Automation Voting System using Aadhar, Biometric Verification & Cloud via Mobile Application

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Abstract - **India is the largest democratic country in the world. The Citizens with 18 years and above cast their vote to choose ruling party, this process is called voting. In this paper, we propose a system in which, people who have citizenship with 18 years of eligibility can vote without involving any manual eligibility checking procedures in their home constituency on the Election Day. Our purpose of Aadhar based Election voting system in public elections that would allow people to vote electronically using, from their constituency within few minutes and processing in the cloud. In this system, voting is based on Aadhar's biometric database that is a fingerprint. This voting system would offer higher security and processing of information in cloud with handheld or portable device directly without IOT it will increase the voting.**

Keywords: Aadhar, Biometric, Electronic Voting Machine, Cloud storage process and voting system.

I. INTRODUCTION

The developing countries like India has large population and the number of voters are increasing day by day. Election is the basic process of democracy in which people cast their votes to the political leaders. Here in India the voting system is done by spending huge amount on the organizing election inspite of corruptions and obstacles on its occurrences. To avoid the cheating instances, expenditure and reducing manpower this automation vote processing through the software, cloud processing analysis and using internet connection has the higher probability in reducing it almost. Here the biometric linked with Aadhar is used for the information gathering of voter for authentication and directly choose the options to vote using a portable device.

II. LITERATURE REVIEW

a) First generation of voting:

The first generation voting uses Ballot paper and Ballot boxes for casting the vote. In this process the seal is affixed to the political party to be chosen and the voter drops the filled Ballot paper into the Ballot box. At final the Electoral officers checks the majority votes for the political party.

Figure-1: First generation of voting

b) Second generation of voting:

The second generation voting replaces the Ballot boxes with Electronic voting machine (EVM). An EVM consists of two units, control unit and Balloting unit. The two units are joined by cable. The balloting unit facilitates voting by voter via labeled buttons while the control unit controls the ballot units, stores the voting counts and displays the result on 7 segment LED displays.

Figure-2: Second generation of voting

III. OUR PROPOSED SYSTEM

The proposed voting system using mobile application involves in the voting using a developed mobile application in which, login id and password for booth electoral officer is used for authentication. Secondly, after verification it directs to the server page then the voter affixes their fingerprint in device screen for recognition where it shows all the details of voter. Then after verifying it directs to the voting page that displays the political parties symbol. Here the voter cast thumb to respective symbol and connects to aadhar thumb for matching. The verified vote count is stored in the cloud automatically and the analysis made for report generation using cloud is done.

a) Technologies in Proposed System:

1. Cloud Computing& Storage:

The practice of using a network of remote servers hosted on the internet to store, manage and process data rather than a local servers or personal computer. It also enables ubiquitous access to shared pools of configurable system resources with minimal management effort, often over the internet. In our proposed the voting process information is stored and analysis data process is done over the cloud storage.

2. R Programming:

R is a programming language for statistical computing and graphics that is supported by the R foundation for statistical computing. This is widely used for developing statistical software and data analysis. In our proposed system this programming languages is used for automatic statistical analysis of voting count and generate the pictorial data representation.

3. Mobile APP:

A mobile app is a computer program designed to run on a mobile device such as phone or tablet. It often stand in contrast to desktop applications and with web applications which run in mobile web browsers rather than directly on the mobile device. In our proposed system a specialized mobile app is developed in order to ease the voting system.

4. Thumb Scanner Software:

Fingerprint image acquisition is considered to be the most crucial step in an automated fingerprint authentication system. The procedure for capturing a fingerprint using software consists of touch id's in the combined with mobile app to be supported.

IV. PROCEDURE IN THE SYSTEM

In the proposed system, voter cast their votes through mobile application with authenticated aadhar number. Electorate booth officer install's the mobile app and they have separate login id and password with their thumb impression. The voter should come with their aadhar card and register their detail through the thumb impression. After getting the thumb impression the app should verify the thumb of the voter and display their aadhar details. Now the booth officers verify the details and submit after verifying everything and then the app directs to voting page. Now the voter can cast their vote by affixing their thumb on the respective symbol. Then it matches the thumb of aadhar and affixed thumb on the symbol and the booth officer submit the process. Finally, the storage and analysis can be easily generated through the cloud.

Figure-3: Proposed System

Advantages

1. The system is highly reliable, tamper-proof and secure.
2. In the long run the maintenance cost is very less when compared to the present systems
3. Illegal practices like rigging in elections can be checked for.
4. It is possible to get instantaneous results and with high accuracy.
5. This unique fingerprint voter ID card can be used for Identification purpose in Govt. /Semi-Govt. bodies E.g.: When applying Passport, Driving license, etc.
6. It provides automation in the processing of votes through the cloud computing and storage.

V. CONCLUSION

For over a century, fingerprints have been one of the most highly used methods for human recognition; automated biometric systems have only been available in recent years. This work is successfully implemented and evaluated. They arrived results were significant and more comparable. Because fingerprints have a generally broad acceptance with the general public, law enforcement and the forensic science community, they will continue to be used with many governments,, legacy systems and will be utilized in new systems for evolving applications that require a reliable biometric. Thus this voting system ensures the convenient way of processing voting with less resource utilization.

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