

A SMART QUEUE MANAGEMENT SYSTEM USING QR CODE TO IMPLEMENT SOCIAL DISTANCING WITH CHAT,AUDIO AND VIDEO COMMUNICATION

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Abstract - People may have the need to wait in Hospitals, Saloons, Shops, etc. Instead of waiting, they can use this time for other priorities. The application helps them to stay away from the waiting crowd and it helps to implement social distancing in any place. The customer has to check-in by using the QR code scanner provided and filling in their details. The check-in time and the customer details will be added to the service provider's waiting list. The customer may leave the place and come back when they are notified. When the time arrives for your turn in the queue, the application notifies the user by notification, SMS sent to the mobile, or a Voice call, or Video call via the application based on the service provider's choice.

Key Words: Keywords—QR Code, Scanner, Queue, (key words)

1. INTRODUCTION

To reduce overcrowding and implement queuing for social distancing. To strengthen the relationship of customers and shopkeepers. To utilize the waiting time and enhance the shopping experience [5] and it is safe for the people in this pandemic situation.

2. LITERATURE SURVEY

QR Codes are the barcodes which enhance the features and use of 1-d barcode. These codes are now becoming popular because of its good features. Quick Response codes were invented by the Denso Wave Toyota Motors subsidiary (Japan) in 1994. These codes are readable by moderately equipped mobile phones with cameras and QR code scanners [1]. They contain information such as text, URL links, automatic SMS messages, geo-location, phone number or business-card or any other information that can be embedded in a two-dimensional barcode. QR Codes connect the users to get information quickly. It looks like a small

square box with a random series of black and white pixels. In the proposed system, for issuing a book, the user has to stand in front of a camera and show his face and the book's QR code to the camera to get it issued [2]. This camera is not the usual CCTV camera. It is placed such that only one person can stand in front of it at a time. For returning the book, the user has to drop the book in the drop box such that the book's QR code faces upwards. The camera located at the top of the drop box scans the QR code on the book and updates the database [3]. Accordingly, the book is returned. The system also proposes a dynamic search feature. The module for this feature updates the location of the books in the database continuously. Thus if a book is moved from shelf 1 to shelf 2, the location of that book is immediately updated to shelf 2. For this, each shelf has an associated camera which continuously detects the QR codes of the books present on that shelf. If a new book is added to that shelf, the camera for that shelf detects it. It decodes the book's QR code and updates its location to that particular shelf number. Virtual converse mention the procedure of convey and convey data utilize the online. There are several converse request available in the market. [4]. At the first quarter of 2017, the total number of users using chat applications are more than 5.03 Billion, and widely used apps are WhatsApp, Facebook Messenger, All these applications provide several features to ensure security, integrity, and consistency. All these application let the consumer convey any data and the data can be inappropriate. There are many cases filed for sending lewd or inappropriate messages in various online medium. It may also be possible for the user to send unseemly data by error [5]. Correspondingly to Section 66A of the Information Technology Act, 2008 says that transmitting of obscene information using a transmission equipment which may result in three years of incarceration including a fine. In order to solve these c proposed mechanism implemented. The suggest network-based android chat application used for

chatting purpose with remote clients or customer connected to the online, and it will not let the user send inappropriate data. The application developed for Android, because Android is one of the most widely used mobile operating systems having major market in mobile operating systems [6]

3. PROPOSED SYSTEM

The proposed methodology used in the application are, Queue implementation for customer scheduling in fig.1. The check-in process is implemented using QR code. Business Analytics is implemented using the data of number of customers in fig.3. VOIP voice call is implemented to interact with customer via the application. Video call is implemented to view the products in the shop and to interact with customers. The SMS system is provided for notifying the customer in fig.2.

- Business analytics

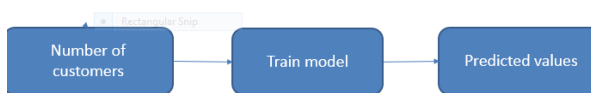


Fig-1: Business Analytics

- Communication services

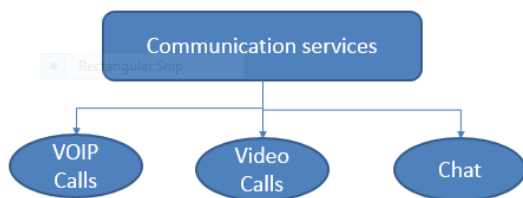


Fig-2: Communication Services

- Queuing System

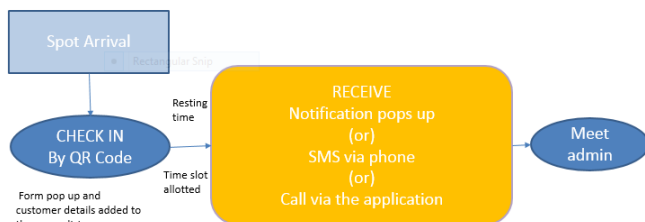


Fig-3: Queuing System

4. SOFTWARE/ HARDWARE REQUIREMENTS

Browser-A web browser is a software application for accessing the World Wide Web. When a user requests a web

page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device.

HTML-Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript

CSS-Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript

ReactJS-React is an open-source, front end, JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications

HARDWARE REQUIREMENTS

- Microsoft® Windows® 7/8/10 (64-bit)
- 4 GB RAM minimum, 8 GB RAM recommended.
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution.

5. RESULT & DISCUSSION

An application available in play-store which allows the user to maintain social distancing and enhance the customers shopping experience.

In Fig.4, A login page is a web page to a website that requires user identification and authentication, regularly performed by entering a username and password combination. Logins may provide access to an entire site or part of a website.

In Fig.5, If you create an account, you can pick a username. You will also have a permanent user talk page you can use to communicate with other users. You will be notified whenever someone writes a message on your talk page. If you choose to give an e-mail address, other users will be able to contact you by e-mail.

In Fig 6, "Terms and Conditions" is the document governing the contractual relationship between the provider of a

service and its user. On the web, this document is often also called "Terms of Service" (TOS), "Terms of Use", EULA ("End-User License Agreement"), "General Conditions" or "Legal Notes"..

In Fig 7, QR stands for "Quick Response." While they may look simple, QR codes are capable of storing lots of data. But no matter how much they contain, when scanned, the QR code should allow the user to access information instantly – hence why it's called a Quick Response code.

In Fig 8, Queue is used when things don't have to be processed immediately, but have to be processed in First In First Out order like Breadth First Search. This property of Queue makes it also useful in following kind of scenarios .See this for more detailed applications of Queue and Stack

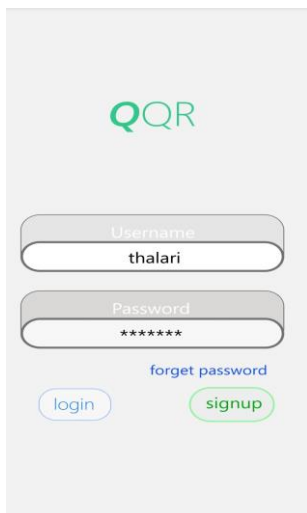


Fig -4: Login Page

- You have to install the app in Play Store
- After installing login page is shown in the screen.
- Already you having an account in this you have to enter your username and password.
- Not having an account you should click sign up option in the login page.
- It automatically goes to the next page of the app.....

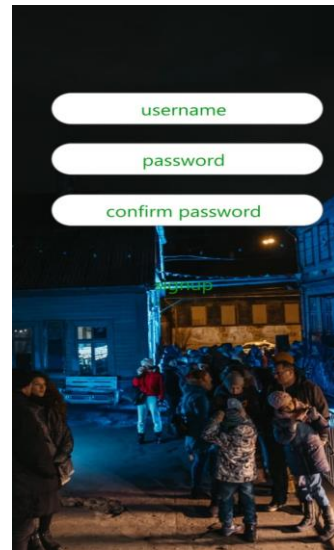


Fig-5: Creating Account

- Now your screen displays the creating account page
- You have to enter the user name then enter password then enter the confirm password and then click sign up.
- Now your account is created.
- It goes to the next page after sign up.....

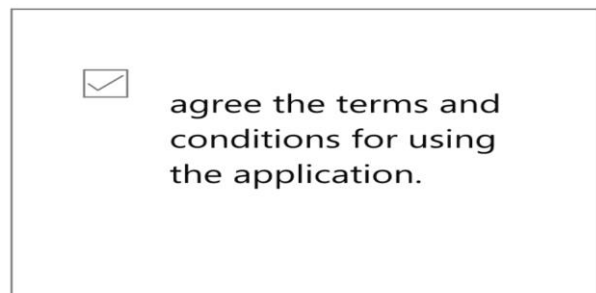


Fig-6: Terms &Condition

- Now you are entered in to the terms & condition page.
- You have to click the small box to accept our terms and condition.
- If not accepting the terms &condition. App will automatically close.
- If you accept , the next page is shown.....

Scan the QR CODE



Fig-7: QR Code

- Now you have entered in to the QR code page.
- You have to Scan the QR code using Scanner.
- Next it will goes to the next page ...

queue number

10

Fig-8: Queue Number

- Now you get the queue number .

6. CONCLUSIONS

In the decades since the introduction of **QR codes**, it has increased rapidly. From the year 1994, many **codes** have been developed but **QR code** still remains functional. It is

still better than barcodes which are used less than the **QR codes** and with its pros it tends to get better And it is safe for people in this pandemic situation.

Features:

1. UI can be enhanced to the latest technology
2. The machine learnings models can improve based the customers scenarios
- 3 .The Backend could be rewritten with more efficient languages Golang
4. The location based services feature can be added.

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