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Online Secure Payment System Using Shared Images

Bhupendra Singh

JSPM, S ROSCOE Pune university
carbure95@gmail.com

Zawed Ansari

JSPM, S ROSCOE Pune university
mohdzawed786@gamil.com

Prof. Monali Deshmuk

JSPM, S ROSCOE Pune university
monalideshmuk@hotmail.com

Akshit Pandita

JSPM, S RSCOE Pune university
akshitpandita@rocketmail.com

Abstract: As a quick growth in online shopping is seen in recent time throughout the world. By increase in online shopping, many types of frauds like phishing, credit or debit card fraud are taking place. For the security of customer this paper has presents a new approach for providing limited information only that is necessary for fund transfer during online shopping there by safeguarding users data and increasing users confidence and preventing identity theft. The method uses combined application of steganography and visual cryptography for this purpose.

Keywords: Visual Cryptography, Online Shopping, Stenography, Phishing, Safeguarding.

I. INTRODUCTION

A high-speed welfare in E-Commerce market has been witnessed in recent times throughout the world. With increasing popularity of online shopping, Debit or Credit card fraud and personal information security are a major burden for customers and banks specifically in the case of CNP (Card Not Present). It allows customers to buy goods or services using web browsers and by filling credit or debit card information. In online shopping, the common threats are phishing and identity theft. Identity theft is a form of thieving someone's identity i.e. personal information in which someone pretends to be someone else. The person misuses personal information for opening bank accounts and arranging credit cards. The proposed system presents a new approach for providing limited information only that is necessary for fund transfer during online shopping thereby protecting customer data and gaining customer confidence and preventing identity theft. The approach uses combined application of Steganography and image cryptography for this purpose. User Account Details such as Account Number, Debit Card Number, and Secret Pin Number are hidden into an Image using Steganography technique and Image is split into two Shares and shares are encrypted. [1]As Online Shopping Portals are insecure for Customer's Account Details, Customer has to provide only Account Number on Shopping Portal and Secret details of Bank account are obtained from adding user image share with Server image share by the admin of the Bank.

This system uses both steganography and visual cryptography. It reduces information sharing between the customer and merchant server and safeguards customers' information. It enables successful fund transfer to merchant's account from customer's account and prevents misuse of information at merchant side.

Once you think your computer is safe to use but there is rise through social media. In social media, we are much more open about ourselves online. Nowadays 61% of people say that they use social networking sites. Illustrating the central role that such sites now play in our lives. [1]As we become more confident using these networks, we can begin to feel 'untouchable'. We forget that criminals will use the personal information for their benefits like your date of birth and where you live is enough for someone to begin building the profile needed to apply for a credit card in your name. So while most people wouldn't give this information to a stranger in real life, they will happily post it online where they did not care about it.

II. TYPES OF FRAUD

SPAM AND IDENTITY FRAUD

Identity fraud terms used to refer to all type of crime in which someone wrongful obtains and uses someone personal data in some way that involve fraud deception, typically for economic gain. In this identity of a person is stealing from social network site and this information is used for the wrongful purpose. In Identity theft, the E-mail address of the user is for terrorist

activity, defamation, and fake E-mails.

CREDIT CARD FRAUD

There are various medium of Credit card fraud are as follows:

Duplication: Card is with the owner and is a duplicate is made by stealing data of the owner.

Skimming: Collection of data from the card’s magnet and copy it to a blank card.

Call center leaked: The card information in sold to Fraudsters.

Bank back office data: By hacking the bank server and getting the personal information.

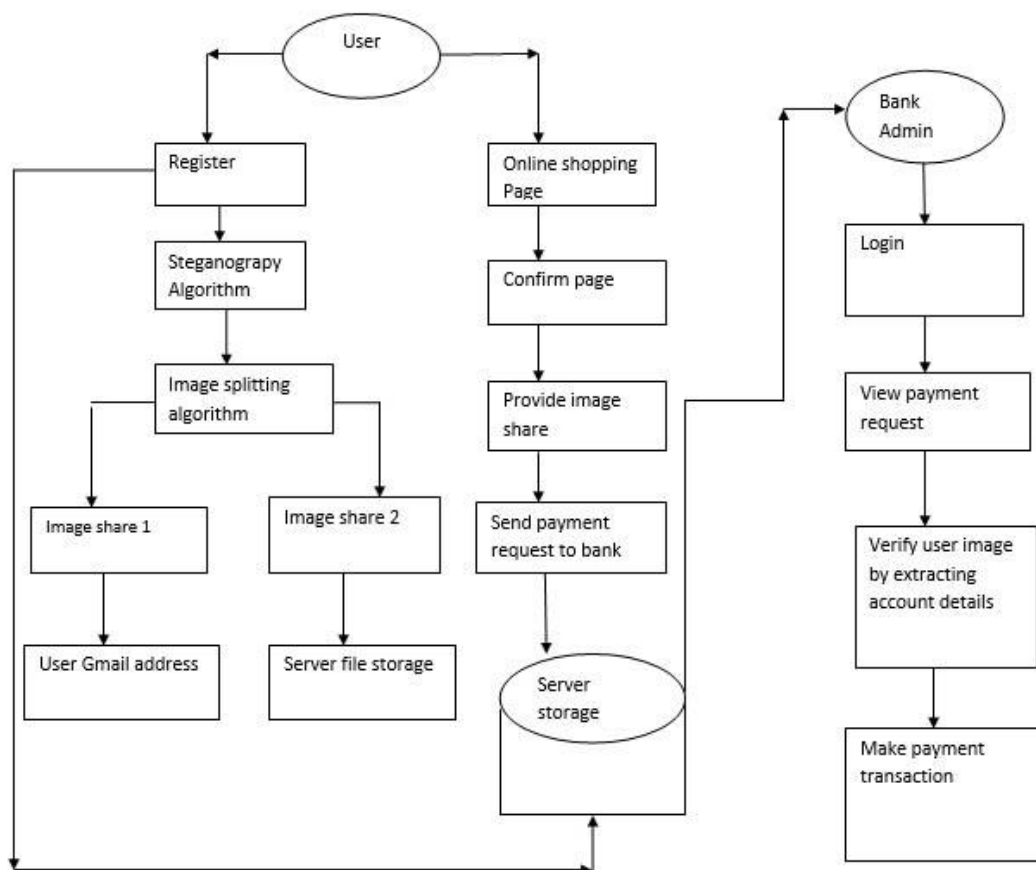
Data theft: Stealing the information by sending spam E-mails.

Man in middle attack: Gaining the access when the customer is contacting with the vendor for payment and accessing the information.

INVESTMENT FRAUD

Various investment schemes typically target stock investors, trying to steal money and investors' identities. Some of these scams will come in the form of an online newsletter. [2] In these newsletters, frauds will offer inside information on stocks, for a fee, and offer false data instead of real information. Online bulletin boards have also become a hotbed of fraudulent activity. Companies often use online bulletin boards to publish information; however, a bogus board will release disinformation. A pump and dump scheme can start with a fraudulent newsletter or bulletin board where secret or private information is offered. The object of this scheme is to alter stock values. After effectively hindering a stock, the schemer will sell his or her own stock in a timely fashion for personal gain.

INDESIGN ARCHITECTURE OF IMAGE CRYPTOGRAPHY



III SOFTWARE IMPLEMENTATION

Our paper suggests and focuses on the secure and reliable online transaction by using images.

In much earlier proposed system, the online transaction requires the key and confidential details of the user’s card or other credentials which are used to be stored at the merchant’s side. This can put our data at the high-risk stake of getting exposed to cyber-crimes.

Our main motivation is to hide the key and critical data of our card or credentials from the merchant which will help us to avoid any cyber-crime like identity theft.

The idea of implementation is to encrypt the minimal required data for the online transaction into the images.

The images will be divided into the shares and the transaction will only be possible when all shares of the images are merged.

The shares of images will be with the bank and the users, both the parties need to generate the shares of images at the time of online transaction gateway.

CONCLUSION

In this paper, a payment system for online shopping is proposed by combining text-based steganography and visual cryptography that provides customer data privacy and prevents misuse of data at merchant's side. The method is concerned only with prevention of identity theft and customer data security. In comparison to other banking application which uses cryptography.

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