Secure Vote Using Steganography

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Abstract — Indian democracy isn't just about frequent elections, voter turnouts, or oratory. The central purpose of our democracy is to advocate for every person to have a say in determining the more remarkable collective jovial worth. Our proposed project aims to construct this democratic process simple for learners at the school and university levels. To overcome issues faced by the robust paper ballot system and availability of EVM machines, we have structured an efficient, trustworthy, and assured student online voting system. It also reduces the paperwork and eliminates the manual counting process. It is cheap, time-consuming, and uncomplicated. This paper focuses on a system where the user can vote remotely from anywhere using their device. Hence the voter need not go to a particular place and easily vote through a single click link and cast his vote.

Keywords: Steganography, Threshold Cryptography, Visual Cryptography, Python, Django, SQL, Online Voting, Secure Voting, Reliable Voting.

1. INTRODUCTION

This project aims to develop a secure and stable Online Voting System. Our aim is to provide confidentiality and security through Visual Cryptography and Steganography.Presently used voting procedure consumes a lot of time and it is a very basic process. The significant issue behind this is security. We aim at increasing participation, and improving the outcomes of elections by addressing challenges related with traditional voting systems in schools and colleges.

2.LITERATURE SURVEY

Each of our team members has read 5 to 6 papers on various topics like Cryptography, Steganography, and Threshold Cryptography. We got a detailed overview of the architecture and components of a functional and widely utilized online voting system, and some of the imminent threats. We also got an idea about the various voting system and their advantages and disadvantages. If we look into the security part of the project we have used Threshold Cryptography combined with steganography, which is a cryptosystem that shields information by encrypting it and dispersing it among a collection of fault-tolerant computers.

3. METHODOLOGY

A. Role of Administrator



1. To create an Election

The role of Administrators is very crucial for preparing the voting segment. Administrators can create an election by providing the start and end date of the election and name of the election.

2. To add two Election Executives

He can add two election executives by providing their 12-digit unique Aadhaar card number, email address of the executive. Further, election executives need to create and confirm password and login.

3. To extract the Results

After the voter has casted a vote, the Administrator will send an id and hash key to every election executive via registered mail. Using that id and hash key the election executives can view the result of the election.

B. Role of Election Executives



1. To add candidates for the election

The election executives have the authority to add candidates for the election. The election executives need to provide the name, email, and photo or logo of the candidate parties.

2. To add voters list

Election executives can add a voter. Voters can be added by providing the necessary details asked in the form like name, email, Aadhar card number. After registration of the voter they will receive an email which will consist of the unique link to cast the vote.

3. To check the Results

After the election ends, the voters have casted the vote. Election executives can view the result of the election after entering the id and hash key provided by the administrator after the voting has ended.

C. Role of Voter



1. To verify themselves

After clicking on the link provided by the election Executive via email, the voter needs to verify itself by providing the Aadhaar card.

2. To caste a vote

After the verification the voter can vote and can vote only once. If the voter will again try to cast a vote, a pop-up message will appear that the voter had already given the vote.

3.If not casted vote

If the voter has not casted the vote within the time of the election, it will receive the mail for not casting the vote.

4. CONCLUSION

Our proposed project provides students to cast their votes remotely from anywhere on the internet. As it needs the Aadhar number so proxy vote or double voting is not possible, is fast to access, saves time, is efficient, reliable, low cost, and easy to maintain. Building an efficient system to help to cast a vote securely without losing the information of the user. It has the potential to reduce expenses for elections. The previous system includes both money and human resources. The scope of this system is limited to elections within an organization. Using this system in large elections like elections in a state/country may cause scalability issues.

5. FUTURE SCOPE

Further systems like receiving the sms after voting are similar to receiving mail in our system. One can try to implement it using blockchain technology to make the database more secure and reliable.

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