RAAG - E-Voting Platform

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Abstract - Elections and voting are an essential part of any democracy and a broad and democratic method of decision-making. Casting votes is the main way to choose people for vacant positions. Computerized problems are rampant in today's era of technology and knowledge. E-voting is one such entity, providing a useful, simple and reliable voting approach that eliminates the shortcomings of traditional approaches. Because the current system conducts elections manually, it puts a lot of effort into conducting, maintaining, and evaluating the election process. This automation helps overcome all of the above problems and also helps avoid any kind of tempering that is feasible.

Key Words: E-voting, casting, votes, election, automation.

1. INTRODUCTION

E-voting is an online voting technique. It is based on the other online services like "Online Reservation System" .In this system people who have citizenship of India and whose age is above 18 years of any sex can give his\her vote online without going to any polling booth. There is a Database which will be maintained by the Election Commision of India in which all the names of voters with complete information is stored.

2. LITERATURE REVIEW

Field of E-Voting has seen a lot of boost in the last decade due to need in change of traditional voting systems

- In the research done by Kashif Mehboob Khan, Junaid Arshad and Muhammad Mubashir Khan[1] electronic voting has been employed in many forms with essential advantages over paper-based systems, such as enhanced efficiency and fewer errors. With the explosive expansion of blockchain technology, Several projects have been undertaken to look into the possibility of using blockchain to assist an efficient e-voting solution. This paper describes one such endeavor that takes advantage of blockchain's cryptography basics and transparency to provide an effective e-voting solution. The proposed approach has been implemented using Multichain, and an in-depth study of the approach reveals that it is effective in meeting the fundamental requirements for an e-voting scheme.

- In this point it has been focussed upon enhancing blockchain technology's resilience to the 'double spending' problem, which converts to 'double voting' for electronic voting systems. Whilst blockchain technology has shown to be effective in detecting mutable changes in transactions, successful demonstrations of such events have been made, prompting us to look into it more. To achieve an end-to-end verifiable e-voting system, we believe that an effective model for establishing trusted provenance for e-voting systems will be critical. An extra provenance layer is being developed to help the present blockchain-based technology achieve this goal.

- As it has been seen in the paper published by Stephan Neumann, Melanie Volkamer, Jurlind Budurushi and Marco Prandini[2], to some measure vote authenticity and eligibility meet. An opponent who can alter a voter's vote is essentially breaching both the integrity of the vote and the legitimacy of the voter. We handle the overlapping by classifying changing a vote as an integrity breach, and inserting more fake votes as an eligibility violation.

- In this paragraph it is seen that SecIVo, a quantitative security evaluation framework, has been created. SecIVo consists of a collection of security criteria as well as adverse features.SecIVo, by its very design, creates a bridge between system analysts and election officials. On the one hand, system analysts use security requirements and adverse skills to derive qualitative security models of Internet voting methods. Election officials, on the other hand, establish election settings using the number of eligible voters and predicted voters, as well as probabilistic adversary models.

- This paper by Anne-Marie Oostveen and Peter van den Besselaar[3] focuses on the social and psychosocial aspects of voting media, especially Internet voting. In layman's terms, Internet technology is changing the environment in which people decide whether to vote and what to vote for, which in turn is changing the voting itself.

- The general purpose of this project was to investigate the impact of new media on voting, expression and results. We wanted to clarify how media effects are mediated by social and psychosocial variables.

- This paper by Emad Abu-Shanab and Michael B. Knight[4] emphasizes the fact that the voting system has some built-in advantages over paper-based voting and reduces voting errors. It provides people with

various disabilities with the opportunity to vote without human help.

- The risk of electronic voting is related to the use and dependence of electronic systems. Programming mistakes: For example, misplacement of an extra semicolon can completely change the output of our program. Various risks associated with system development and product delivery. The biggest potential threat is for third parties to access the voting system, inject malicious bugs into the voting system software, exploit vulnerabilities in the voting software, and spread the virus between the computer and voting. In that case the machine will not record votes and will not be able to meet legal requirements.

PROBLEM STATEMENT

The traditional voting methods are good but have too many areas of improvement. As in the traditional voting ways large amount of money is wasted in the management of the voting booths, too many administrative officials are also deployed to the place for governance purposes and large number of army officials are also deployed there to take care of any mishappenings and are substituted from the national borders, leaving it a little less protected.

So the aim is to build such a platform which could help the voters vote at their convenient spaces. So e-voting came into existence which has different modules for voters and admin for casting and counting of votes.

PROPOSED APPROACH

Now, to address the problem which has been noted in the Problem Statement, we want a platform which provides us with solutions to save votes casted by the voters and could be saved for further using it, to count the votes and to show the results for winning candidates.

The language which we chose to achieve all the above requirements is Java over python. Java is generally faster and more efficient than python because it is a compiled language which will be helpful to cast and calculate votes in real time.

To manage the database we have used MySQL, for designing and layout of the web page CSS is used in the front-end.

In our Proposed approach, we design four major modules in our E-Voting: Admin login and Voter. These Two modules should deal with all the concerns and issues mentioned in Problem Statement.

METHODOLOGY

1. Admin login: Admin login have two main modules:

1.1. Admin Options: It contains modules which will help admin to manage candidates ,manage users and show results after votes are casted.It's submodules are as follows

1.1.1. Manage Users: This sub module provides administrators with two options either to show users currently present in the database or to remove any random users from the database.This can be done with the help of Show user and Remove users.

1.1.1.1. Show Users: It will show the total users currently in the database

1.1.1.2. Remove Users: It will help to remove any random user from the database

1.1.2. Manage Candidate: The administrator can manage the list of registered candidates by clicking on the "manage candidate" link. It is further subdivided into four different modules

1.1.2.1. Add Candidate: Admin can add new candidates by clicking on add candidate link

1.1.2.2. Update Candidate: The information of any existing candidates can be edited if required by clicking on update candidate link

1.1.2.3. Show Candidate: The information of existing candidates can be viewed by clicking on show candidate link

1.1.2.4. Delete Candidate: The information of any existing candidates can be removed from the server if required by clicking on delete candidate link

1.1.3. Show Results: This submodule will show the final results after the vote is casted.

1.2. Voting Page: This page will help the Administrator to cast his/her own vote.
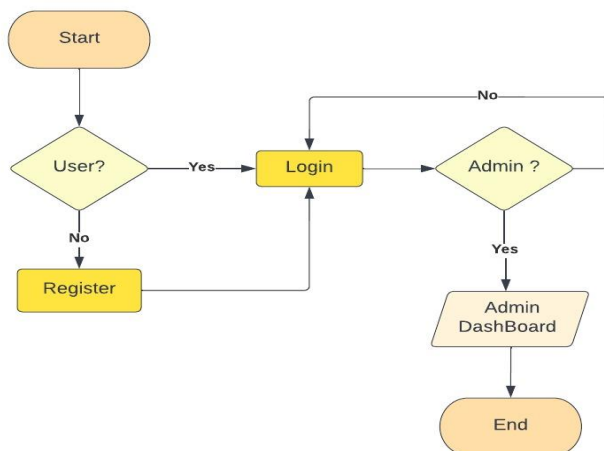
Admin Login Flow Daigram

Figure a.

2.Voter Page: By voting, citizens are participating in the democratic process. Citizens vote for leaders to represent them and their ideas, and the leaders support the citizens' interests

2.1. View Candidate:
- The candidate list is visible to the voter.
- Show all the details of the candidate.
- Voter can decide to whom he is casting his/her votes to and check any information of the candidate

2.2. Update Profile:
- This module will help users to update their profile.
- Users can change their personal details as per the requirements.
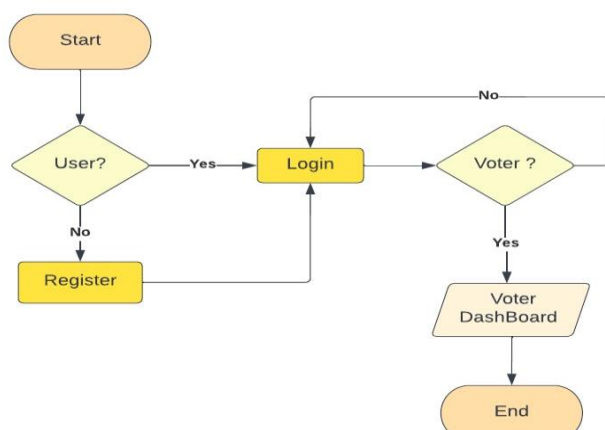
Voter Login Flow Daigram

Figure b.

FUTURE SCOPE

In the future, it may be helpful in many other fields to cast votes, like in universities, offices, parliamentary elections, non-parliamentary elections, and many other big organizations, as it provides less effort and is less labor-intensive. The purpose of this e-voting site is to provide convenience and availability for voting from anywhere. It can be made more secure by adding various features to enhance the security, such as fingerprinting, cornea detection, and password changing. It provides long-term benefits as it provides low costs and is easily available, especially to those who are abroad.

3. CONCLUSIONS

It is a platform which provides us with solutions to save votes casted by the voters and could be saved for further using it, to count the votes and to show the results for winning candidates and also helps the voters to vote at their convenient spaces. The E-voting platform manages the voter's login information, admin's account, candidate's details and results of votes. The system will have all of the voting system's functions. It includes facilities for keeping track of voter's votes for each party and counting the total number of votes casted for each party. A database will be maintained at the back-end about the voter's complete details.

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