



The Journal of Multidisciplinary Research (TJMDR)

Content Available at www.saap.org.in

ISSN: 2583-0317



Quick responsive code scanner

M Ramakrishna¹, K Praneeth Kumar²

¹Asst. Professor, Department of CSE, Adikavi Nannaya University Rajahmundry

² IV B.Tech Department of CSE, Adikavi Nannaya University Rajahmundry

Received: 11 July2022 Revised: 29 July2022 Accepted: 26 Aug 2022

Abstract

This work is focuses on the problem of detecting and scanning bar codes in video stream. The system identifying bar codes in panoramic images using Raspberry Pi 4 was developed. The program algorithm of the system detection and scanning bar codes video stream for Raspberry Pi was proposed. It is established that systems can be used in industry, medicine, Education and in the control system.

Keywords: Raspberry Pi 4, algorithm.

This article is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. Copyright © 2022 Author(s) retain the copyright of this article.



*Corresponding Author

M Ramakrishna

Produced and Published by

South Asian Academic Publications

Introduction:

QR Code:

- A QR code is a machine-readable optical label that contains information. It's a barcode, basically. With a slight difference: it's two-dimensional. The data they contain can encode a variety of types, including numbers, characters, and binary, which can allow for many creative uses.
- QR codes contain information accessible along two dimensions: horizontal and vertical.
- A QR code is a square made up of patterns of smaller squares. Information in a QR code is encoded by the arrangement of these smaller squares. And, once scanned, it delivers information just like other barcodes.
- QR code stands for "quick response code" because they're able to provide information faster than traditional barcodes.
- There are two types of QR-codes
I). Static QR Code II). Dynamic QR Code

- ❖ A **static QR code** is a fixed, uneditable QR code. The more information you store, the bigger and more complex a static QR code is. With large or complicated sets of characters, a static QR code can look very busy and take slightly longer to scan.
- ❖ A **dynamic QR code** can be edited after creation. As many times as you want. That means you can change the information encoded in a dynamic QR code without having to create and distribute new QR codes.

Bar code:

Barcode is a sequence of black and white stripe containing certain information in a suitable form for reading by technical equipment. Requirements of introducing bar codes dictated by the extremely high volume of deliveries, territorial dispersion of interdependent organizations and enterprises lack information about product features on the packaging and accompanying documents. Today the most commonly in using are linear barcodes for reading information. Panoramic photography can take pictures from 180o and more, so it can capture at this frame a large number of products with bar codes. Then, these images will be scanned and recorded in the database. Then it's possible to run other bar codes in the frame

RaspberryPi

A small, fully functional computer that can be plugged into a computer monitor, keyboard, and mouse. It has all qualities of a PC- a dedicated processor, memory,



QR code Scanner

A QR code scanner is an optical scanning device that's able to read QR codes.

CONCLUSIONS

Structural scheme of detection and scanning bar codes in images for Raspberry Pi, and the algorithm of the program is the best option for proper system work, the optimal distance is 25 cm for identification and Recognition, speed depends on the resolution of the camera.

Future scope:

To reduce the codes on paper in examination papers. We are developing the system to introduce QR code system to Attendance system and examination papers.

REFERENCES

- [1] S. Preradovic, and N. C. Karmakar, "Chipless RFID: Bar code of the future", *IEEE microwave magazine*, vol. 11(7), 2010, pp. 87-97.
- [2] M. J. Zilliox, and R. A. Irizarry, "A gene expression bar code for microarray data", *Nature methods*, vol. 4(11), 2007, pp. 911.
- [3] R. D. Paoletti, T. M. Suess, M. G. Lesko, A. A. Feroli, J. A. Kennel, J. M. Mahler, and T. Sauders, "Using bar-code technology and medication observation methodology for safer medication administration", *American journal of health-system pharmacy*, vol. 64(5), 2007, pp. 536-543.
- [4] Z. Chen, H. Li, and C. T. Wong, "An application of bar-codes system for reducing construction wastes", *Automation in Construction*, vol. 11(5), 2002, pp. 521-533.
- [5] T. Falas, and H. Kashani, "Two-dimensional bar-code decoding with camera-equipped mobile phones", *Fifth Annual IEEE International Conference on Pervasive Computing and Communications Workshops, 2007 (PerCom Workshops '07)*, 2007, pp. 597-600.
- [6] C. S. Hwang, "A comparative study of tax-filing methods: manual, Internet, and two-dimensional bar

code", *Journal of Government Information*, vol. 27(2), 2000, pp. 113-127.

[7] C. N. Yang, T. S. Chen, and M. H. Ching, "Embed additional private information into two-dimensional bar codes by the visual secret sharing scheme", *Integrated Computer-Aided Engineering*, vol. 13(2), 2006, pp. 189-199.

[8] J. Z. Gao, L. Prakash, and R. Jagatesan, "Understanding 2D barcode technology and applications in m-commerce-design and implementation of a 2D barcode processing solution", *31st Annual International Computer Software and Applications Conference COMPSAC 2007*, vol. 2, 2007, pp. 49-56.

[9] L. Chen, H. Man, and H. Jia, "On scanning linear barcodes from out-of-focus blurred images: a spatial domain dynamic template matching approach", *IEEE Transactions on Image Processing*, vol. 23(6), 2014, pp. 2637-2650.

[10] E. Joseph, T. Pavlidis, "Bar code waveform recognition using peak locations", *IEEE Trans. PAMI*, vol. 16(6) 1994, pp. 630-640.

[11] W. Turin, and R. A. Boie, "Bar code recovery via EM algorithm", *IEEE Trans. PAMI*, vol. 16(2), 1994, pp. 354-363.

[12] K. Q. Wang, "Barcode reading from images captured by camera phones", *IEEE Mobility Conference*, 2005.

[13] R. Dyachok, O. Hrytsyshyn, and S. Salamaha, "System of Detection and Scanning Bar Codes in Panoramic Images on Raspberry Pi, 7th International Youth Science Forum LITTERISSET ARTIBUS 2017: Computer Science & Engineering (CSE-2017)", 2017, pp. 430-431.