

QR Code For Identification Of Cars Components

S.V.Phulari¹, Mahesh Hiremath², Ashish Shelke³, Atish Shelke⁴, Raviraj Samant⁵
Sagar Munde⁶

¹ Professor, Computer Engineering, PDEACOEM, Maharashtra, India

² Student, Computer Engineering, PDEACOEM, Maharashtra, India

³ Student, Computer Engineering, PDEACOEM, Maharashtra, India

⁴ Student, Computer Engineering, PDEACOEM, Maharashtra, India

⁵ Student, Computer Engineering, PDEACOEM, Maharashtra, India

⁶ Student, Computer Engineering, PDEACOEM, Maharashtra, India

ABSTRACT

Quick Response codes (QR) codes are two-dimensional barcodes that can be scanned by mobile phone with embedded camera. In the automatic identification fields QR code has been widely used. These codes can be used to provide fast access to URL, an SMS message, a phone number, a V-card, or any text and these QR codes can hold much more information than a regular barcode. In education as the movement of using QR codes is still in its infancy whenever the number of smartphones and Internet enabled cell phones in this country is increasing rapidly, librarians are able to use QR codes to promote services and help library users find materials quickly and independently. The aim of the study is to investigate the potential role of QR code for the management of car's components during assembly process, so that no part should be misplaced which would lead in lower quality and car's performance may degrade. In QR code images different types of methods were applied such as Histogram Equalization, Noise Generation, Filter Blobs, Color (RGB) Bayer Filter, BP Quadrilateral Transformation and Perlin Noise. The QR codes can be scanned in different conditions by mobile devices and other code scanners it is possible to scan correctly and get all information that is stored in the QR codes.

Keyword: - QR code, Cryptography, Data Hiding, Encryption, Decryption, Code Generation.

1. INTRODUCTION

Long form of QR code is "Quick Response code," QR codes are square barcodes first developed in Japan. Unlike traditional UPC barcodes, which are made up of a number of horizontal lines, a QR code can be captured more quickly and can contain more information.

QR code (abbreviated from Quick Response Code) is the trademark for a type of matrix barcode (or two-dimensional barcode) first designed for the automotive industry in Japan. A barcode is a machine-readable optical label that contains information about the item to which it is attached. A QR code uses four standardized encoding modes (numeric, alphanumeric, byte/binary, and kanji) to efficiently store data; extensions may also be used.

The QR code system became popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard UPC barcodes. Applications include product tracking, item identification, time tracking, document management, and general marketing.

A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera, and processed using Reed-Solomon error correction the image can be

appropriately interpreted. The required data are then extracted from patterns that are present in both horizontal and vertical components of the image.

1.2. Problem Statement

In Existing system employee can not recognize the part is for which vehicles it is . For that purpose the company reviews were going bad and the Admin cant save the details and feedback of employee.

While manufacturing vehicle parts the accuracy is the main thing required. Each part of vehicle has different dimensions, functions etc.

There can be chances of errors while doing this work , so to avoid these error chances QR code concept can be used.

1.3. Purpose and Scope

SQRC is a new QR code with data reading restriction. Conventional QR code, which can be read commonly with a cell phone, has come in to use for various purposes. However, when a user wants to limit the data reading, complicated process is required such as data encryption before printing and data decryption after reading.

SQRC is a newly developed QR code to solve such problems. It makes it easy to encode and use non-public information including personal information and in-house information by printing QR code with SQRC compatible printer marker and reading it with a special scanner. With the development of SQRC, QR code is expected to be applied to new areas.

The secure QR Codes (SQRC) are the next level QR code with additional security features of segregation of private and public data. Both the codes are lookalike and have similar features but in SQRC some of the Preferred data (known as private data) can only be scanned and read by specially nominated scanners; whereas the public data can be read and encrypted by normal QR code readable scanners and mobile phones. The application of this code is tremendous in protecting every aspect of business and financial secrecy. It is one of the unique instruments in combating counterfeit and deserves the application where high level security is a demand.

2. GOAL AND OBJECTIVES

- Integration of QR code resolve the capacity problem and store the max data
- Integrate the two QR code first QR work as a cover image and another will be original data that is encrypted.
- To achieve better feedback.
- Time reducing.
- Company profit.
- Admin can easily find the who is created particular vehicle part.
- Easy to search.
- More secure.
- More accuracy can be achieved.

3. ARCHITECTURAL DESIGN

The QR codes are made and designed unique so that every QR code should hold its own value and set of data. QR code are produced and embedded on the components of vehicles by the authorised user and respective data is embedded onto them during the manufacturing of the components and then dispatched for further process.

During the assembly of different components of different cars these QR codes are scanned by the assembler and then as per the information displayed those parts are assembled to their respective destination.

There is no requirement of any special device for scanning these embedded QR codes ,it can be done by using any QR code scanner or via android application.

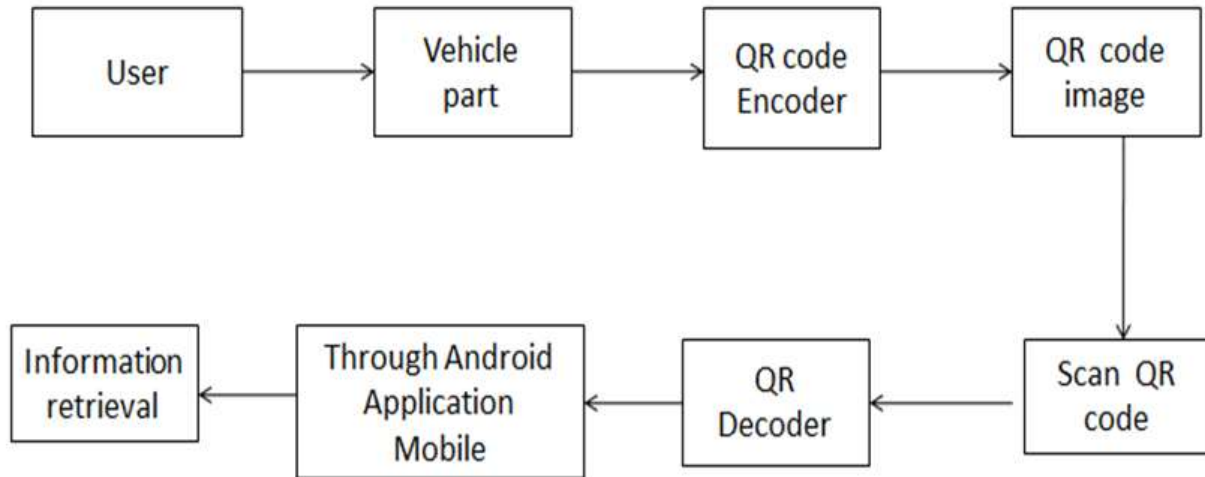


Fig.1- Architectural Diagram

3.1.Component Design

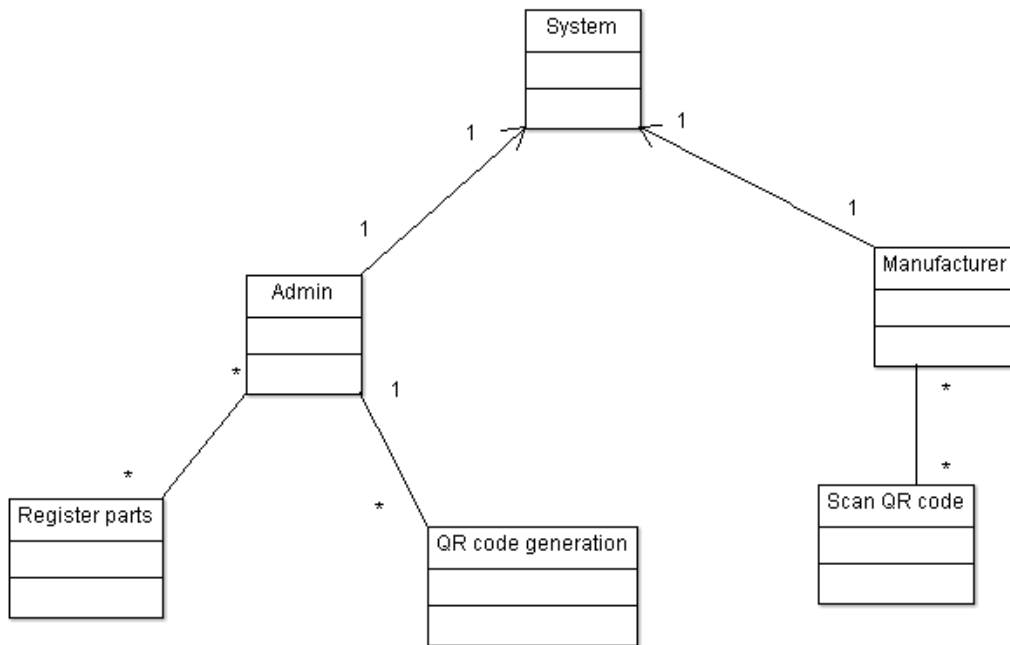


Fig.2- Class Diagram

4. EXPECTED OUTCOME

- We can find the cars part using QR code.in this system we also find the feedback of employee.
- The whole information about each and every part will be stored in the QR code.

- As we know the QR code is Quick Response Code it takes few minutes to scan and display the information in a proper way.
- Time required for scanning QR codes is very less though it contains large amount of data

5. CONCLUSION

In this paper, we developed Encrypted QR codes are QR codes that not everyone can scan and access. They are not very common, since most QR codes are used in marketing, and the developers of those codes want them to be accessible by everyone. Secure QR (SQRC) can be made that make the scanner enter a password to be able to access the content. This is a good idea to make for employees of a company. The company can make secure QR codes that the employee has to enter the company password to view. This means people outside of the company cannot see decode the QR code without the password.

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