

IMPLEMENTATION OF QR BASED MEDICINE PRESCRIPTION SYSTEM FOR EFFECTIVE PHARMACY APPLICATION USING IOT TECHNOLOG

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Abstract – The world as overcome many obstacles .where it failed because of one virus. In medical industry one of the major disadvantage is that medicines getting expired and wrong supply of medicines because of this it cause a huge loss of human health and life. . In order to detect and overcome this issue, the existing world concentrates on, the QR based prescription is implemented and also work for the automatic database management is implemented. The Expired medicine can be easily recognized here and proper medicine can be delivered to the people. The Existing system doesn't concentrate on medications after it got expired but instead it concentrates on medications before it is getting expired and also the alert the system.

Keywords: QR based implementation, database management system; medicines are expired day to day.

1. INTRODUCTION

The world has developed a lot and even we are facing issues on medicines related field as this is the main area we should enlarge our development. The current trend that has taken a major role is the QR based implementation. Where people want everything as digitally related and working on it so as per the food and banking sector we also use the same method in a different way on medicine . Over the past 40 years, information technology has had a major effect on the working lives of millions of people. Many industries have huge computer technology because of the benefits of automated information processing. These includes enabling routine, repetitive and dull tasks to be conducted with consistent accuracy; standardization and consistent use of terminology and classification and mass customization .QR based implementation in IT can enables the storage of organized patient records, facilitate the electronic requiring, distribute and administration of medicines, automate the handling of medicines in the supply chain and provide tools for monitoring the success and safety of medicines in use. Information Technology can therefore

improve patient safety and standardization, enable professionals to provide high quality care and help patients make the most of their medicines. . As internet use becomes more popular, there may be an increase in the number of online and internet pharmacies, and use of the internet to display and spread information on medicines and health from pharmacies. Various other technologies are now available to support the adherence monitoring. This information can then be send to a mobile telephone or tablet device. A more adherence monitoring technology is the “smart” pills, for example, the Life note system, piloted by Lloyd’s pharmacy. This consists of a sensor pill, taken by the patient, which transmits data on doses taken, heart rate, and body posture to a mobile telephone or tablet device through a receiver patch on the patient’s skin. At present, this is available only as a duplicate pill, but eventually it will be absorbed into medicine.

2. BACKGROUND AND RELATED WORKS:

For the Automatic prescription recognition system, They obtain the input prescription image by scanner and send to Google text Detection API[8], the results are in the format of strings and bounding boxes. Next, they feed these results into our prescription recognition system to analyze the information in the prescription and output results including national health insurance code, usage instructions, routes of administration, dosage, quantity and day of each medicine. It has many processes for the completion of this system. In preprocessing, the prescription image is sent to the Google text detector it has the information about the certain terms and languages like Chinese and English and some punctuation marks. The uncommon words make the string divide into multiple words and this process merge the words based on the words and their font size and for the National health insurance code detection. They use this process for the information of medicines. Every medicine has the unique code for the detection and it will identify based upon the code. After detection they use grouping to get the remaining information of medicines such as dosage and

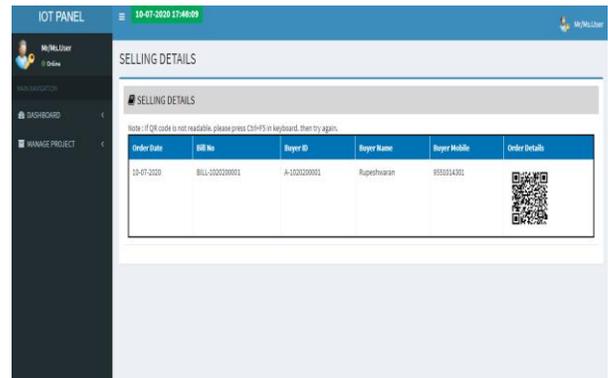
validity for the medicines. After grouping we use the route of administration for detection of strings and it has the abbreviations for the information and using this process they get the usage information of the medicines. For the dosage, quantity and day detection we use field names searching method and comparative method Sometimes field names cannot be identified because of the format of the prescription and the text detection error. They use the comparative method to find information. After completing the processes they get the complete information about the medicines and in our project we generate the QR code for the complete information of medicines and QR code was scanned by the scanning application created by our project and it will displayed in our webpage in addition it detects the expired medicines and blinks the LED.

3. METHODOLOGY:

The process of generation of QR. Doctor’s prescription into a QR code is donated using the server brought from a third party network. This QR code can be scanned in the appropriate medical shop using an imaging device such as camera and processed using Reed-Solomon error correction until the imaging device can be appropriately interpreted. This QR code prescription will be scanned using an Mobile application and the data is transferred to the Database Management unit via Wi-Fi connected with the device which is being used to scan. Further the DBMU will receive the scanned information and the required data is visible on the PC. Then the information is processed to the Med Rack unit via Wireless transceiver and then the Rack indicates the expiry of the medicine to open up. The indication is processed by two LED blinks, So Red color indicates the Expiry and green indicates non Expiry.

3.1 GENERATION OF QR CODE:

After the check up, Doctor usually prescribe medicines. Same thing is being done but everything in a digital way. Doctor prescribe the medicines using Doctor slide in the server, after that the details is being filled up, the QR code can be generated and shared to the patient via mobile, printers etc..



3.2 SCANNING:

The QR prescription is then taken to the prescribed medical shop. It is being scanned using an imaging device such as a camera and processed by Reed-Solomon error correction until the image is appropriately interpreted.

3.3 MOBILE APPLICATION:

Scanning the QR using an Mobile application named ‘Smart pharmacy’. This application is build using an software called Eclipse. Where we use Java for the front end program and XML for the back end program. The Application has got two more permission such as Internet permission and QR scanning permission.



3.4 DATA TRANSFERRING (DBMU):

The scanned information access the DBMU for the particular medicine. The information can be viewed on the PC. After that the PC provide instruction to DBMU for the medicine. Finally all the processed data is transferred to the Med Rack Unit via wireless transceiver.

3.5 SELECTION:

Now the information is visible in the mobile application along with the patient personal details. Then the medicines

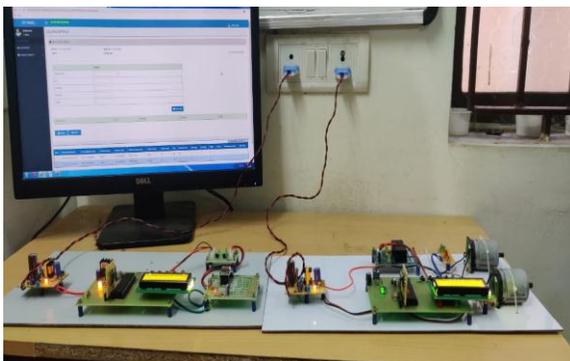
availability is also viewed on the PC server. The patient now chooses to get the particular medicine of their choice.

3.6 INDICATION:

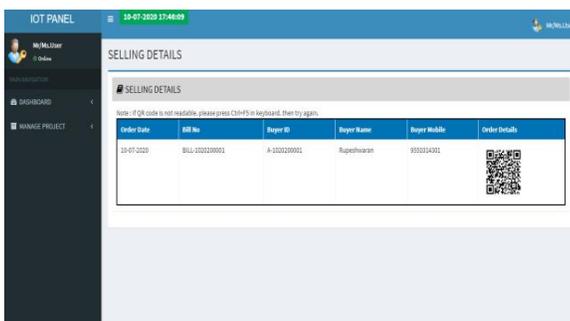
After the selection, the information is read by the med rack unit via microcontroller. Then open up for the particular Rack by indicating whether the medicine is expired or not. Since the Rack opens up only if the medicine is not expired and LED blink lights are being used for the indication of expiry and Non expiry.

4. RESULT

This is the experimental setup of the implementation of the QR based medical prescription.

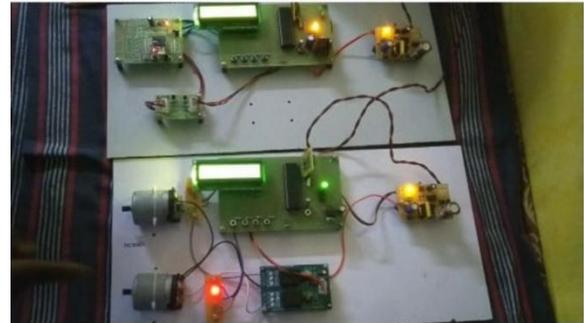


This consists of two units. Here the QR code will be generated by the doctor using the webpage in the computer by correctly updating the stock and details only the QR code work.

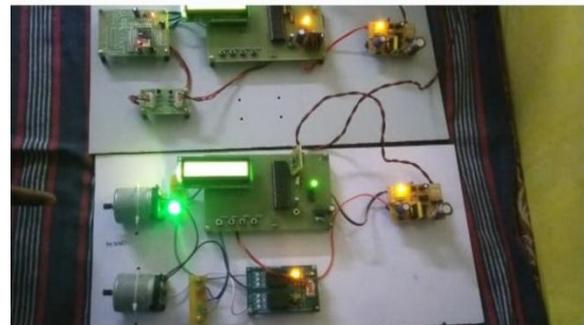


The above picture shows how the QR code is generated.

The next step is we have to scan the QR code with our smart pharmacy app. The code will be scanned and we have enter the configuration according to the details we have entered in the prescription details.



The above picture indicates that the medicine is expired and the motor does not run.



The above picture indicates that the medicine is not expired and the motor run.

5. CONCLUSION

To overcome these problems like medicines getting expired after its expiry date and because of these problems, there is huge amount of loss for human health and life. In these scenarios, the prescription error and delivery error will often happen. For these scenarios, the existing world mainly concentrates and So the implementation of QR based prescription is done and also work for the automatic database management. The Expired medicines are often identified here and proper medicines are often delivered to the people. It is very useful when there is some pathetic issues happening around the world like corona virus. Mostly for some medical problems people come to pharmacy .there is a possible that some people are affected by virus and some flu diseases they act as a carrier and affect the people who are working in the pharmacy. When there is no contact between the customer and seller if it comes to net banking .the spread of virus and disease can be stopped. This is one of the ways to deliver good medicines and control diseases.

6. REFERENCES:

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