

Advanced SMS Based Voting Machine

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Abstract- This paper present the advanced SMS based electronic voting machine by using GSM based technology. In traditional ballot and EVM based system the authentication is provided by manually so the chance of fraud and errors may be occur during voting but in the presented system the authentication is provided by Adhar card number, voter ID card number and date of birth. The whole information about the voter is previously stored in the ROM of AVR Atmega32 which works like election commission in this prototype. When the voter send SMS to the election commission for voting the detail of voter is checked by commission if the entered details are correct then he is valid for opting his valid candidate for voting otherwise give three chance to enter correct details. Once the voting is successful the particular voter will be blocked for that session. So this technique is more secure because it is totally based on SMS, no internet connection are required for voting procedures.

Index Terms- SMS, GSM, AVR Atmega32, ROM of AVR, Authentication, Privacy, Security.

I. INTRODUCTION

As we know the use of information technologies is changing the whole perception towards the voting process. As India is the world largest democratic country and its democracy is in the form of fundamental rights provided to the citizens of India to vote and select their desirable candidate in the election. There are two types of voting namely paper based ballot system and poll-site direct recording electronic voting (EVM). Since voting is a compulsory and vital tool to collect and consider people opinion for the democracy of the country. In the traditional method the voting was done in centralized places called Polling booths. The authorized pooling officer supervise the detail of voter and then allow for voting. This process is done manually which leads to multiple errors such as miss counted ballot, lost or stolen ballot, frauds, etc. These systems do not provide an ease for the handicapped or unreachable voters to reach voting booth physically for a variety of reasons but they required to vote for the sake of country, for example, someone is travelling or is far from home so voting percentage is decreasing. Hence there is a great requirement for remote voting procedures that provide flexibility, transparency and most importantly the security. To improve mobility, authentication and security problems, we present an Advance SMS based voting system using GSM that improve the voting percentage in comparison to other existing systems. This system provides the real time authentication. The details of the system are discussed in following sections as given below.

II. SYSTEM IMPLEMENTATION AND DESIGN SPECIFICATION

The proposed design is implemented by using these components such as GSM900 module, AVR Atmega32 microcontroller, LCD display (16×2), AVR simulation software and mobile phone with SIM card. The block diagram of the designed system as shown in Figure 1.

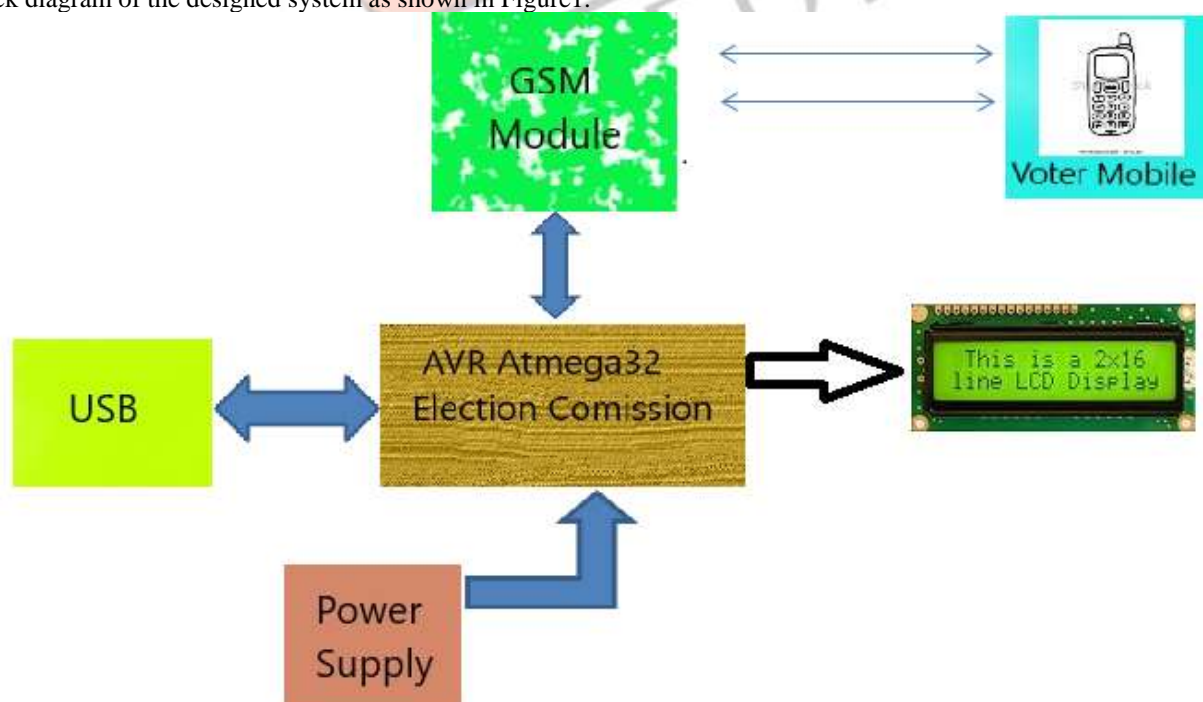


Figure 1 Block Diagram Of Advanced SMS Based Voting Machine

III. WORKING PROCEDURE

The SMS based voting system increasing the percentage of voters and reduces the materials required for existing voting systems. It increases voter's participation, provides greater speed and accuracy, reduction in the amount of time taken for gathering and counting the votes and therefore announcing the results.

The following steps are required for the GSM module based SMS voting system

First of all a generalized unique number is allotted by the election commission to the voters those who are eligible for voting.

Voters send a SMS like (Vote 2018) to that allotted number.

Now the voter is received an acknowledgement message form the commission to enter the personal information like AADHAAR card NO, VOTER_ID number and date_of_birth and send again for authentication purpose.

Commission verified the details provided by the voter : if the details are matched and found to be authenticated voter, the nominee candidates list will appear on the his/ her mobile screen for voting.

Once the voting is successfully accepted the voter is blocked for further voting for that particular session because of security purpose. If any incorrect entry is given by the voter, commission provides three chances to correct them, after that voter blocked for that particular session.

The flow chart of the voting procedure are shown below

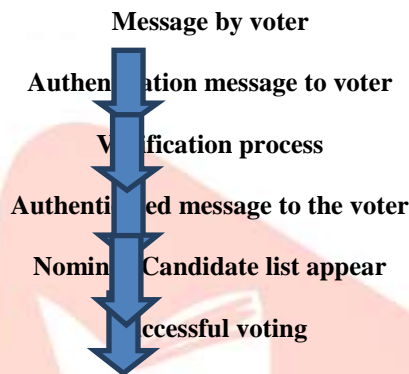


Figure 2 Flow Chart Of Advanced SMS Based Voting Machine

IV. RESULT AND DISCUSSION

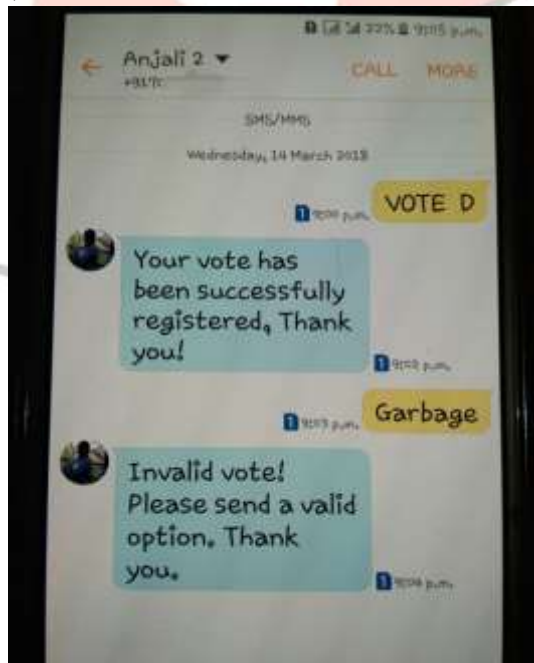


Figure 3 Result Of Advanced SMS Based Voting Machine

Vote D is sent to the election commission number and has been registered successfully. When a Garbage value is sent to election commission it is regarded as invalid vote and asked to enter details again.

V. CONCLUSION

The proposed advanced SMS based voting system is successfully implemented by using GSM technology. Voter can cast his/her vote easily from any place in the given time by using his/her mobile phone without the need of any special effort. The security performance, efficiency and time consumption are minimized. It provides strong security and authentication to the voter and election commission.

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