

SMS based Voting System

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Abstract

The percentage of voting is decreasing, which is the serious drawback of traditional voting scheme. This is because most of voters are busy in their work and most of the voters are living far away from voting center. Some voters don't like to wait in queues. Thus, due to this, voters don't visit to the polling booth. Hence an improvement is needed in this field. Thus, in this paper we are introducing such a system, which will eliminate drawback of traditional voting scheme. This voting scheme proposed here SMS based voting system. By integrating an electronic voting scheme with the GSM infrastructure, we are able to modify existing GSM authentication mechanisms and provide enhanced voter authentication and mobility in order to maintain voter privacy. The objective and verdict takes of this project is to avoid the queue in voting time. Voting machines provide easy access to cast the vote by using mobile phone.

Keywords: GSM, Mobile, LCD, Subscriber Identity Module (SIM), unique identification (UID)

I. INTRODUCTION

The objectives of voting system is to allow voters to cast their votes for procedure of selecting the government and political representative and also a constitution amendments, because voting is the only way to carry out the opinion or issue of the people for selecting the government which is always being initiative towards the improvement. Voting is the phenomenon which includes the decision making mechanism in a society and the security is the important part of voting. The term "SMS BASED VOTING SYSTEM", represent the voting system to defense the security, reliability and transparency. Government of India given a right to people to elect their leader. By conducting voting by election commission of India. Electronic Voting Machine is a basic electronic machine that is used to store the votes in place of ballot papers and boxes which were used in traditional voting system. It is a simple device that is operated smoothly by the polling officers and the voters. Then legally cast their vote on ballots paper based voting machine. Then legally cast their vote on ballots paper based voting machine. Before casting vote election commission follows process of registration of voter. After that it provided voter list number and voter ID card to respective voter. Then the voter has to show his voter id card whenever he goes to the polling booth to poll his vote. This is a time consuming process as the voter has to check the voter id card in the list and list number he has; confirm it as an authorized card and then allow the voter to cast his vote, and after completion of voting counting of vote and display result. This is very complicating process, So that, we need easy, secure and less time consuming system. For this, we make such system, that use SMS based voting system database. Voter having mobile and living in remote place from voting center or those who don't like to wait in queues such voter can vote using her/his personal mobile by sending an SMS. Voter can cast his or her vote easily from any place in a given time. It can save the time of the voter and avoid the forgery votes.

II. LITERATURE REVIEW

Voting through the SMS is the new and advanced area of research. We take the review of some IEEE papers which presented in past.

A. Advance SMS Based Voting System

Advance SMS Based Voting System [1] uses two mobile phones. One is transmitter another one is receiver. The receiver mobile is interfaced with Microcontroller AT89S8252. Transmitter mobile is voter's mobile. If the voter wants to vote, then he has to enter their correct voter ID number, password and then enter candidates ID number in this message to enroll his vote. If he sends

his message along with these details to receiver mobile number, the microcontroller unit will read the message from the receiving mobile through serial port and checks the ID number, password; if both are matched the microcontroller will count the vote for selected candidate and store it in database. If the ID number doesn't match or already voted means the microcontroller unit will reject that message and do not count the vote. In Mobile Voting System [2] the RSA algorithm is used for security purpose. The system provides a new e-voting system which fulfills the security requirements of voting process. In this system total three steps are required: Online Registration of voter, vote casting of voter and result display. The system provides secure and efficient online vote casting and also paper ballot system if online voting fail. In this system there is no need of internet for voting, it is required at the time of online registration only. All process will be done through SMS messaging without requirement of internet connection. Considering the major crowd of mobile users [3] developed modified voting machine which support both electronic voting machine and SMS based voting. The system is able to exploit existing mobile authentication mechanism and provide enhance voter authentication with mobility while maintaining voter privacy.

Student Online Voting System [4] is a web based system that facilitates the running of elections and surveys online. Users are individuals who interact with the system. All user interaction is performed remotely through the user's web browser. Users are provided with an online registration form before voting user should fill online form and submit details these details are compared with details in database and if they match then user is provided with username and password using this information user can login and vote. If conditions are not correct entry will be canceled. It contains two level of user's administrator level and voter level where each level has different functionality.

The Mobile voting system [5] proposed an online voting system through which people can cast their vote through their smart phones or by using an e-voting website. Security is achieved using OTP (one time password) approach, which is most commonly on the web to tell the difference between a human using a web service and an automated bot.

III. PROPOSED SYSTEM

Our proposed system requires that each voter mobile number is linked to the UID number. Only the SMS through that mobile number will be considered as valid vote. If voter mobile number is not linked to UID number then that vote will be considered as invalid vote.

Proposed system consists of three steps:

- 1) Entering UID number
- 2) Voting phase
- 3) Result phase

A. Entering UID Number:

In this phase, GSM will provide the SMS which tells that the voting process will be started. For security or authentication purpose after receiving that SMS the voter now has to send their UID number to GSM through SMS. If both UID number and mobile number of voter is matches then GSM will sends options as SMS to voter.

B. Voting Phase:

After receiving options, now voter has to choose one option and send to GSM through SMS. After that GSM will count that vote. If voter send another option or doing double vote that vote will be rejected.

C. Result Phase:

Before the start of the voting process, we used timer mechanism which will not accept vote after time end.

After completion of voting process as per the defined time the result will be displayed on LCD display as well as on server.

IV. BLOCK DIAGRAM

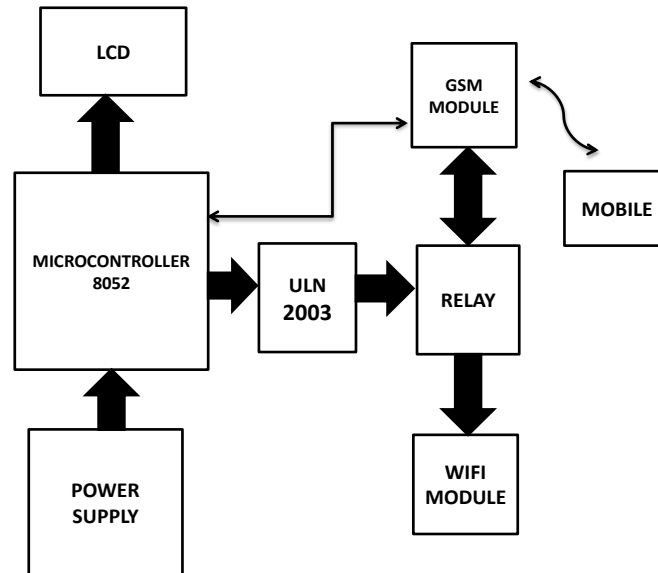


Fig. 1: Block Diagram

A. Microcontroller

The microcontroller is a low power, high performance CMOS 8-bit microcontroller with 4k bytes of flash (PEROM). The microcontroller is used to monitor the actions of all the other devices and to control the entire set of operations.

B. GSM Modem

A GSM modem is a specialized kind of modulator-demodulator in which a SIM card is accepted and it can be operated over a subscription to the mobile operator. GSM module is used when a communication between a computer and a GSM system is required. GSM modem communicates over the mobile network when connected to a computer. GSM modems are also used to send and receive SMS and MMS messages. A GSM can be easily interfaced with the microcontroller system and uses serial communication for data transfer.

C. LCD (Liquid Crystal Display)

A Liquid Crystal Display is dot matrix display that displays alphanumeric characters and symbols. Liquid crystal displays are used in battery-powered devices, such as digital watches, calculators, digital thermometers etc. 16X2 LCD has been used in the modeled system to display the candidate information and polling results.

D. Wi-Fi Module

The ESP8266 Wi-Fi module is a self-contained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your WiFi network. The ESP8266 is capable of either hosting an application or offloading all WiFi networking functions from another application processor

E. Power Supply

The power supply will supply the regulated power supply to the unit which is first converted into 12V AC. 12V AC is converted into DC using rectifier circuit. Finally, the 7805 voltage regulator provides constant 5V DC supply which will be given to circuit.

F. Relay and Relay Driver

Relays are components which allow a low-power circuit to switch a relatively high current on and off or to control signals that must be electrically isolated from the controlling circuit.

V. RESULTS

The proposed system conduct voting and count the total number of votes per a particular candidate. The voter can vote to the particular candidate from any place in a given time. If voter SMS the correct UID number then it can be counted. If the voters UID number is wrong then his or her vote is not counted. After completion of voting process the voting result is displayed on LCD Display and also on the server using Wi-Fi module.

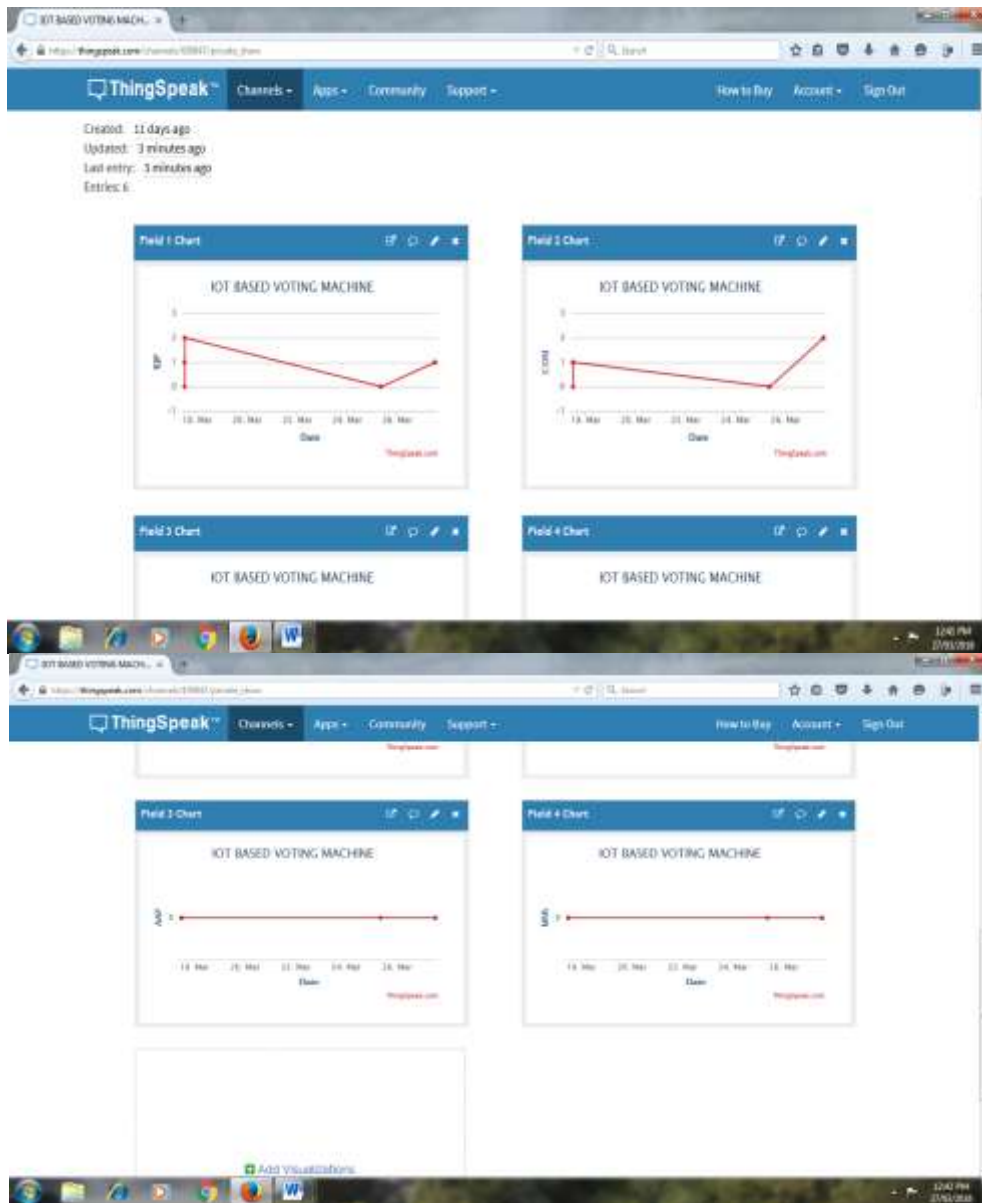


Fig. 2: Result on server



Fig. 3: Result on LCD Display

VI. ADVANTAGES

- As voter need not have to go to polling booth and wait in queues to poll the voters time is saved.
- Working load of managing the queues is reduced as voter is not physically visiting polling booths.
- Faster display of result. Vote counting burden is reduces.
- Secured system as UID and mobile number is used for authentication.
- Avoid the security tensions

VII.SCOPE

The system assumes that every eligible voter has his/her a mobile number and aadhar card. Also these two numbers must be linked by authorized service providers.

VIII. CONCLUSION

The proposed system is reliable as voter can cast the vote only after authentication of UID number and mobile number. The system is flexible as voter can cast the vote from anywhere. The system is fast than traditional papered voting system because the burden of vote counting is eliminated. The vote counting is done at the time the voter cast the vote by microcontroller. But due to security reasons the result will be displayed after completion of voting period.

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