimate the time and money it takes to pay off outstanding balances -- especially when interest rates are high and minimum payments are low. It is important that cardholders not only use credit cards in moderation, but also take preventative action against identity thieves in order to protect their privacy and identity. However, the financial crime case rises repeatedly in recent years. Once credit card is lost, the criminal will use all cash in the shortest time, which will bring enormous financial losses to customer. How to carry on the valid identity to the customer becomes the focus in current financial circle. A robbery of a person using credit card is the most serious concern. [5].



Fig 1 [9]

II. ADVANTAGES & DISADVANTAGES OF CREDIT CARD

A. Advantages of Credit Card:

- (i) Convenient. The most important advantage of using a credit card is convenient. People can use credit card buy anything everywhere. For example, supermarket, drug store, clothes store, shopping center, restaurant....all general place are accepted a credit card.
- (ii) Save Time and Money: The credit card is really easy to use. You just slice the card and sign your name, and then the transaction will go through. You can use it to pay all the bills such as gas and electric fee, cell phone, home phone, water service, parking ticket and other expenses. credit card to pay all the bill on the Internet
- (iii) International Transaction: For example, Visa and Master Card are use for any countries. When you travel to another country, you don't have to bring money, just bring your credit card. Furthermore, you don't need to worry about you don't have enough money. [6]
- (iv) Purchase Power and Ease of Purchase - Credit cards can make it easier to buy things. If you don't like to carry large amounts of cash with you or if a company doesn't accept cash purchases (for example most airlines, hotels, and car rental agencies), putting purchases on a credit card can make buying things easier.
- (v) Emergencies - Credit cards can also be useful in times of emergency. While you should avoid spending outside your budget (or money you don't have!), sometimes emergencies (such as your car breaking down or flood or fire) may lead to a large purchase (like the need for a rental car or a motel room for several nights.)

B. Disadvantages of Credit Card:

- (i) Blowing Your Budget -- The biggest disadvantage of credit cards is that they encourage people to spend money that they don't have. Most credit cards do not require you to pay off your balance each month, so even if you only have \$100, you may be able to spend up to \$500 or \$1,000 on your credit card
 - (ii) High Interest Rates and Increased Debt -- Credit card companies charge you an enormous amount of interest on each balance that you don't pay off at the end of each month.
 - (iii) Credit Card Fraud - Like cash, sometimes credit cards can be stolen. They may be physically stolen (if you lose your wallet) or someone may steal your credit card number (from a receipt, over the phone, or from a Web site) and use your card to rack up debts. The good news is that, unlike cash, if you realize your credit card or number has been stolen and you report it to your credit card company immediately, you will not be charged for any purchases that someone else has made. Even if you don't realize your credit card number has been stolen

(sometimes you might not know until you receive your monthly statement) [7].

III. CREDIT CARD PROCESSING- HOW IT WORKS

A credit card is a thin plastic card, usually 3-1/8 inches by 2-1/8 inches in size that contains identification information such as a signature or picture, and authorizes the person named on it to charge purchases or services to his account -- charges for which he will be billed periodically.

- Step 1: The Customer makes a purchase.
- Step 2: They pay using a credit card
- Step 3: The merchant submit a credit card transaction.
- Step 4: The payment gateway sends off the secure transaction to the processor
- Step 5: The processor send transaction to the credit card network.
- Step 6: The processor send the gateway approval/ decline.
- Step 7: The approval decision is sent back to the website & merchant.
- Step 8: The customer bank send the Monet to the cc network which then send to the merchant bank.
- Step 9: The money is deposited to the merchant.

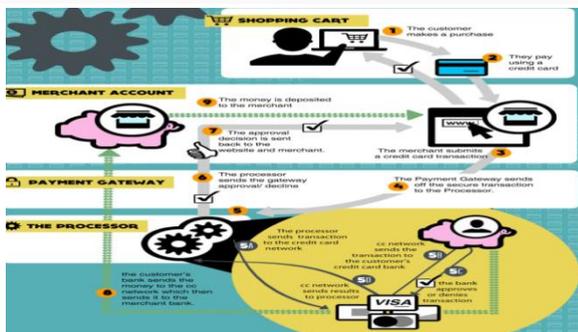


Fig2. [10]

IV. PROTECTING AGAINST CREDIT CARD FRAUD

(i) Don't give your account number to anyone on the phone unless you've made the call to a company you know to be reputable.

(ii) Carry your cards separately from your wallet. It can minimize your losses if someone steals your wallet or purse. And carry only the card you need for that outing.

(iii) During a transaction, keep your eye on your card. Make sure you get it back before you walk away.

(iv) Open your bill promptly- or check them online & reconcile them with the purchases you've made.

(v) Do not write your account number on the outside of an envelope.[8]

V. CONCLUSION

We introduced a security feature which will greatly strengthen our account. In general, it adds an extra layer of security by enquiring a code that will be sent to our phone every time when swap the credit card, thus making it impossible for anyone to misuse our account without our phone. Therefore, whenever a person other than the card owner has access to the card or its number, security is potentially compromised. We feel on using security code, we can prevent the misuse of credit card by any unauthorized person.

REFERENCES

- [1] http://online.wsj.com/article/PR-CO-20130619_05493.html
- [2] http://en.wikipedia.org/wiki/Credit_card.
- [3] Credit Cards and the Poor, Edward J. Bird , Paul A. Hagstrom , Robert Wild, Institute for Research on Poverty, Discussion Paper no. 1148-97.
- [4] <https://digital.library.txstate.edu/bitstream/handle/10877/3403/fulltext.pdf>
- [5] Implementation of ATM Security by Using Fingerprint recognition and GSM, PENNAM KRISHNAMURTHY MR. M. MADDHUSUDHAN REDDDY, International Journal of Electronics Communication and Computer Engineering, Volume 3, Issue (1) NCRTCST, ISSN 2249 – 071X.
- [6] <http://www.studymode.com/essays/Advantages-Of-Using-Credit-Cards-430584.html>.
- [7] <http://www.mtstcil.org/skills/budget-12.html>.
- [8] <http://www.consumer.ftc.gov/articles/0216-protecting-against-credit-card-fraud>.
- [9] <http://pective.com/pic/credit-card>.
- [10] <http://visual.ly/how-online-credit-card-processing-really-works-9-steps>.

Anu Sharma born in India on November 18, 1984. She completed her B.Tech from N.C College, Israna, Panipat (haryana) in 2006. She completed post graduation from MMEC, Mullana, Ambala (haryana) in 2011. She is having experience of more than 6.5 years. Presently working is an Assistant Professor in Teerthanker Mahaveer University, Moradabad (U.P).



Deepika jasuja is born in India on December 27, 1989. She completed her MBA from MIT; Moradabad in 2011. She is having experience of more than 1 year. Presently working is a Lecturer in Teerthanker Mahaveer University, Moradabad (U.P).



Namit Gupta is born in India. He completed his B.Tech from MIT, Moradabad in 2002. He completed post graduation from Teerthanker Mahaveer University in 2012. He is having experience of more than 10 years. Presently working is an Assistant Professor in Teerthanker Mahaveer University, Moradabad (U.P).

