BVM SYSTEM USING FINGER PRINT, PHONIC &TELEGENIC APPERCEPTION FOR ENFEEBLE PEOPLE

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Abstract— The authentication based Biometric System is highly secured and economical to use in the election. Information Technology plays a far-reaching role in recent years. This technology is more annex against offline dictionary attack. The user-id and password mechanism are hired with image processing tactic. The thumb pattern of eligible voters is stored in certain database. During election process, the thumb pattern of voters is taken from the finger print sensor and then the pattern is related with the stored database. For Deaf and groping people the head phones and videos are implemented. The main motive of this System is to overcome the old process of Voting that includes Ballet paper and Punched card with this new Electronic Technology. Finger print recognition system is a new gravitated to enroot security.

Keywords- Finger print sensor, VB.net coding, EVM machine, Head Phones and LCD display, BVM (Biometric voting machine).

I. INTRODUCTION

Biometrics used for authentication purpose like Finger Print, Iris, palm print, Hand Signature stroke etc. In this paper we have used thumb impression for the purpose of candidate identification and authentication. Accurate identification and authentication of users is a major drawback in network environments. For every individual the thumb impression is unique. Sharing secrets such as Personal Identification Numbers or Passwords are not just enough. Biometrics system allows the identity of a living person based on a physiological characteristic or a behavioural trait to be verified or recognized automatically. The main feature of egalitarian is voting which gives freedom to choose the best leader for them. Old process of voting involves manual work live that includes listening, searching, stamping and then casting a Vote. Voting list given below (fig.1).

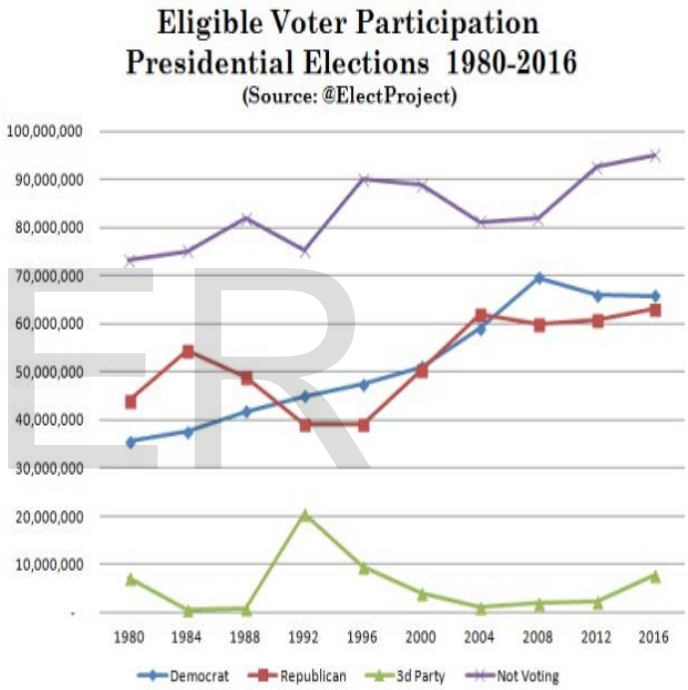

Fig .1. Voters list from (1980-2016)

In this system we are using Atmel micro controller as shown in fig.2, the power supply is given to the controller is +5v, it will have operated in +5v only. Here we are interfacing LCD display with the controller. It is 40 pin controllers. It subsist of 4 ports namely port0, port1, port2 and port3.Each ports have 8pins.Information technology can completely replace the process of voting into quick, easy and paper free e-voting.

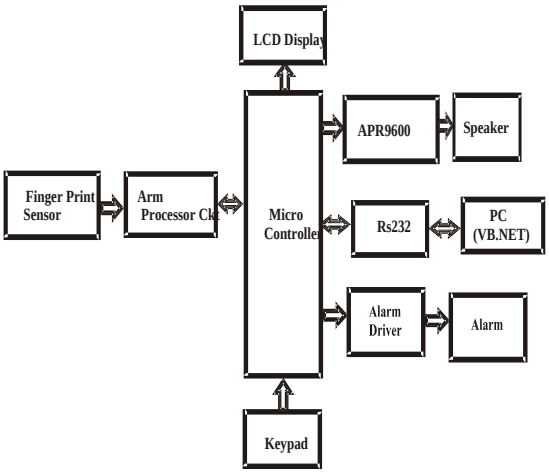

Fig.2.BVM Block Diagram.

II. PROCESS OF EXISTING VOTING SYSTEM(EVS):

Most frequently the elections are defining feature of egalitarian government. Now a day we give more priority to canvass, eligibility to vote and financial issues. But no one gives importance to actual voting process. An idea raised by the chief election executive in 1977 is about the EVM's machine (fig.3) was hatched and designed by election authority of India. in collaboration with Bharat Electronics Limited (BEL) and Electronics Corporation of India limited (ECIL).

There are two types of unit in EVM,

- Central Control Unit(CCU)
- Polling Unit(PU)

Fig.3. EVM Machine.

These two units are joined by 5mts cable. The main Control unit is with the election commission administrative or Balloting officer(fig.4).

Fig.4.Control Unit

The Polling unit is placed inside the Voting Compartment.

III. FINGER PRINT RECOGNITION IN BIOMETRIC SYSTEM:

This system is fundamentally a pattern recognition system. That operates by receive a biometric data from a specific or individual, isolated features set is an obtained data and comparing it with the adjacent the pattern set in the database.

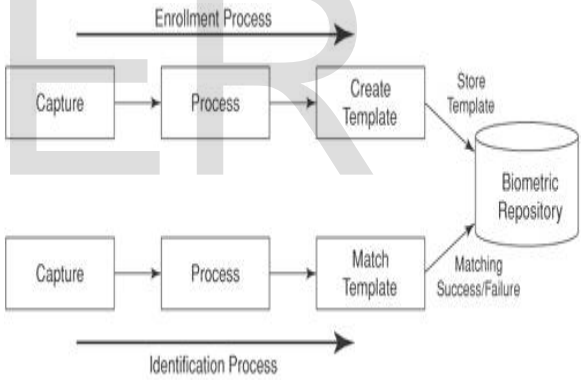

Fig.5.Identification and Authentication

There four main aspects in biometric system which are

1) *Sensor identity:* This traps the biometric data of an individual finger print.
2) ***Feature extraction identity*:** The received biometric data is refined to clip a set of impressive features. The finger print identity is clipped in feature extraction identity of finger based biometric system.
3) ***Matcher identity*:** The feature extracted is related with stored pattern to provoke the

matching count. The matching identity of a finger print is the number of matching trifle is determined and matching count is noted.

4) *System Database identity***:**

The biometric system to store the biometric patterns of the entered users in the database.

IV. ARCHITECTURE OF EVM

The main components of voting system are

- ATMEL microcontroller
- Finger print sensor
- APR9600
- LCD
- Power supply
- MAX 232

a) *ATMEL MICROCONTROLLER***:**

It is 40 pin controllers. Microcontroller is digitalised either 0 or 1. Microcontroller normally in 1, when key is pressed it change to 0. microcontroller operates on 0s(0volt) and 1s(5volt).

It consists of 4 ports .Each ports have 8pins as shown in fig.5.Microcontroller is interfaced with pc through Rs 232 converter with VB.Net as frontend software in pc. Then the port2, port3 is used for input/output purpose. Input/output is taken from the port. Data are given to the controller through input ports. The microcontroller transfers the related information to VB.net. When human places the finger on the finger print sensor, the sensor sends the corresponding data to microcontroller. Here the Atmel microcontroller is the flash type and also reprogrammable microcontroller in which we have already programmed.

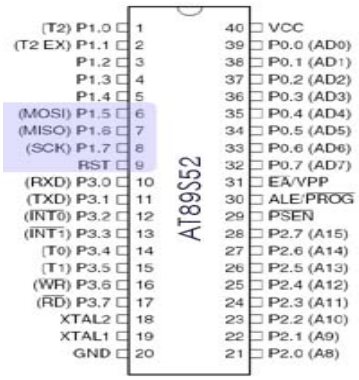

Fig.5.ATMEL Microcontroller.

b) Finger print scanner:

The finger print scanner consists of finger print sensor, A/D converter, flash ROM &DSP chip.

1. Finger Print Sensor:

Finger print sensor is the special type of sensor in fig.6, which is used to identify the human finger print. The scanned data is in the form of analog. Finger print sensor is meld with microcontroller through the arm processor circuit. The arm processor circuit is used to turn on the finger print sensor at time of finger is placed on the sensor. Then the related data is stored in the microcontroller.

Fig.6.Finger print sensor.

*2. A/D converter***:**

In the A/D converter, it converts analog data to digital data senor and it is transformed to the processor.

*c) APR9600***:**

1. It is low price and high speedy sound record/replay IC. incorporating flash analog storage technique.
2. Recorded sound is retained even after the power supply is removed from the module.
3. The replayed sound exhibits high quality with the low noise level.

d) LCD:

The power supply is given to the controller is +5v, it will operate in +5v only. Here we are incorporate LCD display with the microcontroller. It is 40 pin controllers. It consists of 4 ports.Each ports have 8pins.

For LCD incorporate, LCD data line is taken from the port0 (0-4) for data line given to LCD. For LCD control is taken from the port1(0-2). Here we are using trim pot resistor. This resistor is used for adjustment of LCD brightness. Here 16 ×2B LCD as shown in fig.7.

Fig.7.LCD

e) *Power supply*:

Power supply is a reference to a source of electrical power. A device or systems that accumulate electrical or other types of energy to an output load or group of payload is called a power supply unit. The term is most commonly applied to electrical energy accumulate, less often to mechanical energy, and rarely to others. This consistently involves convert 240-volt AC supplied by a profitable company to a well-regulated lower voltage (+5V) DC for electronic devices.

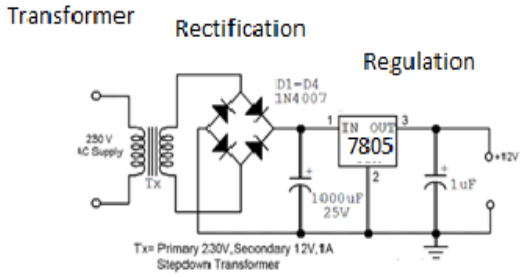

Fig.8.Power supply circuit.

The power supply unit consists of four modules,

1. Step down transformer
2. Rectifier unit
3. Input filter
4. Output filter

1) Step down transformer

The duty of this transformer is to step down the main supply voltage. It consists of two coils, the primary and secondary coils.

2) Rectifier unit

Here we use Bridge wave rectifier to convert AC voltage to DC Voltage. This output voltage rectifier is in error or ripple form, so we have to remove this error from the DC voltage.

3) Input filter

The capacitor plays as filter here. charging and discharging are the principles of capacitors.it has two half cycles, positive and negative.it can allow only AC voltage and remove or not allow the DC voltage. This filter is fixed before the regulator.

4) Output filter

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V. ADVANTAGES

1. Illegal practices like rigging in elections can be easily checked out.
2. Biometrics, which means things are more predictable and less price to use.
3. Voice apperception is new economical technology and highly esteem for social security.
4. Small storage space required for the biometric template (finger print) and very high mastery.

5. Video apperception is a trending technique, toeasy identification of process for deafened persons.

VI. OUTPUT AND RESULTS

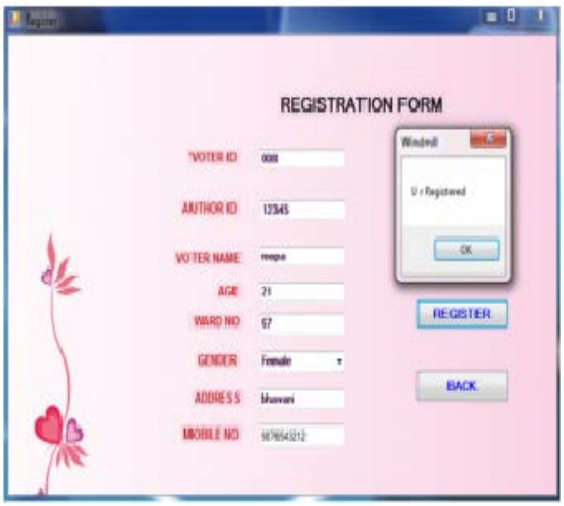

Fig:9.1 Voter name has registered.

Fig:9.2 Finger print based voting system

Fig:9.3 To getting thumb impression ID requirnment.

VII. CONCLUSION

Fig 9.4 For voting it required finger capture again.

Fig 9.5 Now voting is resistered

Fig 9.6 Now enter the feedback about the project.

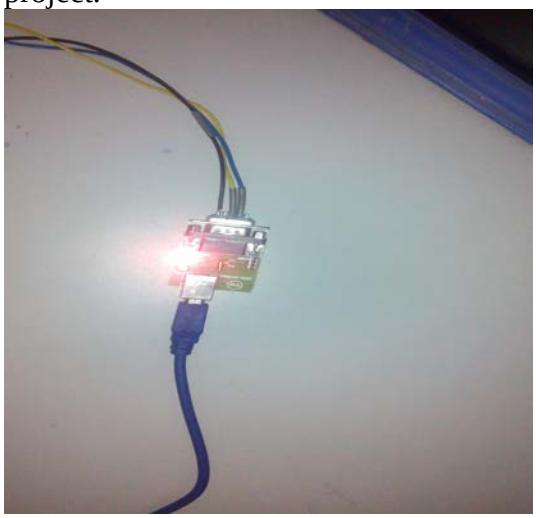

Fig 9.7 By using serial converter the details has been transferred to pc.

This technology recommended that the EVM system has to be further studied and launch to reach all level of society, so that the voter conference will increase and election officials will make more entanglement in acquire the innovated EVM's for conduct smooth, secure, interpose- resistant Elections. This concludes that the finger print based EVM will useful

- To avoid Rigging.
- To avoid time consumption.
- To keep the voter's information more secured.

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