INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

ISSN
INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.488

Online Voting System Using Visual Cryptography and Machine Learning Based on Adhaar Number

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ABSTRACT: Visual cryptography is a technique of encrypting the image in such a way that the original image can be obtained if correct share is provided. Visual cryptography enables security to the system. Share is generated by selecting random pixels from original image. The share is generated in such a way that original image cannot be predicted. Visual cryptography enables security and privacy to the system. Visual cryptography in online voting system provides simplicity in voting process. It is easy and efficient to handle. Voting can be done from any place. Election will be conducted online with security. id and password are needed to login into account. User can login into account any time and make changes into account details; Only during voting process user must upload secret security share which is received during registration. Only if correct share is uploaded then vote can be casted. System will allow voter to vote only once Hence visual cryptography in voting system enables security and authenticity which enables secure and easy-to-use interface to users.

KEYWORDS: Visual cryptography, security share, voting system.

I. INTRODUCTION

Internet Voting System (IVS) Using Visual Cryptography (VC) aims at providing a facility to cast vote for critical and confidential internal corporate decisions.It has the flexibility to allow casting of vote from any remote place, even when key stakeholders of election process are not available at workplace.This is enabled by leveraging and implementing the features provided by the VC in IVS.The election is held in full confidentiality by applying appropriate security measures to allow the voter to vote for any participating candidate only if he logs into the system by entering the correct password which is generated by merging the two shares (Black & White dotted Images)using VC scheme. Where, Administrator (Election officer) sends share 1 to voter e-mail id before election and share 2 will be available in the voting system for his login during election.Voter will get the secret password to cast his vote by combining share 1 and share 2 using VC. Visual Cryptography (VC) is a secret sharing scheme in which an image is converted into shares. No information can be revealed by observing any share (Black & White dotted Image). The information about the original image (Voter Password) will be revealed only after stacking sufficient number of shares. There are various schemes present in VC, 2 out of 2, k out of n, n out of n, etc. In the proposed method, IVS with 2-out-of-2 VC has been used for an efficient authentication voting system. Even if the hacker gets one share of the password, it is impossible to get the other share of the password, as it will be sent to the E-Mail Id of the voter. Thus IVS provides two way securities to the voting system, which is very much in need.

1.1. AIM/MOTIVATION

- Visual cryptography system also has the ability to carry out small-scale and large-scale election procedures, or even surveys where strong security may be less of a concern.

- In Poll- site voting, election officials have control over the voting client and the operating environment.

- VC in IVS aims at providing the voters a facility to cast their vote for the elections that are conducted.

- The election will go on with good security measures because the voter can only vote for the candidate only if he logs into his login by entering the correct password that is got by merging the two shares.

1.2. PROBLEM STATEMENT/OBJECTIVE

The Current Voting System is critical to our Election Commission of India for conducting Elections and announcing the results because the money involved in employee remuneration and the complexity of the legal requirements is more. That's why we introduced Visual Cryptography Method.

1.3. SCOPE

IVS with 2-out-of-2 VC for an efficient authenticationvoting system. Even if the hacker gets one share of the password, it is impossible to get the other share of the password, as it will be sent to the E-Mail Id of the voter.

II. RELATED WORK

[1] "Visual cryptography in internet voting for extended security", Archana P.S, Ambily O,

This paper named "Visual cryptography in internet voting for extended security" as the name indicates is a visual cryptography implementation which aims in automating the voting process so that the user can vote from his/her home ,office or anywhere without any geographical restrictions. To ensure secrecy the paper in co-operates the advantages of steganography and visual cryptography together. The secret password is embedded inside an image which is split into two shares. User on entering both the shares correctly can go for voting. Another feature is that the complex tasks going behind the project is hidden from the user so that the system becomes so user friendly.

[2] "Visual Cryptography in Internet Voting System", Prasad Pawar, Teju Pansare,

In this system, there conduct the elections for different posts such as the presidential election, manager election etc. The elections can be conducted effectively and easily in a proper manner by using this system which is based on internet voting with the help of visual cryptography even though in different parts of the country or the world the branches of the companies are situated, because by using this system the voter can vote from the place where he is working. For conducting the elections in Country Vacations, Clubs like Country Club etc., this system will be very useful. It will be useful for parliament elections as well as public elections. There is very effective the proposed online voting system and for organization and voters in many ways it will be useful and it will reduce the cost and time.

[3] "Secure Online Voting System Using Visual Cryptography", Prof S.H. Dinde, Himani Hemant Jain,

This system enables us to conduct voting process. Various elections can be conducted using this system. This includes various government elections. Area wise voting can be done in easy and efficient manner. Voting can be done from any place. The system enables security through visual cryptography technique. Voting can be done only if correct security share associated to that user is uploaded. Visual cryptography technique adds a layer of security to the voting process.

[4] "Adhaar Based Online Polling System Using Visual Cryptography", Mrs. Swati Yogesh Shinde, Prof. Amrit Priyadarshi,

The propose system is very useful and safe for online polling. This system is web based application so that it can be accessed by any authorized person anywhere in the world through internet. This is two layer security which is useful to avoid the unauthorized users. Online Polling System offers many benefits including low cost & increased voter participation.

[5]"Secure Internet Voting System", Arti Bhise, Namrata Borate,

The designed system is used in election processes in clubs, corporate organizations, government elections etc. The system uses two way authentication as the authentication process is performed on the server side as well as the client side thus providing greater security. The electronic voting system has several advantages like allowing remote voting

which removes geographical restrictions to the voter. The encryption technique that is used in our system is visual cryptography which makes use of encrypted shares and decryption is done by human visual system which reduces difficulties in decryption.

[6] "Anti-Phishing I-Voting System using Visual Cryptography",Ramya. R. Nelli, Rashi Mehra,

The proposed method uses Visual cryptography to prevent the rapidly growing phishing attack. If this method is implemented, it will be useful for the voters and organization in efficiently reducing cost and time. The physically disabled and aged people can gain a significant advantage of this I-voting system and can cast their valuable votes in a secured manner for all the critical decisions of corporate companies. The proposed methodology allows a user to vote only once. It verifies whether the website is genuine or a phishing website. If the website is phishing website then it can't display the image for a user. The intruder can't enter into the system even if he knows the username.

III. EXISTING SYSTEM

The current methods require an attacker interact directly with the voting process to disrupt it. There is a greater chance of getting caught as there will be physical evidence in the traditional polling.

Apart from replacing hardware parts and software sharing,Indian EVMs can be manipulated using fraud display in control unit which shows the fraud vote count results at the time of counting.

Unlike the fraud display there is a device which attached directly to the EEPROM memory card inside the control unit. In India counting of votes takes some weeks after voting so insider or criminal can use the clip-on device to change the votes recorded in EVM.

Due to the lack physical security of machine the dishonest insider can use any hardware to steal votes.

The votes that are cast using the electronic voting machines are stored in a safe storage or space in the computer machine memory. The time gap between election and the counting of votes is a risk to possible hacking and manipulation.

IV. PROPOSED SYSTEM

In the proposed method, election is held in full confidentiality by applying appropriate security measures to allow the voter to vote for any participating candidate only if he logs into the system by entering the correct password which is generated by merging the two shares (Black & White dotted Images)using VC scheme. Where, Administrator (Election officer) sends share 1 to voter e-mail id before election and share 2 will be available in the voting system for his login during election. Voter will get the secret password to cast his vote by combining share 1 and share 2 using VC.

Modules

1. Admin
2. Voter
3. Result
4. Polling Officer

Modules Description:

1. Admin

Admin module controls generation of election, voter registration, voter modification according to user/voter request, candidate registration, candidate modification, election generation process and displaying result.

2. Voter

Voter module complete registration process of the new user/voter in the supervision of admin. Also put the vote for candidate. Voter modification module controls the modifications of the already registered user/voter's information as per the request to the admin.

3. Result

Result module displays result of the election.

4. Polling Officer

Polling Officer module controls the registration process of the candidate who is nominated for election.

Officer controls the modification of the candidate who was previously registered as a candidate in election process. Polling process module handles polling process

V. ENVIROMENTAL SPECIFICATION

1. Hardware Requirements

Processor:P-IVProcessor or compatible.

Monitor : Color Monitor.

HDD : Minimum 50 GB.

RAM : Minimum 1GB DDR RAM.

2. Software Requirements

Development Tools/Technologies

Front End(Designing) :CSS,Java Server Pages

Front End(Development) : JSP,Servlet

Back End : Java

Database : MySql

Editor : Eclipse

VI. CONCLUSION

The propose system is very useful and safe for online polling. This system is web based application so that it can be accessed by any authorized person anywhere in the world through internet. This is two layer securities which is useful to avoid the unauthorized users. Online Polling System offers many benefits including low cost & increased voter participation.

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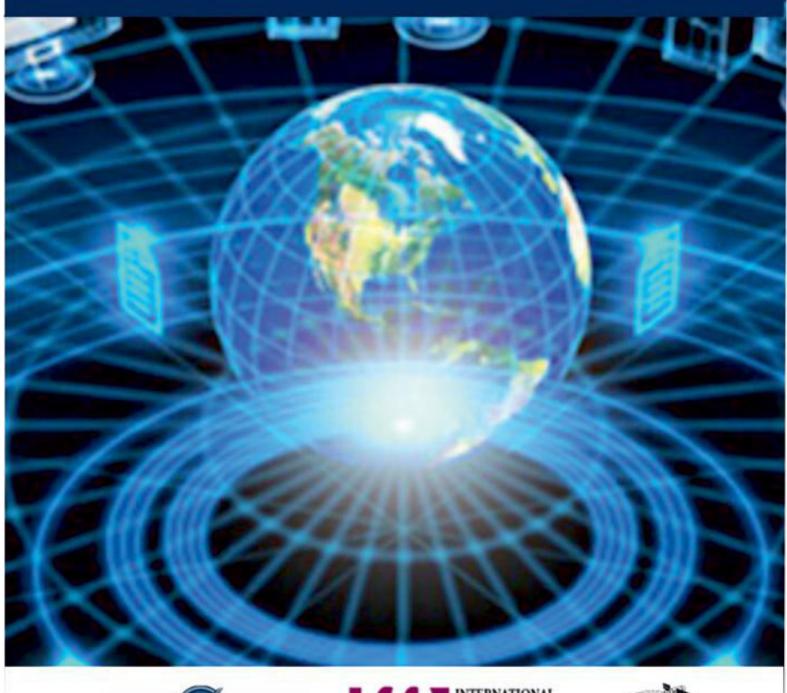
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