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Online Voting System Using Aadhar Card and Biometric

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ABSTRACT: The problem of voting is still critical in terms of safety and security. This paper deals with the design and development of a web-based voting system using fingerprint and aadhar card in order to provide a high performance with high security to the voting system .Also we use web technology to make the voting system more practical. The proposed Online Voting System allows the voters to scan their fingerprint, which is then matched with an already saved image within a database that is retrieved from aadhar card database of the government. The voting system is managed in a simpler way as all the users must login by aadhar card number and One Time password and click on his/her favourable candidates to cast the vote. This will increase the voting percentage in India and reduces the cost of voting process. By using biometric fingerprint it provides enough security which reduces the false votes.

KEYWORDS- Biometric fingerprint, AngularJs, MYSQL, CSS,HTML, Flex Code SDK, aadhar card, android studio.

I. INTRODUCTION

Voting schemes have evolved from counting hands in early days to systems that include paper, punch card, mechanical lever and optical-scan machines. An electronic voting system which is used nowadays 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 Electronic voting systems 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 etc.

These drawbacks can overcome by Biometric OnlineVoting System. This 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 biometric 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.

II. LITRATURE SURVEY

To make the voting process very easy and efficient wireless and web technologies are used. The online- votingsystem has the possibility of secure, easy and safe way to capture and count the votes in the election. The proposed system provides the specification and requirements for Online-Voting using an Android platform. The Online-voting means the voting process in election by using mobile phone. The android platform is used to develop an Online-voting application. Through a general diagram the introduction of the system is presented. The proposed Online-voting system will be presented with the obtained results.

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2.1 Existing System

The Existing System of Election is running manually. The Voter has to Visit to Booths to Vote a Candidate so there is wastage of Time. The Voter has to manually register into the Voter List. Also Vote counting has to be done manually. All the Information of the Voter or Candidate is to be filling in manually. Voter must be present in his/her Constituency to give his/her Vote. There are Electronic Voting Machines used which Takes More Cost.

The voting system previously being used by the Government is a paper based system, in which the voter simply picks up ballots sheets from electoral officials, tick off who they would like to vote for, and then cast their votes by merely handing over the ballot sheet back to electoral official.

Some of the existing systems are:

Paper-based voting: The voter gets a blank ballot and use a pen or a marker to indicate he want to vote for which candidate. Hand-counted ballots is a time and labour consuming process, but it is easy to manufacture paper ballots and the ballots can be retained for verifying, this type is still the most common way to vote.

Lever voting machine: Lever machine is peculiar equipment, and each lever is assigned for a corresponding candidate. The voter pulls the lever to poll for his favourite candidate. This kind of voting machine can count up the ballots automatically. Because its interface is not user-friendly enough, giving some training to voters is necessary.

Direct recording electronic voting machine: This type, which is abbreviated to DRE, integrates with keyboard; touch screen, or buttons for the voter press to poll. Some of them lay in voting records and counting the votes is very quickly. But the other DRE without keep voting records are doubted about its accuracy.

Punch card: The voter uses metallic hole-punch to punch a hole on the blank ballot. It can count votes automatically, but if the voter's perforation is incomplete, the result is probably determined wrongfully.

III. PROPOSED SYSTEM

The proposed system is the Biometric online votingsystem with biometric fingerprint using aadhar card. It determines the particular voter by his/her fingerprint whether he/she is a valid voter or not. It allows particular voter to cast the vote online and update the database in the server. Biometric online voting system uses aadhar card to retrieve the complete details about the voter.

3.1 Functional Modules

3.1.1 Administration module

It refers to the system administrator who controls the entire voting system. Administrator is responsible for storing the information of the new voter; modify any voter's information, deleting any voter's information and also some operations related to candidate information. Administrator can see the results of the election process also.

3.1.2 Server module:

Server is a computer network that stores application programs and data files accessed by the clients in the network. Database is maintained in server computer and all the main codes related our project is stored in this server computer.

3.1.3 Client module:

A computer program is used to contact and obtain data from a program on the server computer linked in the network. In our project the voter can cast the vote in the client computer and vote count of the particular candidate is updated in the server computer.

3.2 System Design

3.2.1 Architecture

The architecture of the system, shown in Fig. 1, is based upon the functionality provided to different users by the system. It contains two database government aadhar card database and our database. We will retrieve each voter's details from government aadhar card database and store it in our database. Admin controls all the events like enrolment, update, and deletion of candidate and at last announces the result.

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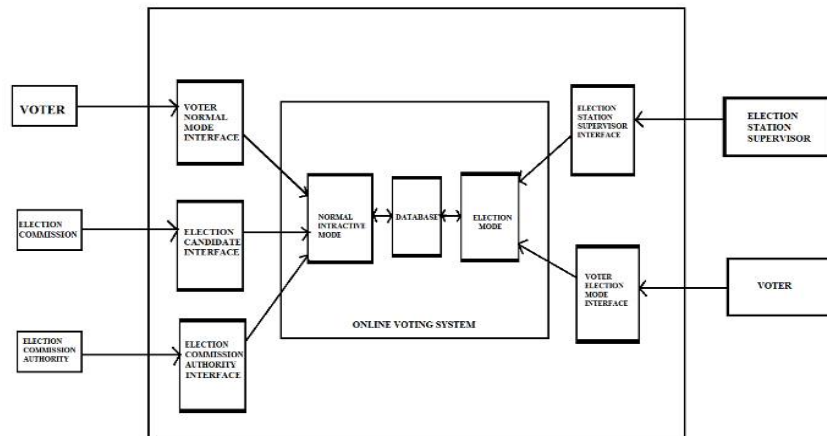


Fig1. Architecture of the system

3.2.2 Website Forms

In order to retrieve data from the system's user's for processing by the web server, forms would have to be used. It is a medium for capturing information from the user, which can then be processed by the server or stored in a database. The forms to be used for the online voting system would be as follows.

Voter Login: this form will be used for voter access into the system

Admin Login: this form will be used for administrator access into the system

Add candidates: this form will be used for adding the details of the elections candidates.

Add User: This form will be used for adding the details of the elections voters into the database.

Add Election: This form will be used to add new election.

3.2.3 SMS module

In our project the work of sms module is to cast the vote using formatted message. In this the user has to send the message to sms gateway then message will be sent to the server. In sms gateway it will extract the reserved keywords and it will send the required field requested by the server. The server will process the received message from user and it will send two message to user. The first message will be of candidate_id and the name of the candidate and the second message will be of formatted message to cast the vote using the candidate_id.

3.2.4 Android Application

This proposed system increases the performance of online voting system using android application. The system was proposed to eliminate the trouble of people to go and vote at the voting booth. Whenever schedule date notification is get on user's android device, user can cast their vote from anywhere and at anytime. For casting the vote particular user should be authorized so the proposed system will done authentication of voter. With the help of UID proposed system checks the UID and generates OTP and sends it to users registered mobile number.

The proposed system will display the voting results on web application. In proposed system advancement in android device is very easy and secure voting. In this module, we will cast our vote using android application and results will be calculated on web application and also android application.

IV. EXPERIMENTAL RESULTS

Fig2 It is home page of the system where we can find all the features of this system and also the login option in which voter has to enter the UID.

Fig 3 This page is for verify the person who is entered the UID. This is done using fingerprint of that person. This links with adhar data base and match the fingerprint. If matched then it will allow to vote otherwise it will show an error.

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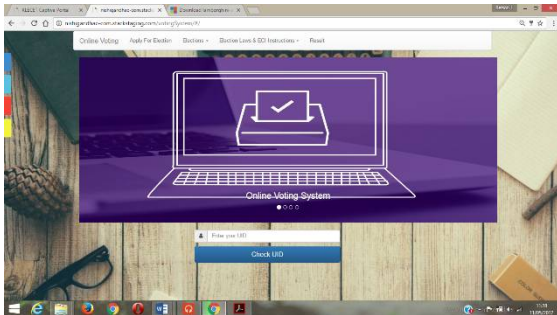


Fig2 : Home page

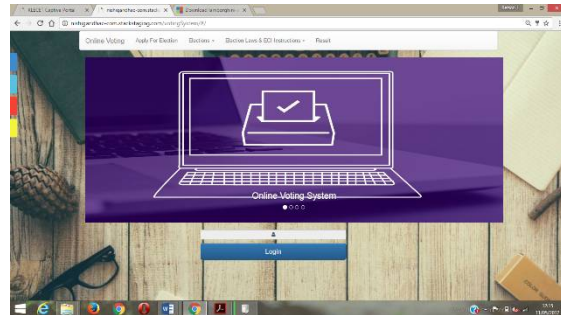


Fig3 :FingerPrint Scanning

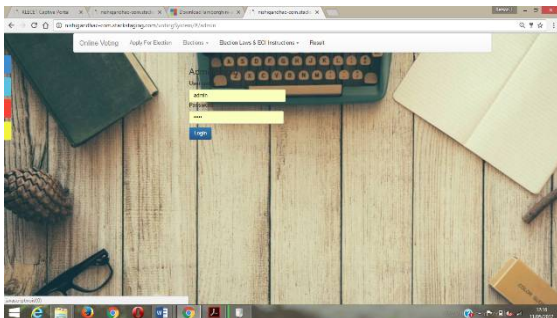


Fig 4: Admin Login

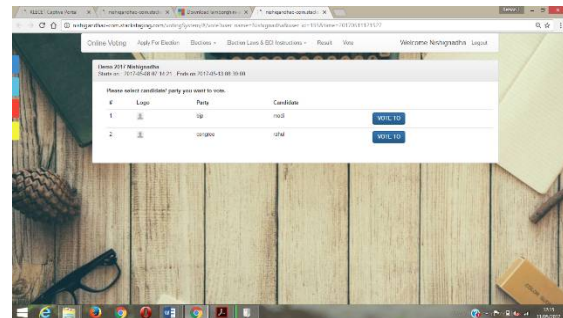


Fig 5:candidate list

Fig4 This is admin login page where the admin have to enter the username and password.

Fig5 This page shows list of candidate who all are standing for election.

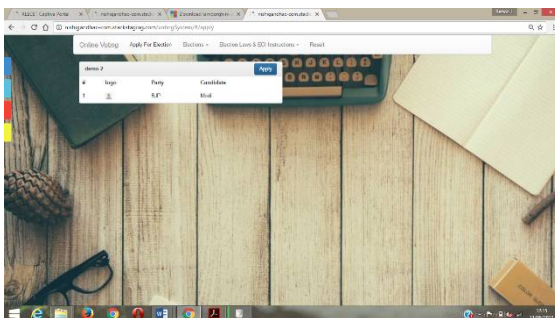


Fig6: Apply for Election

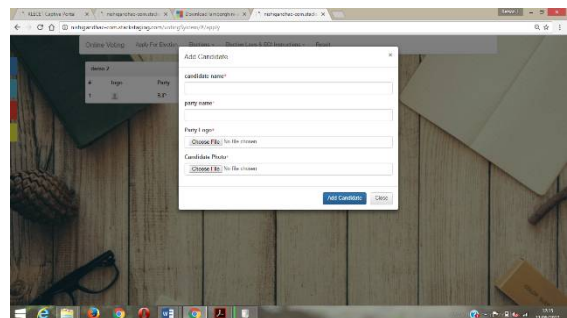


Fig 7:Add Candidate

Fig6 This page is for the candidate who want to stand for election the can fill the form as shown in fig 7 and submit to admin.

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Fig 8:Result page

Fig8 shows the result of elections which includes past election and current election

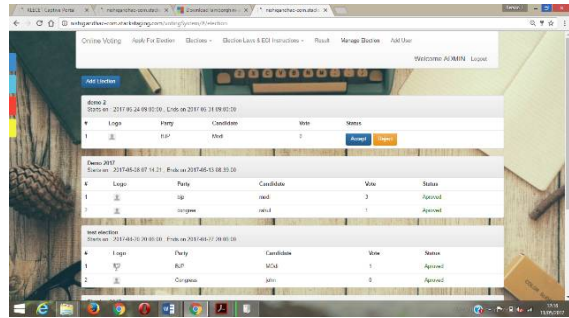


Fig9:Accept or reject the request of applied candidate

Fig9 shows the candidate is requested to admin to accept the request for election. Then admin can accept or reject the request.

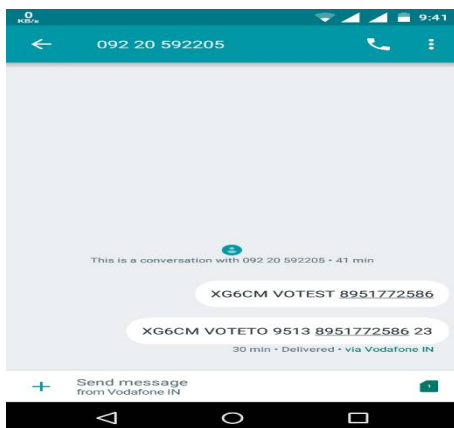


Fig10: formatted msg

Fig10 this is second module of this project that is sms module where we can send the foemated message to server and can get back the candidate list with their id as shown in fig11.

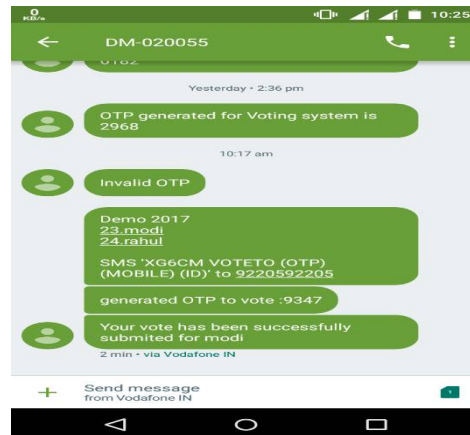


Fig11:Candidate list via SMS

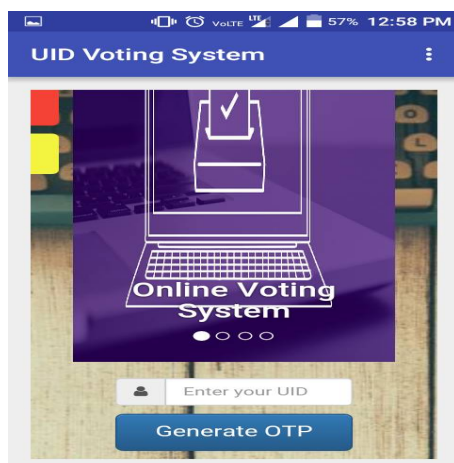


Fig12: OTP generation

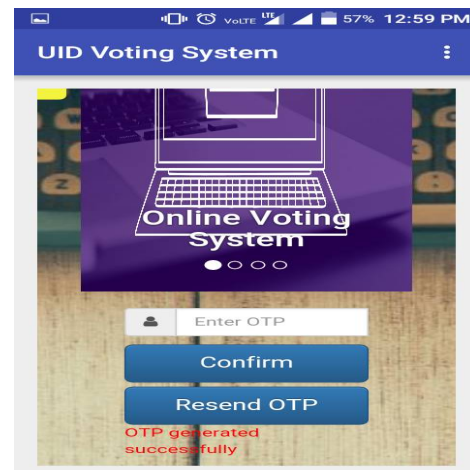


Fig 13:s confirmatin

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Fig 12 and fig 13 are the part of our android application module where fig12 shows the home page of android app here we have to enter our UID to generate OTP. Fig13 shows the message that OTP generated successfully. Here we have to enter the OTP which we get as message on our registered mobile number.

VI. CONCLUSION

This voting system helps everybody to cast their votes without any problem. Online voting will increase the percentage of voting. Manual counting is not required. So by this we will get the very prominent, clear and fast result. It's a great challenge for us to use php language for the development of our project. By using this newly developed system we can overcome many problems of existing system. This system is more efficient than the existing one. The completion of this project we are providing the Online Voting system using android application. It basically on android device. The security is in terms of providing the one time password (OTP).

FUTURE WORK

A lot of work could be done to enhance the security features of the present system. The system at the moment permits voters to login to the site with his/her name and the Aadhaar card number. Voter can cast his/her vote after being login into the site. It would be more secure if we develop a biometric security which would create a unique authentication for each voter at the time of login.

The system could also be enhanced by displaying the voting result through the use of bar chart, pie chart, and also with good a UI which would help the administrator and elections analysts in reviewing the voting results. Due to time constraints these ideas were not brought to light in the project.

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