Abstract— The objective of our work is to propose a real time capturing of a system using a Quick Response code in an android smart phone. In this method the concept of e-voting application is created using an android phone. The authentication is done through the scanning of QR code via the mobile scanner application. In this method the voter has to register using the application and the QR code will be provided when the admin has to accept the voter based on the voter details. In this method the voter details are made to hide in the QR code, 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. In this method 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. The main purpose of implementing this concept is to increase the voting percentage. So that the voter is not required to visit the voting center to cast the voter.

Keywords— Binary Hamming Space or infinite square grid, QR Code, scanner application, authentication.

I. INTRODUCTION

Electronic voting is a type of voting using an electronic systems to aid casting and counting votes. It is also known as e-voting. The voting technology can include punched cards, optical scan voting systems and specialized voting kiosks. It can also involve transmission of ballots and votes via telephones, private computer networks, or the Internet. The voting can be identified in two ways, e-voting which is physically supervised by representatives of governmental or independent electoral authorities. The electronic voting machines located at polling stations. In the remote e-Voting where the voting is performed within the voter's sole influence, and is not physically supervised by representatives of governmental authorities. The voting from one's personal computer, mobile phone, television via the internet. It is also called as I-voting. An Electronic voting technology can speed the counting of ballots and can provide improved accessibility for disabled voters. Conventionally there are three types of e-voting is available. The modern society fully rely on information and communication technology for business, work and the leisure time activities. All over the countries in the world is examining e-voting, for it has some advantages over a traditional paper voting, such as security for casting votes, accuracy of counting and analyzing votes, options to conduct voting in a centralized and decentralized manner. The 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. Now a days more improvements 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. In existing system using a biometric concept when the scanning of finger print, but it does not have an encryption and decryption method. Form the technical point of you the elections are made up of the following components, such as Calling of elections, Registration of candidates, Preparation of polling list, Voting (a subset of which is e-voting) Counting of votes, Voter lists have been prepared and are available in a suitable format, The candidate lists have been prepared and are available in a suitable format, E-votes are counted separately and are later added to the rest of the votes, Voter lists includes a polling division and constituency assigned to the voter. The candidate lists provided by constituencies,Expressed will of the voters, Summarized voting result of e-voters, List of voters who used e-voting.

II. RELATED WORK

The concept of e-voting with QR code is obtained from the following related terms,

**QR Codes**: QR Code is Quick Response code. It is also called as a two dimensional bar code or matrix barcode. QR code can hold information more than other bar codes. The QR code was first designed for automated industry in japan. QR codes were initially used for tracking parts by vehicle manufacturers. The QR Code encodes the numeric, alphanumeric, byte/binary and kanji to store data. A QR code consists of black modules (square dots) arranged in a square grid on a white background, which can be read by an imaging device (such as a camera) and processed using...
hamming code. The required data are then extracted from patterns present in both horizontal and vertical components and the symbols of the image.

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 and also gives a QR code different data types attacked via QR codes and security solutions. This paper must verify whether the identifier written in the 2D code is issued by he authorized organization [1]. In this paper based on the hybrid cryptosystem. The protocol consist of three phases, online registration, vote casting and collecting and result phase. The secure online voting casting and also implemented parallel with paper ballot voting systems are provided by the protocol. This protocol has security and deployable in developing countries due to its reliance on SMS messaging without requiring internet connectivity. The GSM is used for the voting system to introduce voter mobility and provide voter authentication [14]. It is a successful and one of the oldest method in the numerous application because of its reliability and uniqueness. Two techniques are used namely, Automated Finger Identification-Identifies the particular user. Automated Finger Verification-Verifies the identified user [12]. In this paper concentrate only where and how the QR code implemented in the countries and the usage of QR code in the countries. If they can be embedded into the practices of daily life, then the speed of adoption of QR codes and the literacy to use will increase [13]. In this paper presents a survey of Electronic voting in the state of art, including the various works done in Internet Voting and in electronic poll site voting [2]. In this paper concentrate on the Pakistan election system problems such as the restrictions on political parties and their candidates, the misuse of state resources, deficiencies in the compilation of the voting register and significant problems relating to the provision of ID cards [3]. In this paper uses a quantile regression to plot a graph with equity based on the values [4]. This paper shows different attack strategies from the attacker’s point of views and exploring their possible consequences [5].

Fingerprint biometric is the most widely deployed publicized biometrics for identification. Electronic Voting Machine is a simple electronic device used to record votes in place of ballot papers and boxes which were used earlier in conventional voting system. Electronic vote counting refers to the system that is used to tabulate ballots and award seats. The Conventional voting systems are not efficient due to long period of preparation, bogus voting, include papers, punch cards, mechanical levers, optical-scan machines and these systems are not efficient as they are conducted manually and therefore very often are not accurate. As a consequence, it is obligatory to carry the available voting through an electronic system. Keeping the erratic power supply position in many places in the country, the machines have been made to run on batteries. It has mainly two units: Control unit and Ballot unit [8]. To provide a security to an online voting system a Steganography combing Cryptography is used. Every individual in the country is first register for Voting. At the time of registration each person provide a thumb impression for the security purpose by using Digital Personal Hardware. After doing this system provide to person a personal identification number (PIN) and secrete key is generated. Online voting system is a web based that facilities the running of elections and surveys online [10].

Voting is regarded as one of the most effective methods for individuals to vote using a computerized voting equipment to cast ballots in an election. In order to implement this scenario we have developed a client/server web application with Java. The voter should provide his private key while establishing a connection with PVID Authority server. To perform an election, firstly PVID Authority, Ballot Generator, Key Generator and Collector servers should be started [7]. The location-based system is a forthroid that “augments” physical objects with multimedia information and enables users to receive information about request services related to physical objects or physical objects. It employs computer-vision techniques and QR-codes. The prototype is implemented on Android platforms and its performance is evaluated with systems metrics and subjective tests. The Forthroid architecture employs the client-server paradigm and it consists of application that runs on the mobile device and the server. The client uses the ZXing API and the Barcode Scanner open-source application provided by Google, for scanning and decoding QR-codes [11]. In this paper multimodal biometric system uses iris, face, fingerprint, retina and using a fuzzy logic. A fingerprint is the feature pattern of one finger and it is believed that each fingerprint is unique. Fingerprint identification system has three part that are image acquiring part, minutia extraction part and matching part. Function of iris is to control the amount of light entering through the pupil. Fuzzy logic enables us to process iambuses in a way like human thinking and matching part. In image acquiring part, optical sensors are used. Pre-processing section tries to enhance image quality with histogram enhancement and Fourier transformation and then convert the enhanced image to binary image and then ridges on fingerprint are making thin [9]. The cryptography and steganography technique is used to provide biometric as well as password security to voter’s accounts. This paper merge the secret key with cover image on the basis of key image which results a stegoimage. This image is not detectable by human eye. Here the image is a fingerprint image. Provide a proper authentication of voter for voting system [6].
III. PROPOSED ARCHITECTURE

The E-Voting is a process can be done through the E-voting application. The voter should register first and if a voter is already registered means then perform login process for that voter QR-Code can be generated if the voter is a new to the process he/she had should register and the database will generate the QR-Code for the voter, before QR code generation the admin validate the user. Then the voter should download the scanning application to his/her mobile to scan the generated QR-Code for the voter. The authentication is done through the scanning of QR code. 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.

Fig. 1. Architecture of e-voting system.

The Fig. 1, shows the how the voting done in the smart Phone.

A. GENERATING QR-CODE IMAGE

In this module we are creating a QR Code for encoding the information about the voter. The voter details contains voter_id no, voter_name, phone number and password. 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. This module using a Hamming Code technique to generate a QR code image.

Fig. 2. Generating QR code.

The Fig. 2, shows the generation of QR code. 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.

MULTIPLEXING

The Fig. 3, shows a multiplexing the information. The voter informations are splitted into QR code patterns and the data are encrypted using multiplexing. In the Generation of QR code we are using a binary hamming code technique to obtain a binary hamming space. Hamming Code: It is a linear error correction technique for one bit and two bit error without the detection of uncorrected error.

Fig. 3. Multiplexing.

B. 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 webservers. Here the admin is performing the validation process for user.
C. 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. The Fig. 4, shows the demultiplexing of voter information. The multiplexed informations are decoded in the server side, then the admin provide a permission to cast a vote.

D. 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 informations are 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 the data retrieved from the database. The Voter will use this list to perform the voting.

IV. RESULT DISCUSSION

The system resides the new concept of QR code and scanner application. The user should download the e-voting application then perform registration and login process. After the process is completed the admin accept or reject the voter based on their voter details. The QR code will be generated for the voter then scan the QR code through the mobile scanner application. In the scanning process the voter will be authenticated. Then perform voting the server producing a result to the voter.

The Fig. 6 and Fig. 7, shows the generation of QR code and how the QR code is scanned by the mobile scanner device.
V. CONCLUSION

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. Our research for project involved the development and enhancement of the QR code based Online Voting System, which is a secured, realistic and optimal online voting system that meets the needs of the public. Our system can address many of the questions which arise among electronic voting system including security, universality and accessibility. It is an universal in the sense that meets the needs of all regardless of one’s abilities by making aged people, physically challenged people to register their vote by just sitting in the home and register their vote with an android mobile device in their hand without the need to go for a voting ballot. As it get developed and enhanced, in a few years, it should eventually be accurate enough for real time elections.

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