

## International Journal of Computer Science and Mobile Computing



A Monthly Journal of Computer Science and Information Technology

ISSN 2320-088X

IMPACT FACTOR: 6.017

IJCSMC, Vol. 7, Issue. 1, January 2018, pg.13 – 17

# MOBILE VOTING SYSTEM

**Faaz Ahmad<sup>1,3</sup>, Mubeen Rafay<sup>2</sup>, Kumail Haider<sup>3</sup>**

Department of Software Engineering, Fauji Foundation University, Islamabad, Pakistan<sup>1,2</sup>

Department of Software Engineering, COMSATS Institute of Information Technology, Abbottabad, Pakistan<sup>3</sup>

[faazahmad786@yahoo.com](mailto:faazahmad786@yahoo.com)<sup>1</sup>

*ABSTRACT: Voting is indeed one of the most important features of a free democratic society. The right to exercise free will through voting is being practice for a long time now The MOBILE VOTING SYSTEM shall provide the voter facility to register himself for online voting by the use of internet from anywhere and the caste his/her vote and view the results. This SRS covers the MOBILE VOTING SYSTEM including both software and hardware requirements as well as the basic features of the system. This describes the overall system functionality describing the basic characteristics of the system, the scope of the project and the main features of the system. It provides an explanation as to what are the objectives of the system, along with certain assumptions and limitations regarding the implementation of the product. This document specifies the software requirements of Secure Electronic Voting System. The end product is a web based application for secure voting that is applicable to general elections in Pakistan. The project can take further enhancement in adding new platform e.g. android application, MAC application.*

*Keywords: Mobile voting, Elections, software, hardware, electronic voting system*

### **Introduction:**

Electronic voting systems have been in use since the 1960s when punched card systems were first used. Their first widespread use was in the USA. The newer optical scan voting systems allow a computer to count a voter's mark on a ballot. DRE voting machines which collect and tabulate votes in a single machine are used by all voters in all elections in Brazil and India, and also the United States. Internet voting systems have gained popularity and have been used for

government elections and referendums in the United Kingdom, Estonia and Switzerland as well as in elections in Canada and party primary elections in the United States and France.

Nowadays Electronic vote has become more popular around the world. Some of the countries which uses electronic and vote on line are: United States, Brazil, Australia, Canada, Belgium, Germany, Romania, France, Venezuela, Philippines, The European Union, Switzerland, Italy, Norway, etc.

The first mechanized voting device was patented in the United States in 1892, and for nearly a century the United States was the only country using automated voting equipment. Since the 1980s, Brazil, India, the Netherlands, the Philippines, Russia, and Venezuela have introduced e-voting systems. E-voting is not a panacea, but when properly implemented, it can be a useful tool for democratic elections. Paper-based electronic voting system sometimes called a "document ballot voting system", paper-based voting systems originated as a system where votes are cast and counted by hand, using paper ballots but counted electronically.

Most recently, these systems can include an Electronic Ballot Marker (EBM) that allows voters to make their selections using an electronic input device, usually a touch screen system similar to a DRE Direct-recording electronic (DRE) voting system

The most recent configuration in the evolution of voting systems is known as direct recording electronic, or DRE's. They are an electronic implementation of the old mechanical lever systems. As with the lever machines, there is no ballot; the possible choices are visible to the voter on the front of the machine. The voter directly enters choices into electronic storage with the use of a touch-screen, push-buttons, or similar device. An alphabetic keyboard is often provided with the entry device to allow for the possibility of write-in votes. The voter's choices are stored in these machines via a memory cartridge, diskette or smart-card and added to the choices of all other voters.

In 1996, 7.7% of the registered voters in the United States used some type of direct recording electronic voting system.

## Public network DRE voting system

A Public Network Direct Recording Electronic (DRE) Voting System is an election system that uses electronic ballots and transmits vote data from the polling place to another location over a public network. Vote data may be transmitted as individual ballots as they are cast, periodically as batches of ballots throughout the Election Day, or as one batch at the close of voting. For purposes of the Guidelines, Public Network DRE Voting Systems are considered a form of DRE Voting System and are subject to the standards applicable to DRE Voting Systems.

Electronic voting systems may offer advantages disadvantages exist as well including the potential for flaws or weakness in any electronic component. Compared to other voting.

Voting is indeed one of the most important features of a free democratic society. The right to exercise free will through voting is being practice for a long time now. Elections are a critical component of any democracy. Elections decide the fate of countries and their citizens, so while the introduction of Mobile Voting System (MVC) may seem like a natural step in the modern world, it is one that should be taken with caution. Electronic voting thus referred to as e-voting is gaining more and more public interest.

### **Objective:**

- Objective of our work is to propose a real time capturing of a system using smart phones.
- Provision can be made to connect to a “CENTRAL SYSTEM” to consolidate and display / record the results countrywide

### **Project Scope:**

Our product can be used by any country for voting but we will develop it according to Pakistan’s voting system. The current voting system in Pakistan is based on the cumbersome process that begins from voter’s registration to the casting of vote at some specific designated polling-booth. The key problem in this context is the hectic process of casting vote at only a specific place with the readily available information for this voter at both ends. According to a study a very large number of literate populations of Pakistan do not show up for voting due to this cumbersome process. Overseas Pakistanis can also cast vote through this application.

In this project we will develop a comprehensive scientific solution for electronic voting web application with the capability to cast vote from any location using internet. The scope of the project is a web application that is applicable to run on any system including desktop, Palm top, laptops or any other smart phone devices via Wi-Fi or internet, the electronic voting system consist of two main components: a client-side application which will run on desktop or laptop and a server-side application which will support and interact with various client side-side features. The system is designed to facilitate the user to enables them cast vote at any time through web application. The scope of our end product is a web based application for secure voting that is applicable to general elections in Pakistan. The project scope can take further enhancement in adding new platform e.g. android application, MAC application.

### **Proposed Solution:**

In this project we will develop a comprehensive scientific solution for electronic voting web application with the capability to cast vote from any location using internet. The scope of the project is a web application that is applicable to run on any system including desktop, Palm top, laptops or any other smart phone devices via Wi-Fi or internet, the electronic voting system consist of two main components: a client-side application which will run on desktop or laptop and a server-side application which will support and interact with various client side-side features. The system is designed to facilitate the user to enables them cast vote at any time through web application. The scope of our end product is a web based application for secure voting that is applicable to general elections in Pakistan. The project scope can take further enhancement in adding new platform e.g. android application, MAC application.

### **Conclusions:**

Considering the current election situation of the Pakistan and keeping in mind the latest elections held, this system can be very significant if future enhancements are done in it. We can contact it with NADRA's database and add death certificates of the deceased citizens to avoid the practice of other people casting votes for dead people. We can also add Google map for the easy of the voter. We can also deploy this system on android and MAC smart phones in future.

# References

- [1] Voting, Parliamentary Office of Science and Technology, May 2001, <http://www.parliament.uk/post/pn155.pdf>.
- [2] Schneier B., Applied Cryptography, John Wiley, 1996.
- [3] Numi H., Salomaa A. and Santean L., Secret Ballot Elections in Computer Networks, Computers and Security 36(10), 1991, pp553-560.
- [4] Delaune S., Kremer S and Ryan M., Verifying Properties of Electronic-Voting Protocols, <ftp://ftp.cs.bham.ac.uk/pub/authors/M.D.Ryan/06-wote.pdf>
- [5] RachidAnane, Richard Freeland and GeorgiosTheodoropoulos , Computer and Network Systems, Coventry University, UK.
- [6] Caltech/MIT Voting Technology Project, “What is what could be,” <http://web.mit.edu/voting/>, July 2001; [http://web.mit.edu/newsoffice/nr/2001/VTP\\_report\\_all.pdf](http://web.mit.edu/newsoffice/nr/2001/VTP_report_all.pdf).
- [7] California Internet Voting Task Force, “A Report on the Feasibility of Internet Voting,” Jan. 2000, [www.ss.ca.gov/executive/ivote/final\\_report.htm](http://www.ss.ca.gov/executive/ivote/final_report.htm)
- [8] J.Benaloh, M.Fischer. A Robust and Ver- ifiable Cryptographically Secure Election Scheme, Proceedings of 26th Symposium on Foundations of Computer Science. Port- land, OR. October 1985. IEEE 1985, pp. 372-382.
- [9] Public-Key Cryptosystems
- [10] Formal Specification and Analysis of an e-Voting System