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Expiry Date Management System

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ABSTRACT

We are living in a developing country where food spoilage and hoarding are serious issue to be considered. Expiry date management system for packed food product is an excellent service to prevent the food hoarding and the early food spoilage by production units, wholesale dealers and resellers. According to the study on July 5th 2019 sixty-eight students from Alappuzha in Kerala were admitted to hospital after they fell sick eating lunch served at the mess. The students suffered vomiting and severe abdominal pain. The students had been within the age range round10 to 13. They are the hostel food on Sunday afternoon and immediately presented with stomach pain and vomiting. They were delivered to the hospital on Monday morning and admitted. Each year, approximately 600 million people fall sick and 420,000 people die from the illness. Often, people consume spoiled foods because there's no significantly visible sign of food spoilage. Six other cases were also reported in there very same year. Not only in hostel messes but also in restaurants and supermarkets provide inedible food items.

Keywords: Expiry Date Management, Hoarding, Production Unit

I. INTRODUCTION

We are living in a country which is still developing and also our country is the second most populated nations in the world. We have to make sure that all people get enough food which is edible, safe and secure to eat. By using this expiry date management system for packed food items, we can ensure the safety of food in every cycle of production and trading. The conventional billing system is outdated and not efficient to prevent hoarding. Here we are using a system in which the complete cycle is being monitored by the authorities that is from the production of food to the consumption of end customer the tracking of food items is done. Here we used a website for production unit wholesalers and reseller add product details to generate the QR code for the manufactured products and to sell the product and mobile application is used by the customer to check the expiry date of the product.

The paper is organized as follows. Section II describes the literaturesurvey for the paper. Finally, section III presents the conclusion

II. LITERATURE SURVEY

Arju Aman, Aryan Singh, Ayush Raj and Sandeep Raj, Proposed that this paper afford an efficient method for bar code and QR code reputation together. The technique automatically detects the bar code QR code and presentations the complete details of product. The proposed technique can be further prototyped on microcontroller to broaden a green bar code popularity system. The involves graying operation on images acquired, filtering,binarization, data popularity and interpreting of the code. The proposed technique is evolved using the python environment and implemented at the images captured from the exceptional objects. The effects received justifies that the method is efficient in recognition of QR codes and bar codes.

Syed Ramees CR, Sreerag M, Urmila Pillai L V, Anjali A.J, Abitha Abbas, proposed in a hotel traditional way of ordering food items customers first browse the menu list of the hotel and wait for a waiter to come and take orders. This procedure can be sluggish at some stage in busy hours and might reduce customer satisfaction. It is therefore susceptible to errors made by peoples. Automated process by eliminating errors made by humans. In this paperthe proposed method is that accessing QR code for the ordering of the food in the restaurant. For using a smartphone, the customer can scan the QR code which is already set in the table, then open the menu to order food. Upon ordering the notification will be delivered to the kitchen and the cashier along with the table number. Atlast, a robot

can deliver food. The main advantages of this method are to reduce the waiting time of customers, manual service and also eliminate the errors made by humans.

Phaisarn Sutheebanjard, Wichian Premchaiswadi, proposed that QR codes seem to appear everywhere nowadays. We can see them on posters, advertisment, websites, product packages and so on. Using the QR codes is one of the important ways of digitally connecting customer to the internet via mobile phones since the mobile phones have become a basic necessary of everyone. In this paper, they present a methodology for creating QR codes by which the consumer can enter text into a web browser and get the QR code. Drupal module was used in conjoinment with the popular libqrencode C library to obtain user interface on the web browser and encode data in a QR Code structure. The experiment was done using single and more than one lines of text in both English and Thai languages. The result gives that all QR encoding outputs were successfully and correctly generated.

Sagarat, proposed that the barcode system is used in various purpose.In commercial zone, barcode is used for identifying product in the manufacturing manner. However, the barcode systems in business manufacturing facility requires special barcode reader but the commercial barcode reader is more complex and expensive than the traditional barcode reader. Recently, all smartphone may be implemented for barcode reader software however there is no study how to use the smart phone barcode reader application in business manufacturing unit. Therefore, this study at might take into account the way to use the cellphone for business barcode reader system. The Android smart phone became used to develop barcode reader software by means of cooperating with the barcode reader library and the barcode reader system in manufacturing was simulated. The barcodes for this experiment were one-dimensional barcode and QR code. Moreover, the broken barcodes have been tested in the experiments and every experimental become keep examined nonstop for 24 hours. The result located that smart phone can read one dimensional barcode and QR code. The readable rates of one-dimensionalbarcode have been 100%. The readable rates of QR code at 30 and 50 snap shots in line with minute have been 92.5% and 85%. Therefore, the Mobile phone has a possibility to use as barcode reader in business manufacturing facility. For QR code, the readable rate result is less. But there are many advantages to use smartphone for barcode reader such as cost, flexibility, easy to use and reinstall.

Ganesan Subramanian, Anand Sreekantan Thampy, Nnamdi Balbosco Ugwuoke and Baghwan Ramnani, presented that introducing a mobile application which is integrated with crypto currency. It is useful for purchasing medicine in future and also implementing a hybrid blockchain technology with this. Proposed mobile application included NEM blockchain avoiding a third-party presence. Production of the digital medicine is in NEM blockchain namespace. All the pharma products are labelled with QR code is entering in NEM cryptocurrency XEM. The perspicacious detector connecting all the stakeholders in a pharma supply chain. Transactions from manufacturer to culminate- utilizer are monitored. IOT platform is used to test the genuine- time of liquid medicine. That is, it monitors the temperature level of the medicine. This technology ensures the credibility to the consumers.

Tareq Khan, proposed an expiry dataset and also usea convolutional neural network (CNN) based deep learning for analyzing expiry dates out of images. In addition, suggest a cloud based smart expiry system which sends an automated notification to the consumer's smartphone for remembering about the expiry date. The usage of the check-out operator help to find out the expiration date on the image and it is done by automatically, that is the recognition of the date digits. The optical character recognition (OCR) is used to recognize the digits and characters. The CNN based deep learning provides better accuracy. We can combine the smart-expiry architecture with this model. So it eliminates the barcode labels are done by manually for expiry dates. These things considering for future work like localization of expiry date and develop the size of the dataset from the captured images.

Naveed Sazad, Usman Kalid, Atif Iqbal, Meezan-Ur-Raman, Proposed a system to give the good quality management in food. The device consist of a microcontroller Ardunio Uno, Bluetooth module, electrical and biosensors like pH sensor, moisture sensor and gas sensor. The biosensors play a virtual role to detect the bacterial contamination in food sample. Based on the combination of the sensor output best of the food should be detected.The food to be checked is attached to the corresponding sensor and the user can input from Android mobile application,the selection of food item from application offers command to Arduino Uno with communicating through Bluetooth module.The microcontroller take reading from the sensor and decide result with predefined algorithm. The result in the form of “good to use” and “not good to use” depending upon the food freshness level. The output is shown on a LCD.The main limitations of the of the system is, the sensor should be dry and clean before use and sensor should be physically attached to food otherwise there will be error in reading.
Shahnoor Afreen, Syeda Arbeena Kausar,proposed the visionless people facing one of the major issue is to read the datas related to product like drug or foods. For solving this, developing a system which gives the audio output. This proving details of each of the products through speech and also develop a QR code detection. The camera phone is used for scanning the QR code with the help of QR reader software. First reader decodes the barcode then send URL to the phone browser and finally fetch the audio file in the form of verbal description. Through the scanning of QR code restoring the original text.

Xiong Wei, Anupam Manori, Nandgopal Devnath,Nitin Pasi and Vivek Kumar,The proposed system is used for multiple applications, one for producing the QR code by entering the details for students and next one is application for taking the attendance and generating the attendance in CSV or XLS layout. The trainer will need to scan the QR code of the specific students in order to confirm the attendance.The paper discuss how the device verifies student identity and to eliminate fake registrations. The professor dealing with the subject is accountable to mark the attendance for all college students of the organization or class. The attendance might be marked as 0 or 1.0 for absent and 1 for present.

Janosch Zbick, Marc Jansen, Marcelo Milrad, Proposed the layout and improvement stages of a web-based framework, aiming to assist the creation of mobile packages within the context of mobile learning. The suggested technique gives the possibility to deploy and execute these applications on mobile gadgets. This internet based solution additionally gives the opportunity to visualize the collected data's in the mobile applications in a web browser.Despite previous research efforts carried out in this area, few of the tasks have addressed these processes are basically web based perspective. Presently a prototype of an authoring device for developing mobile data information are already carried out. In order to combine and validate this solution in everyday institutional settings, we are collaborating with a network of excessive schools. On this basis of workshops with instructors we will perform, refinements and necessities for further improvements, will be collected and will be used guide our coming efforts. The main advantage is supported the demand for digital education and the adoption of information and communication technologies.

CONCLUSION

Development of the expiry date management system is for avoiding hoarding and black marketing. Many steps must be followed to gain the desired system. Website development, mobile application and QR code generation are the major steps involving this. These are detail explained, above each of the papers and also get a clear picture of the proposed system. This system ensures that the credibility of the products for common public.

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