

# Large Amount of Multi Media Transmission using QR-Code

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## ABSTRACT

Quick Response (QR) code may be a two-dimensional (2D) barcode widely used in many applications such as producing, advertising, marketing etc. QR code sounds like a noisy structure. And of QR code are often improved by embedding an information data as well as audio into the code. This survey planned a technique where the looks of QR code consists of visually significant patterns chosen by users. Multimedia security represents a class of processes accustomed embed knowledge, adore copyright data, into numerous sorts of media such as image, audio, or text with a minimum amount of information to compress to the “host” signal; i.e., the embedded information ought to be invisible to an unknown human observer. In this survey study about activity in QR code techniques for data hiding and audio compressions, audio to text voice communication, extraction information from QR code and study related the different techniques of that. For text compression, we tend to use totally {different completely different} techniques and for audio to text voice communication, we tend to use different ways. The audio embedding within the QR code is not a simple task because embedded result should be decodable by normal secret writing applications and can be applied to any audio with full area coverage.

**Keywords:** Audio, QR-code, Audio to string, Text Compression, Base64, Water-marking, DWT, QR code, Watermark embedding, Watermark extraction.

## I. INTRODUCTION

The main source of motivation behind the project idea was the overwhelming story of people visiting museums and can't be able to browse data, World Health Organization cannot be able to read English so by implementing our project they can get information in audio form just by scanning QR code. Even they can select the language which they are comfortable. In today's world, we need security to protect the information from the hackers. hence secret writing the image into QR-code is one among the most

outstanding approaches to securely transmit data effectively and with efficiency. And dealing with the illegal and unauthorized use of data from the hackers.

There are many ways for embedding information which is used to protect information. some of them are used very complex ways which are very time consuming and some source information losses. Here our drawback is to secure information in less time without touching source information by making an easy algorithm. The image embedding in the QR code is not an easy task because embedded result should be

decidable by standard secret writing applications and can be applied to any colour-image with full area coverage. With as many as half of us now owning smartphones, which number growing on a daily basis, QR Codes have the potential to own a major impact upon society and particularly in advertising, marketing, and customer service with a wealth of product information just one scan away.

Ordinarily, we think of a barcode as a collection of vertical lines; 2D Barcodes or QR Codes are different in that the data is stored in each direction and can be scanned vertically OR horizontally. whilst a standard 1D Barcode (UPC/EAN) stores up to thirty numbers, a QR Barcode can store up to a massive. It's this massive quantity of data that enables links to such things as videos, Facebook or Twitter pages or an embarrassment of other website pages.

## II. RELETED WORKS

In [1] Karl W. Scholz says Secure against bit-changed attack, tolerate a lot of errors than usual and recover the secret info when attacker change any bit of hidden bits. Length of secret messages is smaller in IEEE 2014.

In [2] Michael cake says By Combining Data Compression techniques and multiplexing methodology, increase data capability and provides high data security. Author use a QR code for secure data transmission, however security will be increased by compressed data in multimedia type

In [3] Kiyoshi Aiki says accordingly, the present inventors have developed a digital data system which makes it possible to deliver and receive information in the same form as general commodities as an electrical Signal, while at the same time reproducing the received information using an ultrathin portable memory card having a playback function, and a digital audio Signal processor and a signal converter suitably used therewith.

In [4] Pierre Chenes says digital audio Samples square measure first applied to a digital compression filter or predictor so as to reduce the correlation between Samples, where simultaneously reducing the average variance over a block of Samples. The error output of the predictor, i.e., the difference between the actual Sampled value and the foreseen price for that Sample, is then provided to an entropy encoder, which can be supported a Huffman or arithmetic coding scheme, to encode digital audio Samples into a compressed form using code words of varying length.

In [5] Pantida Patirupanusara says a new method for data hiding by applying the QR Code technique. The embedding is searched by using an AI technique called the genetic algorithms. Experimental results reveal that if we simply use the concept of the existing algorithm, each the quality of the watermarked image and the Sim value of the extracted watermarks after certain attacks will be poor. Experiments have shown that the inaudibility and robustness performance will be achieved. Once the audio Starmark benchmark tool is employed to evaluate the robustness performance against signal distortions, the rule outperformed its competitors.

## III. PROPOSED SYSTEM

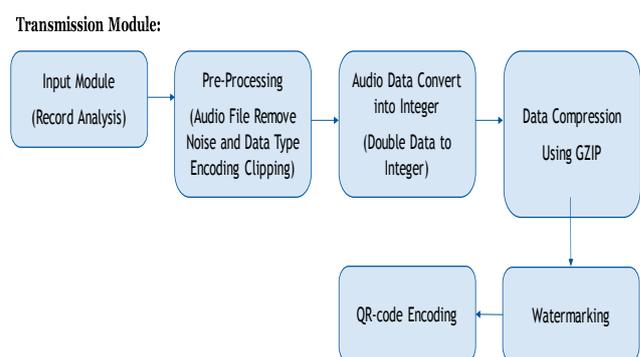


Figure 1: Transmission Module

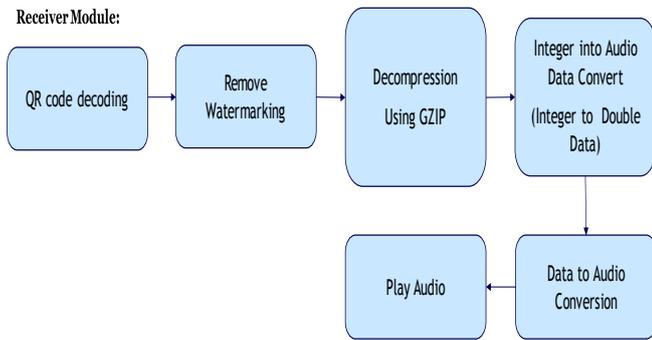


Figure 2: Receiver Module

### A. QR-Code

The Quick Response (QR Code) is a two-dimensional barcode that's in the kind of the Matrix Code.

Structure of a QR code

- 1) Finder Pattern is intended to be used to detect the position of QR Code for Application to the decoder.
- 2) Format space is meant to store info, knowledge sort and database that is concerned in transcription.
- 3) Temporal order Pattern is meant to discover the coordinates of the image for cryptography.
- 4) Alignment Pattern within the images within the tilt will be read correctly by Decoder Application.
- 5) Data space is utilized to store knowledge, QR Code, that is that the most area.
- 6) Quiet Zone is also a locality of the statement devastation the white area that helps to spice up the Finder Pattern to detect quickly. Parts of the QR Code QR Code is predicated on the Type of the Alignment Pattern is displayed within the Version 2 or later.

### B. DWT

Discrete Wavelet Transform (DWT) based Watermarking Audio watermarking strategies, that work in a recurrence space, take the benefit of sound veiling attributes of a human auditory system (HAS) to embed an infrasonic watermark motion in computerized sound. Changing the sound flag from time area to recurrence space enables a watermarking framework to embed the watermark into perceptually imperative segments. This may furnish the framework with an abnormal state of quality, because of that, and resolve to take away the watermark will end in presenting a noteworthy bending in unique sound flag loyalty. The info flag is beginning changed to

recurrence are a wherever the watermark is inserted. The subsequent flag at that point experiences reverses recurrence revise to get the watermarked flag.

The detection algorithm is performed while not mistreatment the original audio signal. We tend to initial decompose a watermarked audio signal into 5-level moving ridge decomposition. Then, we segment the coefficients at the coarsest approximation sub-band as in the embedding method and calculate the average of every segment of audio signal moving ridge coefficients. If the mean is larger than zero, a touch "1" is detected. If the mean is lower than zero, a bit "-1" is detected. This step is recurrent till all embedded bits are detected. Then, we tend to decode the watermark by mistreatment constant random sequence employed in embedding procedure. Finally, all detected bits are rearranged to make a binary image as a detected watermark.

TABLE I  
ANALYSIS OF TRANSFORMATION

Compressive Sensing Method	Advantage	Disadvantage
DWT [1][2]	-Robust Image Compression For The Signals /Images Are Practically Sent Over Noisy Channel. -Wavelet Based Uses The Parallel Computing -Introduce Block Artifacts In The Reconstructed Image.	-Do Not Provide Directionality (Multi-scaling) And Anisotropy So Does Not Produce Good Result While Capturing Edges.
DCT[4][1]	-Low Processing Power	- It Has Blocks Artifacts Means Loss Of Some Information.

DCT[4][1]	-Fast Algorithms Can Be Used For Computation, And The Output For (Near) Constant Matrices Generally Consists Of A Large Number Of (Near) Zero Values.	-While The Input From Pre-processed 8 X 8 Blocks Are Integer-valued, The Output Values Are Typically Real-valued. Thus We Need A Quantization Step To Make Some Decisions About The Values In Each DCT Block And Produce Output That Is Integer-valued.
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high enough to show that little apparent distortion has introduced. In QR code we are store 60 min audio in a back side of the Image using watermarking and front of the image we also stored some data for identification.

### V. CONCLUSION

The main goal of our proposed work is try to increase security for Message transfer and store the data into less storage space. So, try to produce new approach for generating QR code from audio. Here we have done compression using DWT & DCT but DWT gives better results and more Compression. And also done text to audio conversation using simple method which generate large amount of text which text is not support to generate QR code. So, need to reduce size of text by using proposed base64 algorithm, so, in future we can generate QR-code of Audio.

### IV. EXPERIMENTAL RESULT

To verify the performance, we test our algorithm on 8-bit signed mono audio signals sampled at 8 kHz with the length of about 60 seconds in WAVE format, the watermarks have QR Code binary image with the size of 512 x 512 pixels.



Figure 3: Audio QR-Code

According to the International Federation of the Phonographic Industry (IFPI), the Signal to noise ratio of the watermarked audio signal should be greater than 20dB. The Signal to noise ratio is 35dB. Which is

### VI. REFERENCES

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