



RFID BASED VOTING MACHINE

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Abstract

When there was ambiguity over the election results recently regarding faults in EVM, losing parties asked for traditional paper ballot voting process. In a country like India where the election process happens over a long period of time care should be taken that votes are preserved till the results are announced.

If traditional paper ballot process is employed, there are chances of manipulation in various ways. In order to overcome this drawback, EVM was developed which again has many issues like mechanical faults, overwriting the stored data, vote of no confidence.

To overcome these flaws electronic voting machine is being used. Electronic voting machine is more efficient than paper ballot process in terms of cost effectiveness since latter uses more usage of paper. EVMs are user friendly as voting process is made easy through push buttons. Votes casted in different centers using EVMs can be uploaded onto a single central unit which makes easier to announce the results.

Even this e-voting machine has a lot of disadvantages. Several security analysts have rejected EVMs as they are vulnerable to hackers which challenge the efficiency of the machine. Vote of no confidence is another disadvantage, where the voter is ignorant about his vote. Button jamming, cross voting are various other drawbacks in this system.

Here in this paper we present a voting machine which uses Radio Frequency Identification technology which helps to overcome the drawbacks of the above mentioned systems.

RFID uses electromagnetic fields to track and detect objects. RFID reader transmits an encoded radio signal to detect the tag, emitting unique electronic product code.

I. INTRODUCTION

India is a democratic nation wherein the people are directly involved in electing the candidates for the parliament. It is difficult to practice direct democracy in countries like India, China and several other highly populated States. Elections are a rampart of people's liberty and it is a process of putting a check on undemocratic tendencies. Elections are the backbone of a democratic system, therefore it is necessary to employ efficient methods of conducting elections.

Paper ballot employs uniform official ballots on which names of various parties are printed, voters can come and select the required party. The paper ballot was first adopted in Australian state of Victoria, it thereafter became popular as 'Australian Ballot'. The major drawback in this process is lack of efficiency in counting the votes, dependency on human resource and entertains tampering of votes.

II. METHODOLOGY

The main purpose of our project is to design an efficient and cost effective voting system. This system reduces the complications in e-voting machine and voting process is made more transparent. Here we use a RFID reader module which senses the RFID tags with unique identity. RFID tags with unique identity are allotted for different candidates in the election. The RFID module is interfaced with the arduino controller to count and store the votes casted. Display unit is incorporated to display the casted vote along

with the candidate's identity to the voter. In order to end the voting process and display the results a separate RFID tag is dedicated which will be under the custody of the Officer in charge. LED and Buzzer are used to indicate the vote casted. A switch has been used to prevent multiple voting. This system thus provides efficient and unambiguous voting process.

III. WORKING

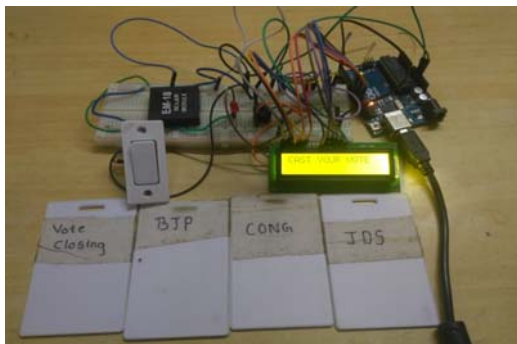
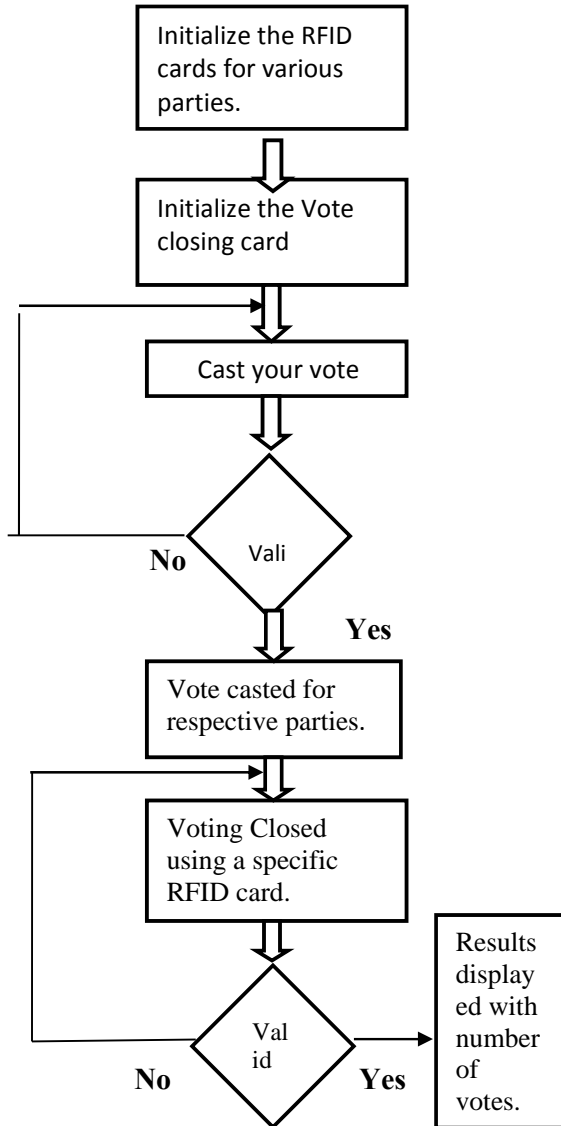


fig (1) Working model

Defining the RFID cards: RFID cards are initialized based on the number of parties in the election. Unique RFID cards are dedicated for each party. The LCD display prompts the voter to cast his vote as shown in fig(2). The RFID cards are placed next to the ballot, the voter can cast his vote using these dedicated cards.



fig(2)

Processing of recorded votes: RFID cards with unique electronic product code are mapped for different parties so that any other card whose code cannot be used by the voter to cast the vote. If the specified card is scanned for the specific party, vote will be counted as shown in fig(3) for the same or else it will not be counted. Once the vote is recorded, it is indicated by LED and a buzzer sound. This remarks the transparency of this system.

Multiple voting by the single voter is prevented by using a switch which is controlled by the officer in-charge at the ballot. Once the beep sound of the buzzer is heard by the in-charge, he will switch it off. As the switch is connected to the receiving pin no further votes are recorded.

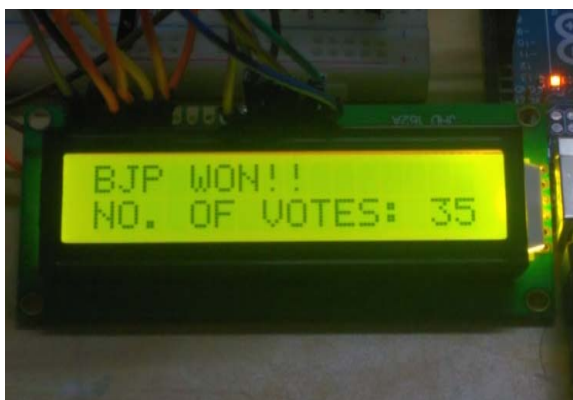


fig(3)

Declaration of the results after the voting process:

As the mentioned earlier specific card is used end voting process once this card is scanned, voting process no more be continued. After scanning this card the LCD displays the candidate with majority of votes as shown in fig(4). This system

also display the number votes that each party gained. By this, the system provides efficient methods conducting elections.



fig(4)



fig(5) number votes casted for each party

IV. CONCLUSION

This project aims at providing more secure and transparent method of voting. This system prevents the loss of votes due to mechanical faults this is a contact less process. This voting system is cost effective when compare to present system.

V. FUTURE SCOPE

The system can be implemented by interfacing an external memory for storing the votes to prevent loss of data even if the machine is damaged. It can be made compatible by connecting individual systems to a central unit so that votes from various ballots can be consolidated.

Alcohol and metal detectors can be interfaced to the system so that unhealthy environment is not created.

VI. REFERENCES

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