Aadhaar Based Decentralized Voting

Ayush Tripathy[1], Bhawna Aggarwal[2]

[1,2]Department Of Information Technology, Maharaja Agrasen Institute Of Technology,

Sector-22, Rohini, Delhi –110086

Abstract: This research paper basically deals with Aadhar based Decentralized Voting System that means just by showing Aadhaar we can cast our vote. So this application makes things easy for voters, candidates and administration to participate or to conduct voting. Our system is highly secured as we have implemented blockchain in backend which helps everyone to keep track of malpractices happening in voting.In this proposed application we have used Aadhar number as unique identity which user can enter and if he is eligible (above 18 years and citizen of India) than OTP will be generated which serves as a pin and after entering it user can use the voting system to cast his valuable vote.

Keywords: HTML, CSS, Javascript, Solidity.

1. INTRODUCTION

Online voting system is an online voting technique. In this system people who are authorized by the admin can cast his/her vote online without going to any physical polling station. There are many voting procedures which are being used for Voting purpose, such as ballot paper, EVM machine but all these procedures require more time and more man power so to eliminate all these drawbacks we provide an online voting system which provides features such as accuracy, convenience, flexibility, privacy and verifiability. Our online voting system provides a platform where he can register himself to cast vote remotely. our is a voting system by which any Voter can use his/her voting rights from anywhere. And for the smooth processing of the voting system has an integrated chatbot. It can guide users at any stage of the process to make accessibility easy.

1.1 Problem Background

In recent times there is much literature on online voting. While online voting has been an area of research in recent years, there are efforts made to make the online voting system more secure. The use of insecure Internet, and the resulting security Breaches have been reported recently. So, the main issue now is to resolve these security breaches such as denial of service attacks.

Fig 1.Security requirement for voting system

And to achieve this we have implemented a blockchain system through which voting can be done.
The first things that come to mind about the blockchain are cryptocurrencies and smart contracts because of the well-known initiatives in Bitcoin and Ethereum.

1.2 Problem Statement

Our online voting system will make all voting processes easy because in this system we have used an Aadhar card as base identity which every user has and also users need not to go anywhere they can cast their vote just by sitting at home. Our voting system will make the whole voting process cost efficient. Our voting system will give instant and unbiased poll results. Our voting system will help us to keep track of voters. And our system is time efficient.

1.3 Research Objective

The main objective of this study is to make a step forward in the direction of online voting platforms by providing all the essential security levels. The objective of this study is to make the voting process easy, less time taking, and secure. Online voting systems eliminate the bogus voting which can occur in traditional voting schemes.

1.4 Scope of Study

As we all know that there are many organizations that conduct elections for the positions like "Group leader, Project leader, Employee of the month, and for some minor changes in working environment etc. In that case, online voting can be very helpful to conduct a vote. People can cast their vote from anywhere. As colleges conduct elections for positions like president, vice president etc. for many college societies like CSI, Trinity etc, and other management posts for students and online voting system can be used on any cases like these efficiently it can be customized according to client need on any type of elections.

2. METHODOLOGY

2.1 Background:

This is a system that can be used by users to cast a vote in an election. All the voters have to login and click on cast vote to his/her chosen candidates to submit his/her vote. The research development and testing are done on LAN. On the other hand, online voting software has been in research for many years, researching cases of wrong implementations reported in recent years. These factors need to be resolved so the public can cast their vote in a secured and fitting environment. Online voting is a voting software in which any user can use his/her voting rights from anywhere.

Online voting application contains:

a) users details

b) userNames with Aadhar Number and OTP.

c) users vote in a database.

d) sum of total number of votes.

e) result panel

g) a unique user id given my administration Various operational works proposed in the system are: information of the user in the database. Verification of details submitted by the user. deletion of wrong information. Each information is submitted to the administration.

2.2 Product Perspective:

The product is an election conducting tool
with a simple GUI.
The system is developed using blockchain.

2.3 Product Functions:

Our System has a server back-end uses blockchain which takes care of authenticating the users and
maintaining necessary details. The user
interface at the server's end enables creating the election on behalf of the users. The users must login with aadhar number and OTP then they can access the election module where they can cast their vote with such ease and comfort and their response will be saved and after that the result will be displayed.

3. MODELING AND ANALYSIS

Online voting is a portal through which a voter can cast his vote by registering themselves on the online voting platform. All the information about users is entered in a database by which admin can verify the user. There are different tables in the database for users, candidates, results, and admin. Each voter has to enter his basic information that is his aadhar card number. This is the first page of the website known as the welcome page.

3.1 Home:

It is the first page of our portal, having the feature options for authority. The authority must login first with provided credentials to start a voting session.

Only after the authority login voters will be able to give their valuable votes.

Fig 3. Home

3.2 Registration:

This is the registration page, where the voter can register themselves for the voting process. The users have to enter their aadhar details which are required by the admin through the registration page. All the details registered on the portal are saved in the respective database.

Fig 4. Registration

3.3 Validity check:

After entering aadhar details our system will check for the user's authenticity, that is whether the voter is above 18 and Indian or not. If he/she is eligible then OTP will be sent to the phone number that was linked with aadhar and that OTP will be entered by him.

Fig 5. Verification

3.4 Election:

This a module which gives a list of all candidates who can user vote, this module is accessible only to those users who have been verified. By this module users can cast their vote by selecting a candidate of a particular election..

Fig 6. Election Panel

3.5 Vote:

Users can cast their vote by clicking the vote button just in front of the candidate's name and after casting the vote our server will inform the voter that his/her vote has been successfully transacted.

Fig 7. Vote Transacted

3.6.Technology used:

We have created this online voting portal by using the following technologies: Front end: HTML, CSS, Bootstrap Back end: - JavaScript, Solidity.

4. CONCLUSION:

Our online portal gives voters a chance to cast their vote via the internet without going to a voting booth. Our portal provides blockchain support which helps users to ensure security during the whole voting process. This system gives fast access, more security levels, high flexibility and efficiency. It also eliminates the chances of a fake person casting a vote or bogus voting. It also reduces manpower and unwanted human errors. It provides quick results of elections which are completely accurate. Our system focuses on reducing the time and paperwork. Hence the online voting system makes all the voting process fast and gives security to the votes.

5. REFERENCES

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