E-VOTING SYSTEM USING MOBILE SMS

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Abstract:

E-Electronic voting system have the potential to improve percentage of the voting. In the traditional voting, such as, the electronics voting and paper based voting, percentage of voting is decreasing. Now a day's most of voters are busy in their work and most of the voters are living far away from voting centre. some voters don't like to wait in queues. Thus, due to this, voters don't visit to the polling booth. Thus, percentage of voting is decreasing, which is main and serious drawback of traditional voting scheme. Now a day's some 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 new voting scheme is based on SMS. SMS is a key future of the second generation(2G) mobile. In the second generation , GSM (global system for mobile communications) is very famous technology. In next generation of mobile, such as 2.5G, 2.75G, 3G & 4G, SMS is one of the prime features. So we implement a new voting system, based on SMS. mobile telephony is widely used, there are more than 6,800,000,000 mobile users worldwide and population of the voter in world is 7,012,000,000 that is 96.97% voter use mobile worldwide. In these paper an electronic voting system using SMS is presented but to care of the remaining 212,000,000 voter that is 3.03% of the voter will use the traditional electronic voting machine as it is. Considering the major crowd of mobile users we developed modified voting machine which support both electronic voting machine and SMS based voting. we are able to exploit existing mobile authentication mechanism and provide enhance voter authentication with mobility while maintaining voter privacy. now days additional problem is of declaring the result of voting, So to declare result normally 8-10 days will be taken. in this day security of voting machine is prime question and very large cost paid for this. in our modified voting machine we can declare result within 1hr of voting and also the voting result send to all registered mobile number.

Keyword: *SMS, Electronic voting machine, E-electronic voting machine, SMS based voting.*

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1. INTRODUCTION

E-Electronic voting system have the potential to improve percentage of the voting. in the traditional voting such as the electronics voting and paper based voting percentage of voting is decreasing. now a day's most of voters are busy in his /her work and most of the voter are living far away from voting centre some voter don't like to wait in queues thus due to these voters don't visit to the pooling booth and Percentage of voting is decreasing. these is main and seriousdrawback of traditional voting scheme. now a day's some improvement needed in this field, in this paper we are introducing such a system which eliminate drawback of traditional voting scheme and this new voting scheme is based on SMS [1,2] . Now we are developed modified electronic voting machine (MEVM). we can call this voting machine as Mobile-Electronic voting machine(M-EVM). This is embedd with two features, first for those voter who don't have an mobile. such voter can vote going physically in voting centre and pressing the key in front of his/her candidate symbol. Second for those voter having mobile and living in remote place from voting centre or those who don't like to wait in queues or don't have time such voter can vote using his/her personal mobile by sending an SMS. First facility is same like traditional voting machine. So we focused on second facility, in this important is voter mobile number which must be registered and synchronised with name in M-EVM database. Using only such registered mobile number voter can vote. In this voter send the SMS to M-EVM and M-EVM give response to such mobile number and take vote of particular voter. Once the vote of the particular persons is taken then mobile number of respective person is blocked. So once vote massage is done voting again to that respective person not possible. In this system voter first send a massage “candidate info” to M-EVM Then M-EVM give reply of all candidate name like A) ABC, B) XYZ etc. then voter reply this massage likewise A or B. then voting of such voter is done and vote is taken. If voter replies more than one option then vote of such voter is unsuccessful and unable to vote again. After voting voter receives massage of successful or unsuccessful voting[3]. we are able to exploit existing mobile authentication mechanisms and provide enhanced voter authentication, while maintaining voter privacy. voting result is declared in 1hr after voting and result will send all registered mobile number.

2. PROBLEM STATEMENT:

Now a day's most of voters are busy in his /her work and most of the voter are living far away from voting centre some voter don't like to wait in queues thus due to these voters don't visit to the pooling booth and Percentage of voting is decreasing. Now a days voting system is somehow

complicated and time consuming now. this process is such as voter manually going to an voting centre and shows voter card (Id) to the voting officer. this voting card will be issued for getting the authentication during the actual process of voting at the station. where they believe that their names are made available and if so after authentication With this, a voters' list will be generated for each constituency. then name of the such voter will be search in the list and then each voter will then have to go to a polling station and then such person will cast their vote by placing a mark against the political party symbol of their choice[4,5]. In some cases, on the voter's right index finger, an indelible ink mark is made to show that this person has already voted and so the voter cannot vote again. this is all time consuming process. also the large man power is needed for checking voter id, voter list and marking the figure and at each polling station. so election commission have need to pay the so much cost for this man power. After the voting schedule is complete, voting station officer will then take the ballot boxes or electronic voting machine to a centralized place, then declare the voting results after 8-10 days. during this day security of this is big problem. for this large manpower is need and election commission pay so much cost for this.

2.1 Proposed System:

Now we are developed modified electronic voting machine (MEVM). we can call this voting machine is E-Electronic voting machine(M-EVM). This has two facility, first for those voter don't have an mobile is voter. such voter can be vote going physically in voting centre, like pressing the key in front of his/her candidate symbol. Second for those voter have mobile and living remote place from voting centre, don't like to wait in queues, don't have time such voter can vote using his/her personal mobile to sending the SMS. First facility is same like traditional voting machine. So we focused on second facility, in this important is voter mobile number[6,7] is must registered in M-EVM database. Using only such registered mobile number voter can be vote. In this voter send the SMS to M-EVM and M-EVM give response to such mobile number and take vote of particular voter. Once the vote of the particular persons is taken then mobile number of such particular person is blocked. So once person was done voting he/her unable to vote again. In this system voter first send massage "candidate info" to M-EVM Then M-EVM give reply of all candidate name like A) ABC, B) XYZ etc. then voter reply this massage likewise A or B. then voting of such voter is done and vote is taken. If voter reply more than one option then vote of such voter is unsuccessful and unable to vote again. After voting voter receives massage of successful or unsuccessful voting. for the security we can generate the special list of mobile voted result in personal computer/ laptop and this list is updated automatically whenever any voter votes . voting officer cross check the voter, search the name of each voter in this list for the instant result facility we can connect M-EVM to the personal computer/ laptop via USB, and division wise all personal computer and laptop then connected to each other using the LAN. voting summation of the each candidate from each division done in respective division personal computer/ laptop. then we will display the result after 1 hr of voting. SMS of the result is send all the registered mobile number.

2.2 System Implementation:

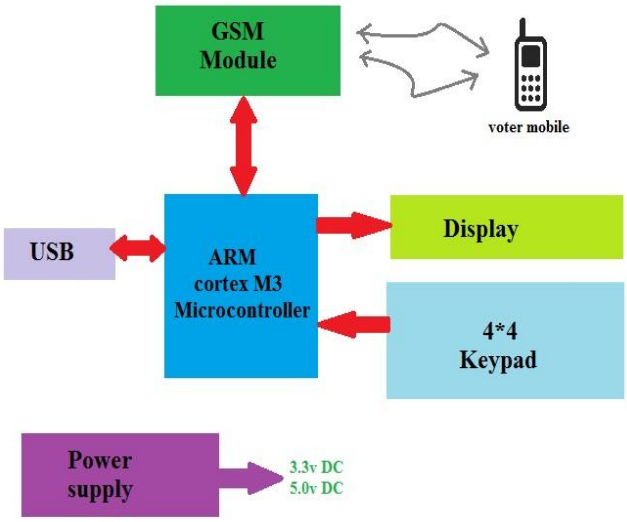

Fig. 1 block diagram

2.3 Arm Cortex M3:

The STM32F103RCT6 [9] medium-density performance line family incorporates the high performance ARM Corte-M3 32-bit RISC core operating at a 72 MHz frequency, high speed embedded memories (Flash memory up to 128 Kbytes and SRAM up to 20 Kbytes), and an extensive range of enhanced I/Os and peripherals connected to two APB buses. All devices offer two 12-bit ADCs, three general purpose 16-bit timers plus one PWM timer, as well as standard and advanced communication interfaces: up to two I2Cs and SPIs, three USARTs, an USB and a CAN. The devices operate from a 2.0 to 3.6 V power supply. They are available in both the –40 to +85 °C temperature range and the –40 to +105 °C extended temperature range. A comprehensive set of power saving mode allows the design of low power applications. The STM32F103R medium density performance line family includes devices in six different package types: from 36 pins to 100 pins. Depending on the device chosen, different sets of peripherals are included the description below gives an overview of the complete
range of peripherals proposed in this family.

2.4 Universal Serial Bus (Usb):

USB was designed to standardize the connection of computer peripherals to personal computers, both to communicate and to supply electric power. It has become commonplace on other devices, such as smart phones, PDAs. USB has effectively replaced a variety of earlier interfaces, such as serial and parallel ports, as well as separate power chargers for portable devices. In our device we use USB 2.0 adding a higher maximum signaling rate of 480 Mbit/s called High Speed, in addition to the USB 1.x Full Speed signaling rate of 12 Mbit/s. Due to bus access

constraints, the effective throughput of the High Speed signaling rate is limited to 35 MB/s or 280 Mbit/s. [10]. Further modifications to the USB specification have been made via Engineering Change Notices 1.1.(ECN).

2.5 GSM Moule:

GSM(Global System Mobile) is a digital communication system which has rapidly gained acceptance and market sheared worldwide. Mobile services based on GSM technology were first launched in Finland. GSM, together with other technologies, is part of the evolution of wireless mobile telecommunications that includes High-Speed Circuit-Switched Data (HCSD), General Packet Radio System (GPRS), Enhanced Data GSM Environment (EDGE), and Universal Mobile Telecommunications Service (UMTS). GSM is a digital wireless communication protocol for mobile phones. It is provided with many other useful features such as security, authentication and the ability to switch phones without the need to reconfigure the phone with the existence of the SIM card. The GSM network can be divided into three parts.

- Mobile Station
- Base Station
- Network Subsystem

3. FLOWCHART:

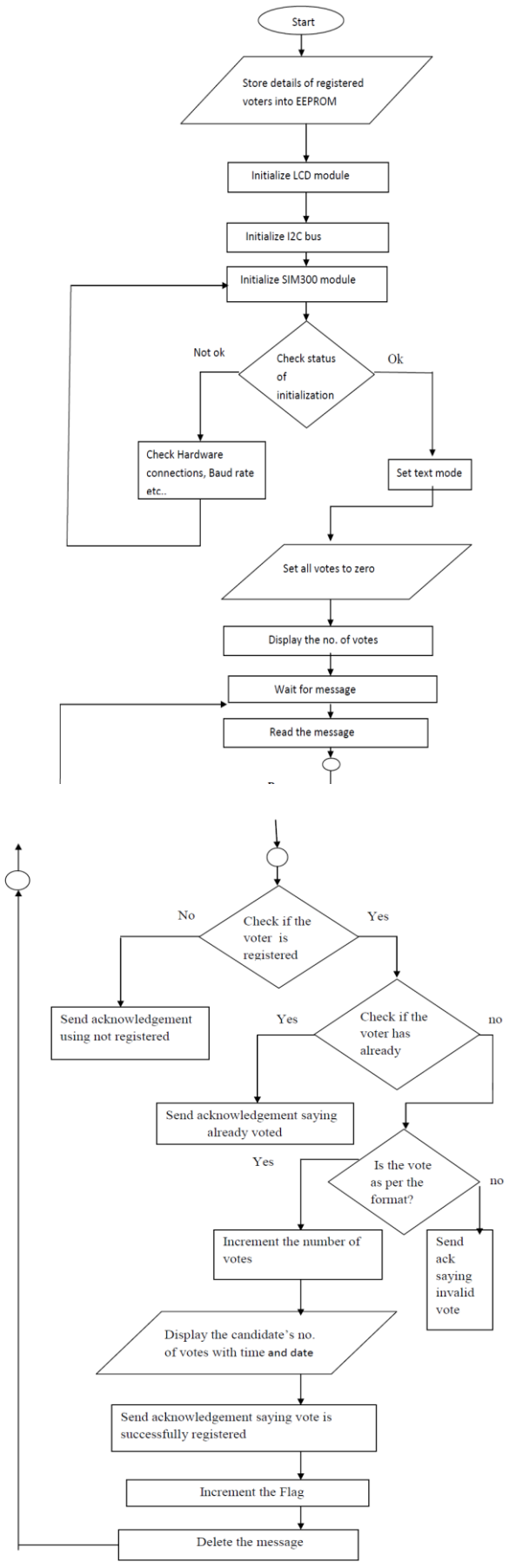

Fig 2. Flowchart

4. RESULT

Fig 3. Candidate info massage

Fig 4. Vote successful

Fig 5. Vote unsuccessful

Fig 6. Voter blocked

Fig 7. voting result

5. CONCLUSION

By referring this paper security performance is improved, avoid the security tensions and also avoid the queue in the voting time at polling booth. Voter can cast his or her vote easily from any place in given time. It can saves the time of the voter and avoid the forgery votes. Authentication is always a difficult requirement to fulfill for remote voting schemes, most of which apply a public Computer Science & Information Technology (CS & IT) 303 key based signature scheme for voter authentication. In our scheme, by using the existing GSM authentication infrastructure, the public-key overhead is largely reduced. Our scheme also enhances the security and provides more mobility and convenience to voters. In this paper, we presented the basic structure and protocol of our GSM based mobile voting system.

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