QR Code Intonation Approach for Memorandums for Data Transportation in Migrant Devices

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Abstract : Transmission of data in mobile devices using QR code with increased data transfer capacity. Before that use of QR code having some of limitations. In present QR code is used to store text like only such as web address, but they can also store vCard details, Google Maps info and even Youtube video links.. So we are using QR code for the storing more than text like multimedia files such as images, DOC files, and so on. We are also providing security for QR code so no one can stole the any kind of information. QR code is generally used for embedding messages such that people can conveniently use mobile devices to capture the QR code and acquire information through a QR code reader. Generally, target on two kinds of variants to make the original QR code visually pleasant, i.e. changing the shape/color of modules and embedding a picture into the QR code. Embedding a picture into the QR code can easily convey the characteristics of the QR code owner and would impress the viewer more. The concept of QRCodes is great relevance for use in wireless data transmission between handheld electronic devices.

Keywords — Data transfer, QR code, QR Code Generation, QR code beautification, Scanning Method, Security, etc.

I. INTRODUCTION

The concept of QR Codes is of great relevance for use in wireless data transmission between handheld electronic devices. In a typical setup, any file on a cell phone, for example, can be transferred to a second cell phone. Generally, designers target on two kinds of variants to make the original QR code visually pleasant, i.e. changing the shape/color of modules and embedding a picture into the QR code shows some examples of these two kinds of variations. Embedding a picture into the QR code can easily convey the characteristics of the QR code owner and would impress the viewer more. For example, if the QR code is generated for accessing your personal homepage, then embedding your own portrait into it would make the QR code visually unique and representative. Therefore, in this work we aim at the case of embedding a picture to beautify the QR code. Transmission of data in mobile devices using QR code with increased data transfer capacity. Before that use of QR code having some of limitations. In present QR code is used to store text like only such as web address, but they can also store vCard details, Google Maps info and even Youtube video links.. So we are using QR code for the storing more than text like multimedia files such as images, DOC files, and so on.

We are also providing security for QR code so no one can stole the any kind of information. QR code is generally used for embedding messages such that people can conveniently use mobile devices to capture the QR code and acquire information through a QR code reader.

Generally, target on two kinds of variants to make the original QR code visually pleasant, i.e. changing the shape/color of modules and embedding a picture into the QR code. Embedding a picture into the QR code can easily convey the characteristics of the QR code owner and would impress the viewer more.

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II. RELATED WORK

In ACM Transactions on Graphics, Vol. 32, No. 6, Article 217, Publication Date: November 2013, Hung-Kuo Chu1 Chia-Sheng Chang1 Ruen-Rone Lee1 Niloy J. Mitra2 presented, Halftone QR Codes, QR code is form of barcode pattern that is universally used to store information or web addresses to products or for linking. While, on one side, it is important to keep the patterns machine readable; on the other side, even small changes to the patterns can easily unreadable. QR codes appear as random collections of black/white modules unpleasant. They proposed an approach to produce high quality visual QR codes, which call halftone QR codes, that are still machine-readable. First, they build a pattern readability function wherein probability distribution of what modules can be replaced by which other modules. Then, given a text tag, which expressed the input image in terms of the learned dictionary to encode the source text. They demonstrate that their approach produces high quality results on a range of inputs and under different distortion effects.

Hyoseok Yoon, Nohyoung Park, Wonwoo Lee , Youngkyoon Jang1and Woontack Woo, Applying QR code in augmented reality applications, in Proceedings of the 8th International Conference on Virtual Reality Continuum and Its Applications in Industry, 2009, pp. 253257. Due to recent developments of mobile phones and its rapid penetration to the general public, now mobile applications are facing a boom more than ever. Mobile Augmented Reality (MAR) application is one of the new trends, which overlay virtual information over the real scene captured by the camera of mobile phones. In order to develop and deploy MAR, a set of unique information is needed. Yet there are numerous difficulties arising from limitations of mobile phones and different strategies used by different MAR application developers. In this position paper, author proposed QR code (Quick Response code) data for MAR to initiate and facilitate the interoperability of MAR application development and deployment. Since QR code can self-contain much information, author aimed to use this capacity to include metadata for MAR application covering from code metadata, content metadata and tracking metadata. By using QR code which is suitable for mobile applications and widely used for other purposes, QR code for MAR possess much potential in many application domains. Yet there are many issues to resolve, such as how to distinguish normal QR code from AR-enabled QR code. THEY are currently using a ag in QR code data for such identification. Also similar visual codes need to be compared in tracking aspect for better performance in MAR and extends proposed idea to other visual codes as well.

In 2011, T. Anezaki, K. Eimon, S. Tansuriyavong, and Y. Yagi, Development of a human-tracking robot using QR code recognition, in Proceedings of the 17th Korea-Japan Joint Workshop on Frontiers of Computer Vision (FCV). In this paper, an autonomous guidance robot using QR code recognition was proposed. The experiment environment which has arranged QR code in the corridor was created. The experiment which makes a guide robot perform the autonomous run throughout the route was conducted. The average deviation gap from the ideal guide route was 6.29 [cm]. This paper describes the development of guide robot by using QR code (Quick Response Code) recognition and also how to use a QR code as a landmark of a guide route and implement the navigation system that can perform the autonomous run throughout the guide route by using real-time QR code recognition. By the experiment, it is shown that an autonomous guiding function was achieved.

In 2009 Y.-S. Lin, S.-J. Luo, and B.-Y. Chen, proposed Artistic qr code embellishment, A QR code is a two-dimensional barcode that encodes information. A standard QR code contains only regular black and white squares, and thus is unattractive. This paper proposes a novel framework for embellishing a standard QR code, to make it both attractive and recognizable by any human while maintaining its scanability. The proposed method is inspired by artistic methods. A QR code is typically embellished by stylizing the squares and embedding images into it. In the proposed framework, the regular squares are reshaped using a binary example, to make their local appearances resemble the example shape. Additionally, an error-aware warping

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technique for deforming the embedded image is proposed; it minimizes the error in the QR code that is generated by the embedding of the image to optimize the readability of the code. The proposed algorithm yields lower data error than previous global transformation techniques because the warping can locally deform the embedded image to conform to the squares that surround it. The proposed framework was examined by using it to embellish an extensive set of QR codes and to test the readability with various commercial QR code readers.

In 2007, S. Ramya and C. Sheeba Joice studied Appearance-based qr code beautifier, . The main motto of this paper is to generate color QR(quick response) code, which is a 2D barcode where the information are embedded in both horizontal and in vertical directions, while embedding the information in QR image , it causes a blurring effect which reduces the aestheticism and also makes it difficult to decode data at the receiver end. To avoid this , QR image is embedded in HF(High Frequency) cover image in various novelty technique, The HF of cover image can be obtained using DWT(Discrete Wavelet Transform) by applying the combinations of low pass, high pass flters. Whereas, in this paper a reinforced technique is implemented by embedding series of image instead single image. Thereby this technique improves the storage area and resolution of QR image and also it assures security policy. In this paper, a color QR code beautified frame work is implemented. The work involves the visual saliency Image processing of dotted picture in the QR code of considering HSL technique.

In 2011 Jiang et al. [10] K. Sathananthan and C. Tellambura proposed a precise numerical technique for calculating the effect of the Carrier Frequency Offset on the Bit Error Rate or Symbol Error Rate in an OFDM system which destroys orthogonality and causes inter carrier interference. In these studies, the effect of the CFO is calculated in two ways. It may be derived as a loss in the ratio between the signal power and the statistical average of the ICI. Alternatively, computer simulations may be used to obtain the performance degradation caused by the ICI. However, it is also both interesting and useful to know the precise correlation between the bit error rate (BER) or signal error rate (SER) and the carrier frequency offset CFO.

In 2011[5] Now a days QR code stores the text only which may be either message, url, link i.e text. Some of the wireless technique also used for data transmission. The systems which having some size limitations. The size is main factor on which more work can be done to improve the results. A novel intensity histogram-based quality measure of barcode images is proposed and the detail of feature selection is brought. A precise numerical technique for calculating the effect of the Carrier Frequency Offset on the Bit Error Rate or Symbol Error Rate in an OFDM system which destroys orthogonality and causes inter carrier interference.

III. SYSTEM ARCHITECTURE

A. Review Stage

In the existing system, QR Code is generated only for text i.e Universal Resource Locator (url) and websites. So whenever user tries to scan QR Code then decodabilty goes to the link. QR Code is not generated for any other multimedia or computer files.

B. Final Stage

An existing system uses a readymade libraries to generate a QR code. Xamarin Studio, a standalone IDE for mobile app development, was released in February 2013 as part of Xamarin 2.0 and is based on the open source project Mono Development.

The proposed system architecture is, Transmission of data in mobile devices using QR code with increased data transfer capacity. Before that use of QR code having some of limitations. In present QR code is used to store text like only such as web address, but they can also store vCard details, Google Maps info and even Youtube video links.. So we are using QR code for the storing more than text like multimedia files such as images, DOC files, video and so on. We are using QR code so no one can stole the any kind of information.

Methodology

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1. Selection of QR Code
2. QR Code Generation
3. Transportation
4. Scanning of QR Code
5. Retrieval of original file

1. SELECTION OF MULTIMEDIA FILE

Input: In this we consider multimedia files as a input.

Output: This will give QR.

2. QR CODE GENERATION

Input: By using QR Code generation library we will generate QR code of multimedia file. Standard QR Code generation.

Output: It will generate QR Code of with an embedded image as input for scanner.

3.TRANSMISSION

Input: From Sender the QR code of multimedia file will be sent to receiver.

Output: At receiver end file will be accepted as an QR code.

4. SCANNING OF QR CODE

Input: The receiver will receive file i.e. QR Code

Output: Original QR Code which is encrypted.

5. RETRIEVAL OF ORIGINAL FILE

Input: The QR Code at receiver end.

Output: Original multimedia file.

C. Figures

Embedding a picture into the QR code can easily convey the characteristics of the QR code owner and would impress the viewer more. Therefore, in this work we aim at the case of embedding a picture to beautify the QR code.

Transmission of data in mobile devices using QR code with increased data transfer capacity. We are using QR code for the storing more than text like multimedia files such as images, DOC files, and so on. Encoding data into an QR code is storing information into QR Code and Decoding is the process of taking encoded or encrypted text or other data and converting it back into original file that you or the computer can read and understand. This term could be used to describe a method of un-encrypting the data manually or with un-encrypting the data using the proper codes or keys.

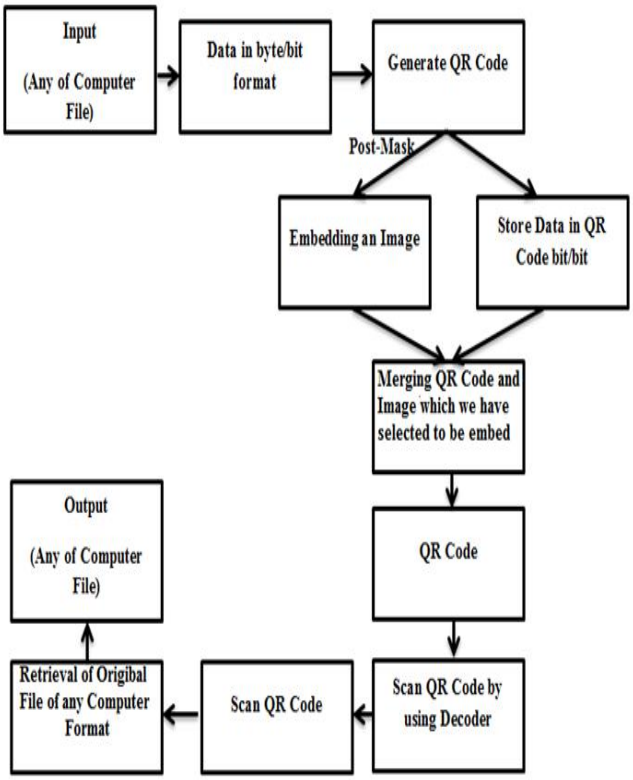

Fig 1. Proposed System

Format and save your graphic images using a suitable graphics processing program that will allow you to create the images as PostScript (PS), Encapsulated PostScript (EPS), or Tagged Image File Format (TIFF), sizes them, and adjusts the resolution settings. If you created your source files in one of the following you will be able to submit the graphics without converting to a PS, EPS, or TIFF file: Microsoft Word, Microsoft PowerPoint, Microsoft Excel, or Portable Document Format (PDF).

IV. RESULT ANALYSIS

In the existing system, QR Code is generated only for text i.e Universal Resource Locator (URL) and websites. So whenever user tries to scan QR Code then decidability goes to the link. QR Code is not generated for any other multimedia or computer files. And In the proposed system, QR Code is generated for any multimedia files. So whenever user tries to scan QR Code then decodability goes to the link or in case of multimedia files it scans all QR Code then it decode the original file . QR Code is generated for any multimedia or computer files.

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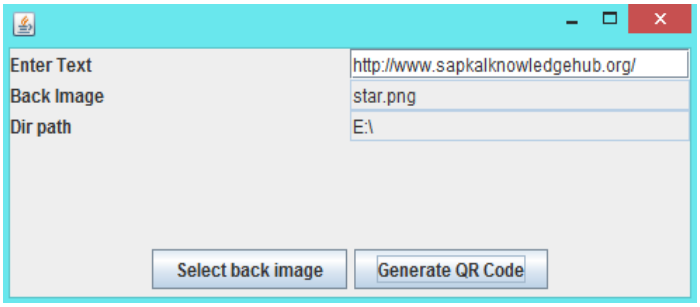

Fig 2. Existing System

In fig 2. the existing system, QR Code is generated only for text i.e Universal Resource Locator (URL) and websites. So whenever user tries to scan QR Code then decidability goes to the link. QR Code is not generated for any other multimedia or computer files.

Fig 3. Existing System

In fig 3. the existing system, QR Code is generated only for text i.e Universal Resource Locator (URL) and websites. So whenever user tries to scan QR Code then decidability goes to the link. QR Code is not generated for any other multimedia or computer files. Here is the output for existing system

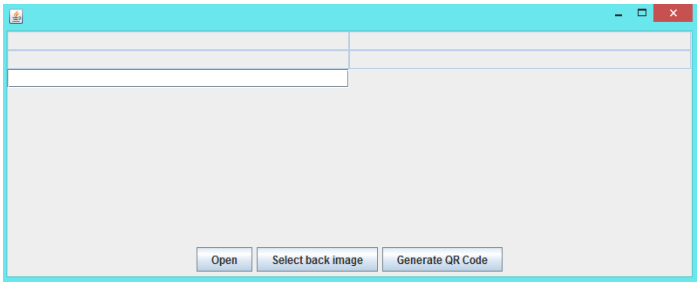

Fig 4. Proposed System QR Code generation and Image embedding

In fig 4, It shows from where we are selecting image for embedding and which file we want to transfer as an QR Code. After selecting both images in text area that is third bracket we have to write none. As we are not embedding any text into the file.

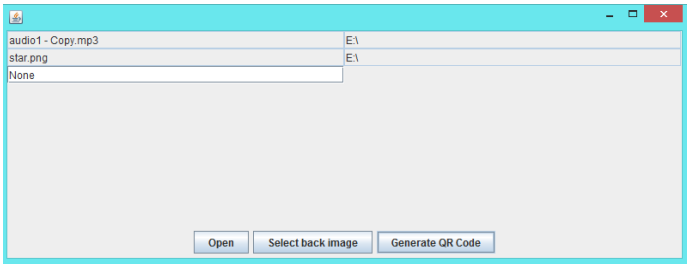

Fig 5. Proposed System QR Code generation and Image embedding

In fig 5 the proposed system, QR Code is generated for any multimedia files. So whenever user tries to scan QR Code then decodability goes to the link or in case of multimedia files it scans all QR Code then it decode the original file . QR Code is generated for any multimedia or computer files.

Fig 6.Decoder for proposed System

In fig 6. When we create QR Code for multimedia file. It got created and the number of QR Code generated are depends on size of input file which we provide for generating QR Code. And QR Code are generated in sequence named as QRCode0 to QRCoden. For decodability we have to scan QR Code in sequence from 0 to N. Once all QR Code are scanned we have to click on create final file. And then we got original multimedia file.

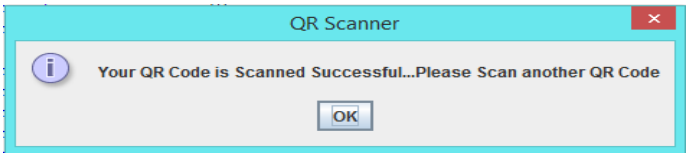

Fig 7 Decodablity of QR Code

In fig 7. When we scan each and every QR Code for that decoder shows a message box whether QR Code are scanned successfully or not.

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V. EXPERIMENTAL SETUP

Result of system can be compare by considering two parameter first is time parameter which required to QR Code and second is length of message and QR Code Quality which is required for existing system and proposed system.

1) Time Parameter : Here we considered time parameter which is used to scan QR Code in existing system and proposed system. Proposed system require less time to scan a QR Code wherein Existing System requires little more time to scan QR Code. The fig. 1 shows the difference to scan QR Code in between proposed system and existing system.

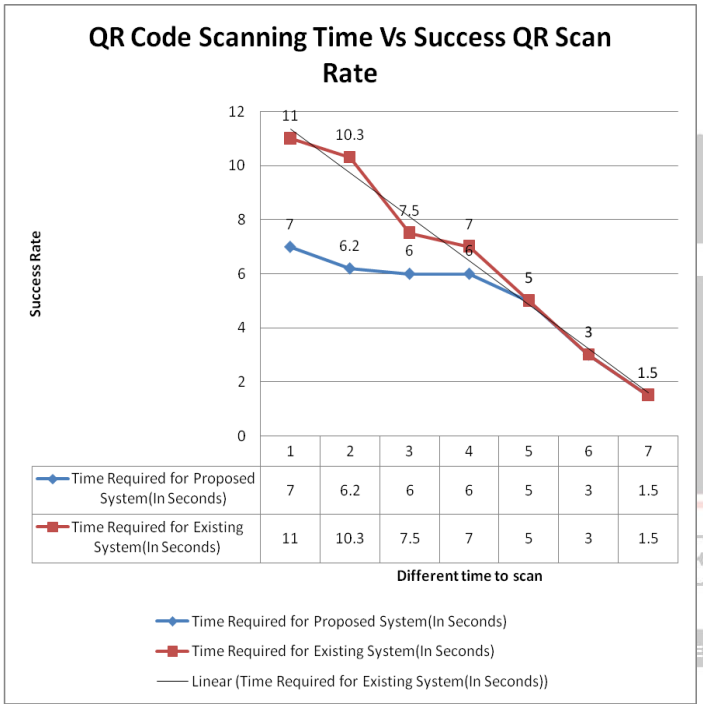

Fig 8 : The difference between proposed system and existing system for different words length

Here Fig 8 shows the difference between existing system and proposed system. Table 1 shows the different time which is required to scan QR Code.

Here table 1 shows the time ratio which is required to scan QR Code by Existing System and Proposed System. There is no of different input we have given to both systems. And the difference is that scanning time required for proposed system is less.

2) Length of Input File : Here The difference for different words length we have given. And proposed system shows us different ratio of fig and image quality of embedded image as well as QR Code

Length(In words)	Time Required for Proposed System(In Seconds)	Time Required for Existing System(In Seconds)
100	7	11
75	6.2	10.3
60	6	7.5
40	6	7
15	5	5
10	3	3
5	1.5	1.5

Table 1: Time required to scan and difference in existing system and proposed system

Here table 1 shows the time ratio which is required to scan QR Code by Existing System and Proposed System. There is no of different input we have given to both systems. And the difference is that scanning time required for proposed system is less.

2) Length of Input File : Here The difference for different words length we have given. And proposed system shows us different ratio of fig and image quality of embedded image as well as QR Code.

Sr No.	Image to Embed	Different Length of Messages and QR Code		
		10 Words	50 Words	100 Words
1.				
2.				
3.				

Table. 2 The difference for different words length

3) Scanning Success Rate : Here table 4.3 shows the scanning rate of different migrant devices. For scanning we have taken three migrant devices i.e Lenevo, Redmi, Samsung and for that we have taken different applications. Here we have taken two applications one is QR Code scanner and another is Barcode scanner pro. The success rate for all devices are 100%.

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Mobile Phone	App	Success Rate
Lenovo	QR Code Scanner Pro	100%
	QR Barcode Scanner	100%
Redmi	QR Code Scanner Pro	100%
	QR Barcode Scanner	100%
Samsung Galaxy	QR Code Scanner Pro	100%
	QR Barcode Scanner	100%

Table 3 : The Scanning rates on different Mobile Devices

Here table 4.3 shows scanning rate for all migrant devices. We have taken three migrant devices i.e Lenevo, Redmi, Samsung and for that we have taken different applications. Here we have taken two applications one is QR Code scanner and another is Barcode scanner pro. The success rate for all devices are 100%.

VI. CONCLUSION

The main approach of this system is to generate QR Code of any computer format file. In this work, we propose an efficient two-stage method to generate QR codes with high excellence visual content to beautify the QR code. A decodable baseline QR code with poor visual quality is first produced based on the Gauss-Jordan elimination procedure and then a rendering mechanism is designed to recover the visual quality while avoid affecting the un-ecodability of the QR code. Transmission of data in mobile devices using QR code with increased data transfer capacity. Before that use of QR code having some of limitations. In present QR code is used to store text like only such as web address, Google Maps information and even Youtube video links.. So we are using QR code for the storing more than text like multimedia files such as images, DOC files, and so on. We are also providing security for QR code so no one can stole the any kind of information. We are using QR code for the storing more than text like multimedia files such as images, DOC files, and so on. We are also providing security for QR code so no one can stole the any kind of information. QR code is generally used for embedding messages such that people can conveniently use mobile devices to capture the QR code and acquire information through a QR code reader. Generally, target on two kinds of variants to make the original QR code visually pleasant, i.e. changing the color of modules and embedding a picture into the QR code.

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