ELECTRONIC VOTING MACHINE
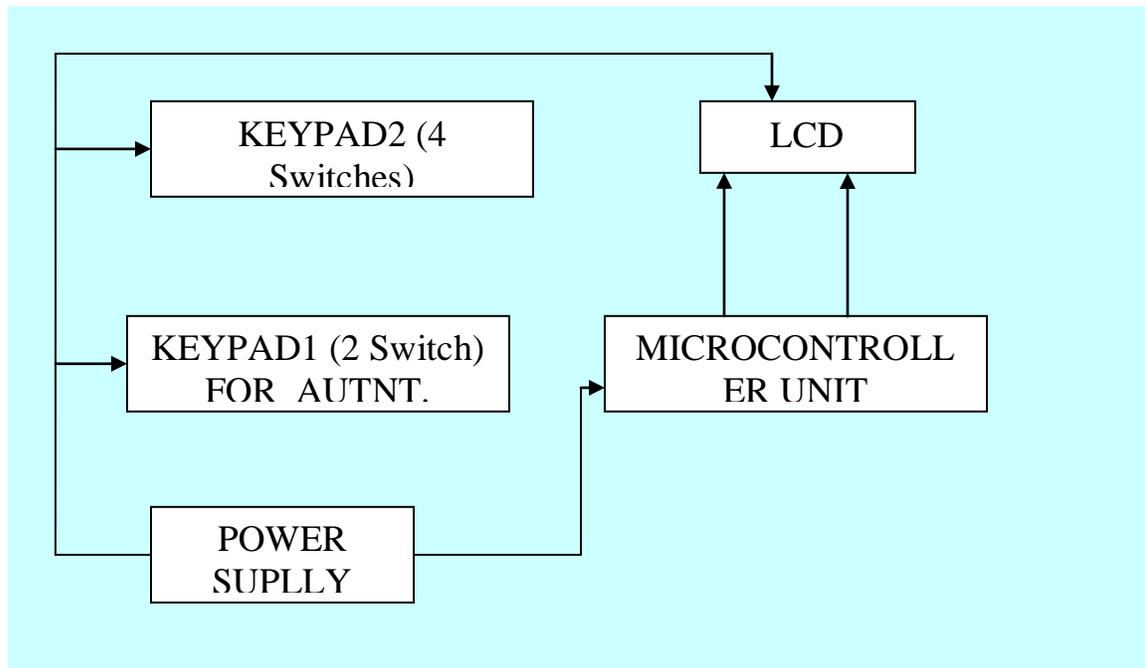
INTRODUCTION:

Electronic voting machine has now replaced the traditional mechanism of voting due to several advantages like security, automatic counting etc. This project presents a way to develop an electronic voting machine which displays the count of votes on a 16x2 LCD interface. A user can get his/her vote register through a set of switches (one for each candidate). After every cast of vote, the subsequent count can be seen on LCD. The circuit uses AT89C51 microcontroller and the code for the project has been written in C.

This LCD based electronic voting machine is designed for four candidates. The input part consists of a set of six tactile switches. The switches and 16x2 LCD are interfaced to microcontroller AT89C51 for various operations and displays.

The provision of casting votes for the candidates has been provided through four of these switches. These switches are made active high and connected to pins 2-5 (P1^1 – P1^4) of the controller. The remaining two switches (both active low) are to start and stop the voting procedure. They are connected to pins 1 and 6 (P1^0 and P1^5) respectively. The Init (start) switch initializes the voting system when pressed, while the Stop switch ends the voting and displays the poll results on LCD screen.

For more details on working with LCD, refer LCD interfacing with 8051. The data pins of the LCD (pins 7-14) are connected to the output port P2 of the microcontroller. The control pins (RS, R/W and EN) are connected to port P3 pins P3^0, P3^1 & P3^6 respectively.

WORKING:

The voting is started by pressing the Init switch after which the user is prompted to vote. The count of votes is stored in four different variables. As soon as the user votes for a candidate by pressing one of the switches, the value of the corresponding variable is increased by one. After this a Thank you message is displayed on LCD to acknowledge the registration of user's vote.

The message stays on the screen until the next user either presses the Init button to cast another vote or Stop switch is pressed get the poll results.

When the stop button is pressed, the names of the candidates are displayed along with their vote counts. After some delay, the result is displayed which could be either declaration of the winner candidate or the candidates with a clash of their number of votes.

Punjab Project

MICROCONTROLLER UNIT:

This part of our project is the heart of the project which controls whole the processing of the project. It senses all the sensors & performs action according to input from sensors. MCU used in our project is AT89S52 which is family member of Intel's 8051.

INTERFACING WITH LCD:

LCD makes this instrument user friendly by displaying everything on the display. LCD used in the project is 16 x 2. It is an intelligent LCD module, as it has inbuilt controller which convert the alphabet and digit into its ASCII code and then display it by its own i.e. we do not required to specify which LCD combination must glow for a particular alphabet or digit.

POWER SUPPLY:

Power supplies are designed to convert high voltage AC mains to a suitable low voltage supply for electronics circuits and other devices. A power supply can be broken down into a series of blocks, each of which performs a particular function.

For example a 5V regulated supply:

Block Diagram of a Regulated Power Supply System
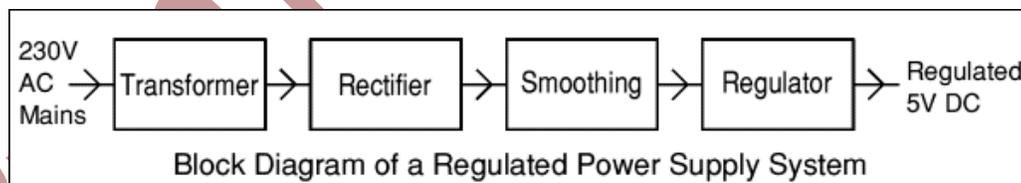
Each of the block has its own function as described below

1. Transformer – steps down high voltage AC mains to low voltage AC.
2. Rectifier – converts AC to DC, but the DC output is varying.
3. Smoothing circuit – smoothes the DC from varying greatly to a small ripple.
4. Regulator – eliminates ripple by setting DC output to a fixed voltage.

COMPONENT DETAILS:

S. No.	Component	Specification
1.	PCB	Designed
2.	Base	40 Pin
3.	Crystal	11.0592MHZ
4.	Cap.	33 PF
		10µF
5.	MCU	AT89s52
6.	Micro switch	2 pin switch
7.	Resistance	10K Ω
8.	Transformer	9-0-9, 500mA
9.	Diode	1N4007
10.	Cap.	1000 µF
11.	Regulator	7805
12.	LCD Connector	16 Pin
13.	LCD	16 x 2
14.	Buzzer	2 Pin

PRECAUTIONS:

1) Soldering should be done carefully.
2) Connection should be attached to the correct destination.
3) Verify every point of interconnection with Multi meter after soldering.

APPLICATIONS:

1) This project can be used at various voting stations.