

Online Voting System For India Based on Aadhar Card

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Abstract- The project is mainly aimed at providing a most secure and user-friendly online election system as a voting technique. The main concept of this project is to build a website, which should be able to allow people to cast their vote through online. The current voting mechanism has many security problems. Online voting System allows the voters to authenticate using an aadhar number which is then matched with an already saved within a database. The Voting system is logged in using an aadhar card number and phone number. One Time Password is sent to the authenticated user to cast their votes to their favorite candidates. This will increase the voting percentage in India and reduces the cost of the voting process. By using aadhar card identification it provides enough security which reduces the false votes. The additional feature of the model is that the voter can confirm if his/her vote has gone to the correct candidate/party. In the proposed system the tallying of the votes are going to be done automatically, thus saving an enormous time and enabling the Election Commissioner of India to announce the result within a very short period.

Keywords- Aadhar, Online voting system, authenticate, One Time Password

I. INTRODUCTION

Voting is an important aspect for democratic countries. Elections decide which candidate is capable and also decides the long term of that country therefore elections should be as transparent as possible and will have a high level of security. Online Voting System is a web-based voting system that will help you manage your elections easily and securely. This voting system can be used for casting votes during elections. In this system, the voter does not have to go to the polling booth to cast their vote. They can use a computer or personal laptops to cast their vote. The proposed system, voting system is managed more simply as all the users must log in by aadhar card number and One Time password. It determines the particular voter by his/her aadhar no whether he/she is a valid voter or not, which is then matched with an already saved within a database. If he/she is a valid voter can click on his/her favorable candidates to cast the vote.

II. PROBLEMSTATEMENT

To develop an online voting system for Indian election-based aadhar card. The main concept of this project is to build a webpage, which should be able to allow people to cast their vote online using aadhar card authentication. By using this unique identification number it provides enough security which reduces the false votes and that the voter can confirm if his/her vote has gone to the correct candidate/party. And the tallying of the votes will be done automatically, thus saving a huge time and enabling the Election Commissioner of India to announce the result within a very short period.

III. OBJECTIVE

The voter can vote from anywhere in the country. Reduce the lot paper works. Provide more security voter can cast their votes from anyplace in the country. The fast and easy way of conducting an election. Aadhar card number is used to identifying the voter. Aadhar card number and one-time password provide high security to the voting system.

IV. EXISTINGSYSTEM

In the Existing system, voters have to visit Booths and maintain the line to vote for a candidate so there is wastage of time. The previous voting system conducted by the government is ballot based system. Voters simply tick the favorite candidate on the ballot sheet and handover the sheet to the electoral official. Illegal voting is faced in the existing system. This leads to a loss of votes for other candidates participating in the election.

V. LITERATURE SURVEY

NishigandhaC, NikhilP, SumanP, VinayakG, Prof. Visha IDproposedanonlinevoting system with authentication using aadhar card. It determines the particular voter by his/her aadhar no whether he/she is a valid voter or not. It allows particular vote to cast the vote online and update the database in the server. Biometric online voting system uses aadhar card to retrieve

the details about the voter. The data is collected by the Unique Identification Authority of India.

Dinesh Kumar P, Akshay Hareendran, Askar AliS, Bharanidharan K proposed an online voting system that 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 phone number. One Time Password is sent to the authenticated user to cast their votes to their favorite candidates. This will increase the voting percentage in India and reduces the cost of voting process.

By using biometric finger print it provides enough security which reduces the false votes. Tabish Ansari, Brijesh Chaurasia, Niraj Kumar, Nilesh Yadav, Sonalii Suryawanshi illustrates a system which can be linked with Aadhar card. In the whole country Aadhar card Number is Unique for every person and it contains biometric information of each citizens. So it will be helpful in eliminating fake Voting. The proposed model has a greater security in the sense that voter high security password is confirmed before the vote is accepted in the main database of Election Commission of India. After voting user want to cross check their vote then they can confirm with reference of unique id, which was generated by ECI. In this model a person can also vote from outside of his/her allotted Constituency or from his/her preferred location. Our system also facilitate the live streaming of vote counts thus saving a huge time by providing on time result

VI. PROPOSED SYSTEM

The proposed system, voting system is managed more simply as all the users must log in by Aadhar card number and One Time password. It determines the particular voter by his/her aadhar no whether he/she is a valid voter or not, which is then matched with an already saved within a database. The additional feature of the model is that the voter can confirm if his/her vote has gone to the correct candidate/party. The tallying of the votes will be done automatically, thus saving a huge time and enabling the announcement of the result within a very short period.

VII. METHODOLOGY

The project is designed with a modular approach and the number of modules is decided as per the requirements of the application. There are two modules. They are:

1. Administrator Module
2. User Module

1. Administrator Module:

The administrator has the total authority of the application and maintains all the aspects. The Admin is responsible for Adding Parties and Candidates who are appearing in the election. The Result of the voting will also be updated in the admin module, once the voter has cast their vote.

1. Party-Add Party is used to add the Party with the details including Party Name, Head quarters, Address, Current leader etc.,
2. Candidate- Add Candidate is used to add the Candidate with the details including Candidate name, Party name, district, Contesting location etc.,
3. Result- The Result Module includes the count of the vote taken by each Candidate who has contested in the Election.

2. User Module:

The user has the provision to view the list of all candidates and results as well as vote for the desired candidates.

1. Vote-The Vote module list the Candidates who has contested in the Election and the user has the right to vote for the desired candidate.
2. Result- The Result module shows the final count of the votes taken by the Candidates once the admin publishes the result.
3. Help-The Help Module provides instructions to the user about the Online Voting System process carried out.

VIII. SYSTEM ARCHITECTURE

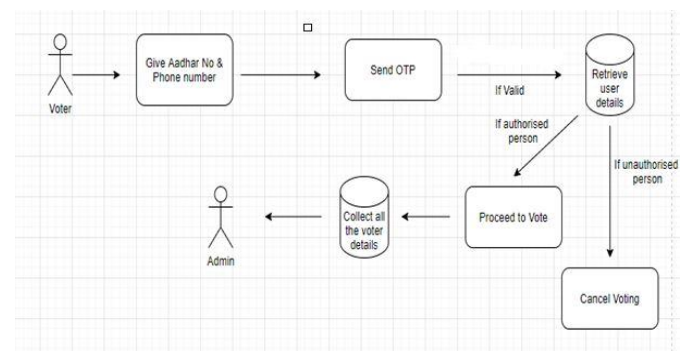


Fig 1: System Architecture

The system architecture of the online voting system based on aadhar card is explained in detail in the following steps:

1. The user(voter) has to register into the application.

2. The details of the user gets saved in the database.
3. The User login using Aadhar card and Phone Number.
4. OTP is sent to the user’s Phone number to authenticate whether the user has given access to proceed with the voting process.
5. Once your Login details are matched with database, you will receive an OTP (One Time Password) on your registered mobile number within a minute.
6. Once OTP is entered and login is completed, the user can proceed to vote.
7. The login is not allowed if the records does not match with the database.
8. The details like the count taken by the Candidate will be calculated.
9. The Admin has the right to publish the result after collecting the details.

IX. RESULT AND DISCUSSIONS

ADMIN-LOGIN USING OTP

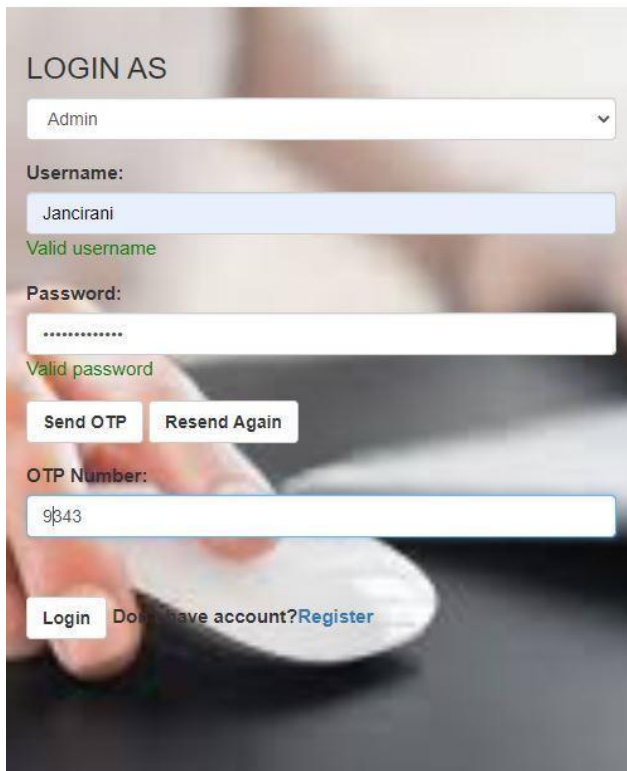


Fig 1: User Login Page

Fig 1: User Login Page-In this page the user login using Username and Password. If the Username and Password is matched with the database, Send OTP button is clicked.OTP will be sent to the registered mobile number then the user can enter the respective One Time Password in the Login Page.

ADDED PARTY

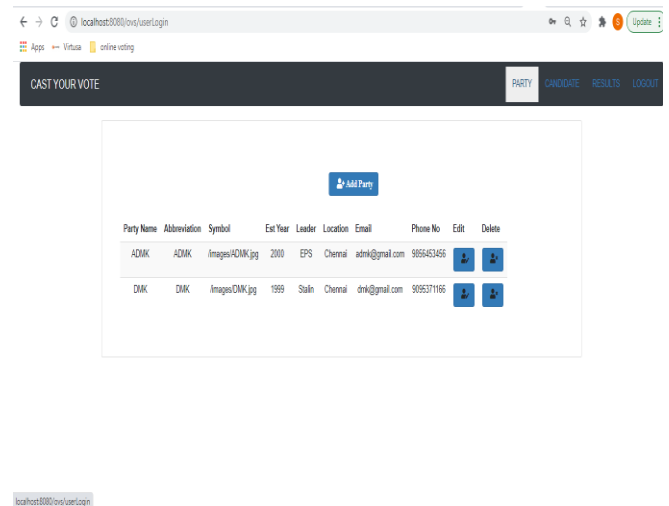


Fig 2: Added Party

Fig 6.2: Admin-Added Party Page lists the added parties in which we can also edit and delete the parties list.

ADDED CANDIDATE

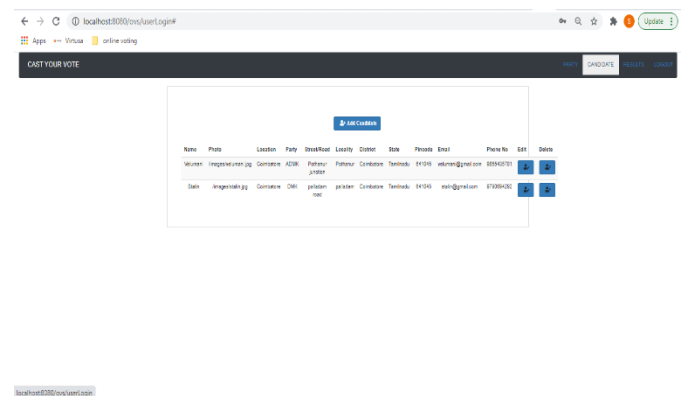


Fig 3: Added Candidate

Fig 3:Admin-Added Candidate Page lists the added candidates in which we can also edit and delete the parties list.

PUBLISH RESULTS

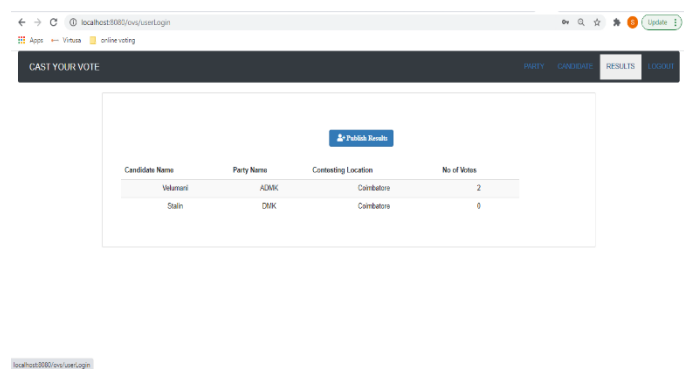


Fig 4: Publish Results

Fig 4 : Publish Result - Once the election gets over,the admin publishes the result by clicking on the Publish Results Button.

Fig 6: User Register Page-This page is used by the user to register their details.

USER LOGIN USING OTP

TWILIO SMS API

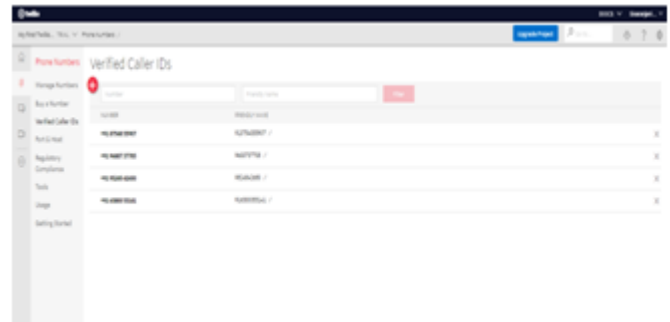


Fig 5: User Login Page

Fig 7: Twilio SMS API

Fig 7: Twilio SMS API-Twilio is the SMS API that is used to send OTP to the user’s registered Phone Number.

ADDING NEW NUMBER

Fig 5: User Login Page-In this page the user login using Aadhar Number and Phone Number. If the Aadhar Number and Phone Number are matched with the database, Send OTP button is clicked.OTP will be sent to the registered mobile number then the user can enter the respective One Time Password in the Login Page.



Fig 8: Adding New Numbers

Fig 8: Adding New Mobile Numbers in Twilio SMS API-This is the page on which the new numbers are being added and gets stored in the API to send OTP.

USER REGISTER PAGE

USER HOME PAGE

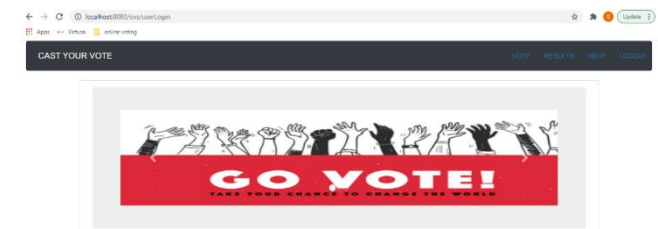


Fig 6: User Register Page

Fig 9: User Home Page

Fig 9: User Home Page is the user's dashboard which has Vote, Results, Help, and Logout tabs.

USER-VOTING PAGE

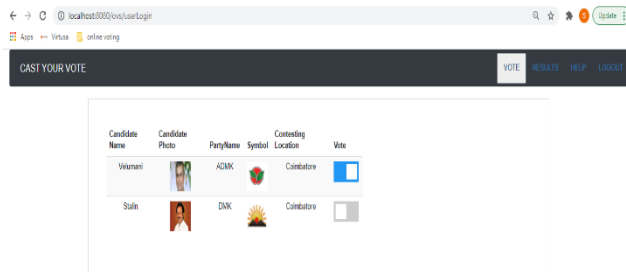


Fig 10: Voting Page

Fig 10: The Voting Page describes the user to cast their vote to the favourite Candidate who is standing in the election by clicking on the Vote button. Once the button is clicked, other buttons gets disabled.

RESULT PAGE

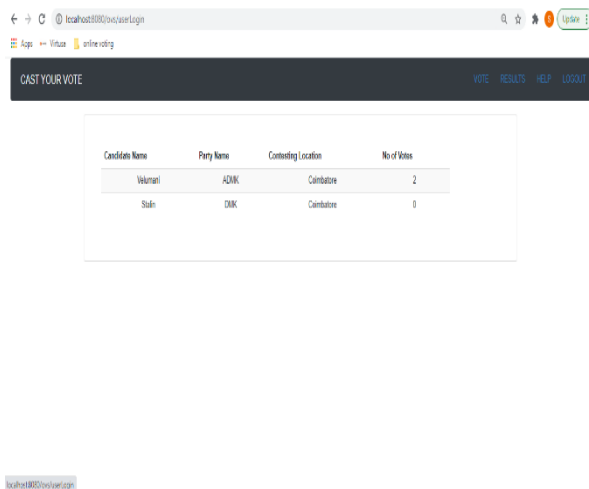


Fig 11: Result Page

Fig 11: Result Page- This page provides the results of all the completed elections; user has the right to see the result of elections. All the results are being generated by admin after the successful completion of the election.

X. CONCLUSION

we understand that using online voting can reduce or remove unwanted human errors. By using the aadhar card we implemented a system that increases the voter's privacy.

Aadhar numbers will eventually serve as the basis for a database with which disadvantaged Indian residents can access services that have been denied to them due to lack of identification documents. So only the eligible candidates can cast their votes in the election. The online voting system reduces manpower and enhances security. A unique AADHAR identity is the centre point of our proposed model. It leads to the easier verification of both voters and candidates. In this model, the voter can confirm if his/her vote has gone to the correct candidate/party and a person can also vote from outside of his/her allotted constituency or from his/her preferred location. The tallying of the votes will be done automatically, thus saving a huge time and the result is announced within a short period. Hence the online voting system make all the voting process fast and give security to the votes.

XI. FUTURE WORK

The future work will be based on Fingerprint processing which includes two parts: fingerprint enrollment and fingerprint matching .When enrolling, user needs to enter the finger two times. The system will process the two time finger images, generate a template of the finger based on processing results and store the template. When matching, user enters the finger through optical sensor and system will generate a template of the finger and compare it with templates of the finger library. For 1:1 matching, system will compare the live finger with specific template designated in the Module; for 1:N matching, or searching, system will search the whole finger library for the matching finger. In both circumstances, system will return the matching result, success or failure. Fingerprint is very safe and convenient device for security instead of password that is vulnerable to fraud and is hard to remember biometric process for authentication, identification and verification functions that let your fingerprints act like digital passwords that cannot be lost, forgotten or stolen which plays very important role in Online Voting System.

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