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Advance EVM Monitoring and Security Using Biometric Authentication with IOT

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ABSTRACT: The voting system plays a major role during elections. Traditionally, the election commission in India uses electronic voting machines which need more manpower, time-consuming and also they are less trustworthy. For avoiding misconceptions during elections, there are lot of advanced techniques are being proposed using various methods[1]. But in the field of biometric identification, we can get the better results and it is also trustworthy. we provide the various works which are being proposed based on the voting system which uses biometric identification as a major concept. The finger print module was already stored in the government database. Hence this project provides a best solution to avoid the false voting. The electronic voting machine was connected with the computer[4]. The computer is having the full database list of the peoples who is having the eligibility to vote. The electronic voting systems can be employed that replace the incident and most importantly error-prone human Component. Our project proposes and implements a simple and secured method of polling vote by using biometric. Due to the changes occurred in the technology, so many advancements were introduced in the field of voting. The improvisations aim at increasing the flexibility security, reliability, scalability of the model and provide less time consumption to announce the result[2]. But this electronic voting machine is a unique and new concept which saves a lot of time and avoids the false voting by a false person. In this system, the user has to use his fingerprint to poll the authenticated vote.

KEYWORDS: Aadharcard, fingerprintmodule, Biometric sensor,Arduino UNO.

I. INTRODUCTION

What is smart voting?

In a manual, paper-based election, the electorates cast their votes to select their candidates, where they simply deposit their designated ballots in sealed boxes distributed across the electoral circuits around a given country. By the end of the election period, all these boxes are officially opened and votes counted manually in the presence of certified representatives of all the candidates until the numbers are compiled. This process warrants transparency at vote casting time as well as at counting time. Often times, however, counting errors take place, and in some cases, voters find ways to vote more than once, introducing irregularities in the final count results, which could, in rare cases, require a repeat of the election process altogether! Moreover, in some countries, purposely introduced manipulations of the electoral votes take place to distort the results of an election in favor of certain candidates.

Here, all such mishaps can be avoided with a properly scrutinized election process; but when the electoral votes are too large, errors can still occur. Quite often international monitoring bodies are required to monitor elections in certain countries. This naturally calls for a fully automated online computerized election process. In addition to overcoming commonly encountered election pitfalls, electoral vote counts are done in real time that by the end of elections day, the results are automatically out The election process can be easily enhanced with various features base on the demand and requirements of different countries around the world. Due to worldwide advancements in computer and telecommunication technologies and the underlying infrastructures, online voting or e-Voting is no longer a North American or Western phenomenon. This high tech method of casting a ballot has spread far beyond the United States,

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expanding throughout the entire world. E-Voting, along with its benefits and mishaps, can now be found from the developed countries of JSPM NTC, Department of Computer Engineering 2018-19 1 Advance EVM monitoring and security using biometric authentication with IOT' Europe to the developing countries of Asia and South America. The introduction of electronic voting has been the biggest change to the Irish electoral system since the establishment of the state over 80 years ago. E-Voting may soon become a global reality or a global nightmare. Besides reliable e-Voting technologies, there is a dire need for international standards to govern the technology, the software reliability and accuracy, the processes and algorithms deployed within the technology, and the verification of all hardware, software and protocols involved. Such standards will eventually allow elections to proceed in any part of the world without the need for monitoring bodies.

- **FUNCTIONAL REQUIREMENTS**

As we have stated before, the traditional model provided the basis for the e-vote system requirements specification. In accordance with the business use cases of the model we have identified the features.

- **SYSTEM FEATURE 1**

Authorize admin:

This is the starting point of any new system to decide the admin those responsible for handling the all over system. The main task for admin is to create/update the voter list with their location and send all the data on server.

- **SYSTEM FEATURE 2**

Manage election unit

Election unit is the system counterpart of the "election center". In the conceptual model the election center is central to the election procedure, as it is the fundamental tallying point. Besides, in case electronic voting is performed in a controlled environment, with machines provided by the state, all votes cast from a certain "electronic" election point should be able to be traced back to that point.

- **SYSTEM FEATURE 3**

Authentication unit

A fundamental requirement of this system use case is to be able to anticipate for a range of contemporary, along with future, authentication mechanisms.

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II. METHODOLOGY

- System Architecture:

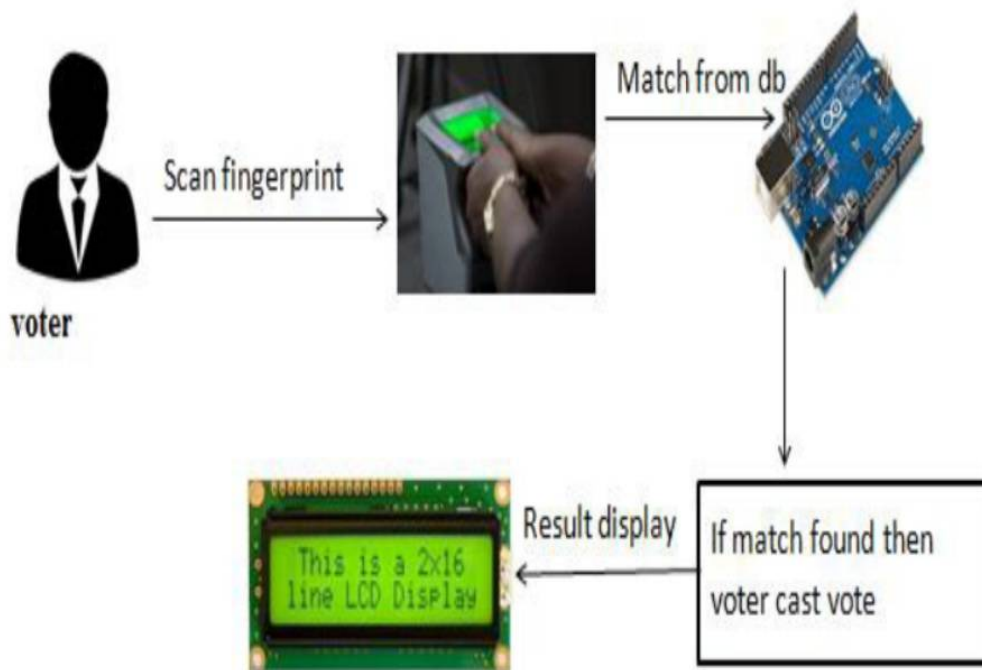


Fig.System Architecture

Admin: Admin have basic information about how to register the voter information and candidate details those are reflected for election.

Voter: The voters have basic idea about how to done authentication wit fingerprint and how to cast the vote on polling machine.

Candidate: Candidate should be follow the rule and regulation decide by community of government.

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- System Design

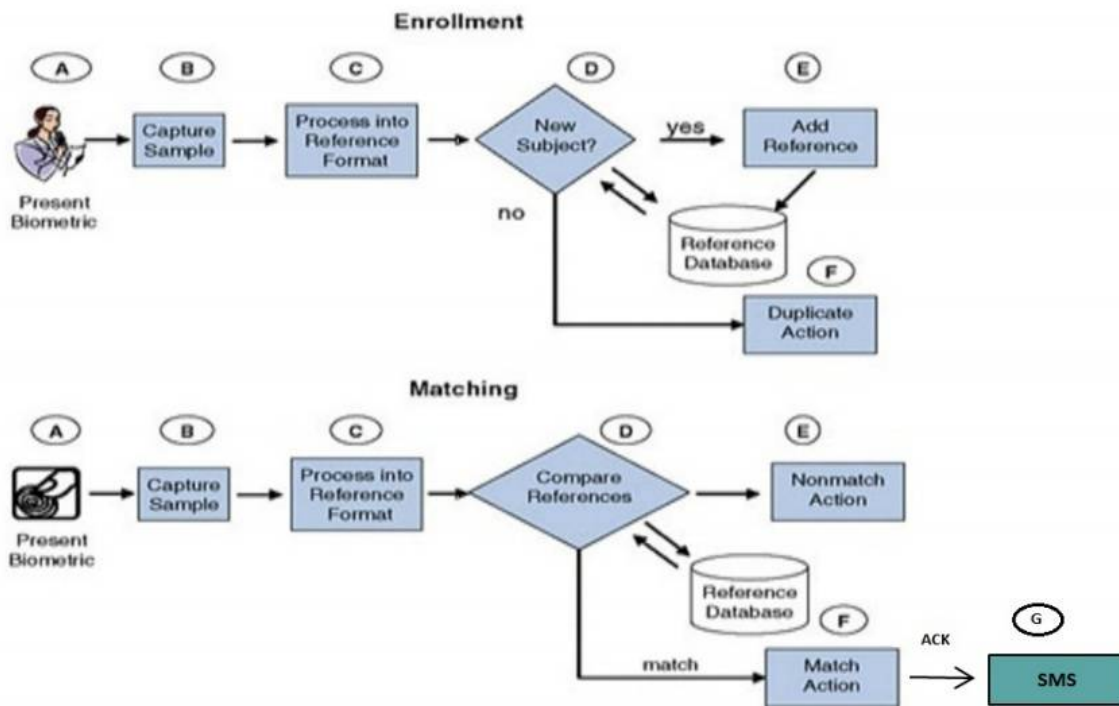


Fig: System Design

Enrollment:

The Admin will enroll the all figure's data of the voters by using biometric fingerprint scanner. The information about the all data of figure's has been stored in Database. The data of fingerprint stored with uniq ID that ID will be link with the user data.

Maching:

Biometricfingureprint scanner will scan the voter and take the sample. That sample will be compare with stored reference data.Ifthe data will not match with stored data then No-match action will generated. If the data will be match with the stored data then Match action will perform and voter will grand the permission to the vote. After successful vote the voter will received the notification about the voting.

III. CONCLUSION

The system is design based on latest technology is smart e-voting system. The existing system by using fingerprint recognition. Systems are providing high performance and high security to voting system. Smart e-voting system is useful for voter because voter can vote any other city to their current city. Developing Web-based Voting System using Fingerprint Recognition. Smart e-voting system may become the faster, better, and the most efficient way to administration election and counting vote as well as it consists of simple process or procedure and require a minimum

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election officer within the process. The system voting data are quickly transferred to the centralized databases. After the voting finishing the system display result quickly.

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