Registration of Vote by Finger Print Processing As An E-Voting Scheme

J. Janani
Electronics and communication Engineering
Angel College of Engineering and Technology
Tirupur, Tamil Nadu, India

A. Sangeetha
Electronics and communication Engineering
Angel College of Engineering and Technology
Tirupur, Tamil Nadu, India

G. Sorna kumar
Electronics and communication Engineering
Angel College of Engineering and Technology
Tirupur, Tamil Nadu, India

S. Saranya
Electronics and communication Engineering
Angel College of Engineering and Technology
Tirupur, Tamil Nadu, India

Abstract-Biometric Finger print devices are used in the Electronic Voting machine for voter verification. We have designed a finger print based voting machine where there is no need for the user to carry his ID which contains his required details. The person at the polling booth needs only to place his Finger on the device, thus allowing the acquisition of an on-spot fingerprint from the voter which serves as an identification. This Finger print reader reads the details from the tag. This data is passed onto the server for the verification. The server fetches the data from the reader and compares this data with the already existing data stored during the registration of the voters. If the data matches with the pre-stored information of the registered fingerprint, the person is allowed to cast his vote. If not, a warning message is displayed on the monitor and the person is barred from polling his vote. The vote casting mechanism is carried out manually using the voting buttons. The booth agents using the android app can able to view the status of the voting.

INTRODUCTION:-

Biometrics is the science and technology of measuring and analyzing biological data. Biometrics refers to technologies that measure and analyze human body characteristics, such as DNA, fingerprints, eye retinas and irises, voice patterns, facial patterns and hand measurements, for authentication purposes. The field of biometrics was formed and has since expanded on to many types of physical identification. Among the several human fingerprints remain a very common identifier and the biometric method of choice among law enforcement. These concepts of human identification have led to the development of fingerprint scanners that serve to quickly identify individuals and assign access privileges. The basic point of these devices is also to examine the fingerprint data of an individual and compare it to a database of other fingerprints.

We have used fingerprint for the purpose of voter identification or authentication. As the thumb impression of every individual is unique, it helps in minimizing the error. A database is created containing the fingerprint images of all the voters as required. Illegal votes and repetition of votes is checked for in this system with accurate coding. Hence with the application of this fingerprint based EVM system elections could be made fair and free from rigging. Further that the elections would are no longer a tedious and expensive job.

PROPOSED SYSTEM:-

The system aims at developing a fingerprint based advanced Electronic Voting Machine (EVM) which helps in free and fair way of conducting elections which are basis for democratic country like India.

This project consists of following units a Voting system, fingerprint module and ARM controller Unit.

The voter first puts his finger on the fingerprint module which checks for the authentication of the user.
If the voter is the authenticated one, he will now poll his vote in the voting system by simply pressing button against his favorite leader through a button.

The control unit consists of a ARM controller, push button for different operations of EVM.

The votes casted for particular candidate in that particular section of constituency is shown through an LCD display.

To perform his intelligent task, ARM controller is loaded with an intelligent program written in embedded "C" language.
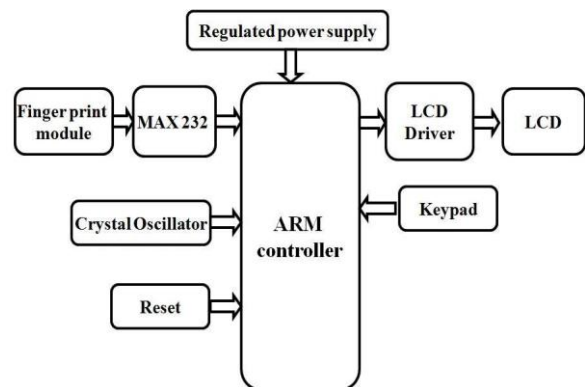
LOCK DIAGRAM:-

Fig.1 Block Diagram

This is the architecture of the proposed system. This blocks can explain the function of the system.

(a)Finger print module:-

The device is the most popular among all the identification devices because of its ease in acquisition, and also the number of sources that are available for its data collection. It has found its vast use in law enforcement and immigration purposes .The module used here is R305. The basics of this identification process comes from "Galton points" – a certain characteristics defined by Sir Francis Galton, through which the fingerprints can be identified. In this module the scanned image are compared with an earlier existing finger print of yours to get the correct identity. The comparison is carried out by the processor and the comparison is made between the valleys and ridges though your whole fingerprint is recorded, the computer takes only parts of the print to compare with other records.

(d)Crystal oscillator:-

An electronic oscillator is an electronic circuit that produces a repetitive Electronic signal, often a sine wave or a square wave. ARM controller internally having 4 Mhz clock frequency. We are giving the 60 Mhz clock frequency as an external source for increasing the system performance .

Fig.2 Finger print Module

(b)ARM Controller:-

ARM controller is Brain of this project, it has the features like 32-bit ARM7TDMI-S microcontroller in a tiny LQFP64 package. 8 kB to 40 kB of on-chip static RAM and 32 kB to 512kB of on-chip flash memory. 128-bit wide interface/accelerator enables high-speed 60 MHz operation. Various 32-bit timers, single or dual 10-bit ADC(s), 10-bit DAC, PWM channels and 45 fast GPIO lines with up to nine edge or level sensitive external interrupt pins make these microcontrollers suitable for industrial control and medical systems.

(c)MAX-232:-

The MAX-232 is an integrated circuit that converts signals from an RS-232 serial port to signals suitable for use in TTL compatible digital logic circuits. The MAX-232

is a dual driver/receiver and typically converts the RX, TX, CTS and RTS signals .The drivers provide RS-232 voltage level outputs (approx. ± 7.5 V) from a single + 5 V supply via on-chip charge pumps and external capacitors.
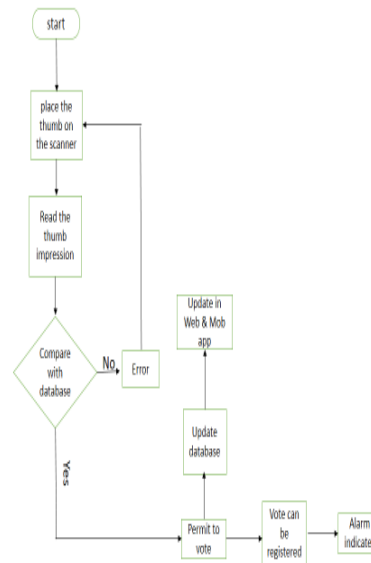

Fig.3 Flow Diagram

Web app:-

Web application is created by using the java codes. In this app we are generating an individual codes for server and client.

Each server or source code will be generated and fetch in to this app, and the data base will be retrieved from the finger print module.

The server will gather the details about the voter whether he entered or not, and also send the information to the booth agents. They can easily verify the voting information by their mobile app.
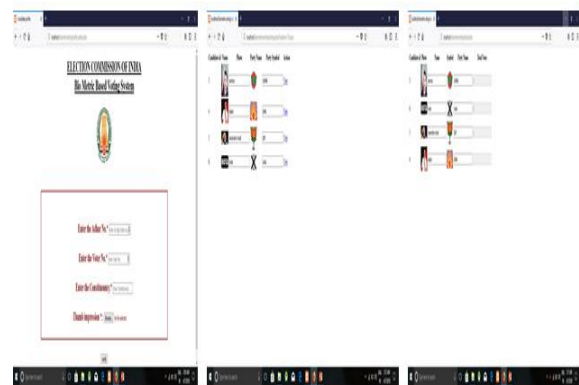

Fig.5 Web Application

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Mobile app:-

This mobile app can show the complete details about the recent voter from the web app. The database of that voter can be accessed through the server.
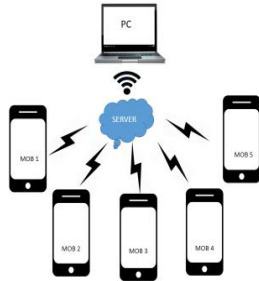

Fig.4 S Structure of Mobile server

This app consist of individual login ID and password for the booth agents. We can easily collect the information about the voter by this app.
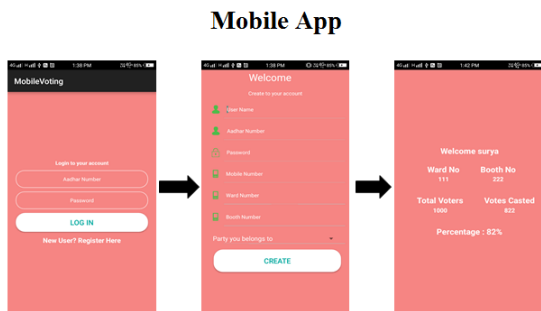
Mobile App

Fig.6 Mobile Application

EXISTING SYSTEM:-

The existing voting method includes the paper based voting, Lever voting machine, Direct recording electronic voting machine, punch card method and optical voting machine. Although many voting methods are changing from generation to generations, the number of counting the votes is the same   . In the present days, number of registered votes is measured manually.   It may leads to manual error and there may chance to occur fraudulent.

CONCLUSION

The project "Fingerprint Based Voting Machine" was mainly intended to develop a fingerprint based advanced Electronic Voting Machine (EVM) which helps in free and fair way of conducting elections which are basis for democratic country like India. Individual constituency result can be published for every polling agents   through mobile and web based applications.

FUTURE WORK

Cumulative constituency results can be given more efficiently based on time and accuracy. Polling can be done from anywhere irrespective To Their location(i.e., home, office or any institution).

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