



# International Journal of Innovative Research in Computer and Communication Engineering

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## Two Levels QR Code Authentication

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**ABSTRACT:** In this system QR code authentication two level storage is used, which help to authenticate original information in QR code. Our proposed work uses 2 level QR code in this two partitions are there first is public and second is private storage level of document storage. In the public level is same as standard QR code storage level is explored, which can be read by any QR code readable device. The private level is constructed by replacing the black modules by specific textured patterns. It consists of data encoded using q-ary code with an error correction capacity. It will increase the storage capacity of the QR code, but also to verify the original document from a copy. This authentication is due to the sensitivity of the used patterns to the P&S process. The pattern recognition method that used for reading the second-level information which can be used both in a private message sharing and in an authentication scenario. Steganalytic algorithm is not likely to defeat our steganographic approach. Third, the reversible capability inherited from our scheme provides functionality which allows recovery of the source texture. Texture synthesis process into steganography is used for hiding secret data in image.

**KEYWORDS:** QR code, two storage levels, private message, document authentication, pattern recognition, print-and-scan process

### I. INTRODUCTIONS

The use of QR codes is increased because they are robust to the copying process, easy to read by any device and any user, they have a high encoding capacity enhanced by error correction facilities, they have a small size and are robust to geometrical distortions. However, those undeniable advantages also have their counterparts:

- 1) Information encoded in a QR code is accessible to every user easily, even if it is encoded.
- 2) It is difficult to classify original content from duplicate file content due to print and scan feature.
- 3) It is impossible to distinguish an originally printed QR code from its copy due to their insensitivity to the Print-and-Scan (P&S) process.

There are number of image steganographic algorithms have been proposed with the increasing popularity and use of digital images. Most image steganographic algorithms uses an existing image as a cover medium. The expense of embedding secret messages into this cover image is the image distortion encountered in the stego image.

### II. LITERATURE SURVEY

An extensive writing study was performed in the support of the two level QR code. In writing, numerous strategies have been proposed to enhance the execution of the validation properties of the proposed 2LQR code. Private message sharing and archive validation shapes the premise of each hunt and question operation. This confirmation is because of the affectability of the utilized examples to the print-and-sweep prepare as very productive to decrease overheads. There are a few philosophies that have been conveyed for private message sharing and in a validation situation. The principle range of center of our exploration is based over the era ventures of the 2LQR code and the message extraction steps. A noteworthy commitment of this given paper is explanatory and test displaying of the print-filter prepare, which shapes the premise of the proposed inserting plans. A novel approach for evaluating the turn experienced by the picture amid the checking procedure is proposed, which particularly abuses the information of the advanced half conditioning plan utilized by the printer.

The QR code framework was concocted in 1994 by Denso Wave. Its primary reason for existing was to track vehicles amid produce; it was intended to permit rapid part scanning.[3] QR codes now are utilized as a part of a much more extensive setting, that incorporates both business following applications and accommodation arranged applications



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went for cell phone clients (named portable labeling). QR codes might be utilized to show content to the client, to add a vCard contact to the client's gadget, to open a Uniform Resource Identifier (URI), or to create an email or instant message. Clients can create and print their own particular QR codes for others to sweep and use by going to one of different paid and free QR code producing destinations or applications. The innovation has since turned out to be a standout amongst the most-utilized sorts of two-dimensional barcode[4]. The motivation behind the writing audit was to decide the sort, degree, furthermore the substance of research and data that is promptly accessible in regards to record authentication. The discoveries of the writing survey are an asset for enhancing the quality, cost and time of the system security. The discoveries of the writing audit additionally distinguish where there is an absence of available and important data on the subject. An assortment of writing sources were explored furthermore inspected; those included proficient diaries, proficient magazines, different productions, on-line distributions, and authoritative sites. The particular wellsprings of writing and data and the quantity of reports discovered identified with the point to further change in the innovation.

In the initially looked into paper "Strong message stowing away for QR code[1]", Response Code is utilized as a part of day by day life lately on the grounds that it has high limit encoding of information, harm resistance, quick disentangling and other great qualities. Individuals can utilize it to transmit mystery data without examination. In the second checked on paper "Mystery concealing instrument utilizing QR scanner tag [2]", QR code is utilized two-dimensional (2D) standardized identification as of late with the upsides of bigger QR content furthermore blunder rectification capacity. In light of the mistake revision property of QR code, we outlined a mystery concealing system for the QR standardized identification. The proposed plan can hide the mystery information into the cover QR code without twisting the comprehensibility of QR substance. In the third surveyed paper "QR code utilizing undetectable watermarking in recurrence area [3]", Commercial exercises on the web and media should be ensured by expanding of security, with help of the 2D Barcode with an advanced watermark in security field. This paper recommends that QR Code is inserted with an imperceptible watermark by utilizing Discrete-Cosine-Transform for a data stowing away inside the gathering through the QR Code picture with undetectable watermark. In the fourth explored paper "2D standardized identifications for verification: A security approach [4]", investigate the validation issue of true merchandise on which 2D scanner tags (2D-BC) were printed and we take the rival's perspective. The rival is accepted to have entry to Nc boisterous duplicates of a bona fide 2D-BC.

### III. EXISTING SYSTEM AND DISADVANTAGES

Existing framework in view of seeking social values between P&S un helpful examples and related examples. The capacity limit can be eminently expanded by code letters in order q or by expanding the finished example measure. Existing framework comes about demonstrate a reclamation of private data. It likewise highlights the likelihood of utilizing this QR code for record verification. In this work private level developed by supplanting dark modules by particular surface example. For this current work utilizes rich graphical code. private message are embed by including distortion in print and sweep technique. These rich graphical codes increment hugeness by enhancing tasteful perspective of QR code.

#### Advantage:-

Increase storage capacity of qr code along with differentiate original document.

#### Disadvantage:-

1) Data stored in a QR code is can be easily readable to camera containing, although it is not plain text and therefore is only readable to authorized user ,likewise watch and read. It is impossible to classify an originally document in QR code from its copy due to their insensitivity to the Print and Scan process.



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## IV. PROPOSED SYSTEM AND ADVANTAGES

Proposed framework utilizes two levels QR for information stowing away. This 2LQR code has taking after levels

1. public level
2. Private level.

People in general level QR code can read content or report effectively with peruser, yet the private level needs a particular gadget with encoded data. This 2LQR code can be utilized for private message sharing or for verification system. The private level is made by supplanting white modules with finished examples from cover picture. These finished examples are considered as white modules by standard QR code peruser. With the goal that private level is covered up to QR code perusers, Propose framework for private level does not influence in any case the examining open information of people in general level. The proposed 2LQR code expands the capacity limit of the established QR code because of its supplementary perusing level. The capacity limit of the 2LQR code can be enhanced by expanding the quantity of finished examples utilized or by diminishing the finished example measure. Cover picture to conceal messages, our calculation shroud the source surface picture and implants mystery messages through the procedure of surface combination. This permits us to concentrate mystery messages and the source surface from a stego engineered surface.

### Advantage:-

1. Secure encoding of document or text.
2. Two level user authentication
3. Text steganography for message encoding
4. stego synthetic texture for qr code hiding

## V. CONCLUSION

2LQR code can be utilized for secure private information sharing and confirmation component. Private level is made by supplanting dark modules with particular finished examples. Picture surface examples are considered as dark modules by QR code peruser. The private level is covered up to QR code perusers, we include the private level which does not influence in at any rate the perusing procedure of the general population level. The capacity limit of the 2LQR code can be enhanced by expanding the quantity of various finished examples utilized or by diminishing the finished example measure. The proposed 2LQR code expands the capacity limit of the established QR code. Above calculation absolutely utilizes Reed-Solomon codes for encoding mystery messages before inserting the result message into QR code. There are many elements of Reed-Solomon codes, the result message likely is decoded by the animal constrain calculation.

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