

AADHAR BASED ELECTRONIC VOTING SYSTEM AND PROVIDING AUTHENTICATION ON INTERNET OF THINGS

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Abstract: The idea is to reduce fake votes and illegal voting in election process. To improve security in current election process, two level of authentication is implemented, one is through RFID based aadhar card and other is through biometric traits, since it is very unique identity of individual.

1. INTRODUCTION

After India got freedom from British, Indian government is conducting election. It is the right of an every individual to select their favorite party. To organize election in India, an election commission is formed. It works according to rules and regulation. A person who is 18 and above are eligible to cast their vote. On election day, all Indians will cast their vote to their favorite party in nearby polls. On counting day, officers will count all the votes of each party. And the party which has majority will be a winner. The idea is to implement two level of authentication to improve security in e-voting. If a person casts a fake vote will be identified and reported.

2. EXISTING SYSTEM

In current scenario, a person will cast their vote in polling booth, where the election insiders verify the voters and their details, then allow them to vote. Here there are chances of fake votes by dishonest election insiders and cheating can happen.

If finger print and rfid number are of same person, then the person is authorized to vote otherwise buzzer sounds, the illegal voter will be identified and

by any other means. There is no proper validation of biometric traits, since it is unique. After, voter casts their vote, it will be moved to database, it reduces time in publishing result. There is no need of capturing booths. All the eligible voters and their biometric traits were registered in U-ID database. There is no need to create that the admin will manage the central database. voters. Then the current voting process consumes time for casting and counting the votes. There is need to capture polling booth and the voters may find boring as they need to wait a long time in queue. Then government needs to allocate funds for election insiders.

3. PROPOSED SYSTEM

In our paper, the idea is to overcome problem in current voting system and provide high security in electronic voting system. In proposed system, the voter will swipe their Rfid based aadhar card. The system reads an Rfid number of an individual, it will be given unique by election commission. It is used to fetch details of an individual/voter.

Then user needs to give their finger print, because biometric traits like finger print, face are very unique and vary from each and every person. No two persons can have same finger print.

4.1 AUTHENTICATION:

User swipes their Rfid-card with Rfid-Reader and finger print scanner captures user's finger print.

reported. This vanishes illegal voting and fake voters.

In our proposed system, the proper validation of voter is done. By this means cheating get vanished. Although a person can get other person aadhar card and number, he couldn't get other persons

4. BLOCK DIAGRAM

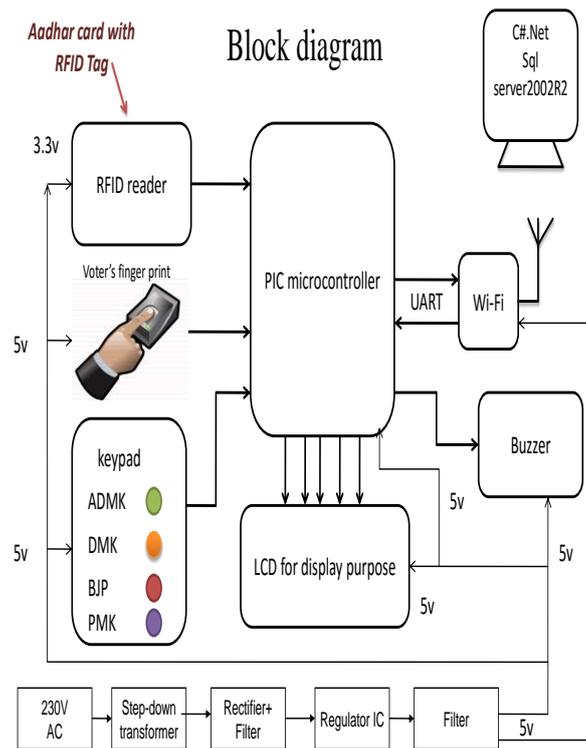


Figure 1

Here the person will swipe aadhar card in voting machine. The micro-controller reads the rfid number. The person will give their finger print. Both finger print and Rfid number of an individual will be moved to central database. Both are compared, if matched, then it will get directed

In 18f4420, there are totally 40 pins. 4420 is the pin specification.

The 40 pins are sub divided into 5 ports namely

- 1) PORT A
- 2) PORT B
- 3) PORT C
- 4) PORT D

This two input is used for authentication purpose.

4.2 INTEGRATING MICRO CONTROLLER WITH DATABASE:

The processed-input will be moved to database. The database compares Rfid number with finger print.

4.3 CODING TO VERIFY VOTER:

Code are executed in server which matches the data with stored data in database. They can cast their respective votes, otherwise buzzer sound.

4.4 STORE AND UPDATE DATABASE:

After the person successfully casted their vote, it will be stored in database and count are added to central database.

5. PIC MICRO-CONTROLLER:

The General Instruments introduced pic-micro-controller. In 1970, pic microcontroller was 1650 and 1655 RISC with 30 instructions. Then it was later sold to Microsoft.

The feature of pic-microcontroller is low-cost and efficiency.

There is two types of Convenient Packaging

- 1) Through Hole (Dip)
- 2) Surface Mount (SMD)

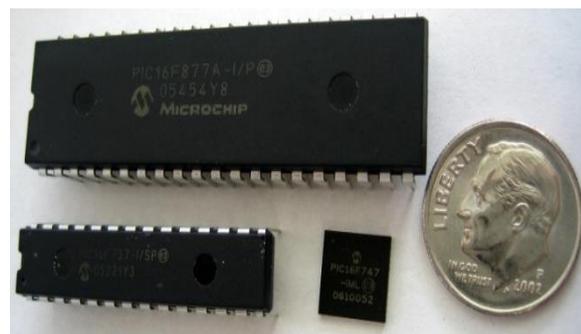


Figure 2

UTXD and URXD are universal transmitter device and universal receiver device which is used to transmit data

GPIO1 and GPIO2 are general purpose input and output which is used to connect input/output device

5)PORT E

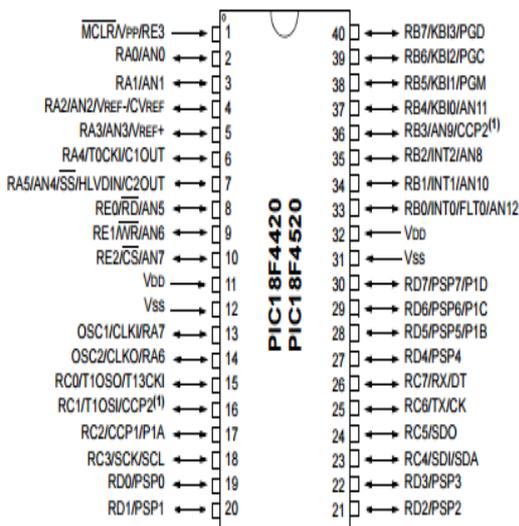
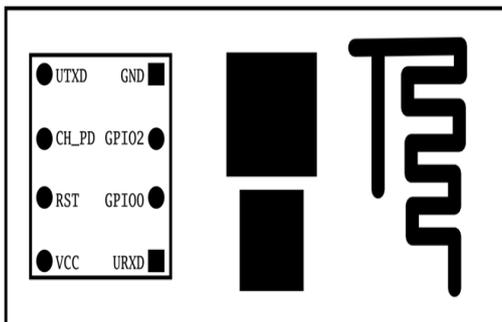


Figure 3

6.WIFI_FUNCTIONALITY

ESP8266 is an Wi-Fi module, that adds the Wi-Fi functionality to an microcontroller which is being in use through Universal Asynchronous Transmitter Receiver serial connection

PIN DIAGRAM



ESP8266 WiFi Pinout

Figure 5

ACKNOWLEDGEMENT :

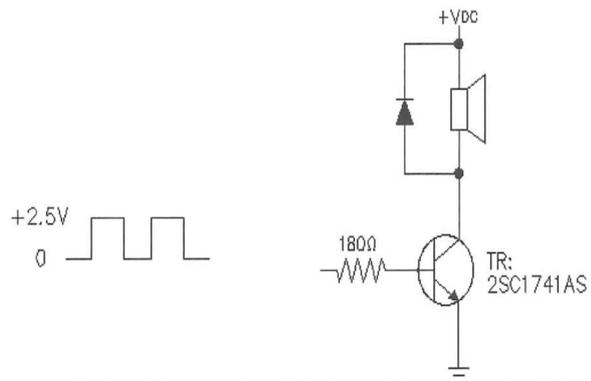
This paper is prepared under guidance of M.R.S JENNIFER M.E., ASSISTANT PROFESSOR

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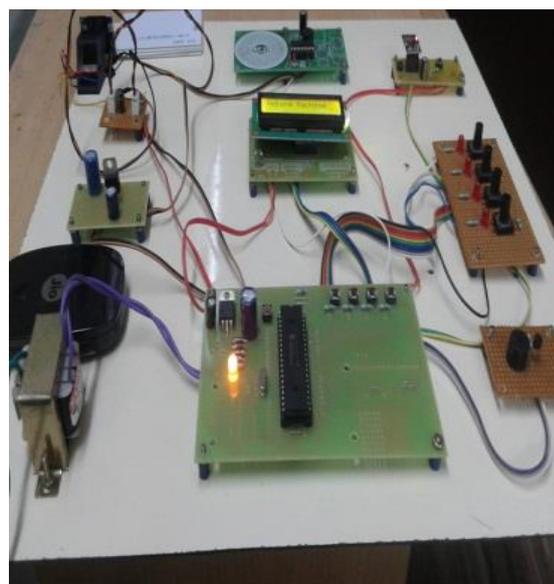
7. BUZZER

Figure 4



When voltage goes beyond 2.5 v then short circuit happens, buzzer sounds.

8. SCREENSHOT OF KIT



9.CONCLUSION AND FUTURE

9.1ENHANCEMENT:

Aadhar based Electronic voting systems has lot of advantages. The advantages are low cost, faster results, confidentiality, and lower probability of mechanical errors. Future enhancements should design a system that are user friendly and will have security safeguards and privacy of voters by concentrating on authentication side.

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