Retraction

Retraction: Smart voting using Fingerprint, Face and OTP Technology with Blockchain (J. Phys.: Conf. Ser. 1916 012139)

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This article (and all articles in the proceedings volume relating to the same conference) has been retracted by IOP Publishing following an extensive investigation in line with the COPE guidelines. This investigation has uncovered evidence of systematic manipulation of the publication process and considerable citation manipulation.

IOP Publishing respectfully requests that readers consider all work within this volume potentially unreliable, as the volume has not been through a credible peer review process.

IOP Publishing regrets that our usual quality checks did not identify these issues before publication, and have since put additional measures in place to try to prevent these issues from reoccurring. IOP Publishing wishes to credit anonymous whistleblowers and the Problematic Paper Screener [1] for bringing some of the above issues to our attention, prompting us to investigate further.

[1] Cabanac G, Labbé C and Magazinov A 2021 arXiv:2107.06751v1

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Smart voting using Fingerprint, Face and OTP Technology with Blockchain

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Abstract. As we all know India is a largest democratic country, the best form of our government is one which allows the citizen to cast the vote and elect the leader of their choice. The future of our country and fate of citizens all lies in a single vote. Traditionally we used ballot papers to vote and the votes are counted manually, which consume excess of time. Then ballot papers are replaced by electronic voting machine as it consumes large time to count the votes and due to the error involved in the manual counting process. The electronic voting machine gives quick publication of result which is accurate. The one that are temporarily out of their voting stations will have difficulties in casting their votes. The online voting should be adopted, as the current process is not flexible for voter’s convenience, online voting will increase the number of voter’s participation in the election. The proposed system will give trust and confidence to voters that the proposed voting system will provide protection to votes and as well as who cast their votes. In our proposed system, we have altered level of safety in voting process which provides reliable and secure voting. They are iris recognition, fingerprint and OTP. Next the voting portal is accessed and vote is encrypted by the blockchain end to end encryption.

Keywords: Block chain, One Time Password, Fingerprint.

1. Introduction

In India we used two types of voting process. Traditionally we used ballot papers to vote and the votes are counted manually, which consume excess of time. Then ballot papers are replaced by electronic voting machine as it consumes large time to count the votes and due to the error involved in the manual counting process. The electronic voting machine gives quick publication of result which is accurate. In existing system, there are so many chances to misuse the votes as it does not have proper identification system [1]. In our technique, iris and Finger print are used. Fingerprint is unique for every single person, so that we can avoid bogus voting. But for old person and cancer patients the fingerprint is not clearly visible so we introduced the technique called iris scanning, so that they can cast their votes.
2. Existing system

In existing system vote can be accessed and data encryption is not implemented. In e-voting, we need many securities to safeguard vote and to avoid bogus votes. In e-voting, voting cannot be taken in different place [2]. Citizens should go to their native to cast their votes. But in proposed system we can cast our vote in any place [3]. The vote can be manipulated or interpreted. There is lots of transparency and limited opens and understanding of the system for non-experts. Cost is high for both maintenance and purchasing of electronic voting machine. In those days, ballot voting was used where counting of votes are difficult and we need many essential things like paper, pen etc... and also forgery can take place while counting votes [4-7]. The existing system (electronic voting machine) has so many defects like bogus voting, lengthy process, not secure, time taking, no security level [8-10]. In order to overcome from these effects, we developed a system which is accuracy, safe and secure and avoid bogus voting.

Demerits:
- Possible to access the vote table by the admin
- Data encryption is not implemented

3. Proposed system

We have proposed a system where one can use the fingerprint or the iris or an OTP to cast their vote, to eliminate the bogus (fake) voting. In this proposed system, one can cast their vote even without visiting the polling booth. This will be helpful for the aged person since it does not require any travelling. One of the main objectives of our system is one can enable to vote from any part of the world as it is online process. One who doesn't have smartphone can go to polling booth to cast their votes. In our proposed system, we have altered level of safety in the voting process which provides reliable and secure voting. They are face recognition, fingerprint and OTP. Firstly, username and password are given to citizens for the registration process, where Aadhaar Id will be connected along with it. Then during election process, new user id and password will be given to citizens to cast the votes. Eligible citizens can cast their vote by either fingerprint or iris or OTP. Next the voting portal is accessed and vote is encrypted by the blockchain end to end encryption. The data are stored back-to-back. The results will be available within a fraction of seconds, once the voting process is finished as shown in Figure 1.

Figure 1. Block Diagram
4. Methodology

a. Login portal: Every eligible citizen should cast their vote with their assigned user name or password in login portal.

b. Iris recognition: Iris recognition is a way of recognizing a human eye through technology. The main advantage of this technology is even medical advances such as cataract surgery, refractive surgery and corneal transplants do not change the iris characteristics.

c. Fingerprint: As we all know the fingerprints of all human beings are unique, so here we are using fingerprint for voting which plays a major role to avoid bogus votes. During registration process, the fingerprints are captured and saved in the database system and then during voting process it compares with the database which is already stored, if it matches then the voters are allowed to cast their votes.

d. OTP: OTP (One Time Password) which is received through mobile phone and valid for one time. OTP cannot be misused as it is case sensitive.

e. Block chain Technology: Blockchain is a technology where data is stored and cannot be altered or changed. In this blockchain technology, no one can update or change data, if someone tries to do so it will not be accepted. These features make blockchain technology perfect suitable for building a secure e-voting system. This helps to overcome challenges which we are facing till now in voting process. The ultimate aim of this technology is to achieve fair voting process without any intervention of third party.

f. Advantages:
1) proxy voting cannot be done.
2) The false voters can be easily identified.
3) The voters can cast their voting from anywhere.
4) It gives an alert even if admin try to change database.
5) The result will be stored back-to-back.
6) It requires less man power and resources.
7) It is short process, less time taking, secure

5. Results and Discussion

The experimental result for the fingerprint and the face recognition over the implementation of MATLAB is given below in Figure 2.

Figure 2. Experimental Results
6. Conclusion

As we use three level of security layer like fingerprint, iris and OTP we can avoid bogus vote in this technology. The fingerprint and iris are very useful to find culprits who votes false vote. It is one time process and citizens can cast their vote anywhere. As data are stored back-to-back using blockchain concept, admin cannot change the vote. It requires less time and less man power. Thus, the proposed system is more practical and easier to implement.

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