



A REVIEW ON SMART VOTING SYSTEMS

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Abstract:- As we know that India is called the world's largest democracy. In such a democratic country, voting plays a key role in electing government officials and reflects our vision of how a governing body should be formed. Surveys are conducted time to time to address difficulties in the central voting system so that it should be more anonymous, reliable and secure while preventing any type of fraud. Or the use of electronic voting, we have to deal with many problems of fraud and corruption. Currently, various researches are being conducted to create a safe and reliable voting system while addressing issues of anonymity and security. This paper implements a method that utilizes deep learning to work on smart voting system. This provides great protection in the sense that the most secure voter password is verified before a vote is received on the Indian Electoral Commission's main database and voters can verify that his or her vote has reached to correct participant of election. And the votes counting will be done automatically, thus saving a lot of time and the results can be announced in a very short time by the Indian Electoral Commission. The user verification process is enhanced by adding a face recognition to the app that will determine whether the voter is a certified user or not.

Keywords: E-voting, online voting system, smart voting, face recognition, face detection, security, user authentication.

I. INTRODUCTION

In India, being voting system as online is a way for the people to elect their representatives and express their preferences on how they will be governed. It is very important to have belief in the electoral process. The electoral process is secure in the event of an election irregularity and the system will increase security levels. But there is a possibility of Maoist attacks and fraud problems in some areas, there is a chance of losing votes and their lives. So the public needs a more secure voting system.

Elections are a process by which people can talk about their political feelings. They express these feelings in an open democracy to elect a political pioneer. Besides, the political pioneer would have a responsibility, authority, and job. As we can see that election is a conventional cooperative choice creation procedure. Additionally, the chosen political pioneer would hold an open office. The political race is an important pillar of many legal systems. This is on the grounds that; Election gives guarantee that the administration is of the individuals, by the individuals, and

for the individuals. Constituent frameworks are having point by point protected plans and casting ballot frameworks. These step by step established ideas and voting structures turn the vote into a political decision.

The expected approach is to establish a firm online voting system using face recognition aimed at overcoming all drawbacks that occur in the existing voting system. The proposed system has many powerful attributes such as accuracy, reliability, comfort, etc. In this system, there is no need of an electoral officer, a ballot paper or any other electronic voting system but only a strong connection of internet and face scanners are essential where one can vote from anywhere. The proposed method provides more accessible, secure and effective system than the existing one with many errors such as long process, time consuming, insufficient security, fake voting.

II. MOTIVATION

Elections are extremely extravagant in India so ordinary people may not be able to afford this. Only the wealthy people can run in the elections. They also use political power and money in an illegal way. But election laws should address the misuse of official equipment at the time of elections. However, the ruling party also uses government vehicles and workers to favour them. Again, on the basis of racism and religion most of the votes are being casted. As a result the people are split up into fractions which is not a good thing in the electoral system. Therefore, to avoid this conflict, an online voting system is proposed.

III. LITERATURE REVIEW

Raspberry Pi and image processing based on Electronic Voting Machine (EVM) [1], provides a small computer capable of image processing and controls the entire voting system. A photo of the national ID card of citizens is taken with the help of a camera which indicates a valid voter of that zone. If the person is legitimate and has not voted, the person will be allowed to cast his or her ballot. Each voting

machine is locked with a module of fingerprint access. When the user gets verified, the fingerprints gets submitted to a particular system for voting. Each voting system is connected for identification to a voting system of central raspberry pi.

The Impressive Smart Card Based Electronic Voting System [2], introduces a voting system that gives voters confidence in elections by using fingerprint methods and providing a smart card to every user to promise diversity in the voting system and reduce the work of the Indian election committee. At the same time the outcome of the election process will be automatically announced to the public. With the help of this method, one can easily vote in any polling station. With the data sets available, this paper manages and integrates test and effect. All possible guidelines were discussed in this paper.

An Electronic Voting Machine that uses Biometric Fingerprint and Aadhar Card Verification [4], has a voting system that uses biometric fingerprints with Aadhar certification. In this program, the aadhar number is stored on a small ARM7 microcontroller that verifies based on the available information. This will be used to take fingerprints of Indian citizens. If that person is eligible to vote they are entitled to submit their votes.

Smart Voting System [6], introduces a system where people who are Indian citizens and over the age of 18 can give their vote. Even though they don't have to go to their hometown on the allotted day. The purpose of voting system based on Aadhar is that, the electoral elections will allow people to vote in their current city electronically.

The Smart Voting System using RFID [9], provides a RFID (Radio Frequency Identification) approach by which from anywhere a user can vote safely using his or her computer or mobile phone and no need to go to the polls by using following two-step verification by recognizing a face and authenticating the OTP. The offline voting system is extemporized using RFID tags instead of voter id. This program allows the voters to see results at any time which may prevent consequences which opens the way for disruptive voting.

IV. OUR FINDINGS FROM STUDIED LITERATURE

The identified challenges motivate to bring up a solution to all the problems stated in the above motivation section. Following are the objectives of the studied literature:

- Graphical representation of work.
- To presents online voting system data.
- To implement Ontology in Smart Voting System.
- To present an algorithm that does Smart Voting.
- Issues and challenges were outlined from literature.

- A framework has been proposed to deal with the issues.
- Possible features were explored and discussed.
- Possible future directions were discussed.

V. PROPOSED WORK

A. Basic Idea:

In this application, we create a system for online voting for India. This system is much better, secure and efficient than the traditional voting system. Manipulation of votes and delay in results can be avoided easily. In the proposed system, we have tried to build a secure online voting system that is free from unauthorized access while casting votes by the voters.

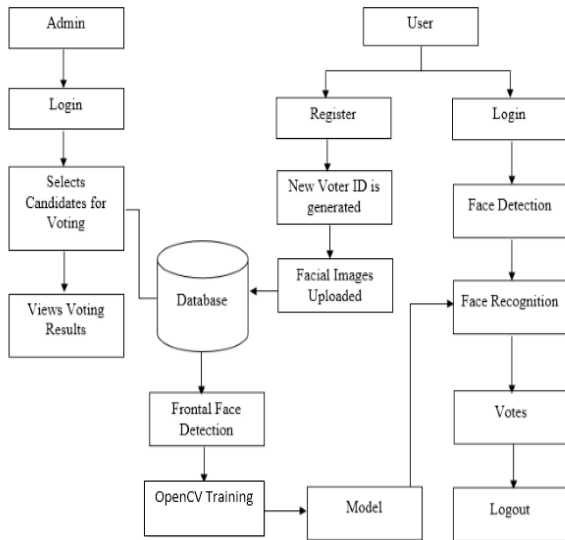
It is desired that the proposed online voting system will preferably raise the transparency and reliability of the current electoral machines. It uses computer vision techniques for person identification. We are using deep learning method which helps to get secure and accurate results in smart voting system.

Deep Learning: A type of machine learning which drives many Artificial Intelligence (AI) applications that instructs computers to make the processes easier and faster.

Computer Vision: Computer vision is nothing but a scientific field of artificial intelligence that teaches computers to resolve and gain knowledge from the visual world. With the help of digital images & videos and deep learning concepts, machines and devices can perfectly detect and categorize objects — and proceed to what they “see”.

Python: Python is an interpreted high-level general-purpose programming language. Python is basically used for websites and software development, task automation, data analysis, and data visualization.

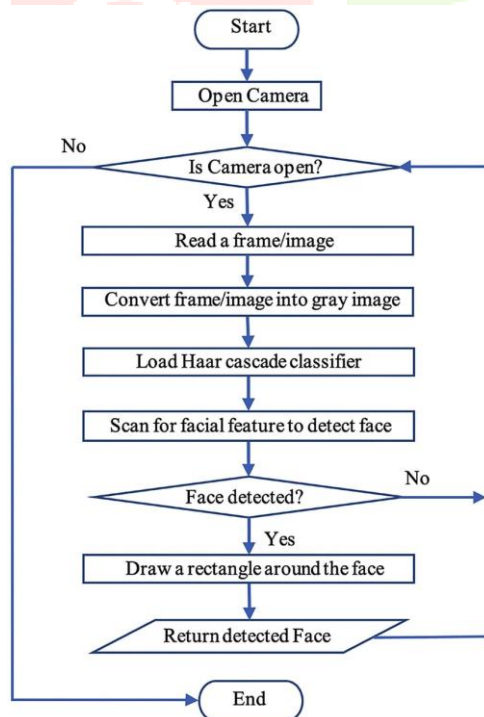
B. Data Flow Diagram (DFD):



C. Algorithm:

Haar Cascading Algorithm is an Object Detection Algorithm which is used for image as well as face recognition. It is used to compare the faces based on Haar features.

In Haar Cascading algorithm, several portions of black and white parts from image of gray scale are identified with the help of the rectangular Haar like attributes. To cut the face from any picture, a frame is being constructed as a border. It is having ability to identify many faces in the given picture.



VI. CONCLUSION

Many of the above methods provides protection, security and transparency in the process of voting. This paper reveals several approaches used for smart voting system. In this paper, various methods were used to develop a secure

system which will give accurate results. In sixth sense technology, some advance applications can also be developed in India which will boost up the voting percentage and it will reduce bogus votes if strong security is applied.

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