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# Finger Print Voting System with Two Way Verification

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**Abstract:** A finger print voting system was created 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 after 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 in choosing their preferred candidate from the panel of buttons. The final vote is then displayed onto an LCD for the satisfaction of the voters. The proposed project displays transparency and also carries the feature of being autonomous during the course of operation.

**Keywords:** Finger print sensor, RFID Chip, LCD Display, Arduino Uno R3.

## I. INTRODUCTION

If the people are first entered the election booth before the voting process while scanning voter id if back side attached rfid chip and if the process is stored the database is automatically.

After verifying the scanning report matched if the people are allowed to pull voting, if the voter scanning is not matched doesn't allow that people. Only matched person is put the voter in the voting machine. first select the party and select the candidate if the voting process is complete. Then automatically counted the vote in the database. this the process is very useful in a current field. If the voting system is not used in current state, only used in another all states. if the voter is put a vote in within 5 minutes, if the voter is late our vote not registered in the database.

So Elections were a defining feature of democratic government, an electoral system is the set of rules that Determines how elections and referendums were conducted and how their results were determined in old. Political electoral systems were organized by governments. There were so many electoral systems in the world. That was reduce these type of work which is paper ballots, punch cards and Optical Mark Sense Ballots.

Most of the electoral systems elect a single winner of a unique position, such as prime minister, president or governor, while others elect multiple winners, such as members of Of parliament or boards of directors in current. The fingerprint voting system is an electronic voting machine using a human biometric system with two way verification. It's reducing the staff and polling time from the paper voting system is our project idea.

In all the country votes were decided the feature in less. For that, we were introducing the new method of voting system to increase the standard of living already According to the current system, votes could be counted manually. but we do that voting count is automatic.

Become unpopular, in part due to a public perception that large electoral districts make MPs less accessible to the public and less concerned about the local issues in current. Other concerns regarding election violence and campaign financing too have, erroneously, become associated with and seen as ills of the current electoral system.

Digital information in the modern era.

There were different levels of e-voting security. Online voting process authentication can't do with fingerprint sensing at the time of voting. Because so many people are hacking on the voting system. the voting system of online is to make so many fraud voting. So avoid the process of the online voting process. As a primary key of the system is in Provisioning of voting preventive measures Silence is voter id scanning and rfid chip scanning, which will make the system more secure because of that making use of the two way verification with finger Print and voter id scanning can't be no duplicate voting. This entire system can be implemented the fingerprint scan and rfid chip scanning. Valid voters will have their name, fingerprint and other details on the government database server for each state district wise automatically sent. This will therefore ensure with the help of a unique fingerprint scanner and rfid chip scanner only legitimate users can cast their vote.

### A. Objective

The fingerprint voting project demands the user to submit Fingerprint at the polling Booth so many verification. The project uses the Fingerprint voting technology and Arduino Systems to design this application with it. The main objective of this project is to design a system that asks for user to show his/her Fingerprint as an identity proof and voter id scanning proof. The system checks the data from the Fingerprint scanning and rfid chip scanning using verifies the data which are already stored data in the new database based on aadhar card. If the given details of the fingerprint are match with the database data, the system allows the person to cast their put vote. If the given Fingerprint data does not match with the stored data, the system immediately activates the alarm and display the Security authorities can come and take the further action.

### B. Background Of The Project

This research was implemented using the Arduino with rfid chip. The system reads the data from the Fingerprint module verify and scanning verify the data with the already stored data and take the next action. The system is totally designed using Arduino, Fingerprint module, pushbuttons, LCD display, rfid scanner. The Arduino is controlled by the program using android to allow the interface with Fingerprint Module, the Arduino controller and LCD display connection, pushbutton verified this data with the already existing data in the controller's memory and then implement with commands directed by the controller section in few Sec.

### C. Advantages of Fingerprint Based Voting System

- 1) It provides chance to avoid invalid votes
- 2) It reduces the polling time
- 3) Easy to carrying to polling center from the polling box

### D. Problem Definition Of The Project

In 21 century society where electronic technology is growing at an ever increasing rate, it is difficult to understand why governments were not converting to electronic form to guaranty "One Person – One Vote and , to eliminate fraud and corruption vote. An example of how a finger print voting system is will therefore with disabilities and vulnerable to corruption can be found in the elections, where the last election was number and fingerprint scanner only legitimate users can invalidated due to fraudulent paper ballots used to stuff cast their vote. the ballot boxes and elect a president illegally. To repair recurring cost if the fraud occurred again and it is difficult to bring charges against the people committing the crime due to lack of evidence and an audit trail that could be used as a "Chain of Evidence" by lawyers. Another example is when paper election ballots ran out at an American election and additional ballots were produced using a printer and make-shift process for creating the new ballots on white paper instead of the normal blue ballots. People rushed to obtain the new white ballots and quickly completed them and stuffed them into the ballot boxes in a manner that was not traceable and could have been fraudulently submitted, showing that even first world countries suffer from the use of paper based ballots To eliminate the problems brought on by the use of paper ballots and integrate safety policies designed to root out fraud and scandal, while guarantying "One Person – One Vote", it is strictly that an electronic voting system be implemented. This system would provide ballot displays on a video screen instead of paper. Help screens would be available to the voter by simply clicking on a button, guaranty that all necessary ballot fields have been entered correctly – thereby eliminating data entry failures or votes being lost due to illegible hand writing or mistakes. But first, you must insure that the voter is who they claim to be and not a name found in the local cemetery or obituary column. Secondly, you must insure that the voter has not voted previously at another site in this election.

### E. Existing System

According to the India first used the past-the-post (PTP) system. That is the place where the candidate who is a wins by getting the highest number of votes and secondly, is not worthy of anyone. In addition to a number of different and districts, there was an action in the most electoral districts. In the past, the first-past-the-post (FPTP) system of India has resulted in greater influences, the people were so frustrated. India currently utilizes a single ballot to elect its 225 Parliamentarians: 196 seats to 22 multimember constituencies and 29 national seats. All voter is allowed to select up to three candidates (without a rank ordering) from within their chosen party as their preferred representatives within their electoral district Preference counting is the one of the most difficult counting. This system referred to internationally as 'open list' voting is referred to in India as 'preferential voting'. This system has become unpopular, in part due to a public perception that large electoral districts make MPs less accessible to the public and less



concerned about the local issues in current. Other concerns regarding election violence and campaign financing too have, erroneously, become associated with and seen as ills of the current electoral system.

#### *F. Proposed System*

The proposed system is based on the version electronic based fingerprint voting system using Arduino uno r3. In this system, use fingerprint verification and rfid chip scanning. The interface accepts voter's national ID card number, provides an interface to vote and display confirming status for fingerprint matching or not and error messages. The fingerprints for authentication because fingerprint processing is faster and better than other biometric data and internationally very popular in the immigration system. Slaves were placed at a remote location from the poll booths for election.

They were used to carry out of the processing work such as fingerprint processing, image processing, transferring data between the client and the database, generating reports, sending message to voters. There is a central database contains all the demographic and biometric fingerprint data of every citizen of India.

In order to reduce load on the central database server, there were sub-databases in every district election vote that will be located alongside the servers which will contain more copies of data from the citizen that wander in district. All the sub-databases, retrieve data from central database server only these people who come under its scope.

The data is periodically updated and is stored in volatile form so it can be erased if and when necessary. Sub-databases server will retrieve only the data that is related to the election voting process and exclude all their irrelevant information from central government.

These databases will be used for generating reports and result of the electoral process.

These data bases make it possible to allow voting from anywhere provided that the voter is within the electoral system. In order to authenticate a person of fingerprint scanning and rfid chip scanning, require them to have a valid National Identity Card No. The number will be checked in local database first; if it is found, then it will search the central database.

If the person's number is not found in the central database, then the person will be devoid of faking part in the voting process. On the other hand, if the number is present in the central database, then the data of that person will be cached to the sub-database in server. This record is extracted from the local database and sent to a then fixating servers for far their process for verifying the person's fingerprint and rfid scanning will be scanned at the client side and matched one to one of the servers with the data extracted from the local database.

## **II. LITERATURE REVIEW**

Vishal Vilas Natu [1] proposed the voting system is completely depending on paper work and electronics machine. There is more paperwork to save the information about voter and the voter must go to the ballot box by carrying voter id for authentication. Once authentication of both processes is done by electing executive, then voter donates their vote by using electronic machines. The machine consists of a list of candidates and other details are presented multiple buttons in front of their particular name by putting the finger print the button voter can donate their vote to the candidate. To overcome this traditional election voting system, there has to be study of digital technology and their more security.

Khasawneh, M., et al. Said in paper-based elections, voters cast their votes by simply putting their vote in sealed boxes distributed across the electoral system circuits around a given country. When the election period ends, all these boxes are opened and the votes were counted manually in the presence of the certified officials already. In this the client and the database, generating reports, sending process, there can be error in counting of votes or in some message to voters in previous process. Cases voters find ways to vote more than once automatically. Sometimes voters are even manipulated to distort the results of an election in favor of certain candidates.

[2]. Virendra Kumar, et al. [3] Proposed An smart Electronic Voting System that will automatically perform authentication, validation and counting with the help of UIDAI in few seconds. The proposed electronic voting system can be implemented along with the traditional election smart voting system. The proposed an approach that used the information provided by UIDAI in the electronic voting system already.

David Chaum [4] addressed the concepts of untraceable electronic mail and digital pseudonyms, which can apply for any time in electronic voting for anonymity.

Block Diagram

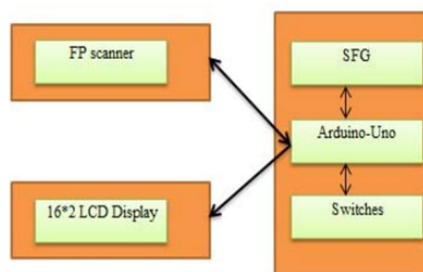


Fig.1.block diagram

### III. MATERIALS AND METHODS

The Fingerprint Voting System (FVS). Since the basis of any voting system is “One Person – One Vote for finger print voting”. (to eliminate double voting).

The main purpose of fingerprint voting system is to Their system to extract information of the images from web pages and then ‘Preventing Fraudulent Voting in current’. This system has basically 5 types of modules. There were

- 1) Fingerprint Enrolment process
- 2) Authendication verification
- 3) Cast the votes
- 4) Alert for wrong voting
- 5) Generate final report

Fingerprint voting, electoral system means that people can trust the results because it allows for a process that is so Auditable, transparent and more secure. It also helps reduce human error manually. Fingerprint voting and electronic voting, counting means that people can get the trust of official election results within a few hours, instead of weeks and before. Again, this builds trust after the election. Technology will be a useful very easy way of improving our voter education system and registration, to increase engagement, time saving and voter turnout .It is a very good way of making voting process is more easily accessible, meaning it’s easier for disable people to vote independently in easy way. Will not allow the candidate to vote for the second time because is counted the fraud voting. Admin will be automatically deleted after the completion of This Fingerprint voting machine using Fingerprint is mainly an Arduino system that makes the things easy in the polling booths during the election time. The user, who wants to pull their vote, has to submit the identity proof at the counter at the polling boothIn the research project, the user now needs to carry with their sufficient material and voter card. Voter card is nothing but Fingerprint which stores the details of the person like the name of the getting the backup. User, address, national identity card number, mobile Figure 2 shows the schematic diagram of the number of contact etc. fingerprint voting system. It’s used to develop the system When the election time election polling booths, power unit is very easy manner voting process. Turned on, the ballot unit displays its “welcome to voting process” the beginning stage of the message on the LCD indicating that the machine Is ready and fingerprint voting system develop used that schematic don’t waits for voter input. The mode of operation depends on diagrams.

#### A. Algorithm of Fingerprint Voting System

- Step 1: Start
- Step 2: Scan your Finger
- Step 3: Finger matched
- Step 4: Found match
- Step 5: Cast your vote
- Step 6: Press button from party list
- Step 7: Party selected
- Step 8: Press three button from candidate list
- Step 9: Candidate selected
- Step 10: Vote Success
- Step 11: Stop

## B. Methodology

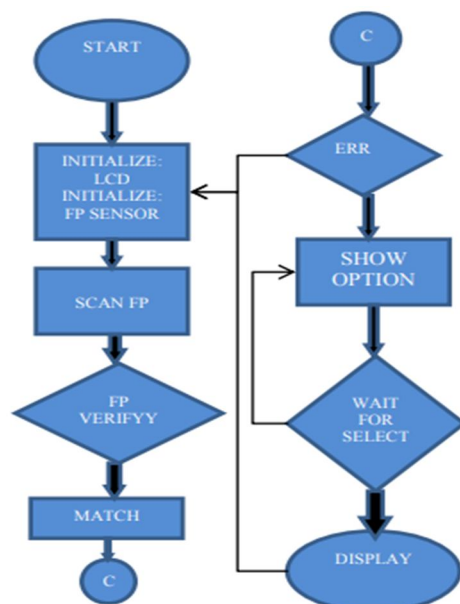


Fig.2.methodology

## C. Circuit Diagram

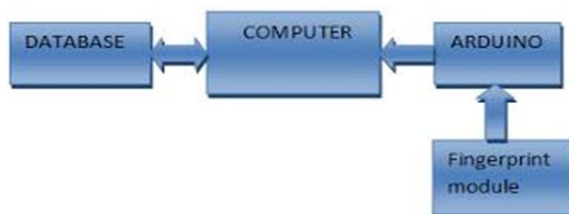


Fig .3.circuit diagrams



Fig .4.put finger print



Fig.5.finger print verification

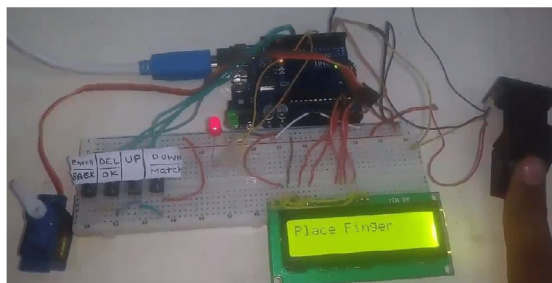


Fig .6.finger print voting models



Fig. 7.finger print module

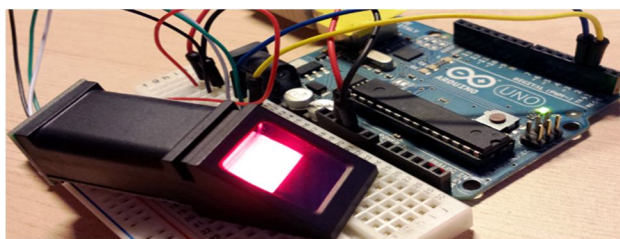


Fig.8.fingerprint with adiuno uno r3

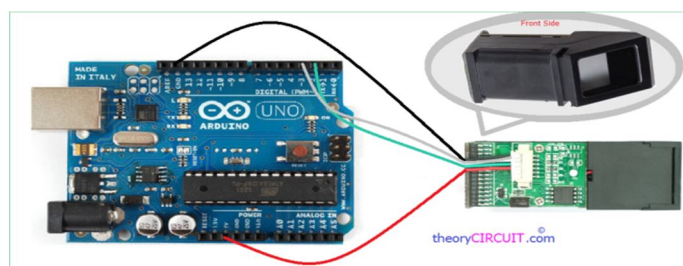


Fig.9. adiuno uno r3

#### IV. RESULTS AND OUTPUT

The voting of results in finger print voting system is we discussed our project output is

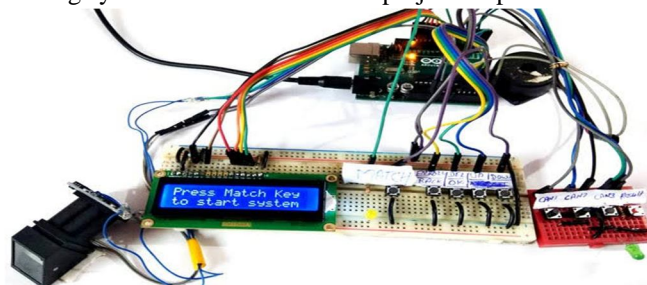


Fig.10.project output

## V. CONCLUSION

In total, finger print voting system overcomes most of the problems in current to faced during the voting period by the voting system of paper ballot system. The efficiency of this system depends upon the web utility of the system.

The system is interface and its usability. This will surely ensure a safer voting method which is very much what is required for a healthy growth of voting system developing in nation current states.

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