

Two Level QR Code for Private Message Sharing & Document Authentication

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Abstract : The quick response code was meant for capability information and fast reading applications. The ubiquity of QR code is because of its vigor, easy to highlight, higher secret writing limit and small size. In spite of the actual fact that it's several points of interest nonetheless has various drawbacks to be increased most conventional inconveniences are: it's effectively offered to anybody notwithstanding the likelihood that it's patterned and it's extraordinarily exhausting to acknowledge the at the start created QR code with its photocopy. during this approach, keeping in mind the top goal to interfere the QR code, any third individual will recover the info with the assistance of a typical QR code scanner. during this, we tend to show another wealthy QR code that has 2 warehousing levels and might be utilised for archive verification. This new wealthy QR code, named two-level QR code, has open and personal warehousing levels. individuals normally level is that the same because the commonplace QR code warehousing level; on these lines, it's intelligible by any established QR code application. The personal level is developed by replacement the dark modules by specific finished examples. It includes of knowledge encoded utilizing q-ary code with a blunder rectification limit. this allows U.S. not completely to make the capability limit of the QR code, nonetheless to boot to acknowledge the primary record from a reproduction. This verification is as a result of the affectability of the utilised examples to the print-and-output (PS) method. the instance acknowledgment technique that we tend to use to examine the second-level information is utilised each during a personal message sharing and during a validation state of affairs. It depends on amplifying the association esteems between note debased examples and reference styles. The capability limit is considerably increased by increasing the code letters so as letter or by increasing the finished example live. The trial comes regarding demonstrate a perfect reclamation of personal information. It likewise options the chance of utilizing this new wealthy QR code for report validation.

IndexTerms - Document Authentication, Private Message, Pattern Reorganization, QR code generation, Two Level QR Code.

I. INTRODUCTION

In today's digital world code are noticeably common for authentication further as distinctive identification. There are varied styles of code in our pc world. Graphical codes like information Matrix code, fast Response Code and EAN-13. most of this code is been use on terribly massive scale at totally different fields like advertising and deposit art description that comes beneath info storage, redirecting to web site, transport and tickets or brands that comes beneath track and trace, flight traveller info, market merchandise that comes beneath identification etc. they're terribly easy, strong to the cope method, straightforward to capture the code by any devices and any users. however there also are some flaws during this styles of code that is fast response code is usually accessible to everybody. it's terribly troublesome to mention the distinction between the first fast response code and also the duplicate or copy of that fast response code. during this we tend to overcoming and rising the cryptography capability of the short response code. this is done by victimisation the black module by specific texture patterns. during this we tend to conjointly planned of 2 level fast response code that encompass 2 stages. 1st stage so code is accessible to any commonplace code and also the second stage that improve the characteristics and capability of the initial fast response code. during this, we tend to propose to beat these shortcomings by enriching the quality QR code cryptography capability. This enrichment is obtained by commutation its black modules by specific unsmooth patterns. Besides the gain of storage capability, these patterns is designed to be sensitive to distortions thanks to the P&S method. These patterns, that don't introduce disruption within the commonplace reading method, are invariably perceived as black modules by any QR code reader. Therefore, even once the personal info is degraded or lost within the copy, the general public info is usually accessible for reading. The planned 2 level QR code contains of: a primary level accessible for any commonplace QR code reader, so it keeps the sturdy characteristics of the QR code; and a second level that improves the capacities and characteristics of the initial QR code. the data within the second level is encoded by victimisation q-ary ($q > 2$) code with error correction capacities. This info is invisible to the quality QR code reader as a result of it perceives the unsmooth patterns as black modules. Therefore, the second level is used for personal message sharing. to boot, due to unsmooth pattern sensitivity to P&S distortions, the second level is wont to distinguish the first 2LQR code from its copies.

II. LITERATURE SURVEY

In authors proposed a two level QR code for private message sharing and authentication scenario using the private and public levels. Information is pre-set using q-r code with an error correction capacity, where the private level is constructed by replacing black modules with specific textured patterns. Automatic identification and data capture techniques bar code symbology-QR code. Proposed the certification of QR code performed by International Organization of Standardization (ISO), and its whole specification. Nancy Victor. Proposed a technique for data compression which enhances the data capability of QR codes by compressing the data previous to creation of QR codes. B. Sklar. Proposed the Reed-Solomon error correction code used for data encryption where one of 4 error correction levels has to be elected during QR code generation. R. Villán, S. Voloshynovskiy, O. Koval, F. Deguillaume, and T. Pun. Proposed the combination of strong text hashing and text data hiding technologies as an effective solution to authentication and tamper-proofing of text documents. T. V. Bui, N. K. Vu, T. T. P. Nguyen, I. Echizen, and T. D. Nguyen. Proposed a scheme based on reed Solomon codes and list decoding. Using bit technique, it hides secret information and prevents attacker changing any bit of hidden bits. A.E. Dirik, B. Haas. Discussed a copy detection pattern tool to detect copies from original documents and solely focus on counterfeit prevention. M. Querini, A. Grillo, A. Lentini and G.F. Italiano. Proposed a high capacity colored two dimensional code(HCC2D) with an intention to increase barcode data density. It supports input data of different types and sizes and code dimension is slickly be spoke to the real input size. In authors proposed technique for hiding information into images. Hidden images survive attacks such as Gaussian/median filtering, scaling/aspect ratio change, heavy JPEG compression etc.

III. PROPOSED WORK

Controlling the pc mouse victimisation the eyes movement needs a quick and effective algorithmic program, that's brought us to decrease the period of time of the tool to the minimum by dividing the operation into few steps and employing a pursuit algorithmic program so as to avoid gratuitous calculations.

IV. SYSTEM ARCHITECTURE

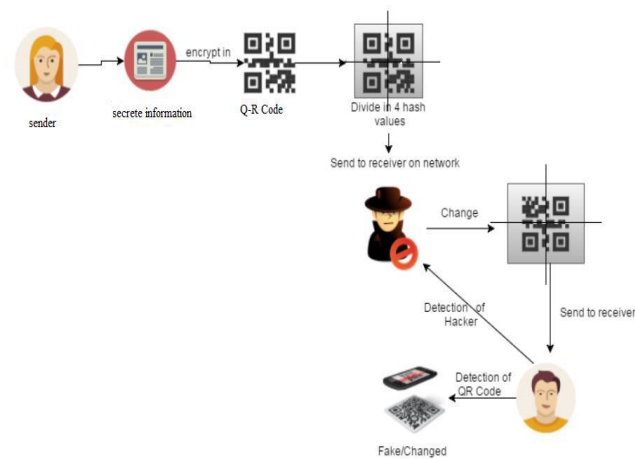


Fig:- System Architecture

V. PROPOSED AUTHENTICATION PROCESS

In this, we tend to propose a two-level QR code. public and personal level. These levels are used for storage. the general public level is that the same because the commonplace QR code storage level; so, it's legible by any classical QR code application. The personal level is built by commutation the black modules by specific unsmooth patterns. It consists of data encoded victimisation q-ary code with a blunder correction capability. this enables U.S. not solely to extend the storage capability of the QR code, however conjointly to tell apart the first document from a duplicate. This authentication is thanks to the sensitivity of the used patterns to the print-and-scan method. The pattern recognition technique that we have a tendency to use to scan the second-level info is used each associate exceedingly personal message sharing and in an authentication state of affairs. it's supported increasing the correlation values between P&S degraded patterns and reference patterns. The storage capability is considerably improved by increasing the code alphabet letter or by increasing the unsmooth pattern size

VI. REQUIREMENT ANALYSIS

The implementation detail is given in this section.

6.1 Software

- Operating System : Windows 7/Windows 8
- IDE : Net Beans 8.0/7.3/6.8
- Software setup : Jdk8/JDK 7/JDK 6
- Technology : Java Standard Edition

6.2 Hardware

- Processor : Any Processor above 500 MHz
- RAM : 2 GB
- Hard Disk : 10 GB
- Compact Disk : 650 Mb
- Input device : Standard Keyboard and Mouse

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