

Time Implementation of Real Time of Implementation Electronic Voting Machine Using IOT

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Abstract— The Internet of Things (IoT) could be a recent technology wherever electronic devices, software, sensors, vehicles, home appliances square measure interconnected with networks to transfer knowledge while not human or pc interaction. The matter within the existing system is, the electronic vote machines don't have any recent security measures by that the elector will verify their identity before soliding the vote thanks to false voters will cast varied duplicate or faux votes. So, the projected system is enforced victimization RFID and IoT (Internet of Things) to improvise the safety mechanisms. Here, a vigorous RFID tag is employed in situ of elector id wherever the system will scan the tag and matches fingerprints. It includes active reading instrumentation (reader) for reading knowledge in RFID tag and finger print scanner with the fingerprints. The elector should scan the RFID tag for the identification and more the elector should ensure the identity with the employed during this mechanical device for scanning finger prints. If the prints matched against the information gathered, the people will effectively solid their votes, if that's not the case, the buzzer are afraid to avoid casting of pretend voters. A alphanumeric display is applicable within the method of displaying the corresponding info of the elector from the information, so outlawed vote or impersonating is avoided since the finger prints isn't identical for each individual. This system offers most security and potency. This method additionally transferred the count of vote registered against every policy and NOTA to the mobile range of commission officer.

Keywords IoT, RFID.

I.INTRODUCTION

In democratic ruling system, voting is the important weapon to choose the right candidate as a leader among all eligible candidates who appear in the race of becoming the right leader. An honest “vote” can elect the honest candidate, and ultimately it can build efficient and honest Governance. If the Governance of any country is strong, it can increase standard of living of democracy. People can choose the right candidate—representative of individual party by giving vote to the right party. To make the voting process smooth and transparent, electronic voting machine is used. In earlier days, people were using manual voting system, in which people have to submit the ballot paper of individual party in voting box. At the end of voting process, election committee officers count the ballot paper of individual party. At the end of counting process, committee members declared winner party who has maximum ballot papers. In traditional voting system, there would be chance of malfunctioning like repeat voting, fake voting, mistake in counting ballot papers, etc. Electronic voting system overcomes this problem as counting of ballot papers is to be done automatically by the machine itself. Electronic voting systems are also not up to the marks as design of system firmware is not proper, and there would be a chance of malfunctioning in the design of firmware itself. Sometimes, the authentication process is not properly designed in the electronic voting system. To overcome the problems of manual voting system and traditional electronic voting system, it is essential to design smart voting system. The suggested system is the design of smart voting system based on the Internet of Things (IoT) platform. The system is becoming secure as authentication is to be done by scanning the fingerprint of voter. Purpose of doing authentication using fingerprint is to enable the electronic ballot reset for allowing voters to cast their votes and also enables to send the vote details directly to the server. So, the authentic person can only vote for the specific party. If user is authenticated, then and then machine will accept the vote. As the system is based on the IoT platform, when the system is started with the voting of registered voter, the system will check authenticity using biometric authentication process. Once the authenticity is checked, the voting process will be started by allowing voter to give the vote to the specific party. The specific party will be selected by pressing the button for individual party for only once. At the regular interval, the voting data will be uploaded on Google cloud and Google spreadsheet by pressing upload button.

II.AIM AND OBJECTIVE

To review the existing model of EVM Upholding Democracy as a factor for development of the nation. To

establish use of RFID based Smartcard for identity purposes. To implement efficient dual biometric verification for the voting process To design a smart voting system to enable voting from any constituency. User friendly environment with secure database .Efficient and accurate calculations of voting results Adapting new methods to reduce human effort

III.SYSTEM WORKING PRINCIPLE

Motivation of designing smart voting machine based on IoT platform comes from some existing electronic voting machines. Existing electronic voting machines are vulnerable to attacks. Attacks could be physical accessor remote access of the system. The attack could be like anyone can change the existing code of the system by malicious code and malicious code can steal votes or changes the votes from one party to another party. One of the existing systems is electronic voting machine using biometric identification. In this existing system, vote can be given by accessing voter’s fingerprint. Then it will be matched with the internal database of fingerprints. Fingerprint-based biometric voting machine can be implemented on Arduino using fingerprint sensor module [6]. But the limitation of this type of system is that we cannot keep the record of voting data on to the server. Cryptographic voting scheme is used to provide transparency and enable fa st tally. The problem of cryptographic voting machine can be overcome using Bingo Voting. Smart voting machine can also be applicable by linking the Aadhaar Card of the voter with the voting machine . The proposed system can overcome all above- stated issues. The design of smart voting machine can be done by some hardware component as well as specific software environment. The hardware component consists of Arduino UNO board, fingerprint sensor module, and LCD. The software environment consists of E- VOTING. Arduino UNO Board is shown in Fig.2. The Arduino UNO board is ATmega328- based microcontroller which is working on 16 MHz frequency. The board consists of inbuilt ADC and USB connection port [8]. Arduino C is the derived programming language from C/C++ which contains in built hardware-based libraries. Fingerprint Sensor Module is shown in Fig. 3.

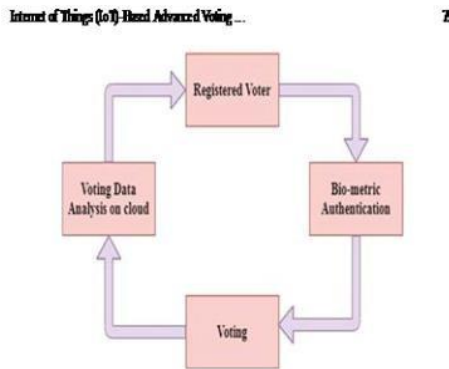


Fig. 1 Functional block diagram of proposed system

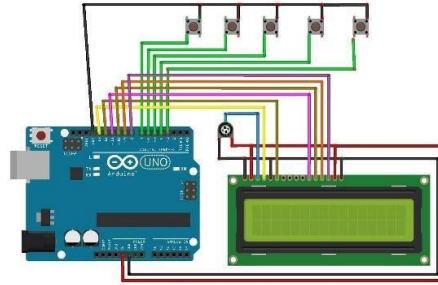
Using this fingerprint module, user can store finger print data and can configure it in 1:1 or 1: N mode for identifying the person. The module can interface with any microcontroller. Liquid Crystal Display (LCD) is used as the remote notice board display. The pin-out diagram of 16 * 2 size LCD is shown in Fig. 4.



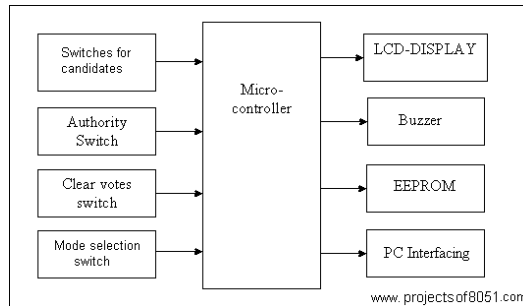
Fig. 2 Arduino UNO board

II. METHODOLOGY ADOPTED

A. SYSTEM COMPONENTS



**B. SYSTEM WORKING FLOW
BLOCK DIAGRAM AND CIRCUIT DIAGRAM**



III. EXPERIMENTAL SETUP AND RESULT

Experimental setup of the suggested system is shown in Fig. 6. It consists of Arduino UNO SoC, fingerprint sensor module, LCD and push buttons. The software environment is created using Arduino C and HTML scripting language. Test results of the proposed system are discussed in following figures (Figs. 7). When system is started, it tries to search the sample of fingerprint. Internet of Things (IoT)-Based Advanced Voting. When matched sample is identified, it will validate the message on LCD as shown in Fig. 4. According to the voter's selectivity, the validate message for individual parties is shown. If user wants to see the statistics of individual party votes, then he/she has to press upload button. The same voting statistics are also captured on.



V.CONCLUSION

IoT-based smart voting system is designed and implemented here. The suggested system is more secure and reliable from any other traditional system, because authentication level is added in the system before voting process. Authentication process is to be done using the method of fingerprint matching. As the IoT facility is added in the system, the statistics of the individual party vote can be uploaded onto the server. Because of the authentication stage, malfunctioning like fake voting, repeated voting can be overcome. Suggested system is limited to do authentication process for 20 users only as fingerprint module used in the system is capable of scanning fingers of 20 users only. The proposed system can be enhanced by linking the Aadhaar card or Voting Card of individual persons with the system database. Authentication process can also be increased in form of the face recognition or iris recognition or palm recognition instead of fingerprint recognition.

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