A Review on : An Enhanced Security by using 2LQR code for Fortified Authentication

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Abstract— **The quick response (QR) code was designed for storage information and high-speed reading applications. In this we create a new QR code that has two levels and can be used for document validation. This rich two-level QR code, has public and private storage levels. The public level is same as the standard QR code stowing level; therefore, it is readable by any classical QR code application. The private level is fabricated by replacing the black modules by specific textured patterns. It consists of information encoded using *q*-ary code with an error improvement capacity. This allows us not only to increase the storage capacity of the QR code, but also to distinguish the original document from a copy. This authentication is due to the sensitivity of the used patterns to the print-and-scan (P&S) process. The pattern recognition method that we use to read the second-level information can be used both in a private message sharing and in an authentication scenario. It is based on maximizing the correlation values between P&S degraded patterns and reference patterns. The storage capacity can be meaningfully improved by increasing the code alphabet *q* or by increasing the textured pattern size. The new results show a perfect restoration of private information. It also highlights the chance of using this new rich QR code for document authentication.**

Keywords:- Two level QR code, private and public authentication, q-qry code.

I INTRODUCTION

The fast reaction (QR) code was intended for capacity data and rapid inspecting applications. In this we illustrated another rich QR code that has two stockpiling levels and can be utilized for archive confirmation. This new QR code, named two-level QR code, has open and private capacity levels. The general population level is the same as the standard QR code stockpiling level; along these lines, it is discernable by any established QR code application.

The capacity limit can be fundamentally enhanced by expanding the code letters in order q or by expanding the finished design estimate. The test comes about demonstrate an immaculate reclamation of private data. It likewise

features the likelihood of utilizing this new rich QR code for archive verification.

II OBJECTIVES

- To provide faster result for Customer.
- To provide dual security with data accession.
- To overcome the problem of forgetting user-name and passwords.
- To provide document authentication.

III LITERATURE SURVEY

1] Kinjal H. Pandya, Hiren J. Galiyawala "A Survey on QR Codes: in context of Research and Application" International Journal of Emerging Technology and Advanced Engineering (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 4, Issue 3, March 2014).

This paper take account of QR codes basics, its real time application in day to day life and research areas associated. With the technology of mobile phones constantly emerging, especially in the area of mobile internet access, QR codes seem to be an adequate tool to quickly and efficiently converse URLs to users. Thus, this paper is an attempt to highlight some of possible research areas while considering QR codes.

2] A. Sankara Narayanan "QR Codes and Security Solutions" International Journal of Computer Science and Telecommunications [Volume 3, Issue 7, July 2012].

In this paper, discusses QR codes different data types, attack via QR codes and security solutions. However, since it is easy to modify the content stored in the 2-D code, we must verify whether the identifier written in the 2-D code is indeed issued by the authorized organization.

3] Mrs. Princy P, Mrs. Jisney Thomas "Color Image Coding and Decoding in QR Codes" IJSTE - International Journal of Science Technology & Engineering | Volume 1 | Issue 10 | April 2015.

This paper introduces the concept of colour image embeddings in QR codes. This is an automatic method to embed QR codes into colour images with bounded probability of detection error. These embeddings are compatible with standard decoding applications and can be applied to any colour image with full area coverage. To mitigate the visual distortion of the QR image, the algorithm utilizes half toning masks for the selection

of modified pixels and nonlinear programming techniques to locally optimize luminance levels Take one colour image and converted into gray image. Then this doing the masking process, window extraction, image embedding, decoding like processes. After this process the original gray image is taken from this.

4] IuliiaTkachenko et al, "Two-Level QR Code for Private Message Sharing and Document Authentication", IEEE Transactions on Information Forensics and Security, 11 (3), 2016.

. In this paper, we get a new rich QR code that has two storage levels and can be used for document authentication. This new rich QR code, named two-level QR code, has public and private storage levels. The public level is the same as the standard QR code storage level; therefore, it is readable by any classical QR code application. The private level is constructed by replacing the black modules by specific textured patterns. It consists of information encoded using q-ary code with an error correction capacity. This allows us not only to increase the storage capacity of the QR code, but also to distinguish the original document from a copy. This authentication is due to the sensitivity of the used patterns to the print-and-scan (P&S) process. The pattern recognition method that we use to read the second-level information can be used both in a private message sharing and in an authentication scenario.

5] C. Baras and F. Cayre, "2D bar-codes for authentication: A security approach," in Proc. 20th Eur. Signal Process. Conf. (EUSIPCO), Aug. 2012, pp. 1760–1766.

In this paper, we investigate the authentication problem of real-world goods on which 2D bar-codes (2D-BC) were printed and we take the opponent's point of view. The opponent is assumed to have access to noisy copies of a genuine 2D-BC (noise being due to printing and scanning processes).

IV PROPOSED WORK

The proposed 2LQR code grows the limit furthest reaches of the built up QR code as a result of its supplementary examining level. The limit furthest reaches of the 2LQR code can be improved by growing the amount of completed illustrations used or by reducing the completed case measure. Cover picture to disguise messages, our estimation cover the source surface picture and embeds puzzle messages through the methodology of surface blend. This licenses us to think puzzle messages and the source surface from a steno designed surface.

Also it contains the two levels for storage that is public level and secondly private level. so that we can store data very securely.

V CONCLUSION

The two level colour QR code scheme improves the storage capacity of the QR code and provide document authentication ensuring overall security. Thus we present a new rich 2LQR code that has two storage levels and can be used for document authentication.

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