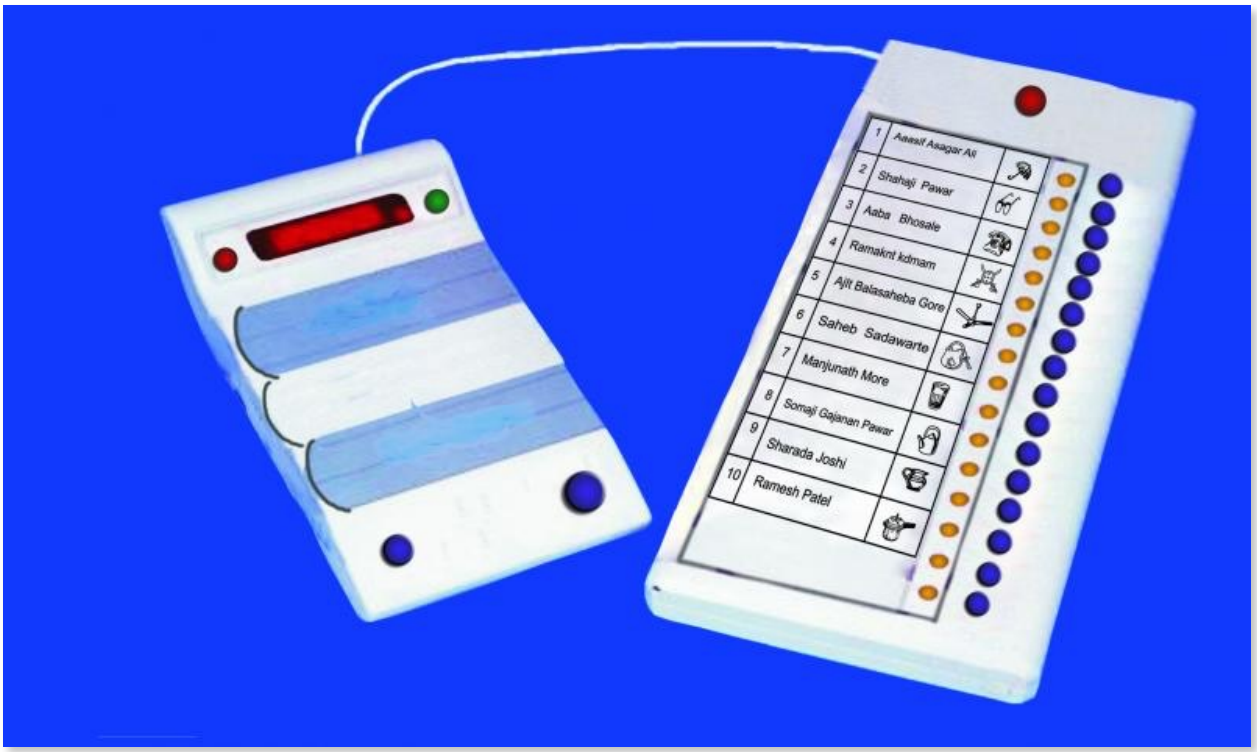
Embedded Systems Project (CS 4/620)



Electronic Voting Machine

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Introduction

The Electronic voting machine plays a key role in elections. The Earlier EVM'S needs more man power, time and mislead the voting scenario due to influence of local people vote and after voting the other may vote only after the Password is set then the system gets ready to accept the polling. After completion of the polling we may make the system to reset. If the person is authenticated then the vote is issued and the polling process is done using buzzer system, else that denies the process. At every regular intervals of time the polled votes are recorded and give the count that how many votes are casted through LCD. This system gives an efficient way to conduct elections and display the results on the same day.

The electronic voting machine

Electronic Voting Machine (EVM) retains all the characteristics of voting by ballot papers, while making polling a lot more expedient. Being fast and absolutely reliable, the EVM saves considerable time, money and manpower. And, of course, helps maintain total voting secrecy without the use of ballot papers. The EVM is 100 percent tamper proof. And, at the end of the polling, just press a button and there you have the results.

Motivation

Electronic Voting machine (EVM) has many advantages over simple paper based voting system.

1. It is economical.
2. Less manpower required.
3. Time conscious, as less time required for voting & counting.
4. Avoids invalid voting.
5. Saves transportation cost due to its compact size, Eco friendly.
6. Convenient on the part of voter.
7. Easy transportation, Storage, and Maintenance.
8. Easy and Accurate counting without any mischief at the counting centre.

E-voting Steps

~ Voter identification and authentication

~ Voting and recording of votes cast

~ Vote counting

~ Publication of election results

Components of Electronic Voting Machine

EVM consists of 3 units that can be inter-linked. A ballot unit which a voter uses to exercise his vote. Control unit used by polling officials and Admin unit used by authority to clear and count votes.

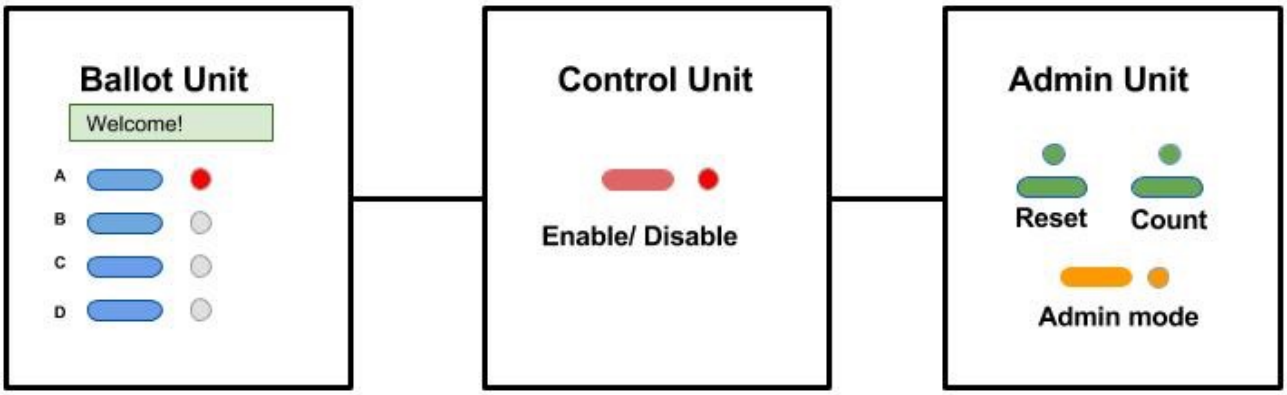

Figure1. Major Components of EVM

Block Diagram

Following Diagram shows the main components and interconnections.

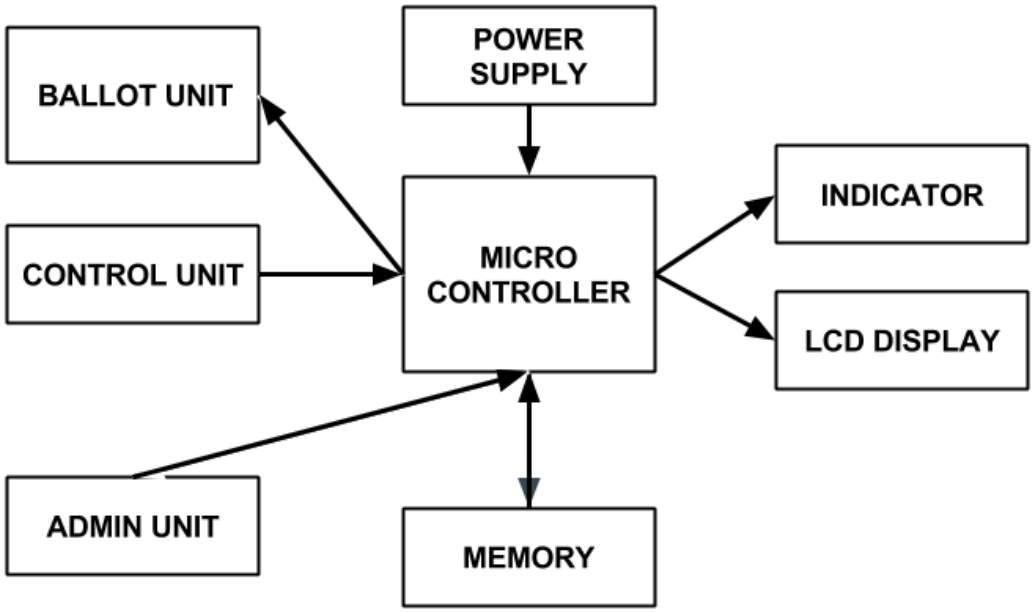

Figure2. Block Diagram

Flow Diagrams

1. Control Unit

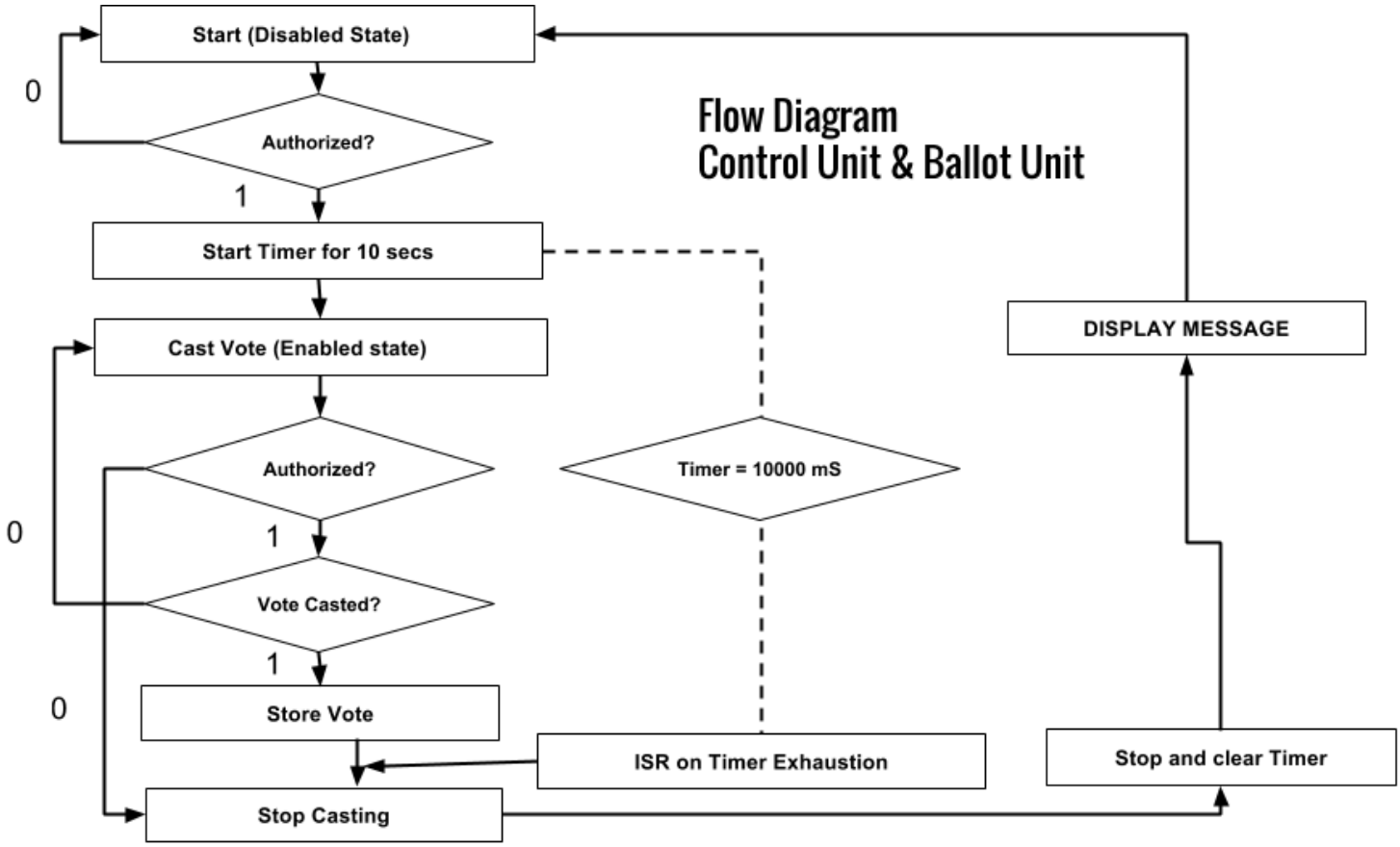

Figure3. Control & Ballot Unit

2. Admin Unit

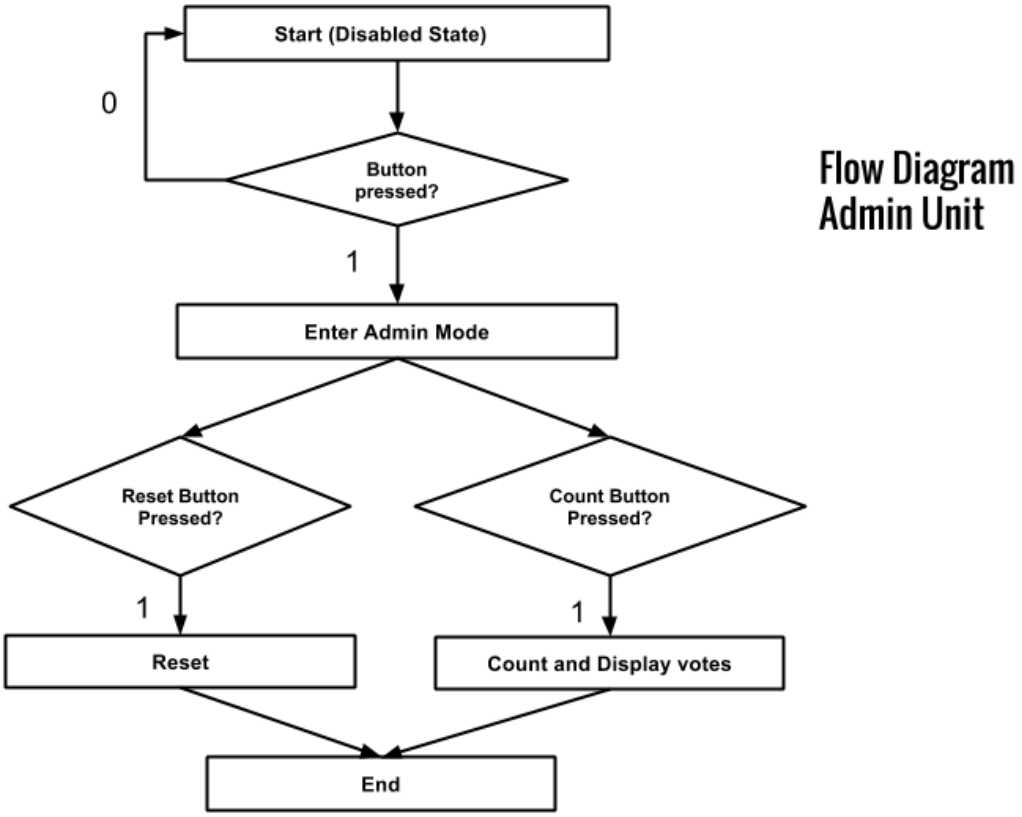

Figure3. Admin Unit

State Diagram - Moore Machine

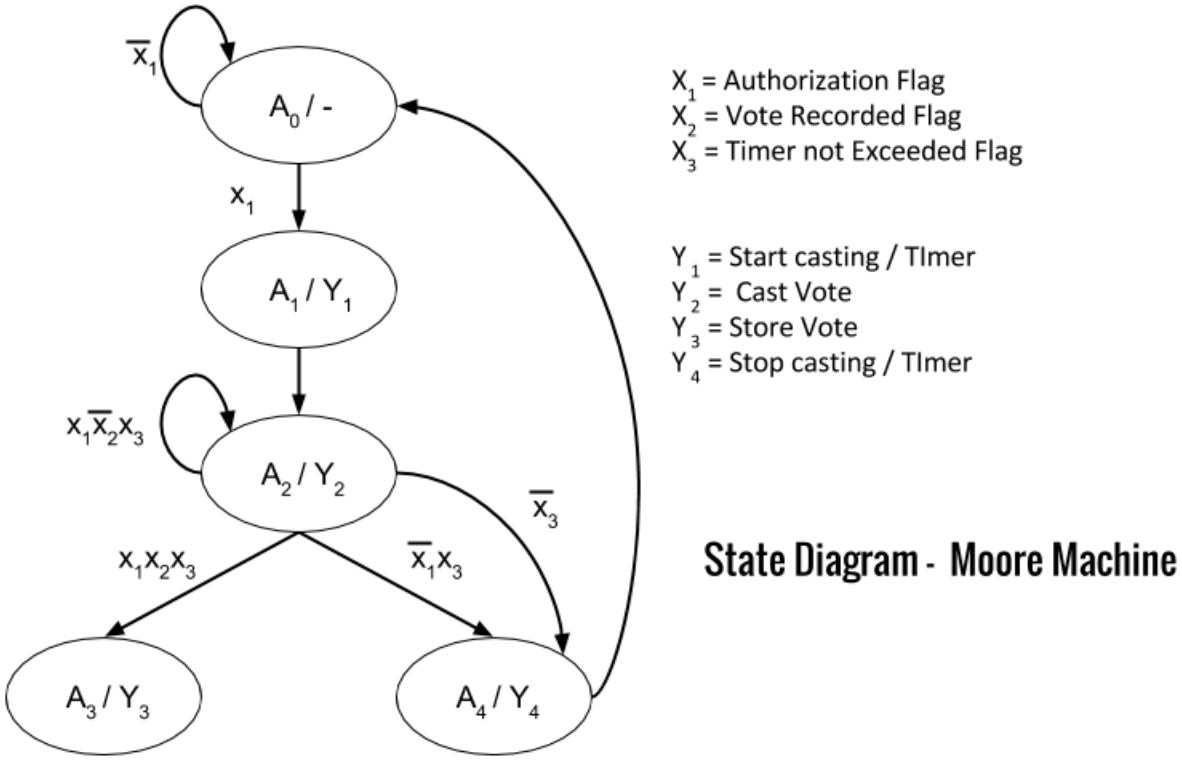

Figure4. Moore Machine State Diagram

Simulation

Circuit Simulation was done on Labcenter Electronics ISIS Professional PROTEUS platform.

Hardwares Used for Simulation

1. ATMEGA32 Microcontroller
2. Resistors

3. Capacitors
4. Crystal Oscillator 16MHz
5. 16X2 Alphanumeric LCD Display
6. Push Buttons
7. LEDs
8. Potentiometer

Circuit View

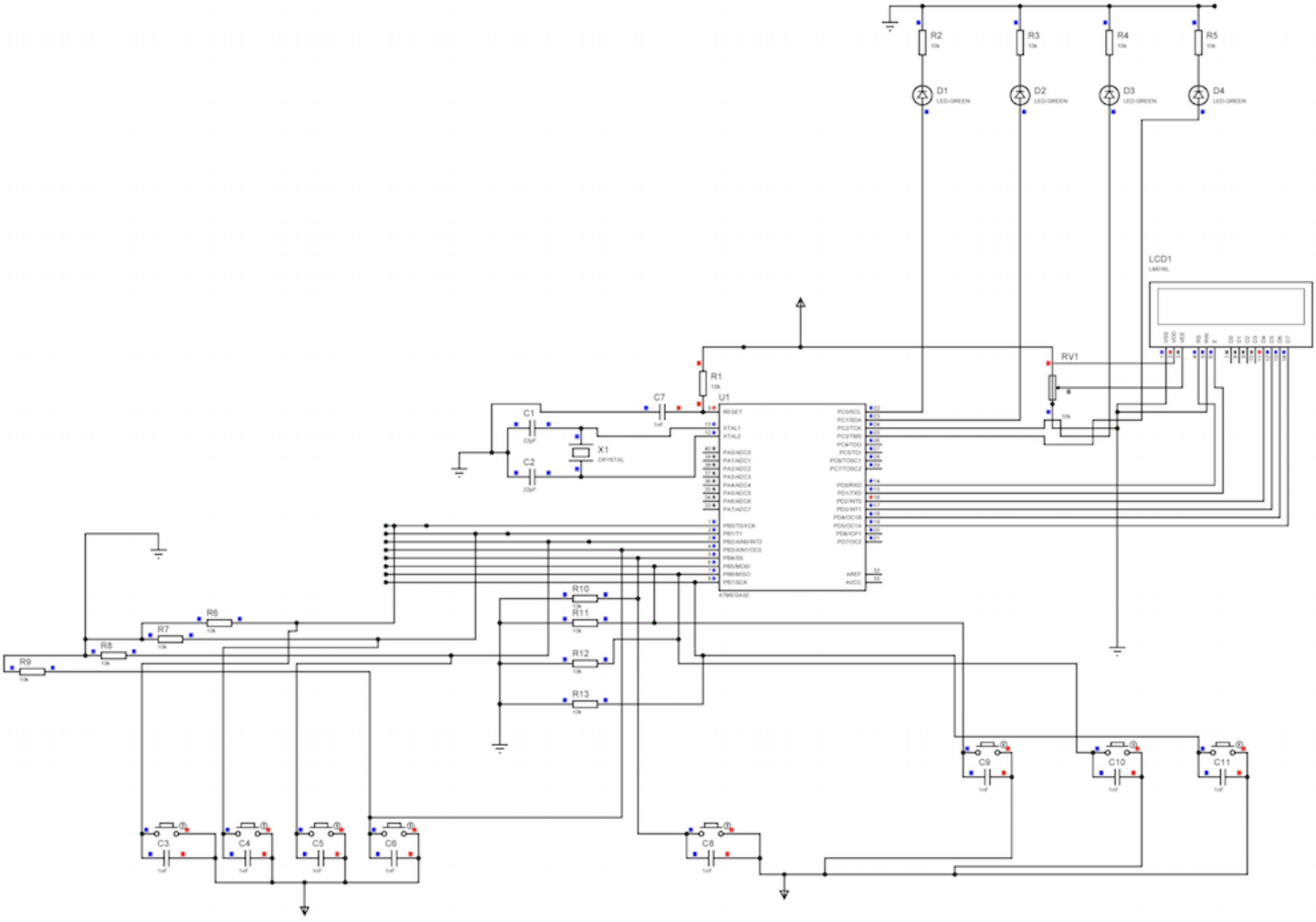

Figure5. Circuit View

Future Scope

- Voting for more than one post.
- It can be made more interactive by adding sound effect (Buzzer) to it.
- EEPROM can be used to store the data permanently.