



## **An Expiry Date Recognition and Alert Generation through Bar Code Scanning Using Image Processing**

***Prof. Mundhe B. B.<sup>1</sup>, Shirsath Saurabh<sup>2</sup>, Datir Shubham<sup>3</sup>, Devkar Uddesh<sup>4</sup>, Padekar Nikhil<sup>5</sup>***

<sup>1,2,3,4,5</sup>Department of Computer Engineering, Sahyadri Valley College of Engineering, Rajuri, Pune.

### **ABSTRACT - -**

Food insecurity is rising in Europe as a result of the rising number of individuals who live in relative poverty. A product's description, date of manufacture, and expiration date should always be known, especially when it comes to food and medicine.

It thus becomes required to determine a product's expiration date using a method other than a barcode. *Keywords: - text-to-speech, Quick Response Code (QR Code)*

### **I. INTRODUCTION**

Android on mobile devices is more significant in people's lives. In order to activate and direct a phone's browser to an embedded URL or to resolve text embedded in the scanned QR code, a user must have a camera phone with the appropriate reader software. A system is required so that people who are blind can locate products using QR codes and speech announcements on their smartphones.

The approach is designed to make it easier to identify different goods that are present in an existing inventory. A database, a Web service enabling intermediate access to the database through the Web, and a client Android application that can be used on mobile devices make up the designed system. Barcodes are still utilised by numerous stores, including

### **II. LITERATURE SURVEY**

When Jung Hoon Kim, Minseo Kim, Taejun Yang, Insu Kim, Jun Seo, and Sunmoo Kang suggested "Compressed QR code based mobile voice guidance service for the visually impaired," In this study, the text compression algorithms SMAZ and TTS (Text to Speech synthesis) are combined with QR codes. Here, a system that can read storybooks and provide location data is constructed. A mobile application restores the compressed QR Code and provides information to people with visual impairments. This application also directs people with visual impairments to the location of the book in the library. The Zxing Android libraries are used to scan the QR Code and are used similarly for text to speech.

In the En Peng, Patrick Peursum, and Ling Li-proposed "Product Barcode and Expiry date detection for visually impaired using a smart phone." After locating the barcode on the packaging, it is decoded and the OCR (Optical Character Recognition) technique is used to obtain the necessary product information. Here, the text detection technique is used to extract the expiration date from the packaging. The proposed system in this paper has focused on assisting the blind people to locate the barcode and the expiration date on the product package.

### **III. METHODOLOGY**

To address the limitations of the current system, this application suggests using speech recognition for both QR code detection and product recognition. We can receive spoken product descriptions and directions to various locations via this system. There are two choices: either the person can select to scan a QR Code or they can find locations like grocery stores, pharmacies, and other establishments. The procedure of audio output of product details is shown in figure 1 below. Proposed system process in Figure 1. ISSN: 2278-0181 International Journal of Engineering Research & Technology Website [www.ijert.org](http://www.ijert.org) published Volume 7, Issue 10, Special Issue, 2019 2 A. NCRACES - 2019 Conference Proceedings. Making QR Codes: This program is essentially made to carry out all the tasks that the prior system was unable to. The concept behind the system is to use QR codes, which are two-dimensional barcodes attached to objects and scanned with a camera phone running QR reader software. The reader reads the barcode and converts it to a URL, which directs the phone's browser to download an audio file from the Internet that provides a verbal description of the thing. We expect that our suggested method, which generates QR Codes using the Zxing libraries for Android, would be helpful. B. Use a QR code scanner to bring back the original text: The QR Code's compressed product information can be read by the suggested application. The QR Code is scanned and converted into text using the Zxing Android and Java getByte methods. C.

Text-to-speech technology extracts information from a QR code and voices or presents the text output as audio. If the blind person has not heard the product details clearly, he can say repeat in the programme to hear them again through audio. In this application, the blind person can also learn only select facts rather than the whole story. Advantages • The project's objective is to introduce a voice-based message for blind people via an Android mobile device regarding the product description recorded in the QR Code, display location direction using a map, and provide place description and direction through speech. • The user will scan the QR Code to identify the goods and receive spoken descriptions of any expired products and other information.

---

#### IV. PROJECT SCOPE

Future plans include implementing this method in a real-time application that can be used to efficiently gather and identify the product expiration dates in real-time while greatly reducing the likelihood of any errors.

- Image processing for bar code authentication • Increasing expiration date alert Webcam bar code authentication is a financially viable activity.
- The novel concept is to use image processing for barcode authentication.
- The best thing for consumers to prioritise is alerting users to the expiration date.

---

#### V. EXPERIMENT ANALYSIS

The QR Codes shown below were created using the suggested application. One QR Code, shown in Figure 2a, contains information about chocolate, including its name, nutritional facts, and date it was manufactured and expires. Another QR Code, shown in Figure 2b, speaks information about a skin cream.



Figure 2: Generated QR Code Datasets

---

#### VI. CONCLUSION

People who are blind or visually impaired will find it easier to purchase using the suggested system because they can do so from the comfort of their own homes. making use of this programme. If the product is spoken about beforehand, a person who is blind or visually impaired can avoid consuming an expired product or one that has an allergen. For those who are visually handicapped, there is also the option of receiving directions to nearby locations (supermarkets, drug stores, etc.) via speech.

---

#### VII. FUTURE SCOPE

Since more information needs to be stored in the barcode in order to be extracted by blind or visually impaired individuals using the barcode, more information needs to be stored in the barcode as part of future system development.

---

#### REFERENCES

- [1] Edge detection and morphological operation for the recognition of 2D barcode pictures, Priyank Gaur and Shamik Tiwari, International Journal of Computer Science and Mobile Computing IJCSMC-2014.
- [2] Chucai Yi, Yingli Tian, and Aris Arditi, "Portable Camera Based Assistive Text And Product Label Reading from Hand Held objects for Blind Persons," International Conference IEEE-2014
- [3] CHEN Rong, LIU Zhen-ya, JIANG Yan-hu, Zhang Yi, and Tan Li-yu, "Coding Principle and Implementation of Two-dimensional PDF417 Bar Code," 2011 IEEE. Expiry Remainder, Vipul Singh, Pathamesh Verlekar, Naina R. Mishra, and Shuheb Shaikh International Journal for Innovative Research in Science and Technology IJIRST -2016