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A NOVEL APPROACH FOR ONLINE VOTING SYSTEM USING VISUAL CRYPTOGRAPHY AND FACE DETECTION

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ABSTRACT

In traditional voting system there was voter need to go to the voting booth and cast their votes. People from various places who don't possess voting cards cannot cast their votes. Also identification of the voters was poor and not accurate. There was a bunch of paper work in the traditional voting system which was very time consuming process. Therefore, there is need of the new system which will reduce the efforts needed in the traditional voting process provide the high security as well. In this paper, we compared all the existing systems for E-Voting system, have discussed the methods used in each of the mechanism and the drawback of the same. To overcome the drawbacks in the existing systems, we have proposed one advanced mechanism which will use the joint approach of Face Detection and visual cryptography, to provide more suitable online voting system, through which the voting system will be more efficient, user friendly and will have higher security.

Keywords: - Online voting, visual cryptography, face detection.

I. INTRODUCTION

One of the most important emphasize that is very common to all people of various types is the act of election. Liberal government thus encourages individual freedom according to the law, so that people may express themselves as they choose. This not only gives a chance to choose their leaders, but also to express their ideas on issues. In response to the to the 1948 Universal Declaration of Human Rights which set import on the necessity of free elections, nation aim at new and improved voting procedures which are of importance to election in the 21 century. With the passage of time, election, which was mainly manual, has been turned by Information technology, with debates arising about the importance or not, of computerized/E-voting. Nevertheless, it is not possible to completely rule eligible voters and manual ballot papers involved. The electronic voting is the next government. In with traditional voting, most people are in favor to accept this because they believe the poll workers are trustworthy. Ballot system is

the traditional voting system where voters put their votes using ballot papers in view to express their suspicion for appropriate candidate during voting activities. the result of ballot system of voting are recorded , arranged and displayed in the screen during examination to demonstrate transparency. This exiting method is always associate with several misleading issues in election such as privacy-breach, unauthorized vote casting, distortion of result, election disturbance, ballot snatching, impersonation and invalid votes, Nevertheless, any election system designed to effectively and efficiently execute voting activities must fulfill some specific criteria with which the system will be estimated. The election system must be secure enough to guarantee a guarded election, protect vote integrity and confidentiality to check out a free, fair and credible election.

II.OBJECTIVES

This system has following objectives:

- To increase a voting count in our country because of only few people are going to voting Centre due to their tight schedule or remote work.
- Many people can vote from any location in the word with using this system, There is no need go at any voting Centre.
- The Online voting System is to make secure with some algorithm and techniques which are Visual Cryptography and Face Detection.
- To Avoid a phishing attackers, decrease bogus voting and provides the security to the system.

III. TECHNIQUES

3.1 ONLINE VOTING SYSTEM USING VISUAL CRYPTOGRAPHY

Visual Cryptography is a secret sharing method in which an image is divided into shares. No information can be exposed by observing any share (Black & White dotted Image). The information about the original photocopy (Voter Password) will be acknowledged only after stacking sufficient number of shares. There are various techniques available 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 effective authentication election system. Even if the hacker gets one share of the password, it is not possible to access the other share of the password, as it will be sent to the E-Mail Id of the voter.

Fig.[a] Server Share

Fig.[b] Email Share

3.2 ONLINE VOTING SYSTEM USING FACE DETECTION.

Face detection has become an important research topic for the direct potential applications such as biometrics, human-computer interfaces, and surveillance. However, it has been recognized as an extremely challenging task due to the variations in facial appearances, distances, poses, lighting, expressions, and many other factors. In this we are comparing two images using percentage value based on threshold. A basic way is to look at each pixel in bitmap and for each of them find out what the value of the property in RGB. Each pixel from the first image get compared with each pixel with other image and save it in a array of bytes(since R,G and B values in bitmap can be between 0 and 255).

IV.PROPOSED MODEL

The main motto to develop the online voting system is to increase a voting count in our country because of only few people are going to voting Centre due to their tight schedule or remote work. So the people can vote from any location in the word with using this system. The Online voting System is to make secure with some algorithm and techniques. There is no need go at any voting Centre. Avoid the phishing attackers, decrease bogus voting and provides the security to the system.

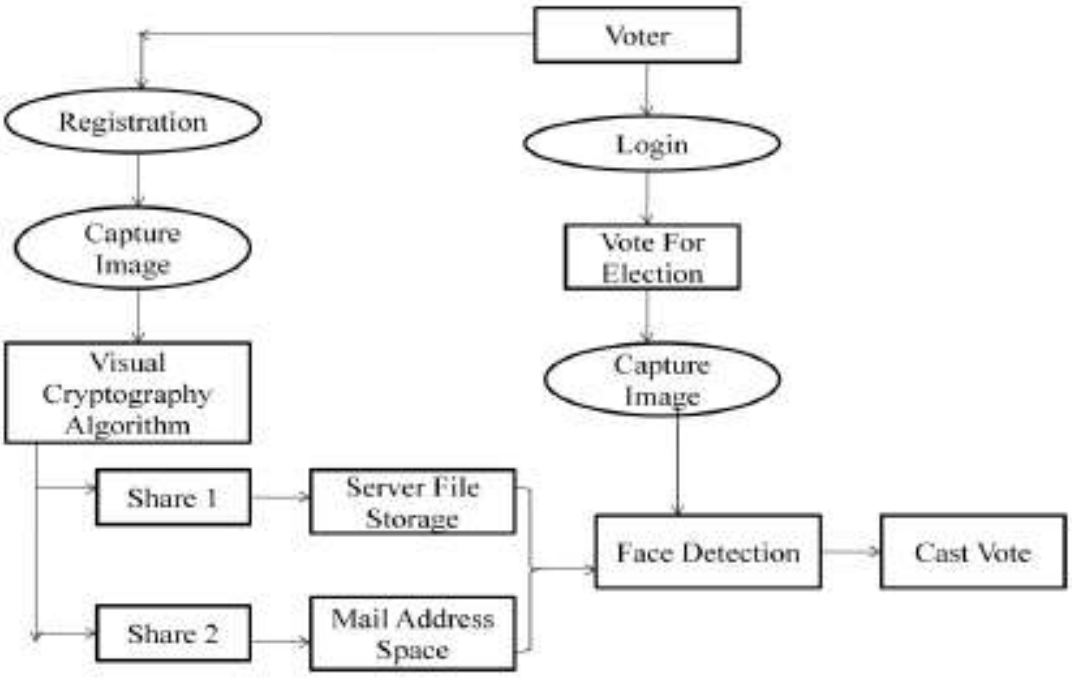

Fig.[c] Proposed Plan of Work

This system consist of two user sessions namely Admin Session and Voter Session. As soon as we run this system the home page will be displayed with the following links one for the admin session and the other for the user session. The admin home page has the following links: User Details, Election Details, Candidate Details,

Election Report, When the admin clicks the voter details link a page is opened with the voter details in a grid like having the headings as voter id, voter name, date of birth, mobile number, address, voter image, email id etc. It compose of a button called "Add Voter" when admin wants to add a new voter he has to press this button.

In proposed system, Web camera is used for taking photograph of voter while registration for online voting. In this approach, we are making use of a new scheme which is known as visual cryptography.

Here we are dividing original image of voter into two shares which are stored at separate location.

At the time of election, voter login to the portal with username, password and voter Id number. When voters want to cast their votes, they should capture the image through web camera at the real time. Then two share of image which is captured at the time of registration are stacked with each other and we get the original image. Once we get the original image it will be verified with the image capture at the real time by using face detection algorithm. After successful verification voter can cast their votes. This system is very useful and safe for online voting. This system is web based application so that it can be recognized by any authorized person anywhere in the world.

Fig.[d] Home Page

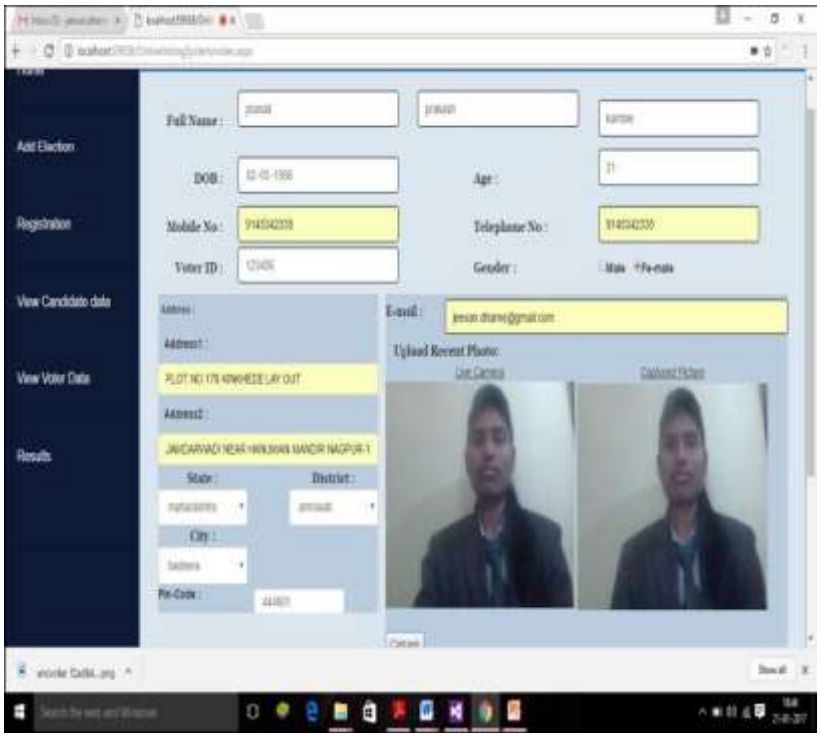

Fig.[e] Voter Registration

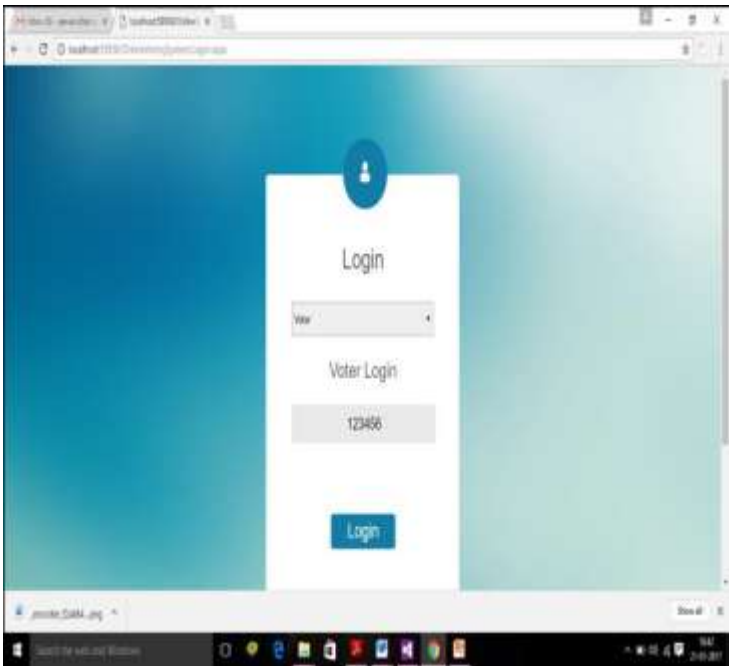

Fig.[f] Voter Login

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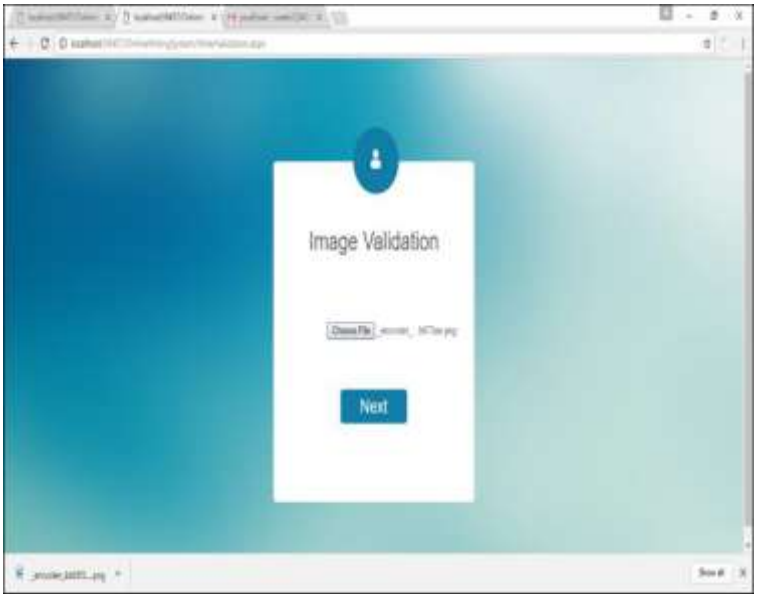

Fig.[g] Image Validation

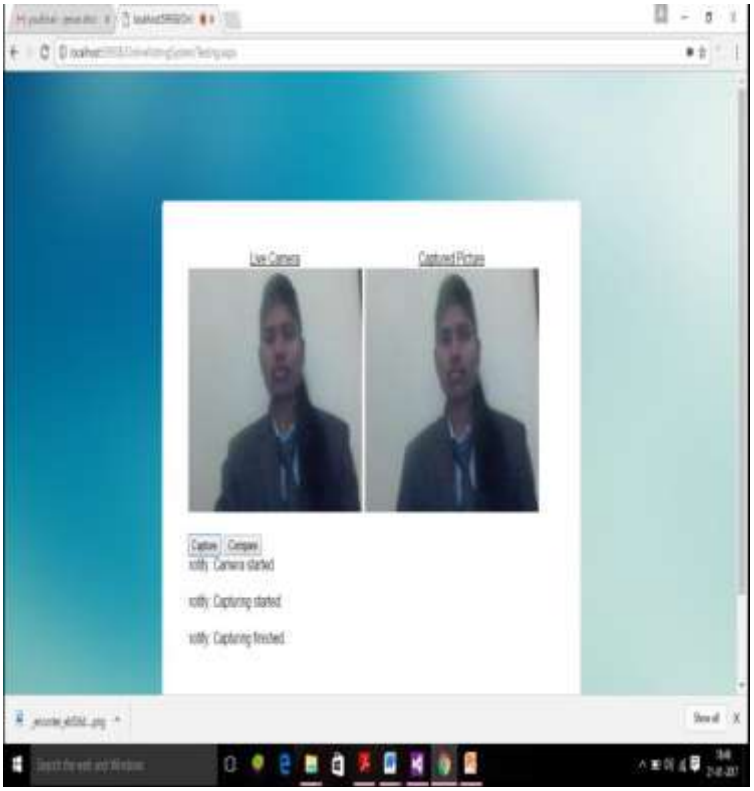

Fig.[h] Image Compare

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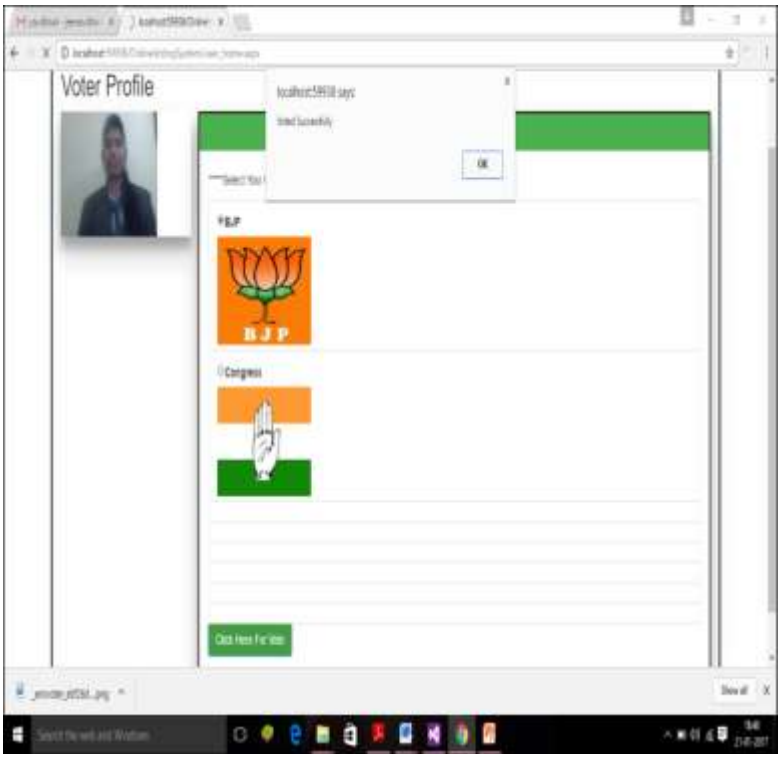

Fig.[i] Cast Vote

V. CONCLUSION

This system offers the voters to vote easily through internet. Vote Counting is also made easy by the online voting system. After registration, the voter is assigned a secrete voter Id with which people can use to log in to the system and enjoy the services provided by the system such as voting. Only the administrator can have the permission to check the result. If individual/wrong details are submitted then the citizen is not register to vote. This system has given vast knowledge on the different computing technologies. We have learned a lot during the implementation of this system. We also studied about the overall procedure of the voting.

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