AADHAAR BASED VOTING SYSTEM USING FINGERPRINT SCANNER

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ABSTRACT

The project is designed to make a single system which can authenticate the voter as well as perform vote casting. Because security is a major concern for every voting system. Reckoning the increasing security threats, it becomes very necessary to prevent it from fake voting. Hence, the need for such type of system which uses biometric information to verify the valid voter. The system ensures authentication of an individual by matching fingerprints and eligibility is checked by calculating the age of the voter thus making the existing voting cards redundant. This project proposes a secure on-line e-voting system that uses UIDAI or Aadhaar info as its backend. At the time of voting in the elections, Voter has to enter his/her Aadhaar ID. If that ID is present in our database, Detail of info of voter will be displayed in Monitor. Then it drives the next finger authentication stage. Otherwise it will end the session. The authentication can be done using finger vein sensing with the help of fingerprint module. It allows the authenticated voters to vote on voting server.

Keyword:-*Raspberry Pi 3, Fingerprint Scanner, Web Server,GUI and UIDAI***.**

1. INTRODUCTION

The voting process is used to allow the voter to select their choices in specific issues, pieces of legislation, citizen initiatives, constitutional amendments, recalls or to choose their government and political representatives. Now day's technology is used to perform such voting among the world. To make it secure every voting system consists of voter identification and authentication. And further process like voting cast, result of voting are included. In India electronic voting system is used, but is used only to cast voting. To verification of the voter's, man power require at the polling booth. The process of verification of voter, take much time. To overcome these problems an inbuilt voter verifier is needed in the voting machine.

In India, the government started collecting biometric information of public and providing them a unique identification number called Aadhaar number. Hence the database of UIDAI can be used to authenticate the voter. According to our project, an advance voting machine will be made. Machine will contain GUI for Voters, connection with ECI voting Server and connection with Aadhaar server to fetch voter's information. For authentication of voter a Fingerprint Sensor is connected with it. Finger print of voter is going to scan by fingerprint scanner, it will send the information to machine. Machine will fetch the Aadhaar information for particular fingerprint data. After matching voter will be able to vote by simply clicking VOTE button. A Ballot window will open to perform Vote casting. After performing successful Vote flag for the particular person/voter will become one to eliminate the chances of double voting. Then the next person will allowed to cast vote.

2. EXISTING VOTING SYSTEM

Electronic voting Machines ("EVM"), plan mooted by the Chief Election Commissioner in 1977. The EVMs were devised and designed by election Commission of India together with Bharat Electronics Limited (BEL), Bangaloreand Electronics Corporation of India Limited (ECIL), Hyderabad. The EVMs square measure currently factory-made by the on top of 2 undertakings. An EVM consists of 2 units [6],

- Control Unit
- Balloting Unit

The two units square measure joined by a five-meter cable. The management Unit is with the leader or a Polling Officer and also the balloting Unit is placed within the voting compartment [6].

2.1Problem in Existing System

It is impossible for a vote to be altered e laminated the invalid vote can't be counted from the finally tally.The terribly normally better-known drawback Rigging that is faced in each electoral procedure. One candidate casts the votes of all the members or few amounts of members within the electoral list lawlessly. This leads to the loss of votes for the opposite candidates taking part and additionally will increase the quantity votes to the candidate who performs this action. This will be done outwardly at the time of vote. The system permits any citizen to interrupt the vote method to resume it or restart it whereas the poll stands. The present elections were done in traditional approach, mistreatment ballot, ink and tallying the votes later [6].

3. PROPOSED SYSTEM

We have design a single machine which can use for Voter authentication as well as Vote Casting. This system is based on embedded system. Combination of biometric scanner, electronics hardware, software and inbuilt network connection, which can be replace with existing EVM in polling booths. Inbuilt network connection can help to maintain help network security. Graphic user interface is design for display voter info, messages and ballot paper. Ballot paper can be changed by admin (ECI) through server from anywhere. This system is having plan to use UIDAI database for fingerprint scanning. High speed internet connectivity is required for this system.
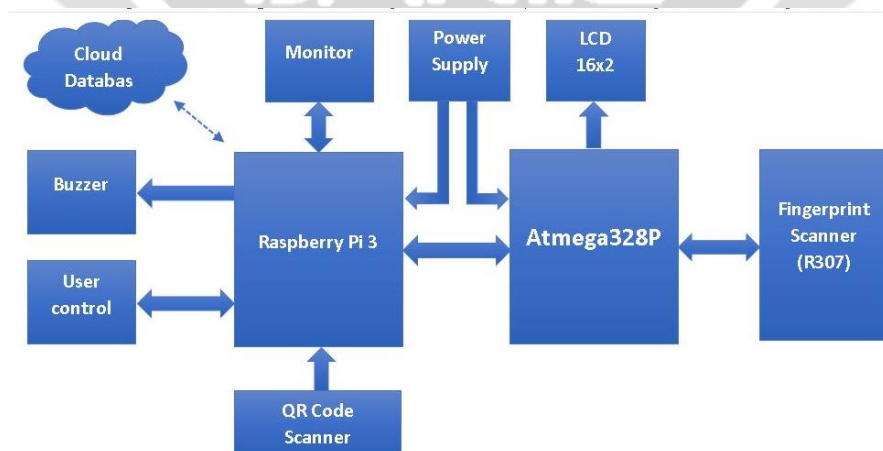
3.1 System overview for Proposed System

Fig -1: System overview for proposed System

The fig -1 is the system overview, we have proposed. QR code can be connected for faster acceptance of Aadhaar Id. We have design the system and check the working with dummy Aadhaar database, hence we not used QR code scanner in our hardware model. The flow of working of whole system is shown in fig -2 below.
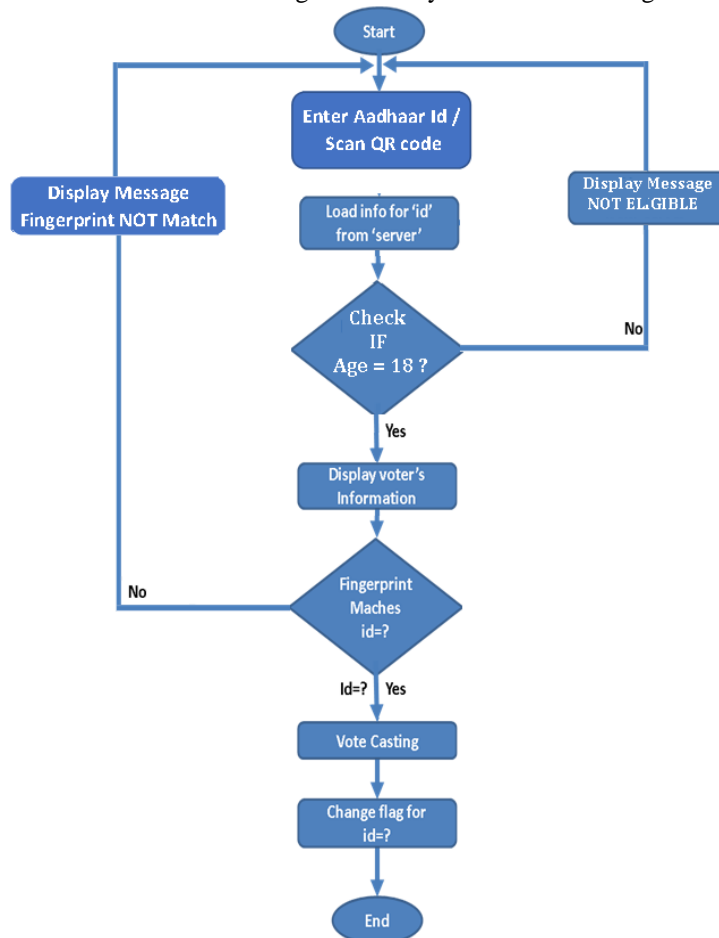

Fig -2: System flow

3.2Working

The first image of the fig -3 is first window of software. In window software ask person to scan fingerprint. After scanning of fingerprint software will load information of voter from the server. Then next window will appear where the voter information will display which is second image. After clicking on 'VOTE' button next window of Ballot paper will appears. Which is shown in third image of fig -3.In ballot paper VOTE buttons is present to cast vote for respective candidates. After clicking on VOTE button vote will be casted. And then message for Successful Voting will displayed. As shown in fourth image of fig -3. After delay of five second it will back to welcome window.If voter who has already voted will try to vote again then message will displayed on screen that "You have Already Voted". And he/she will not allow to cast vote again. As shown in fifth image of fig. -3. After delay of five second it will back to welcome window.
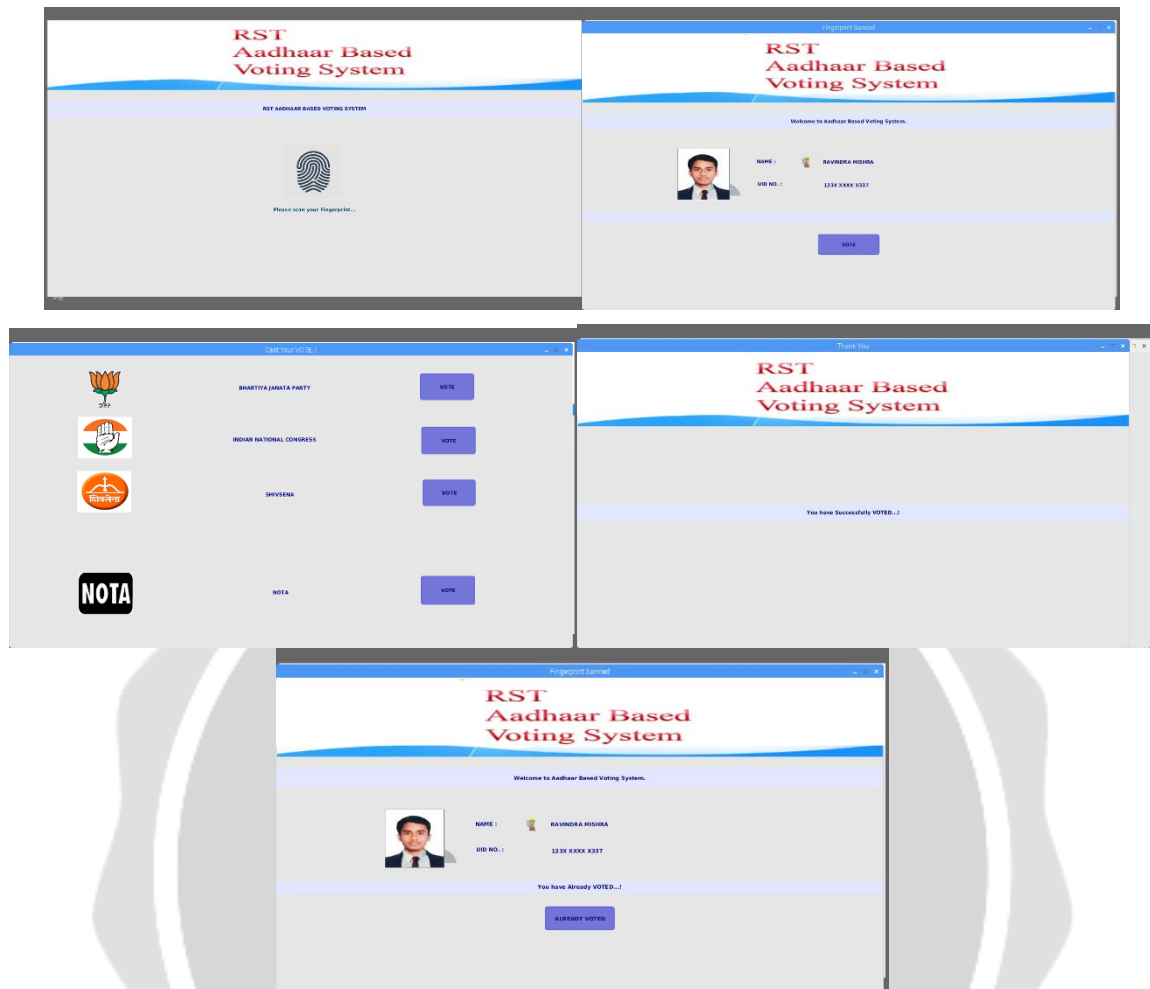
Fig -3: Screenshot of working GUI

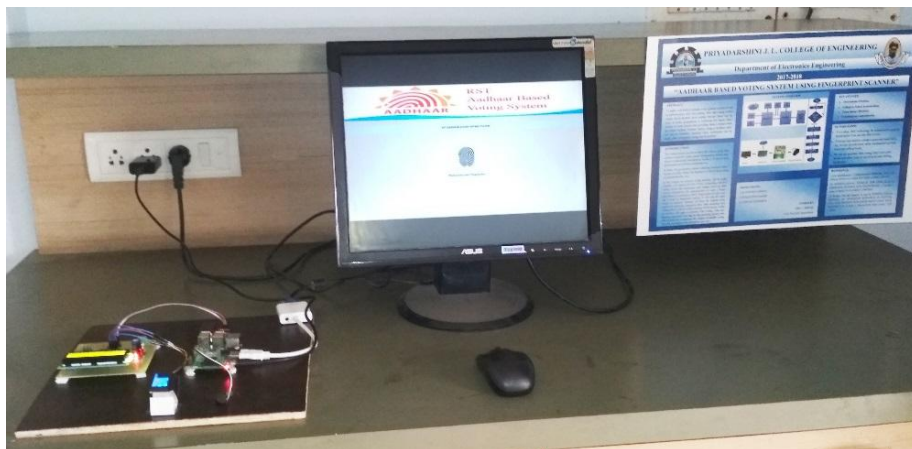**Fig -4**: Hardware Model (with fingerprint Scanner)
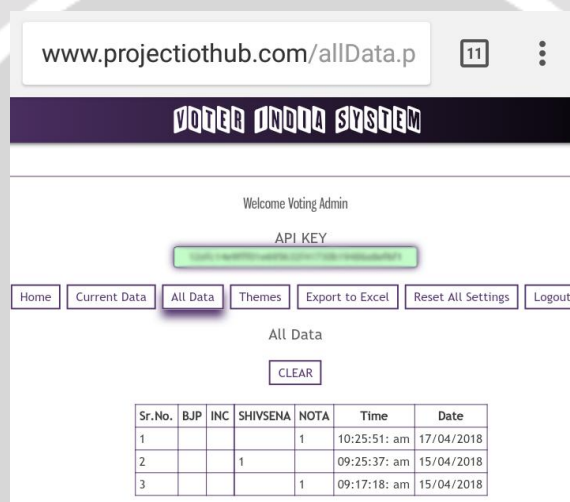
Fig -5: Working Model

Fig -6: Result on online web Server

4. CONCLUSIONS

Using UIDAI database for voting will be eliminate to issuing new Voter ID cards to citizens. Only Aadhaar card will be used for identify them. Which will be economical. If person having Aadhaar card, then there is no need to apply for Voter Id card. Because if person is above 18 years old then automatically he/she becomes eligible for vote casting. Machines can be reuse for another election, because ballot paper can be change by ECI through Server. Government have to improve security of UIDAI database. The high speed internet connection is needed for this system.

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