E-VOTING SYSTEM USING ANDROID SMARTPHONE

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Abstract - *The objective of this project is to propose a real time capturing system for consumer supplies using Quick Response (QR) code in an Android smart phone. Using Multiplexing and Demultiplexing process encode and decode the information from single QR code with special symbols and split the data back to their QR Code pattern where these QR Code pattern can be read by Android smart phones. Standard image codes like one-dimensional barcodes and two-dimensional codes with black and white patterns identifies a product for its value and basic features but does not authenticate it, moreover not every product that is identified, is used for authenticating manufacturer's warranty.*

In particular, we concentrate on the cases where the memory entries and their associations form a binary hamming space or an infinite square grid. Particularly, we focus on minimizing the number of input clues needed to retrieve information with small uncertainty and present good constructions some of which are optimal. In the proposed method the concept of e-voting application is created using android. The authentication is done through the scanning of QR-Code through the mobile scanner application. In this method the voter has to register using the application and the QR-Code will be provided once the registration is successful. On scanning the QR-Code the voter will be asked for the password. Once the authentication is done the voter is made to proceed with the voting process. The main purpose of implementing this concept is to increase the voting percentage. So that the voter is not required to visit the voting centre to cast their vote and also to avoid fake voting.

Key Words – *Quick Response Code, Barcode, etc.*

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.

1.1 Voting 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.

1.2 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 REVIEW

2.1 Existing System

Existing System is the one in which the biometric concept is used where the scanning of finger print is done. For some people it is very intrusive, because is still related to criminal identification. In existing system Encryption and cryptography algorithms are not used. Barcodes are often intended for consumer use where using a barcode device, a consumer can take an image of a barcode on a voter_id card. The barcode must be read using computer vision techniques and barcode can hold information, it makes this vision task in consumer scenarios unusually challenging. Barcode decoder can give the vision algorithm feedback, and develop a progressive strategy of the voter.

2.2 Proposed System

System resides in the new concept of QR-Code and Scanner Application. Candidate details made to

hide in the QR-Code. Through scanner application the QR-Code is scanned and details are retrieved. Then the voting is performed. In the proposed system, we are using QR code for recognizes image codes using smart phones to provide various services that can recognize the authenticity of any voter details. So QR code verifies voter_id no by capturing it through the smart phone, then decodes and sends it to the server for authentication. The customer forwards the selected voter_id number list to the server and the response received from the server enables the consumer to decide based on the voter authenticity.

3. DESIGN AND IMPLEMENTATION

The E-Voting is a process that can perform in two ways that are SMS voting and via internet voting. The voter should register first and if a voter is already registered means for that voter QR-Code can be generated if the voter is new to the process he/she had should register and the database will generate the QR-Code for the voter. Then the voter should download the scanning application to his/her mobile to scan the generated QR-Code for the voter. After the scanning process the database ask the password for an authentication. Then the voter should perform the operation for process to vote.

After the authentication the voter is proceed to vote by selecting candidate post standing. After the selecting candidate then select the district and then select the ward then voter should select the candidate and proceed to vote.

Then vote is added on the database. The database sends the conformation message to voter your vote has been successfully registered.
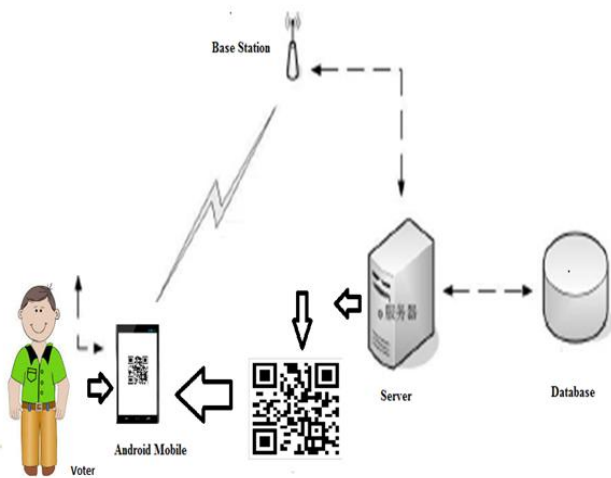
Figure – 1: Overview of Architecture Diagram

3.1 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 QR Code 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.

3.2 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 processes are done on the web server.

3.2.1 Blurring Algorithm

Blurring Algorithm In image terms blurring means that each pixel in the source image gets spread over and mixed into surrounding pixels. Another way to look at this is that each pixel in the destination image is made up out of a mixture of surrounding pixels from the source image.

3.3 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.

3.3.1 Scaling Algorithm

Scaling Algorithm Image scaling is the process of resizing a digital image. Scaling is a non-trivial process that involves a trade-off between efficiency, smoothness and sharpness. Image is scaled into some standard size by using different scaling methods.

3.4 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 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.
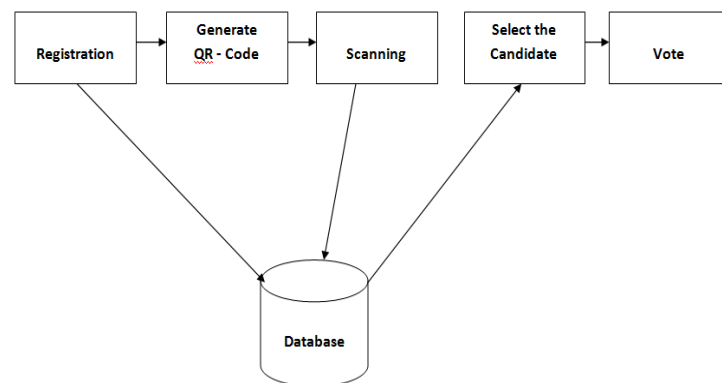

Figure – 2: Data Flow Diagram for E-Voting System

4. CONCLUSION

Context QR codes can provide great value when used in situations that dynamically change depending on the context. Augmented reality is an interesting field for the application of this concept, as it enables user interaction with different technologies. Depending on the context, the characteristics of contextual QR codes assist users to bring them closer into augmented reality and enable content access from different experiences immediately and transparently by taking advantage of the features provided by contextual QR codes. This paper has presented a system that uses contextual QR Codes to activate different actions to deal with different devices and user situations. Our system will demonstrate that it is possible to implement different augmented reality technologies under different contexts.

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BIOGRAPHIES

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