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E-Voting System Using Android Application

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Abstract

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 promises the possibility of convenient, easy and safe way to capture and count the votes in an election. This research project 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. The android platform is used to develop an e-voting application. The proposed e-voting system will be presented with the obtained results.A QR-Code (Quick Response code) is a type of matrix barcode (or two-dimensional code) designed to allow its contents to bedecoded at high speed. More recently, the system has become popular outside of the industry due to its fast readability and comparatively large storage capacity. The code consists of black modules arranged in a square pattern on a white background. The information encoded can be made up of four standardized kinds of data (numeric, alphanumeric, byte/binary), or by supported extensions virtually any kind of data.

Keywords- *E-Voting, SMS, GPS, UMTS, QR- Code.*

1. INTRODUCTION

The proper execution of democratic rights has become linked to the availability and reliable functioning of advanced information and communication technology (ICT). While modern societies fully rely on ICT for business, work and leisure time activities, the use of ICT for democratic decision making is still in its infancy. In fact, the out date technological concepts for voting have been blamed in part for lost and uncounted votes and could therefore be responsible for biased political decisions making. Countries all over the world are examining e-voting, for it has some striking advantages over traditional paper voting, including security for casting votes, accuracy of counting and analyzing votes, options to conduct voting in a centralized and decentralized manner, etc. The reasons why the e-voting technology has not matured to equivalent levels as known for business and leisure time activities lies mostly in an inherent lack of trust and fear of electronic threats. While most countries are still conceptualizing or testing e-voting systems, three cantons in Switzerland have pioneered the development of e-voting to its full technological maturity. The world is always in improvement and growth in technology, that's why we should go parallel with it, to be able as much as we can get benefit from these improvements.

Via SMS: Each voter can vote by sending an SMS using any kind of mobile connection line or any kind of mobile hand set to the system through the "Mobile Switch Center". For this such type system, an android application is created in Android phone, then the system will start implementing some processes on that SMS which is sent by the voters into the server through a network. A database is installed on the server side to send a result back to the voter by the android system application. The voter can use Internet

connection through a Website which is developed throughout this work. Backend is created for the two ways connection. Both Android system and the Website are linked to the same (MySQL) database in order to the voter can vote through one of the two ways only one time and if he/she tries to vote again the system will deny him/her.

Via Internet-Voting: An electronic voting system (on-line voting, internet voting) is an election system which uses electronic ballot that would allow voters to transmit their secure and secret voted ballot to election officials over the internet. With the prosperity of internet over the years, inventers start to make the use of electronic voting in order to make the voting process more convenient and raise the participation of the civic. From now on, engineers have repeatedly created new technology to improve the feasibility of electronic voting system.

2. LITERATURE SURVEY

2.1 NEW SYSTEM OF E-VOTING USING FINGERPRINT

One of the oldest methods used in numerous applications. It is successful because of its reliability and uniqueness. There are two techniques namely, Automated Finger Identification-Identifies the particular user. Automated Finger Verification-Verifies the identified user. Automated fingerprint verification: is a closely related technique used in applications such as attendance and access control systems. On a technical level, verification systems verify a claimed identity whereas identification systems determine identity based solely on fingerprints. A large number of computer algorithms have been developed to automatically process digital fingerprint images. These algorithms have greatly improved the operational productivity. Minutiae filter and Gabor filter are a part of these algorithms; all these algorithms use the following steps in the figure below to do the automated fingerprint identification.

2.2 QR CODES AND SECURITY SOLUTIONS

QR Code is a Matrix code; the QR codes were developed in Japan in 1994 by Toyota subsidiary, Denso Wave to help track automobile parts throughout production. Bar codes have become widely popular because of their reading speed, accuracy, and superior functionality. The attack method used in the QR code was that when a user scans the code he is directed towards a website and then a malicious file downloads in the user's device without the knowledge of the user.

2.3 NEXT GENERATION A SECURE E-VOTING SYSTEM BASED ON BIOMETRIC FINGERPRINT METHOD

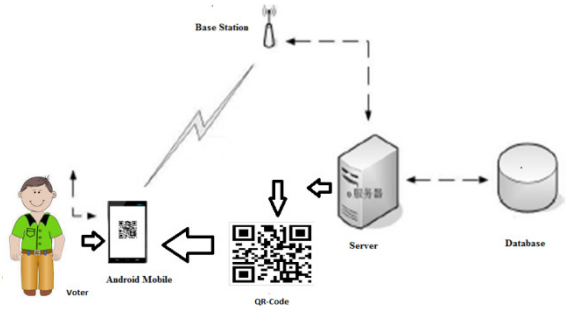
Due to rapid growth of technology security problems are getting increased. Fingerprint scanner and our Microsoft scanner have ability to recognize thumbs no matter in which angle has been pressed on scanner. All the systems that are based on biometric mechanisms are client-server architectures which system administrator has privileges to manage the system.The client machine main application. Here a space is given that is displaying text to tell voter that you have to press your right thumb on Fingerprint scanner and our Microsoft scanner has ability to recognize thumbs no matter in which angle has been pressed on scanner. If fingerprints are not matching with those that are already stored in the server database then it would prompt that you are not a registered user but when voter comes to scan second time then after scanning it would prompt that you have already casted vote.

2.4 A NOVEL DATA HIDING TECHNIQUE BASED BIO-SECURE ONLINE VOTING SYSTEM

Electronic voting is a great improvement over paper systems. **Iris recognition** cannot take place without your permission. **Cover Image Creation**- This is a system generated image used for the purpose of steganography which will be finally modified into stego image and is sent over the public channel. Here a 160 bit secret message is obtained from a 16 bit secret key. The secret key is concatenated with the timestamp value and MD5 algorithm is applied to get 128 bit hash code for that key.

2.5 IMAGE BASED STEGANOGRPHY AND CRYPTOGRAPHY

Cryptography and steganography are well known and widely used techniques that manipulate information in order to cipher or hide their existence. The majority of today's stenographic systems uses images as cover media because people often transmit digital pictures over email and other Internet communication. The ISC extracting process is very simple and consists in a comparison between S nonzero AC coefficients and K nonzero AC coefficients. The ISC stenographic performance will be measured by comparing it with the well-known F5 algorithm. In fact, steganography can be useful when the use of cryptography is forbidden: where cryptography and strong encryption are outlawed, steganography can circumvent such policies to pass message covertly.



OVERALL SYSTEM DESIGN

3. RELEATED WORK

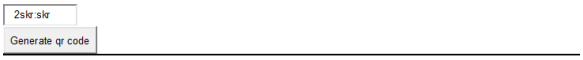
3.1 MODULES

3.1.1 GENERATING QR-CODE IMAGE

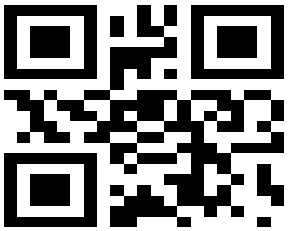
In this module we are creating QR Code for encoding the information about the voter.The voter details contains voter_id no, voter_name, DOB, Address. Each pattern is encoded and represented each module in QRCode with black and white special symbols.QR-Code can hold information more than other bar codes. The format of QR Code includes unique Finder Pattern (Position Detection Patterns) located at three corners of the symbol and can be used to locate the positioning of the symbol, size and inclination.

MOBILE VOTING LOGIN

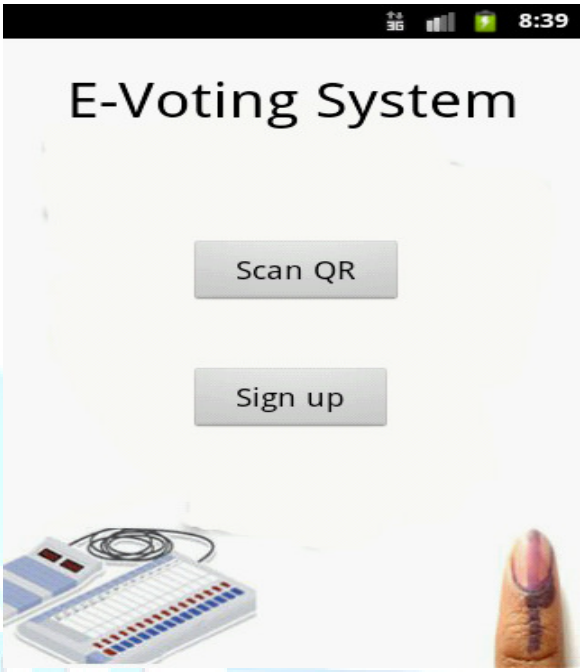
CREATING QR-CODE



GENERATING QR-CODE

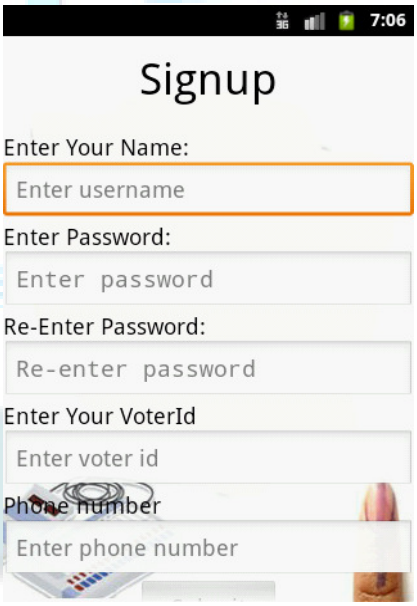


QR-CODE GENERATED



3.1.2 MOBILE AUTHENTICATION MODULE

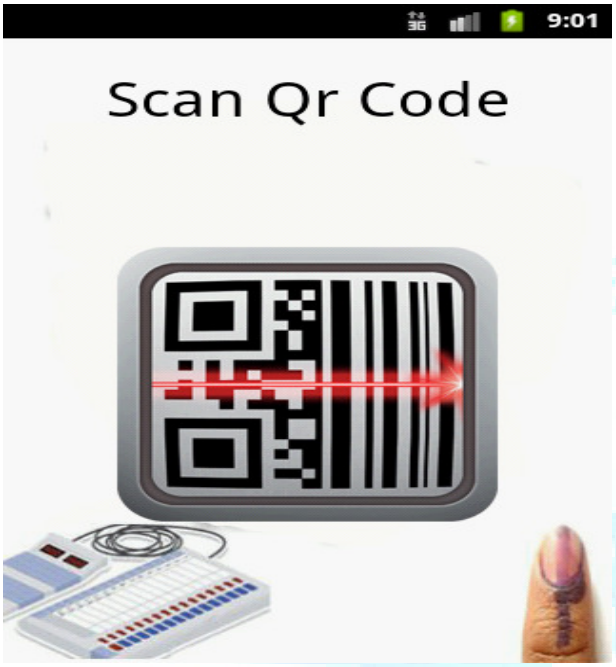
This module represents the authentication, which is used for the voter to login their details for the voting processes. Logged voter is redirected to the scanner module. Authentication is used as the basis or authorization determining whether a privilege will be granted to a particular user or process. The validation process are done on the webserver.



3.1.3 QR CODE SCANNER MODULE

This module is used to scan the QR-Code and read the value of the QR-Code inside the mobile. QR-Code is a matrix bar code designed to be read by Smartphone. The code contains of black modules arranged in a square pattern on a white background. The information encoded may be text, a URL,

or other data. If the voter selects the candidates, the details will directly forward to the server.



3.1.4 WEB SERVICE CLIENT MODULE

This module has the process of storing the selected candidate information from the client, which are send through the web service. All these information's will be stored in the database. We are maintaining a centralized server in order to receive the selected voter list from the database through internet. In this module the candidate see they data retrieved from the database. The Voter will use this list to perform the voting.

4. CONCULSION

According to this project i proposed a real time capturing system for voters to perform their vote by using Quick Response (QR) code in Android smart phone.QR- Code verifies voter_id no by capturing it through the smart phone, then decodes and sends it to the server for authentication. The official of voter forwards the selected candidates list to the server and the response received from the server enables the consumer to decide based on the voters authenticity. An interesting future study might involve simulating voting method at different gateway.

REFERENCES

1. A.S. Belenky and R.C. Larson, "To Queue or not to Queue?," OR/MS 27, October 2013, pp. 30-34.
2. R. Krimmer (ed.), Electronic Voting, Proceedings of the 2nd International Workshop, Gesellschaft fürInformatik, Bonn, KöllenDruck+Verlag GmbH, Bonn, October 2013.
3. "An Electronic Polling Service to Support Public Awareness Using Web Technologies", Christos Bouras, NikolaosKatris, Vassilis Triantafillou.
4. "E-voting on Android System" paper (International Journal of Emerging Technology and Advanced Engineering)prepared by : KirtiAutade, PallaviGhadge, Sarika Kale ,Co-authors- Prof. N. J. Kulkarni, Prof. S. S. Mujgond, February 2012.
5. "Electronic voting," Encyclopedia of Computers and Computer History, prepared by Lorrie Faith Cranor and edited by Raul Rojas, published by Fitzroy Dearborn, 2001.
6. "Voting – What is, What Could be," Caltech/MIT Voting Technology Project (VTP) Report, July 2001.
7. "A Modular Voting Architecture ("Frogs")," ShukiBruck, David Jefferson, and Ronald L. Rivest, August 2001.