SMART ELECTRONIC VOTING MACHINE

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Abstract

Voting is an important process in which people can choose their own leader for the government. The device which we use for the voting process is an electronic voting machine with highly secured steps, biometric finger print with IOT. This had a secured database saved system. Voting was an important role in our democratic system as we have the right to select our leader for the government. For this purpose, an electronic voting machine EVM is introduced in this paper which replaced conventional methods of voting e-manual voting. Proposed machine in this paper is faster, efficient, and reliable and error free as compared to manual voting system which is slower, poses full day fatigue on people and chances of error are greater. Its main feature is its ease to operate. Voter polls a vote very easily and final results are displayed in no time by just pressing a result button, after the elections have been conducted. The basic idea of this project is to create an electronic voting machine that will help to eradicate defrauding of the manual voting systems and prior versions of electronic voting. The thesis looks into and proposes a system that includes multiple layers of Verifications to ensure the reliability of the device. With the inclusion of biometric fingerprint sensor, each voter is entered into the system only being recognized and checked with the given database of enlisted voters. Once the corresponding fingerprint is matched with the information provided, the voter will be allowed to proceed for choosing their preferred candidate from the panel of buttons. The final vote is then displayed onto an LCD for the satisfaction of voters. The proposed project displays transparency and also carries the feature of being autonomous during the course of operation.

1. INTRODUCTION

In the democracy the power of making these decisions is in the hands of people. People decide that who is going to rule or who gets the power through a process called "voting". The process of voting is not a new idea rather it is as old as the history of mankind itself is. Throughout the history different methods and techniques of voting have been adopted. The design parameters of voting system should be chosen in such a way that all concerned parties acting as candidates as well as voters that are polling the votes

must be satisfied with the announcement of results after elections have been conducted. Environment of voting and conducting elections basically depends upon the cultural values as well as political policies. The voting is migrating from the conventional ballot papers and boxes to the electronic methods. The term electronic voting, also called e-voting, represents many different types of voting (for both casting and counting of votes) using electronic devices. Optical scan voting system, punch card, specialized voting kiosks (including Direct-Recording Electronic (DRE) voting system are all examples of electronic voting technology. It also includes the use of telephonic network, private computer network and internet. However, e-voting system faced some controversies, especially DRE voting system, that it facilitates electrical fraud. This project is all about simple and smart electronic voting machine using Arduino. The basic idea of this project is to create an electronic voting machine that will help to eradicate defrauding of manual voting systems and prior versions of electronic voting. The system id provided with number of the switch where is the number of a political party here the voter will be allowed to proceed for choosing their preferred candidate from the panel of buttons. The final votes is then displayed on to an LCD for the satisfaction of voters.

In the end, the result can be automatically calculated by pressing the result button.

2. RELATED WORK

"A Novel Electronic Voting Machine Design with Voter Information Facility Using Microcontroller" was proposed by "D. Ashok, in 2011" in this paper and the votes are calculated by using the keys given and the result is shown on the LCD screen. The design of electronic voting machine explained in this paper is secured and accurate and it can be improved in the future for the power savings. The voting machine design explained in this system is accurate, clearly displays the message and highly secured. Communication ID Cards and Biometric Fingerprint Identifier (Near Field Communication), fingerprinter Arduino" was proposed by "Syed Mahmud in 2014" as we are using NFC cards as the voter's ID card and it allows each one-by-one card to carry some data which can be used to link and identify the owner of a card. It is also simple technology and quick technologies that can identify the correct owner. The advantage of this technology is by using fingerprint so they cannot cheat by duplicate voting. "Electronic Voting Machine EVM system" was proposed by "Kumar in 2012" that has to be studied further and should reach all the levels of different communities, so that the confidence of the voter will be increased and official's election will make

more involvement in using the secured EVMs for conducting faster, secure, accurate voting elections.

"IOT Based E-Voting System" is in this and the system is used for long distance. It saves time, money, and effort to reach the polling booth. Display of result will be easy and quick. It gives high data security. "Advanced Electronic Voting Machine using the Internet of Things (IoT)" is here scanner and is used to reduce or remove the unwanted human error. It is capable to handle multiple modules in various centers. "Distributed Voting System Using IOT" is in this and it increases voting A Study on Smart Electronics Voting Machine 93 percentage. It reduces the errors of duplicate voting.
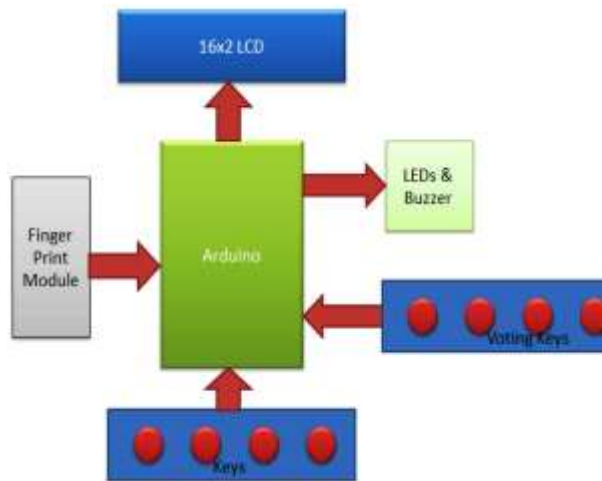
3. IMPLEMENTATION

Now-a-days, e-voting system faced some controversies, especially DRE voting system, that it facilitates electrical fraud. the recent controversy about electronic voting has focused attention on the conduct of elections, which had been neglected by the public and policymakers for far too long. Although this attention is uncomfortable for many in the election's community

The main objective of the "**SMART ELECTRONIC VOTING MACHINE**" Voting for a leader is the most important process which carries the essential result of the opinion of the people in selecting their

leader for the government. So, this project improves the security, to reduce electoral fraud, and to get faster results.

Biometric Voting System for Election is a little bit complex for beginners. First of all, user needs to enroll finger or voters (in this code max limit of the voter is 25) with the help of push buttons/keys. To do this user need to press ENROLL key and then LCD asks for entering location/ID where finger will be a store. So now user needs to enter

ID (Location) by using UP/DOWN keys. After selecting Location/ID user needs to press an OK key (DEL key). Now LCD will ask for placing finger over the finger print module. Now user needs to put his finger over finger print module. Then LCD will ask to remove the finger from finger print module and again ask for placing the finger. Now user needs to put his finger again over finger print module. Now finger print module takes an image and converts it into templates and stores it by selected ID in to the finger print module's memory. Now voter will be registered and he/she can vote. By same method all the voter can be registered into the system.
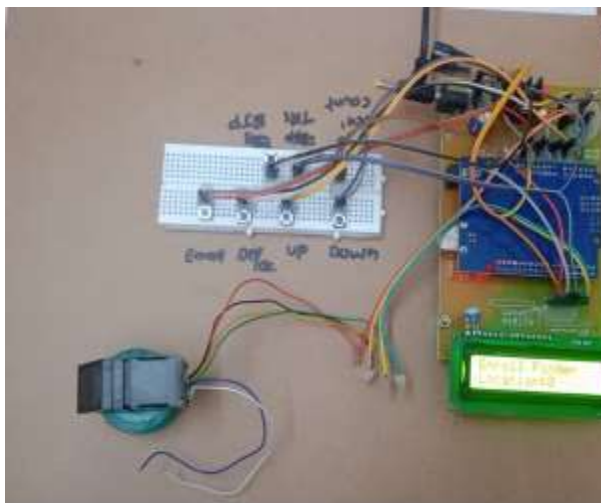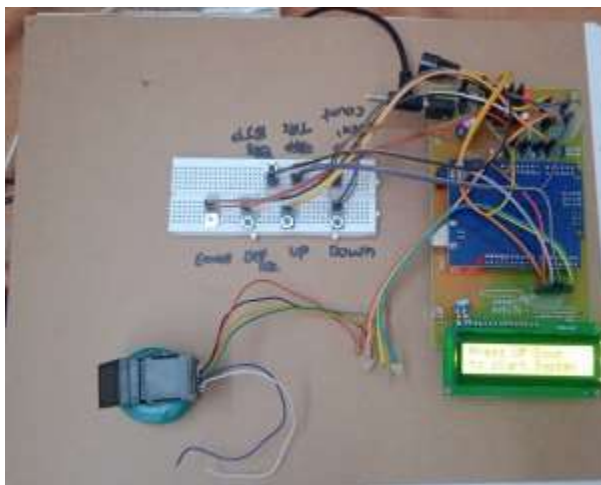
Model Diagram

Now if the user wants to remove or delete any of stored ID then he/she need to press DEL key, after pressing DEL key, LCD will ask for select location means select ID that to be deleted. Now user needs to select ID and press OK key (same DEL key). Now LCD will let you know that finger has been deleted successfully.Now when user wants to vote then he/she needs to press match key and then buzzer will beep and LED will also glow and LCD will ask for place finger over fingerprint module. Now Arduino will give you three attempts to put your finger. After placing a finger over fingerprint module fingerprint module captures finger image find its IDs is present in the system. If finger ID detected then LCD will show authorized Voter. It means the user is authorized to vote. And then the system moves to next stage for voting. Now Green LED will glow it means now voter can vote for their candidates by pressing a rejected key (from RED bread board in this

demonstration). Now if the same voter wants to vote again then the system will show it *'Already Voted'*. Means same voter can't vote again and buzzer will beep for 5 seconds. If any Non-registered user wants to vote then finger print module will not detect its ID into the system and LCD will show '*No Fingerprint Found'*.

4. EXPERIMENTAL RESULTS

The process was started by enrolling the finger print. If the fingerprint is already verified then it gets rejected, then the person is rejected for voting. If the fingerprint is new then, the person can enter into the next step. If the finger print doesn't match in data stored then, they are eligible for the voting of their leader and they can select the voting button. After selecting the voting button, the data is saved automatically by using the Arduino concept. So, that the same person cannot be eligible for voting for the second time. Finally, on the LCD display, your voting is done will be displayed. To do this user need to press ENROLL key and then LCD asks for entering location/ID where finger will be a store. So now user needs to enter ID (Location) by using UP/DOWN keys. After selecting Location/ID user needs to press an OK key (DEL key). Now LCD will ask for placing finger over the finger print module. Now user needs to put his finger over finger print module. Then LCD will ask to remove the finger from finger

print module and again ask for placing the finger. Now user needs to put his finger again over finger print module. Now finger print module takes an image and converts it into templates and stores it by selected ID in to the finger print module's memory. Now voter will be registered and he/she can vote. By same method all the voter can be registered into the system

5. CONCLUSION

An Electronic voting system was developed. It employed a dual authentication technique using both voter biometrics (finger print) and unique voting pins sent to the voter at the point of registration. This restores confidence in the electoral process. With this system data collation as regards demographics breakdown becomes way easier. It also provides a cheap, locally assembled, easily reproducible and highly sort after but presently unavailable or costly automated voting system. However, this electronic voting system is more suitable for small scale elections such as during political party primaries to select their flag bearer in a general election.In India, the electronic voting machine was not secure at present days. They are many security problems. So, this design of the electronic voting machine was completely based on security purpose to show the original result to the people. This system is a small contribution to a fair election. The review proposed in this paper was voting machine with highly secured. We can secure the votes using some technologies by using IOT in the voting machine and it can develop a smart system of detecting an incorrect match of biometric at booth and biometric, it can trigger alertness and can communicate to the authorized person. A country with less voting percentage will struggle to develop their country by choosing the right leader. This is mainly due to the failure of the security level in the present voting system. The recent controversy about electronic voting has focused attention on the

conduct of elections, which had been neglected by the public and policymakers for far too long. Although this attention is uncomfortable for many in the election's community, it is healthy. Ultimately it will result in stronger foundations for our democracy.

6. REFERENCE

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