Online Voting System

Vaibhav
Department of Computer Science and Engineering
Dronacharya College of Engineering, Gurgaon, India

Abstract: *My paper deals with the online voting system (OVS) that helps in solving the problems which include rigging the ballot during elections, the denial of a vote to the voter, insecure polling booths, and also inexperienced employees. The main aim of voting is to select the leaders of the people's choice. My online voting system is highly encrypted and secured, and it has a simple and interactive user interface. The proposed online portal is secured and has unique security features such as face recognition and unique id generation that gives the admin the ability to verify the user's information with an already saved image within the database which is retrieved from the UIDAI database of the government and to decide whether the person is eligible to vote or not. The voting portal is accessed more simply as the voter must log in by their aadhaar card number and click on his/her favorable leader to cast the vote. By using face recognition, OVS provides enough security which reduces the dummy votes. The system is also equipped with a chatbot that works as a guide to the voter which helps in the voting process.*

Keywords: Online voting system, Face Recognition based voting system, Aadhaar ID based online election

I. INTRODUCTION

Online voting system is a technique that allows people to securely conduct votes. Voters are authorized by the admin and they can cast their vote online without going to any polling station physically. High quality voting system helps in ballot security, accessibility and the overall requirements. There are many voting techniques which are being used, such as ballot paper, EVM machine but all these procedures require more time and more manpower. So to eliminate these drawbacks we provide an online voting system which provides improved features such as accuracy, flexibility, privacy and verifiability. My voting system is a system by which any voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way which increases the percentage of voting. And for the smooth processing of voting system there is an integrated chatbot which guides the users at any stage of process to make accessibility easy.

II. LITERATURE SURVEY

To make the voting process very easy and efficient online voting system should be used. The online voting system has the capability to capture and count the votes in the election securely and in a safe way.

The author in [1] "online voting system based on aadhaar id" uses aadhaar id as the key of authentication. The system is efficient in terms of time and provides security but the main problem resides in this system is of authentication. The authentication technique used is not that efficient because of the lack of biometric technique.

The paper [2] "Secure Authentication for Online Voting System" presents non-traceability and probity of the votes, smart card has been used to avoid multiple votes casted by users and biometric is being used for authenticating the voters. The author has introduced smart card for biometric identification and voter ID which is not feasible, as anything can happen to those cards. Thus relying completely upon cards is not a good idea. Time taken by this technology is less and many cards can be generated within less time.

III. RESEARCH OBJECTIVE

The main objective of this research paper is to make a step forward in the direction of online voting by providing all the essential security levels. The online voting system eliminates the fraud voting which can occur in traditional voting schemes. My online voting system will make the voting process easy because in my system there is a chatbot that helps the user during the entire voting process. If the user has any kind of issue in the voting process then the chatbot will provide an efficient solution for that issue.

IV. ADVANTAGES OF ONLINE VOTING

1. Increase in the number of votes as voters will find it easier and more convenient.
2. Less effort and less labor, as the primary focus is on creating, managing and running a secure web portal.
3. The system can be used from anywhere by the voters.
4. No one can cast votes on the behalf of others.
5. No bogus vote can be submitted.
6. The system is flexible and secured.
7. Unique Identification of voter through aadhaar number and face recognition.
8. Improves the entire voting process because of friendly interface.

V. METHODOLOGY

Online Voting System can be used by the voter by logging in which requires face recognition and the aadhaar ID of the candidate. All the information about the users is entered into the database by which the admin can verify the user. There are different sheets in the database for users, candidates, results and admin. Each voter has to enter his aadhaar ID and some basic information like name, state and email ID. This is the first page of the portal known as the welcome page. It has options like Home, Polling Dates, Register, Login, Help Me, and Contact us.

5.1 Home

This is the first page of our portal. It has a link to other pages such as the registration page, login page, admin section, about us, chatbot (support) section. This page also gives a brief introduction to the system about how it works. Hence this page gives the user an overview of the whole system.

Figure 1

5.2 Registration

This is the registration page, where the voter can register themselves by entering the required details required by the admin. All the details entered on the portal are saved in the respective database. The Admin has the authority to accept eligible user, otherwise he has the right to reject their registration by providing the reason for rejection.

Figure 2

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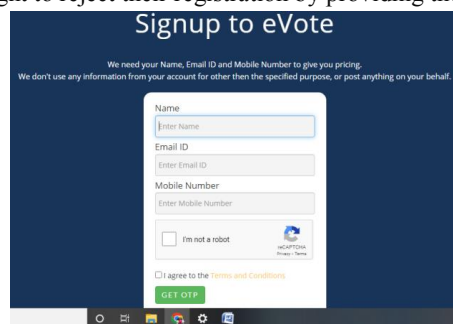
5.3 User Login

After registration into the portal, the user details are saved into the database and sent to the admin. The user can Login to the portal with their unique USERNAME and PASSWORD that were generated while doing registration. There is also an option for FORGOT PASSWORD, in case the user forgets his password.
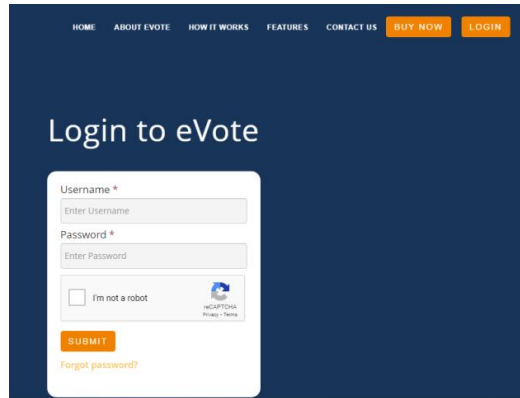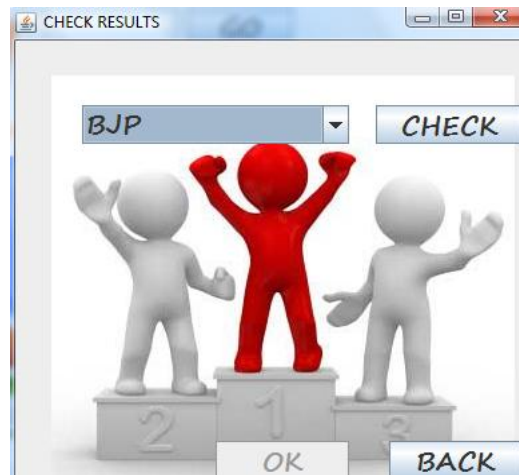

Figure 3

5.4 Admin Panel

From here admin can login to his account and can manage the whole voting process by generating id for users, verifying the users, generating the result, and much more. The admin has the right to generate an id for the user by verifying the information and also to block the user that was providing the false information intentionally.

Figure 4

5.5 Result

This page of the portal provides the result of all the completed elections. Every voter has the right to see the result of elections. All the results were generated or processed by the admin after the successful completion of the election.

Figure 5

5.6 Chatbot

This is the special module of my online voting portal. It is a specially designed and integrated chatbot that works as a helper or provides support to the user. If any user faces an issue while registering or while casting his vote, then he or she can ask the chatbot to resolve the issue and the chatbot will provide the best solution for that issue.
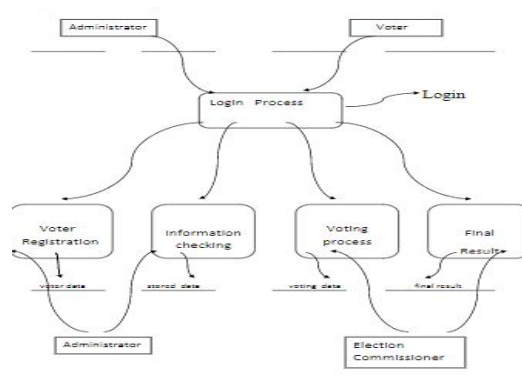

Figure 6

5.7 System Requirements

1. Frontend: HTML, CSS and Bootstrap
2. MYSQL DBMS: It allows the combination and organization of data in the voter's database. It is platform independent and therefore can be implemented and used across Windows, and Linux server and is compatible with various hardware mainframes. It is fast in performance and stable.
3. Net Beans IDE 7.1.2: The Net Beans IDE is an integrated development environment available for Windows, Mac, and Linux. The Net Beans project consists of an open-source IDE and an application platform that enables the developers to rapidly create web, enterprise, and mobile applications using Java, as well as PHP, JavaScript, and C/C++.
4. Testing: XAMP/WAMP SERVER

Impact Factor: 6.252

VI. SYSTEM FLOW

Figure 7

VII. CONCLUSION

My online portal gives the voter a chance to cast his vote without going to the voting booth. There is a chatbot that will resolve any issue faced by the user during the voting process. My system provides more security levels, high flexibility and efficiency. It also reduces manpower and unwanted human errors. My system focuses on reducing the time and paperwork. Hence the online voting system makes the voting process fast and gives security to the votes.

The Online Voting System has many advantages over the traditional voting system. Some of these advantages are less cost, easy accessibility, accuracy, and low risk of human and mechanical errors. Future development focused to design a system that can be easy to use and will provide security and privacy of votes through proper authentication and processing.

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