*International Journal of Research in Engineering and Science (IJRES)*
*ISSN (Online): 2320-9364, ISSN (Print): 2320-9356*
*www.ijres.org Volume 10 Issue 5 ǁ 2022 ǁ PP. 305-308*

# Hashing Based Hybrid Online Voting Framework

Vandana Nandan Mishra
*Dept. of Computer Science and Engineering, Galgotias University Greater Noida, India*

Pushkar Thakur
*Dept. of Computer Science and Engineering, Galgotias University Greater Noida, India Mail-*

Mr. Lalit Sharma Asst. Professor.
*Dept. of Computer Science and Engineering Galgotias University Greater Noida, India*

Date of Submission: 15-05-2022 Date of acceptance: 30-05-2022

## I ABSTRACT

This project is a way to reach out to people who do not voting in order to make democracy more valuable. This project will assist people in identifying an alternate means of contributing to the development of democracy. This idea would also benefit those who are unable to vote due to a lack of time, such as students and military. Because we are all going towards a digital age, why can't we use a digital voting system? This could save the country millions of dollars, which could be put to better use elsewhere.

People in today's hectic schedules do not have enough time to go to the booth and wait in long lines. Our is where this initiative comes in; it will not only ensure that voters are comfortable, but it will also allowthem to view candidate information and vote for them.

An election is a procedure for choosing a candidate to lead a country. Individuals choose their pioneer by voting under a majority rule government. In India, electronic voting has recently become popular. In this context, voter accessibility around the city is essential.

This is a significant disadvantage of an electronic voting system. A web-based voting system is an answer for voters who want to vote from anywhere.

The current era necessitates the use of a secure web- based

all know that India is the world's largest democracy, and elections are one of the country's most important elements. A presidential election is a process of choosing a candidate to lead the country. Individuals want to spend time choose their candidate in a democracy by voting. Here, voting is done manually, resulting in the loss of tens of millions of dollars. An online voting structure comes into the spotlight to prevent this type of expenditure.

Different security mechanisms are included in an online voting framework, including voters and election organisers. The following modules are expected to be included in the proposed voting system.

- Registration of voters and candidates
- Voting Process
- Counting of Votes and Publication of Results

Each of the three sections necessitates a distinct level of safety and security

During the pre-election phase, a voter's identity is validated using his or her email address and cell phone number, as well as the facial recognition technology.

Face recognition is carried out with the help of Amazon Web Services (AWS). Amazon Web Services (AWS) is a large and growing cloud computing platform. It offers a service, software, and infrastructure package. Only until the voter has verified his or her identity using face recognition does the voting procedure begin. During the voting process, distinct hash keys are produced for each voter to prevent proxy and multiple voting. The post-election security is in charge of ensuring that the votes are not tampered with.

voting mechanism. By using a face validation and hashing technique, we offer a new safe authentication method for the online voting system. During the initial registration procedure, a quick validation step is completed via e-mail and phone number. At the time of main registration, the voter must provide a UIN issued by the election administration as well as a photograph of their face.
The SHA algorithm is then used to convert the UIN into a secret key. The facial image kept in Amazon's web service (AWS) serves as a a voting verification system that allows users to vote anonymously

Voters who cast multiple ballots during the voting process are assured to be identified by encrypted UIN. The election organisers may see the election unfold in real time as the votes are recorded in the database.
The voter's privacy is protected because the information is converted to a key. An individual can
vote from outside of his or her assigned constituency in this arrangement

By encrypting the votes, you can keep your credentials safe. In addition to the security elements, the election organiser will have access to voter information with the exception of the vote The organizer's favourite feature is that he or she will be able to watch the vote in real time. This indicates that the organisers' screen will display the voter's key alongside the vote. If any key is repeated, the election will be stopped or that vote will be disqualified.

*A. MOTIVATION*

We are using an electronic voting machine as our voting framework (EVM). Every election, as we all know, costs thousands of dollars if not millions of dollars. One of the most significant disadvantages of this type of election is that voters must leave their homes to vote. They also have to wait in a huge line to vote in the polling booth. This is where the problem begins. As a result, the percentage of people who vote is low. The majority of voters dislike having to leave their homes and stand in a long line to vote. As a result, there must be a means for voters to vote from anywhere they wish. If this approach is applied, the voting percentage will rise, and a better candidate for the presidency will be chosen.

## I. INTRODUCTION

Elections are extremely important in a democracy.We

*A. PROBLEM DESCRIPTION – AIM & OBJECTIVE*

The goal of this proposed project is to create a dependable, less difficult online voting framework that voters can use and that notifies the election organiser when voting is complete. People can save time and money by using this type of framework.
The major goal is to provide a framework that will aid in the development of voters have the option of voting from wherever they desire. Another goal of this suggested system is to make it secure, such that security breaches, proxy voting, and multiple voting are not a concern.
Many literatures on online voting have been published in recent years, but the issues of security breach, proxy voting, and user-friendly design have yet to be resolved, therefore the attention is on these areas.

## II. LITERATURE SURVEY

*A. Analysis and design*

In today's democratic country, the election process plays a critical role.

An election is a procedure for choosing a candidate to lead a country. Individuals choose their pioneer by voting under a majority rule government. In India, electronic voting has

*1. Requirements for Function*

The term "functional requirements" refers to a certain type of demand documents that specify a system's or its subsystems' functioning. It is dependent on all of the system's criteria, such as the type and number of users. It also relies on the programme that you're using. The requirements are also a result of the method used to develop the system. The following sections will discuss the proposed system's functional requirements.

- For the initial verification, the voter needs have their cell phone number and email address. Because the first registration only requires an email address, a phone number, and an Aadhar number.
- A webcam should be connected to the voter's computer so that their face may be clicked.
- Locator that searches for you automatically
- Voting security
- Using a hash key, we were able to disable the multiple voting method.
- Election organisers use the credentials to log in.
- The outcomes are computed and saved on the server, after which the organiser collects the votes and broadcasts them.

*1. From the standpoint of the product*

This framework can be used to make the election process simpler and quicker. This framework has the

recently become popular. In this context, voter accessibility around the city is essential. This is a significant disadvantage of an electronic voting system. A web-based voting system is an answer for voters who want to vote from anywhere. Security is the most important consideration in an online voting system. In this paper, we provide a solution for voter data authenticity and secrecy, as well as non-traceability of a cast vote. The pin and encrypted UIN After that, face recognition is utilised for This UIN can take any form, even solid physical form. authentication. A hash algorithm is used to keep the voter's identity hidden throughout the cast vote.

For the organiser to view the election live, a sufficient security cannel is given. The organiser will be able to see the encrypted key with the vote if it is a live election. If the key is repeated, they will have the choice of cancelling the election or not taking that vote into account.

*1. Analysis of Requirements*

The process of identifying user expectations for a new or modified product is known as requirement analysis, or key requirements. These characteristics include comprehensive information on a product known as needs. Such requirements are often known as functional requirements in the engineering world.

camera on the computer When submitting candidate information and reporting results, the organiser will need to use the website. The total counted results will be present inside the database during the result phase, thus the organisers will only need to enter the database and post the result.

*1. Needs for Operation*

The operational requirements are necessary because this system is software-based. The prerequisites are a local server, such as XAMPP. Because the developer will be using the system, it is only natural that he or she will create the essential user interface.

*1. Dependencies & Assumptions*

Because it is assumed that the user will enter their age, if it is less than the voting age, the voter will not be able to register. However, because there is no legitimate authority to verify an individual's age, there is no specific means to do so. The constituency is in the same predicament, in that there is no official data to authenticate an individual's constituency. Because the amount of space available in Amazon Web Services is restricted, the organiser will have to purchase additional space if the limit is exceeded.

*1. Domain Prerequisites*

potential to save millions of dollars and hours of labour. AWS assistance is required for this system. Customers can use a lot of free space provided by Amazon Web Services. It requires a server such as WAMP, LAMP, or XAMP to connect to a server for the software part. A PC with the specified specifications is required for the hardware part. The system requires a unique identification number in order to function effectively.

*1. Specifications of the product*

Security is the most important consideration in an online voting system. In this paper, we provide a solution for voter data authenticity and secrecy, as well as non-traceability of a cast vote. During authentication, the encrypted UIN and pin are utilised, followed by face recognition. A hash algorithm is used to keep the voter's identity hidden throughout the cast vote. Hashing also aids in limiting the election's multi- voting component.
Features of the user

The proposed system is an online voting framework, so the voter is the most significant work in this framework. The election organiser will not be required to take any action because they will not receive any form of notification during voter registration. The voter should have a basic understanding of how to use a website and how to navigate it to use the webcam or

category of non-functional requirements.

- Designing
- Access to the internet
- Adding Amazon Web Services to the mix
- Safety – present on several levels
- Use a web browser

*1. Specifications for performance*

The only way for software to accomplish its performance goals is for it to be clearly and unambiguously identified. Because performance criteria are classified as non-functional requirements, most designers do not take them seriously, and as a result, performance issues persist for a longer period of time.

The following criteria must be defined in order to ingress a system's performance:

- Time to respond
- Workload
- Scalability

## IV. Reference

1. G.N.Pandey, Himanshu Agarwal [1] 'Indian Online Voting System Based on AADHAAR ID' (Dept. of Software Engineering Indian Institute of Information Technology) July 2013 - Eleventh International Conference on ICT and Knowledge Engineering

The project's primary focus is on software. The database thing necessitates the use of a server. To change or enhance the code, you'll need a web browser and an editor. If the computer you're using doesn't have an inbuilt camera, you'll need to use an external webcam. To store large amounts of data, you'll need a large data storage facility. Put all of that massive info in one place. During the voting phase, the system requires an algorithm to compare the image while authorization is ongoing.

User Preferences

- The most important thing is to have access to the internet.
- Before using the framework, voters should have sufficient credentials.
- The voter should be familiar with the election procedure and how the website works.
- The organiser should also have a basic understanding of how websites work as well as a database and server.
- The organiser should have a basic understanding of AWS, as it was used in this project.

*1. Requirements that aren't functional*

A non-functional requirement is a criterion in software engineering and software specification that determines how a system operates. It does not test the framework's functionality or behaviour. Everything else functional behaviour falls under the is secondary to

2. Srivatsan Sridharan, "Implementation of Authenticated and Secure Online Voting System," Department of Computer Science, International Institute of Information Technology, Bangalore, India.) ICCCNT 2013, IEEE – 31661, July 4–6, 2013

3. Prof. Smita Chavan, Vishal Kulkarni, Mangesh Devraj, Ajit Singh Chauhan, Anujkumar Pandey, and Prof. Smita Chavan [3] 'E-Voting System Using Android and Web-Based Platform' (Computer Engineering Department, PCCOE, Pune University Sector 26, Nigdi Pradhikaran, Pune – India) – International Journal of Advanced Research in Computer Science – Volume 6, January-February 2015.

4. Tanmay Kadam, [4] 'Online voting system,' International Journal of Engineering Trends and Technology (IJETT) – Volume 37 Number 5– July 2016 (Graduate student, master's in computer science, computer engineering department, California State University).

5. Prof. Jagdish B. Chakole, Prof. Prafl. R. Pardhi, S. M, Jambhulkar, 2014 International Conference on Electronic Systems, Signal Processing, and Computing Technologies, 'A Secured Approach for Web-Based Internet Voting System Using Multiple Encryption,'

6. Reena Kharat, Smita B. Khaimar, P. Sanyasi Naidu, Smita B. Khaimar [6] 'Secure Authentication for Online Voting System' (Department of Computer Engineering, PimpriChinehwadCollege of Engineering, Pune, India) – International Journal of Computer Science, Volume 134, Number 13, 2016.