

# SECURED ELECTRONIC VOTING MACHINE USING BIOMETRIC

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## ABSTRACT:

In democratic societies, voting is a method to gather the people's opinion. Traditionally, voting is conducted in polling booths. After completion of voting the votes are counted manually. This project uses biometric for simple and secured method for polling. As you place your finger on fingerprint module the computer checks that fingerprint template with other templates which are in the database list. If the template matches, a given message will be displayed on the LCD. After that, the person can cast his/her vote under the supervision of authorized parties by pressing the switch button. This voting system is the best way to avoid the false voting by unauthorized person.

**Keywords:** Arm7 Board, Switches, LCD, fingerprint.

## I. INTRODUCTION

For a better society, voting is an important method for considering the people's opinion. Generally, voting will be conducted in polling booths. At polling booths the voters cast their votes and votes are counted manually once the election has completed. As the computer technology increases the electronic voting systems can be employed that replace the incident and most importantly error-prone human Component. Our project proposes a simple and secured method of polling vote by using biometric. As the technology increases so many changes have taken place in voting system.

This technology increases the flexibility, security, reliability, scalability of the model and provides less time consumption to announce the result. This electronic voting machine is a new concept which saves a lot of time and avoids the false voting by an unauthorized person.

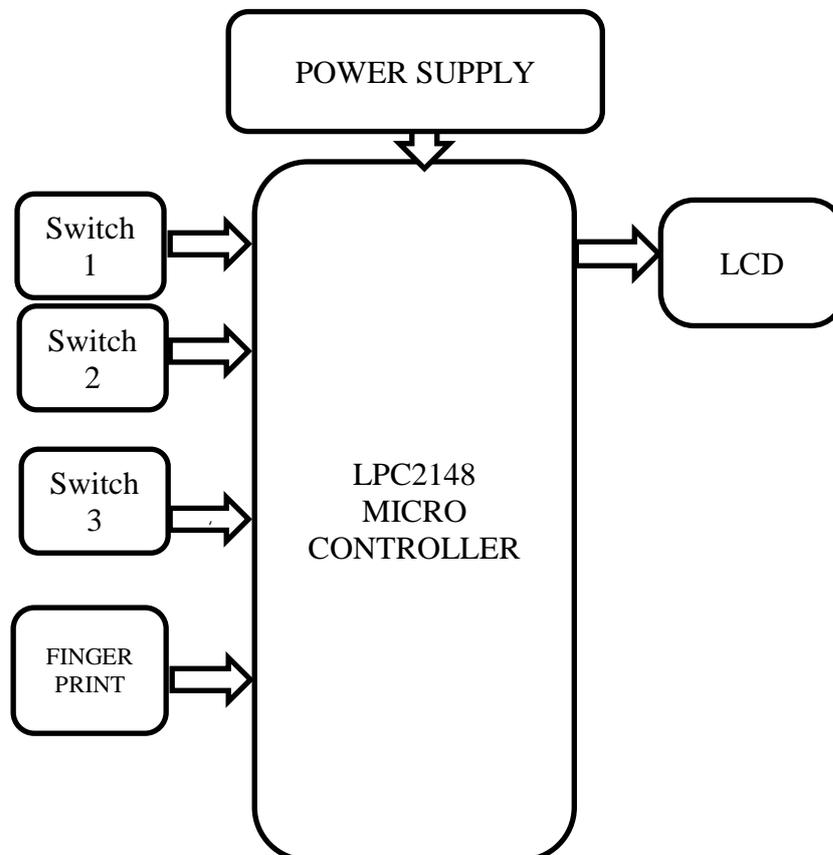
## II. EXISTING SYSTEM

A ballot is used to cast their votes in an election. In that method they may use a piece of paper for secret voting, which was originally a small ball- that is used to record voter's opinion. Each one of the voter uses one ballot, which are not sharable with other voters. In simplest elections ballot may be a simple scrap of paper on which each voter writes in the name of a candidate. In general governmental elections use pre-printed to protect the secrecy of the votes. The person who votes they can cast his/her ballot in a box at a polling station.

### III. PROPOSE SYSTEM

With the aim of conducting democratic election, we proposed the system to improve the voting machine with biometric. In this process we use biometric, to take voters fingerprint. As the voter place his finger on the biometric, it takes his fingerprint image and converted into template. Further, this template will be matched with other fingerprint templates which are stored in the database list. Once the template matches a given message will be displayed on the LCD. After that, by pressing the switch button the voter can select a particular candidate. This type of voting will avoid the false voting by unauthorized person.

#### Block Diagram:



### IV. HARDWARE REQUIREMENTS

#### LPC2148 MICROCONTROLLER:

The ARM7 (advanced RISC gadget) processors board primarily based complete on a 16/32-bit ARM7 its method of sixteen/32-bit ARM7 TDMI-S microcontroller, 8 computer reminiscence unit to forty pc reminiscence unit of on-chip static RAM and 32 laptop memory unit to 512computer reminiscence unit on-chip flash memory; 128-bit In- gadget Programming (ISP). 32-bit timers/out of doors occasion counters, PWM pulse width modulation unit (six outputs) and watchdog, Low electricity of actual-Time Clock (RTC), a couple of serial interfaces which has 2 UARTs , fast I2C-bus (400kbit/. There are sixty 4 pins of ARM7 processor and a couple of ports (port0, port1) forty five pins are enter/output.

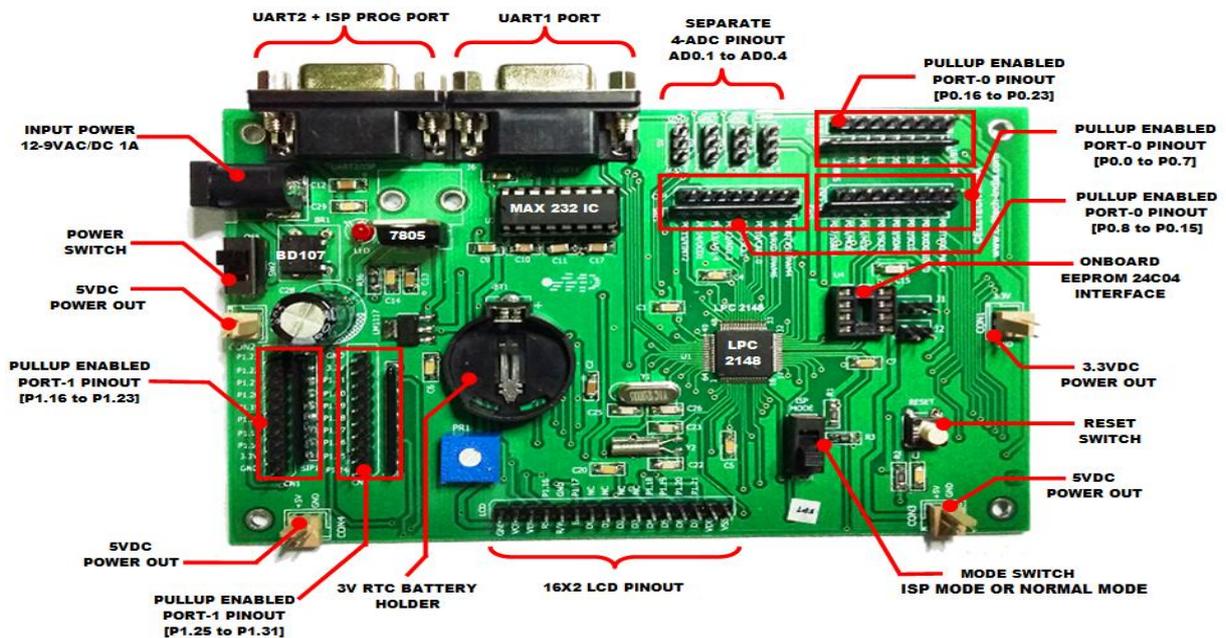


Fig2:-LPC2148 board

### Fingerprint

The ARA-EM01 is excessive performance fingerprint module advanced by way of Aratek statistics Technology Co, Ltd .It has several alternatives : easy reconstitute, powerful capabilities, compatible with PC, and more than one-features in a single module: Fingerprint enrolment, image technique, characters acquisition, fingerprint template advent, fingerprint template garage, fingerprint examine (1: one, 1: N), fingerprint delete. This module will paintings with completely different gadgets supported UAWRT like pc, SCM so on. Entirely simple circuits and fingerprint module will decorate your product into fingerprint authentication electricity. It is huge hired by means of herbal philosophy business, statistics security, get right of entry to management, identity authentication and opportunity protection enterprise



Fig 4: finger print module

### LCD (LIQUID CRYSTAL DISPLAY) :

LCD stands for liquid crystal displays. Digital display is finding wide use in substitution of LEDs (seven phase LEDs or different multi-phase LEDs) due to the following reasons:

1. The reducing costs of LCD.
2. The power to show alphanumeric characters and graphics. This is overcome the disadvantages of LEDs, that area unit restricted to numbers and a couple of characters.
3. Simple programming for characters and graphics.

These parts are unit "specialized" for being employed with the microcontrollers,

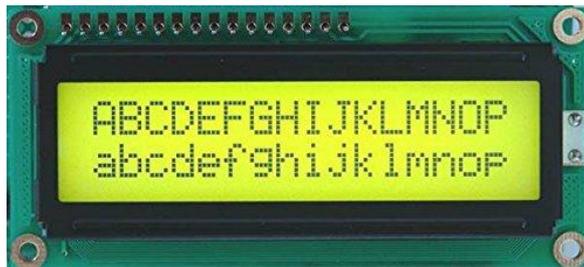


Figure: Liquid crystal display

A model represented here is for its low value and nice potentialities most often utilized in follow. It shows the messages in 2 lines with sixteen characters every. It displays all the alphabets, Greek letters, and punctuation marks, mathematical symbols etc. additionally; it's attainable to show symbols that user makes informed its own. Automatic shifting message on show (shift left and right), look of the pointer, backlight etc. are helpful characteristics.

### Switch

A switch is an electro-mechanical device used to connect or disconnect an electric circuit. In applications where multiple switching options are required (e.g., a telephone service), mechanical switches are replaced by electronic switches which can be controlled automatically. As you press the switch the electronic devices will be connected else the devices will be disconnected

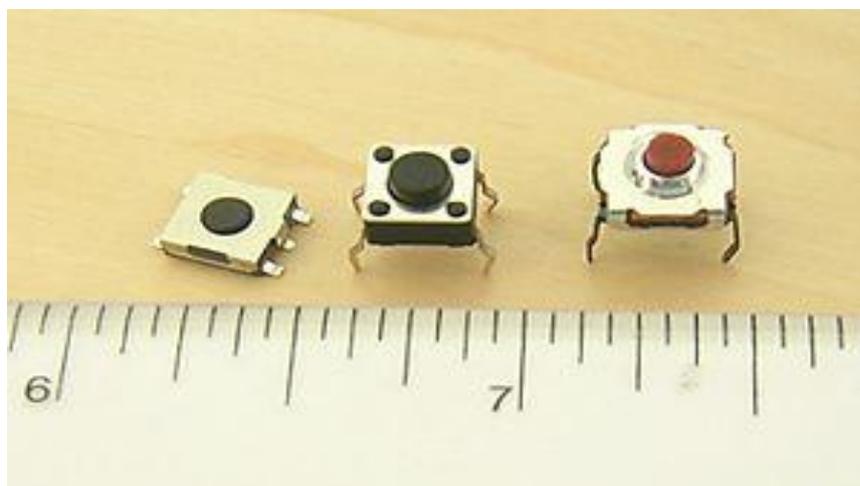


Fig: Switch

## **V. SOFTWARE DESIGN**

In this proposed contrivance, as we tend to used LPC2148 we wish to use following software package instrumentation to program for it.

1. Keil4 Vision
2. Flash Magic

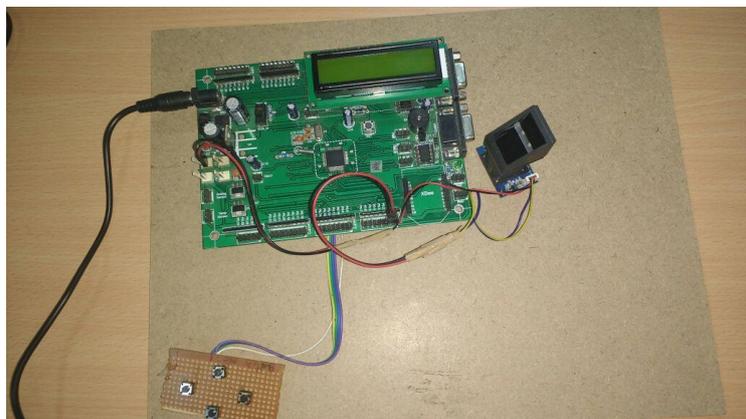
The Keil4 mVision is an IDE which is used for software programming. In this IDE,we have to select the controller which we need to program .This tool is implemented by c language. We can debug the program, can error check and used to create an HEX file in this software. By the use of hex report we have a tendency to products the code into microcontroller and carry out utility. Flash magic is used to dump the program in the controller.

## **VI. WORKING PROCEDURE**

The primary goal of this is to layout an ARM based totally ultrasonic and eye blink sensor twist of fate preventions, detection and monitoring system. A step down transformer of 230/12V is used to get the desiredAC output. To convert that AC deliver to DC supply we use a rectifier. DC output includes ripples, to removethose ripples we use filter capacitors. To get output voltages of +5v & +12v we're the use of voltage regulators 7805 &7812. ARM processor includes program mode and run mode operations. Program mode is used for dumping of this system into ARM processor from anyexternal tool inclusive of pc. Run mode is used for the execution of application. In this system we have used thumb impression for voter identification. Every person has an individual thumb impression and it helps with accuracy. In a constituency the thumb impression of the database is created for all the voters through this illegal and repletion of votes is checked. Once the finger is places on biometric it checks the fingerprint template with other templates which are in the database. If the permission granted a given message will be displayed on the LCD. After that, by pressing the switch button you can choose your nominator.

## **VII. RESULT**

The“**Secured Electronic Voting Machine Using Biometric**” is the best way for voting which increases the flexibility, security, reliability, scalability of the model and provides less time consumption to announce the result.



**VIII.CONCLUSION**

Fingerprint Based Voting Machine is designed to make the procedure of voting easier and more convenient as it is a modified system. It has proved to be very advantageous in providing security EVM is capable of saving considerable printing stationery and transport of large volumes of electoral material. It is easy to transport, store, and maintain. It completely rules out the chance of invalid votes. In total, the complete system (including all the hardware components and software routines) is working as per the initial specifications and requirements of our project. So certain aspects of the system can be modified as operational experience is gained with it. As the users work with the system, they develop various new ideas for the development and enhancement of the project. The proposed system has been designed and implemented successfully using a LPC2148 microcontroller, which was shown to be superior over the existing Electronic Voting Machine. The proposed system has the benefit of using a biometric authentication and control the process of voting avoiding unnecessary things like rigging, ballot papers, casings etc.

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