Android Based Application for E-Voting.

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Abstract—Today's world is all about Technology, Time is money becomes the equation. The advancement in the mobile devices, wireless and web technologies given rise to the new application that will make the voting process very easy and efficient. The e-voting promising the possibility of convenient, easy and safe way to capture and count the votes in an election. This paper provides the specification and requirements for E-Voting using an Android platform. The e-voting means the voting process in election by using electronic device. We also described how the android mobile phones are efficient and can be used for voting. The android platform is used to develop an applicationVoter can see the list of applying candidates at the time of voting

Keywords— Android, Digital Election, E-voting system, Open Source Web Services.

INTRODUCTION

Voting is a critical feature of any democratic process and is a vital expression of the people's power For centuries,South Africa has been using the popular paper-based voting system though it doesnot provide the desirable blend of accessibility and efficiency.Missing ballot papers, invalid votes and miscount are some of the challenges associated with the paper-based voting system. Numerous electronic voting technologies have been proposed and presented by researchers that provide an easily accessible and efficient
voting mechanism. Electronic voting has been attracting a lot of attention and research for the past few years, for it has some remarkable advantages over traditional paper-based voting. Mobile voting which is a subset of electronic voting, is continuously gaining popularity because it creates an efficient, effective, error free and time saving voting platform. Mobile phone voting has the capability to augment the participation rate and the quality of voting. This research contributes to the voting system reform by designing and
developing a mobile phone voting framework and an application.The mobile phone voting application facilitates users to spontaneously and timeously vote using existing mobile phone networks and technologies.

I. I.LITERATURE SURVEY

A. Electoral system in India the technology used in India for voting is Electronic voting machines. There are two systems developed for conducting an electronic voting machine. These are the DRE (Direct Recording Electronic) and

Identical Ballot Boxes. A DRE voting system records votes by means of an electronic display provided with mechanical or electro-optical components that can be activated by the voter, that processes voter selections by means of a computer program, and that records that processed voting data in memory components. It produces a tabulation of the voting data that is stored in a removable memory component and may also provide printed renditions of the data. The system may further provide a means for transmitting the processed vote data to a central location in individual or accumulated forms for consolidating and reporting results from precincts at a central location. DRE systems additionally can produce a paper ballot printout that can be verified by the voter before they cast their ballot. [4]

B. Identical Ballot Boxes the Identical Ballot Boxes hold the ciphered vote, encrypted with the PMA voting key and the ciphered Identification Card Number, encrypted with their personal 4 digit key. It is designed to accept connections from the vote distribution server, and ensures an acceptable level of security as far as remote vote manipulation is concerned. In the current version of the system, it has been implemented in SQL Server 2000. The connection the voting distributor, and the administration server is established through JDBC 3.0. [4]

C. Integrated Election Software package Integrated Election Software package, running on a Microsoft Windows computer, allows the election official to set up and record the details of an election. When voting is completed, it counts the votes and displays the outcome of the count results in the format Irish voters are familiar with. The PCs used are stand alone and security hardened for the election software only. Access to the PCs is also controlled by a security key. [4]

II. SYSTEM SPECIFICATION

Like most of the systems in the world, the security consideration is very important. We are taken into account this part through the limitation of the access using face recognition technique. When we click on a program icon , the system asks for a face to recognize ,when the system recognizes the face of the (Admin) it will gives him the approval to access the system, if the system couldn't recognize the face under any conditions for example : not clear face, too much light , the system will ask for password as an additional option. If the Admin could not access the system because of the above conditions, the system will deny him for access and the Admin will try again from the face recognition step. Also another technology that is used in this system is by using Hand Gesture Recognition in order to control all Tabs without touching the screen of the smart phone. This technique is successfully applied by using (Proximity sensor), that located in the upper layer of the android phone.

III. ANDROID BASED E-VOTING

Like most of the systems in the world, the security consideration is very important. We are taken into account this part through the limitation of the access using face recognition technique. When we click on a program icon , the system asks for a face to recognize ,when the system recognizes the face of the (Admin) it will gives him the approval to access the system, if the system couldn't recognize the face under any conditions for example: not clear face, too much light , the system will ask for password as an additional option. If the Admin could not access the system because of the above conditions, the system will deny him for access and the Admin will try again from the face recognition step. Also another technology that is used in this system is by using Hand Gesture Recognition in order to control all Tabs without touching the screen of the smart phone. This technique is successfully applied by using (Proximity sensor), that located in the upper layer of the android phone

A. Architectural Work

The architecture for an e-voting system is as below in fig.1

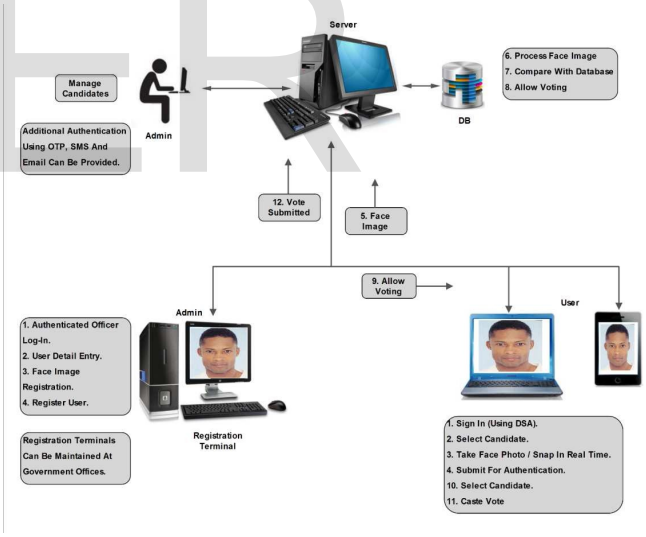

Figure 1: Architectural Design of Android Based E-Voting

B. Working Flow

At first any new voter has to register through booth i.e. on the Internet web site through provided web services. The mobile voter connects to the mobile network using the 2G, 3G or the 4G technology that allows the mobile voter to connect to the application server to download the application. Once the application

is downloaded and installed, the mobile voter registers to vote using the application. During the registration, the application connects to the Staff database to verify the Identity Document (ID) number of the mobile voter. After a successful registration, the mobile voter can cast his/her vote.

C. Algorithms Used

1. Message Digest 5

The MD5 message-digest algorithm is a widely used cryptographic hash function producing a 128-bit (16-byte) hash value, typically expressed in text format as a 32 digit hexadecimal number. [1] MD5 hasbeen utilized in a wide variety of cryptographic applications, and is also commonly used to verify data integrity. [7]

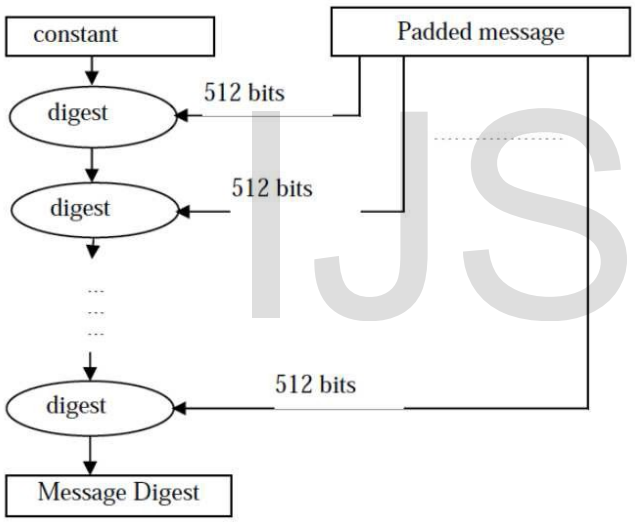

Figure 2: Message Digest 5

IV.REAL TIME TEST RESULT

The system is tested in real time for both (SMS and Internet based method). The results show that the efficiency of the system is depending on the number of voters and the Internet bandwidth as well. Figure (1.5) presents a pie chart of the real time voting process which indicates the vote rate of each candidate.

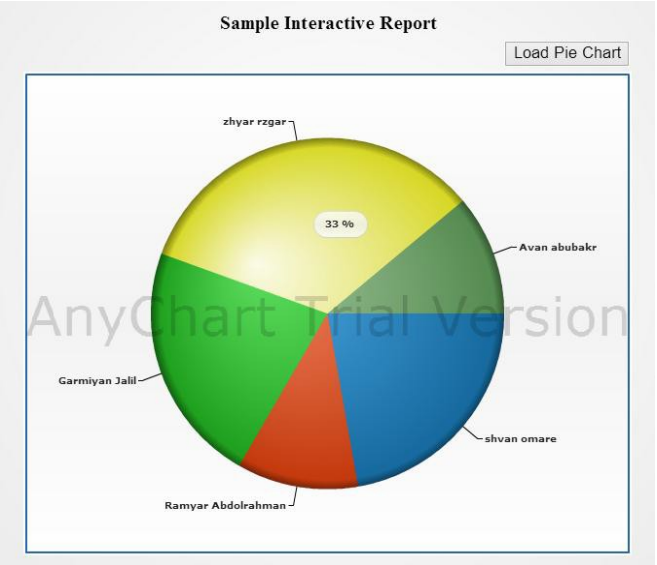

Figure 3: E-Voting system real time result

V. CONCLUSION

This research paper proposed a real time e-voting system based on android phones. The system is first analyzed for both SMS and Internet based voting This paper focused on the analysis of development of E-voting application on an android platform. The Usability of this system is very high if it gets implemented in real life election process. It will definitely helpful for the users who wish to vote and the voting process will be made very easy by using this application. The uniqueness with registration through aadhar number and face recognition will provide very strong security for the confidential information about vote.The analysis of development of E-voting application on an android platform The usability of this system is very high if it will used in real life election process. It will definitely helpful for the users who wish to vote and the voting process will be made very easy by using this application. However, after having tested the system, in future we tend to add additional functionality of image validation for the security constraint and uniqueness which will provide very strong security for the confidential information about vote.

VI. References

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