SECURE ONLINE E-VOTING SYSTEM

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ABSTRACT

Voting is frequently associated with politics in this research work, and it is often completed with an exploited and manual technique, in which participants stand to vote for their own decisions. Manual voting can sometimes lead to mistakes. As a result, an online voting mechanism is required. This is to move away from the manual voting system and toward a computerised voting system. Our paper deals with an online voting system that facilitates voters, candidates, and administrators (who will verify the result of all the users and administration) to participate in online voting. We design our online voting system in a secure manner, which is highly secure. The proposed online portal is secured and has unique security features like OTP (One-time password) generation in the use of voters' contact numbers. It also manages and creates voting and election details as all the users must log in by user name and password and click on candidates to register vote. This will increase the voting percentage in India.

Keywords: HTML, CSS, Java Script, XAMPP, OTP, Voter Id.

I.   INTRODUCTION

An online voting system is a type of online voting. People who have been approved by the administrator can vote online instead of going to a polling site. There are many voting procedures that are used for voting purposes, such as ballot paper and EVM machines, but all of these procedures require more time and manpower, so we provide an online voting system with features such as accuracy, convenience, flexibility, privacy, and verifiability to eliminate all of these drawbacks. However, electronic voting systems have a number of disadvantages, including being time consuming, consuming a large amount of paperwork, having no direct role for higher officials, causing machine damage due to lack of attention, and not allowing users to update and edit multiple items at the same time. These disadvantages can be solved by using an online voting system.

PROBLEM STATEMENT

Online voting systems are easy and secure for that reason anyone can vote from his/her system. It reduces the manual efforts and so it can be handled easily. Our voting system is secure because it is OTP-based, which will help every user during the voting process. Our voting system will give instant and correct poll results and it will help us to keep track of voters.

II.   EXISTING VOTING SYSTEM

As well know that in INDIA the minimum age of a voter is 18. So when they received the voter id then they will eligible for voting. There are two types of existing voting method that we include such as:

1.   EVM VOTING
2.   PAPER-BASED VOTING

2.1 EVM VOTING:

In India, electronic voting is the conventional method for holding elections using Electronic Voting Machines, sometimes known as "EVMs."

The EVM procedure is as follows:

1.   After go to the voting center the 1st polling officer will check the voter id of the voter and identify male or female and make a list.
2.   Then the voter goes to the 2nd polling officer then he/she give the ink of the left index finger.
3.   Then sign against the voter list name and the polling officer can note the last 4 digits of the voter id card.
4.   Give a voter slip to the voter by pooling officer.
5.   After that voter can go to the voting box and give the unique vote in the EVM.

2.2 PAPER-BASED VOTING:

1. In this voting method voter gets a blank ballot and uses a pen to indicate that he wants to vote for which candidate.

III.   SCOPE OF STUDY

The project's scope is that it will use the voter id and password for successful login, and it will use OTP for security (one-time-password). and the voter information will be saved in the database in its entirety. As we all know, there are numerous organisations and governments that can hold elections for various positions. In that instance, using a secure online voting system to perform the vote is extremely beneficial. People can vote from any location on the planet. As a result, this voting mechanism is more dependable, time-saving, and secure.

IV.   LITERATURE REVIEW

Anand, A et al.[1] mentioned an essential step in developing a framework and identifying critical qualities for a secure and trusted online voting system to reduce discovery redundancy in their research article. The benefits of existing and future candidate online voting mechanisms can be evaluated and compared using such a framework. They also agreed that the system should be fully automated and capable of supporting several users. The system should also include concrete security features such as the ability to create users and allocate privileges to them.

Ghadi,M,R et al.[2] described a proposed Online Voting System that allows voters to scan their fingerprint, which is then matched with an image already kept within a database retrieved from the government's adhaar card database. The voting system is set up such that each user must check in with their adhaar card number and vote for his or her preferred candidate by supplying a biometric fingerprint for security reasons. They also explored some of the drawbacks of traditional voting methods. They also stated several advantages of the online voting system, such as lower costs, faster results generation, simple accessibility, accuracy, and so on.

Sarthak et al[3] discussed their safe Online Voting system with a simple and engaging user interface in their research paper. It offers unique security features including unique id generation, which adds another layer of security and allows administrators to validate user information to determine whether or not they are qualified to vote. In addition, the system includes a chatbot that acts as a support or guide for voters to assist them with the voting process.

In their research, Sawant, K et al[4] looked at a variety of traditional voting techniques. They also investigated creating an interactive online voting system that would allow users to vote from anywhere using data stored in a database.

Gandhi,S,S et al[5] discussed a method that is entirely automated, unbiased, and online for easing voting with higher security and decreasing time in their research work. They also discussed how the project includes a biometric device that will be used to identify voters using a Wi-Fi module (esp8266) for authorization purposes to prevent voter duplication and falsification; after receiving authority from the repository, a voting enabling signal will be sent from VVB to that particular voter via ZigBee; and when voters cast their votes, the voting enabling signal will be sent from VVB to that particular voter via ZigBee.

V.   METHODOLOGY

We have explained the operation of our proposed system interface here. System voters can cast their votes by registering on the online voting platform. In the database, there are tables for users, candidates, results, and administrators. All users must register by providing their voter id and contact information. The user will then be taken to a sign in page, where they must enter their registered mobile number and receive an OTP. They will proceed to the homepage to cast their vote after the OTP has been verified completely. Following that, the administrator can access the admin panel and proclaim the election results, which will be saved in the database.
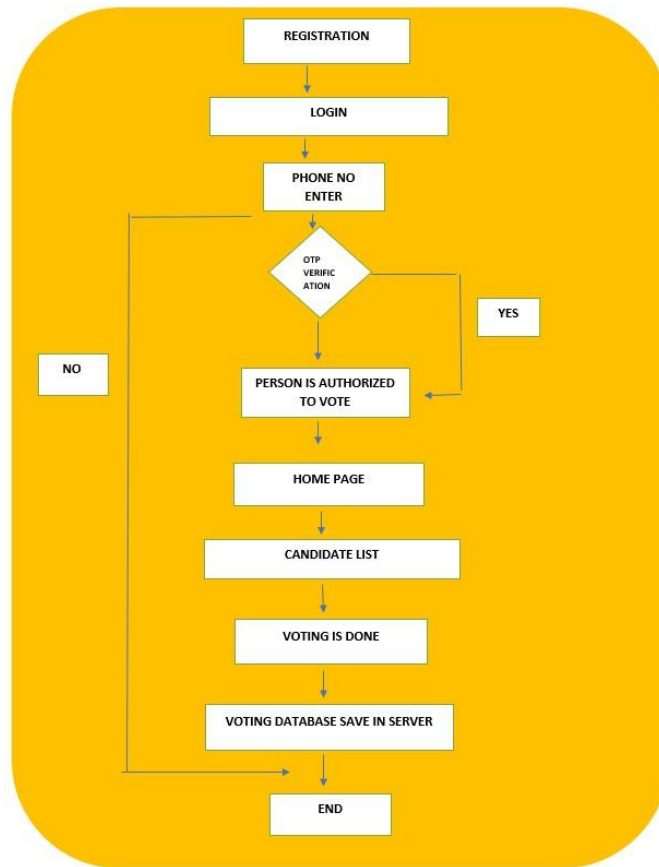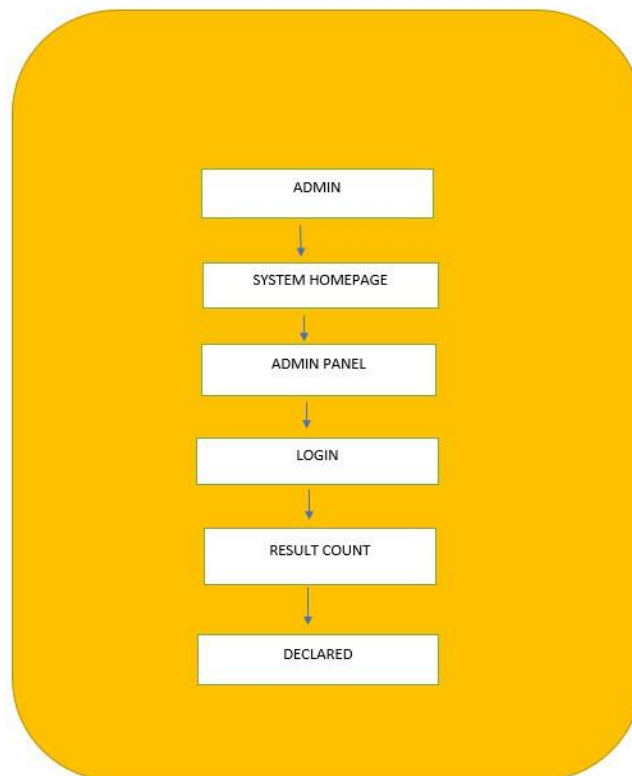
Fig 1: FLOWCHART FOR USER

Fig 2: FLOWCHART FOR ADMIN

VI.   RESULT AND DISCUSSION

Below here we have attached some results and procedure on how to online e-voting system work.

CASE 1: REGISTRATION

a) This is the registration page, where a voter can register themselves. The user has to enter the details which are required by the admin. Like VOTER id, phone no, and enter the password. After registration, they can sign in using a voter id and password.

Fig 3: REGISTRATION FRAMEWORK

Fig 4: SIGN IN PAGE

CASE 2: OTP VERIFICATION

a) After the successful registration and sign in they will go to a new page which is the verification page using OTP, so on this page user has to enter the registered mobile no and request for OTP, when they enter the OTP which is received in the registered mobile no after that when they enter verify button then Verification will complete.

Fig 5: OTP VERIFICATION (1)

Fig 6: OTP VERIFICATION (2)

CASE 3: ELECTION VOTING PROCESS

a) This is a module that gives a list of all ongoing elections. This module is accessible by only those users who will be verified by the admin. By this module, user can cast their vote by choosing their favorite candidate.
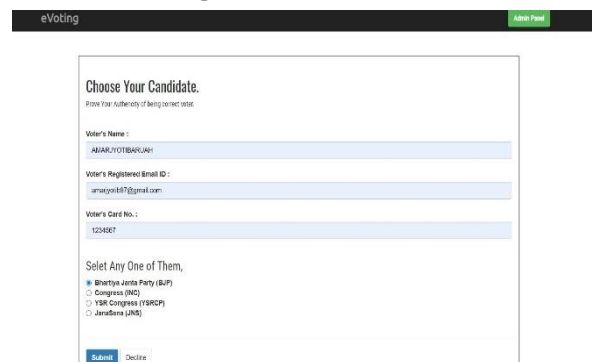
Fig 7: HOMEPAGE TAB

Fig 8: ELECTION PROCESS

CASE 4: ADMINISTRATION & RESULT

a) After the voter cast their vote for a particular candidate the administration can survey the vote that has been cast to that particular candidate.

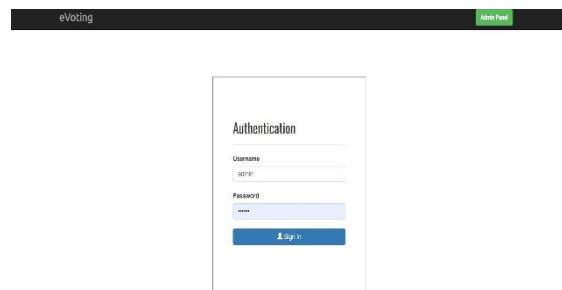b) The administrator can sign in to their portal and check the voting result.
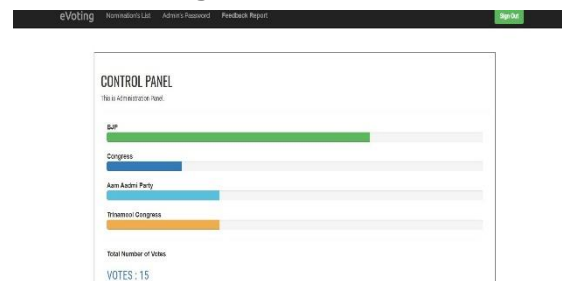

Fig 9: ADMIN PANEL

Fig 10: RESULT section

VII.   TECHNOLOGY USED

We have created this online e-voting portal by using the following technologies:

Front end	Back end	Server	Database
HTML	PHP	XAMPP	My SQL

CSS	Java Script		PHP my admin

VIII.   CONCLUSION

Our voting technology allows citizens to vote virtually via the internet without having to go to a polling station. The voter has complete security and flexibility in registering himself or herself. Secure online e-voting system enables security to avoid blackmailing and bullying by implementing real time access that is one time password (OTP). As online e voting system has many advantages over the traditional voting system like cost efficient, easy to manage, time saving, security and accuracy.

IX.   REFERENCES

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