

QR CODE BASED PRODUCT SCANNING AND SPEECH CONVERSION FOR BLIND PEOPLE

Shailaja Tank¹, Mayur Kalal², Manoj Shairsath³, Rahul Chavan⁴

NDMVPs KBTCOE Nashik, Maharashtra, India^{1,2,3,4}

Abstract: It is difficult for vision less people to read any style of text like products or medicine tags and many more detail information about it. Therefore, the event of a system that may give an audio output to them is important in order that they will easily move and do their work with none style of hindrance. This application is for vision less people focusing more on shopping facilities for providing details of products through speech. Quick response code could be a quick response code easy to get and browse even with a minor damage. Making an application alongside for this so important and it's also effortlessly available now days during this advanced technology environment. Helping visually impaired people is that the main agenda of this technique making it user friendly and also to create the facilities available to them with none dependency.

Keywords: - QR code, visually impaired, Barcode decoder.

I INTRODUCTION

When the visually impaired interact with their environment, they face two principal challenges. The primary is to sense and identify the objects surrounding them. We call this the identification problem. Secondly, these locations because it relates to the destination and route have to be identified. We call this the navigation problem. Except for the various attempts to permit the visually impaired person to really see by connecting a synthetic retina to the brain, there are many other approaches that are less invasive. The concept is for the system to spot the user's surroundings and communicate this information to him/her via some medium. Irrespective of the medium that's adopted to relay the knowledge to the user, there are three groups of systems for helping the visually impaired person with the identification and navigation problems. The three groups differ within the approach that's wont to collect the knowledge from the environment. The 1D barcode semiology has become a ubiquitous system for labelling foodstuff with codes that uniquely identify product information. This kind of semiology (which includes the UPC, widely employed in North America) was designed to be read by a laser scanner, which may be a standard tool in supermarkets and shops, but there's increasing interest in having the ability to read barcodes employing a more portable device that almost everyone has at their disposal: the camera phone. The cameras available on popular mobile phones now have enough resolution (and the

flexibility to focus close up) to resolve barcode patterns at close range, and the CPUs available on such phones are powerful enough to execute a computer vision algorithm to decode the barcode. The first approach involves the employment of a GPS device to spot the situation of the user. By feeding this location to a GIS system, the components of the environment other navigational information may be identified. The second approach is that the tagging of the objects within the environment by deploying a group of transmitters whose signals are received by a mobile device the visually impaired person carries. Then, the signal may be wont to identify the thing that emitted it. The third approach relies on the employment of 1 or more portable camera(s) by which images of the environment are captured. After those images are analysed, the useful information is extracted and relayed to the user. Few products cannot last forever, especially when it involves food and medicine it's a necessity to grasp the outline, manufacture and expiry date of products. To grant consumers an indication of when the merchandise must be used by, an expiry date is usually printed on the merchandise packaging. When staying reception alone, if the visually impaired consumes some expired food or takes some expired medication, the result could even be life threatening. Keeping this in mind, this application describes the event of Quick Response Code detection and products recognition through speech conversion so as that it makes it easy for the vision less people to induce

product details. This system is an update in terms of upcoming technologies and things that will easy make in use.

II LITERATURE REVIEW

In “Compressed QR code based mobile voice guidance service for the visually disabled” proposed by Jung Hoon Kim, Minseo Kim, Taejun Yang, Insu Kim, Jun Seo , Sunmoo Kang. In this paper QR Code and text compression algorithm SMAZ and TTS(Text to speech synthesis)is used Here a system is developed that reads the story books ,its location information and so on.The QR Code is scanned with help of libraries of Zxing android which is used as the scanning library and similiary for text to speech the libraries are used,the compressed QR Code is restored through mobile application and information is provided to visually impaired people,this application also provides guidance to the of location of the book in the library for visually impaired person.

In “Product Barcode and Expiry date detection for visually impaired using a smart phone” proposed by En Peng, Patrick Peursum, Ling Li. The proposed system in this paper has focused on helping the blind people to locate the barcode and the expiration date on the product package, after locating the barcode on the packaging it is decoded and OCR(Optical Character Recognition) technique is utilized to obtain the required information of the product, here the text detection technique is used to extract the expiry date on the packaging.

In “Image Based Barcode Detection and Recognition to assist visually impaired persons” Proposed by Wendy P.Fernandez,Yang Xin,Yingli Tian. The proposed system uses the parallel segment detector that is used to detect the barcode, the barcode is recognized with the help of phone application that provides the detailed information of the product in real-time to assist visually impaired. The barcode image is been captured by the user as the input to extract the product information. The input image is fed to the line segment detection and necessary information from the barcode is cropped and given in form of audio to the visually blind person.

In 2017, QR codes, developed by a Japanese company, have been around for over fifteen years. With the advent of smart and Web capable mobile devices, we witness a steady growth of interesting commercial applications using QR codes. The main objective of our project is to provide people with a technology that can enable them to obtain information about anything by simply scanning the QR code. The scanning result in obtaining the text information of a particular specimen and this information is further converted into speech using specialized software.

In this Proposing a Hybrid Tag-Camera-Based Identification and Navigation Aid for the Visually Impaired paper a barcode-based system to help the visually impaired identify objects in the environment and navigate through unknown territories is introduced. The system is based on the idea of tagging the different objects with 2D barcodes. With the aid of a portable camera and a computing device, the system can recognize and relay the barcode content to the user. We present the advantages of the proposed system compared to those of existing technologies. The different steps for recognizing and extracting the barcodes are described and applied to a sample image.

III PROPOSED SYSTEM

We have developed a product recognition application by detecting QR code from which the user gets information of products through speech with the help of text-to-speech. From this application the users can also get the directions of the house hold items like Table, Chair, TV, Door, or other places where they want to navigate. Although many systems are available for helping the blinds with identification problems have been developed in the past few years, there is always a need for a system that utilizes and integrates available technologies for facilitating blind people lives. The QR Code is affixed to the object that the blind person needs to know more information about the products as it will identify them and categorizes them accordingly. Once the blind person passes the camera phone over the QR code, the QR reader detects the barcode by providing the user with an appropriate audio feedback (i.e. a beep), thus, indicating the scanning of the QR code.

IV EXPECTED RESULTS

Results of the first module.

Test Case ID	Test Case Description	Test Data	Expected Data	Actual Data	Results
01	To check Whether appropriate login is done or not	Username: admin Password:*****	The admin should login	Admin gets login	Pass
02	To check whether all login fields are empty or not	Username: Password:*****	Without entering user should login	User has been denied login	Pass
03	The Password entered should be displayed or not	Username: admin Password:*****	Password should be covered with special characters	Password is covered with special characters	Pass
04	To check whether clicking on logout the user is log out or not		The user should log out.	The user is logged out	Pass

V CONCLUSION

We have described an algorithm for finding and reading QR code, intended for use by blind and visually impaired users. A key feature of the algorithm is the ability to detect QR code, allowing the user to rapidly scan packages before homing in on a QR code. Experimental results with a blindfolded subject demonstrate the feasibility of the system.

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