

## ONLINE VOTING SYSTEM USING WEBCAM

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**Abstract:** We are dealing with a method of implementing Online Voting System with the help of Webcam for an Authentication purpose. The proposed method guarantees that online voting process will provide strongly authentication. We will deal with design, build and test an online voting system that facilitates user (the person who is eligible for voting), candidate (Candidate are the users who are going to stand in elections for their respective party), Election Commission Officer (Election Commission Officer who will verify whether registered user and candidates are authentic or not) to participate in online voting. This online voting system will be highly secured, and its design will be very simple, ease of use and also reliable. The proposed system will be developed and tested to work on Ethernet and allows online voting. It will also create and manages voting and an election detail as all the users must login by user name and password as well as upload own picture using webcam, Election Commission officer verifies the user by comparing user's submitted picture (using webcam only) and the existing image of user from the database[2]. Only Authenticated users are allowed for further process, user can click on his favorable candidates to register vote. This system will surely help to increase the voting percentage in India. By applying high security it will reduce false votes.

### I. INTRODUCTION

Online Voting System is a portal that being developed for use by everyone with a simple and self-explanatory Graphical User Interface. This portal can be used by people to vote in an Election. All the user must do is login with username and password specified by system itself and also submits his/her picture using a Webcam. After the completion of validation process, user can click on his/her favorable candidates to register his/her vote. The development and Testing is done on Ethernet. While online voting system has been an active area of research in recent years, the use of insecure Internet, well documented cases of incorrect implementations reported recently. These challenges are to be resolved so that public should cast their vote in secure and convenient way. Proposed online voting system is a voting system by which any Voter can use his/her voting rights from any place in Country. Online voting system contains:

- a) Voter's information in database.
- b) Voter's Names with ID and password.
- c) Voter's vote in a database.
- d) Calculation of total number of votes.

Various operational works proposed in the system are: Recording information of the Voter in database, checking information filled by voter, Discard the false information, information is sent to election commission.

## II. LITERATURE REVIEW

Voting schemes have evolved from counting hands in early days to systems that include paper, punch card, mechanical lever and optical-scan machines[1]. Electronic voting systems provide some characteristic different from the traditional voting technique, and also it provides improved features of voting system over traditional voting system such as accuracy, convenience, flexibility, privacy, verifiability and mobility. But it suffers from various drawbacks such as Time consuming , Consumes large volume of paper work , No direct role for the higher officials, Damage of machines due to lack of attention, Mass update doesn't allows users to update and edit many item simultaneously. These drawbacks are overcome by Online Voting System. Online Voting System is a voting system by which any Voter can use his/her voting rights from anywhere in the country. We provide a detailed description of the functional and performance characteristics of online voting system. Voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way. That makes voting a fearless of violence and that increases the percentage of voting.

We can list some of these problems as follows.

- Especially, there have been cases of threatening at polling stations and people are faced with problems during voting.
- Sometimes people may not be in village/county registration and because of that reason they don't fulfil their voting duties.
- Lots of time and problems are occurring on vote counting process since this activity is done manually.
- Due to manual voting process there is lots of paper waste during election times.

- Voter usually doesn't know too much detail about the candidates in their election region.

To overcome above problems:

- We have to create a website which provide secure and efficient online voting, online registration facilities for the voters.
- Voters provide Login ID and Password along with his/her image which was captured using webcam, which will be verified by the field officer (identity validation).
- It allows access to the following –
  - a)General Public (Voters).
  - b)Candidates.
  - c)Administrator (Election Commission officers).
  - d)Field Officer.

## III. PROPOSED SYSTEM

We are living in a democratic country and voting is one of the fundamental duties of the public. In our country, manual voting system has been deployed for many years. However, manual voting process has caused some difficulties for voting process and also it has some Online Voting are simple, attractive and ease to use. It reduces manual efforts and bulk of information can be handled easily. But out of all these features there are some drawbacks with this system are, there can be software failure issue, insecure access of internet and also voter should be familiar with internet disadvantages for the public.

With the growth and expansion in technology new ways were sought to handle the electoral process such as Online Voting. Online voting is the process of use of computers or other electronic devices to cast votes in an election[2].

So in order to overcome those problems there is a need for a contemporary online voting system in addition to manual voting. By design of such a system people can use

their votes in any selection field condition to be registered to the system before. Also by using the system voters can learn details about the candidates and they will be interacting with each other before the Election Day. This system will also facilitate the vote counting processes and produce more accurate results and within a short time thanks to the computer technology. Because of these reasons such an electronic voting system contributes to the development of the country’s democracy too much.

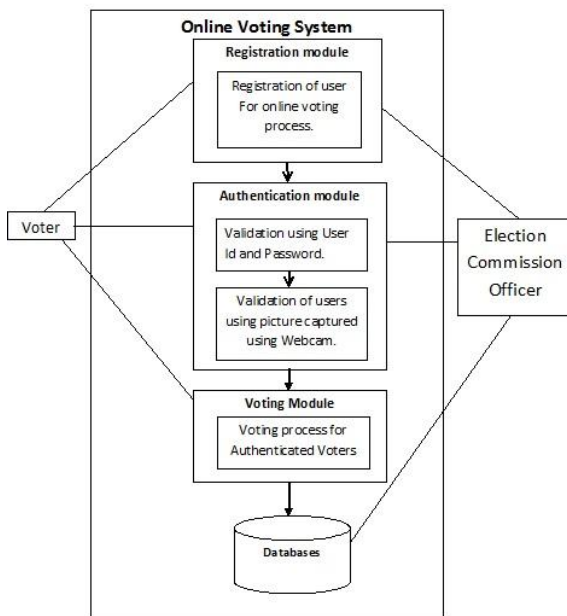


Fig 3.3.2: Architecture of Online Voting System Using Webcam.

#### IV. IMPLEMENTATION DETAILS

##### Algorithms

1. First user will visit the websites and register for online voting process.
- 2 .Admin (Election Commissioner Officer) will verify registered user with the help of existing database and grant the permission to verified user to create username and password.

3. Verified user will create his/her username and password.
4. On day of election, Log In link will be available for users who have successfully created username and password.
5. Users will Log In into system and provide user photo and document photo using the webcam.
6. Election Commissioner Officer verify the voters with help of photos and grant permission to users
7. After user can vote to respective candidate of respective area.

##### Modules

###### Home:

This module contains navigations for the new registration, login, and list of candidates, new candidate application and contact details. This home page contains the login form and the newly applied candidates.

###### Registration Module:

This is the registration module for the public to get approved for the voting of polls in the system. This module receives the people profile, the login details. After the registration of an account, the account will be verified by the administrator and then it will be activated.

###### Login:

The voters can login into the system by providing their user id and password. The account will be logged well if it was activated otherwise it will say that the account was not verified by the administrators.

**Polling Options:**

This module contains the process of new polling option, options list. This will be connected to the poll system for a particular poll.

**Voting:**

This is the main module in the system which is used to make voting by the voters. This module securely authenticated with date and duplication of voting[3]. After voting is made, it will be counted in the polling options gathered votes. The voters can also view the current status of every polling option in this module.

**Administrative control:**

Administrative modules are authenticated using a separate username; password and picture captured using webcam. Here administrator's functionalities such as account verification, polling option verification, new poll creation and the reports of poll results are covered. Thus the voting system will be controlled by these administrative functions.

**V. ADVANTAGE AND DISADVANTAGE****Advantages:**

- Provide high authentication of user.
- Provides fearless of violence and that increases the percentage of voting.
- Allow voter to vote at given time on day of election and also allow voter to vote from anywhere in his/her state or out of state.
- Prevents wastage on paper ballot printing.
- Saves the cost required for Transportation and storage ballot papers and results.

**Disadvantages:**

- User must have Hardware with webcam.
- User must Reliable connectivity.

**VI. CONCLUSION AND FUTURE SCOPE**

The main objective is development of an Online Voting System using Webcam as an authentication technique. Thus security increases as there is extra level of authentication. It will provide fearless and violence free voting that will increase the percentages of voting for strengthens the democracy.

**Future Work:**

1. For more authentications, Video Streaming can be implemented instead of the Photo uploading using the webcam.
2. Mobile Application can be developed for Online Voting System so that it can provide more ease to user.

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