

*A Mini Project Synopsis on*

# **QR CODE GENERATOR AND SCANNER**

**S.E. - I.T Engineering**

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## **CERTIFICATE**

This to certify that the Mini Project report on QR CODE GENERATOR AND SCANNER has been submitted by Rohin Rajendra Ambati (20104068), Prathamesh Sanjay Lambate (20104064), Sarthak Sanjay More (20104116), Kaushal Sanjay Nikam (20104117) who are Bonafide students of A.P Shah Institute of Technology, Thane, Mumbai, as a partial fulfillment of the requirement for the degree in **Information Technology**, during the academic year **2021-2022** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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# Chapter 1

## Introduction:

QR i.e., "Quick Response" code is a 2D matrix code that is designed by keeping two points under consideration, i.e., it must store large amount of data as compared to 1D barcodes and it must be decoded at high-speed using any handheld device like phones. QR code provides high data storage capacity, fast scanning, omnidirectional readability, and many other advantages including, error-correction (so that damaged code can also be read successfully) and different type of versions. Different varieties of QR code symbols like logo QR code, encrypted QR code, QR Code are also available so that user can choose among them according to their need. Now these days, a QR code is applied in different application streams related to marketing, security, academics etc. and gain popularity at a really high pace. Day by day more people are getting aware of this technology and use it accordingly. The popularity of QR code grows rapidly with the growth of smartphone users and thus the QR code is rapidly arriving at high levels of acceptance worldwide.

### 1.1 Purpose:

The aim is to automate the system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

### 1.2 Objectives:

- To build a simple but significant model for assisting companies, supermarkets, and stores.
- To notify all the necessary details of various companies and their products.
- To create a domain which saves both time and energy.
- To enhance the shopping experience with the help of our efficient and effective platform.

### **1.3 Scope:**

- To assist the staff in minimizing the effort spent on their working areas.
- Customers can choose variety of products and avail a brief description of the product.
- Customer can view the price of the product, date of manufacture and date of expiry.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system satisfies the user requirement, is easy to understand for the operator.
- The system provides a good user interface, worthy buying or selling experience.

## Chapter 2

### **Problem Definition:**

In supermarkets and stores companies find it difficult to mention all the details of the commodities. Due to the lack of space on the product cover, all the necessary information and details couldn't be printed distinctly. The inventory needs to be managed manually. Traditional coupons and discounts must be carried all the time and redemption process is tedious. Customers have to wait in long queues for bills. Contactless payments aren't an option until QR codes come into the picture. It is quite important for a business to get regular customer feedback. After all, that's how you can determine whether your customers are enjoying your services or not. It even gives valuable insights into your areas of improvement. But getting customer feedback is not an easy job. When you give them the link to your feedback form, they must tediously type it in the browser to access the form and finally fill it. The process to drive web traffic and social media followership is gradual.

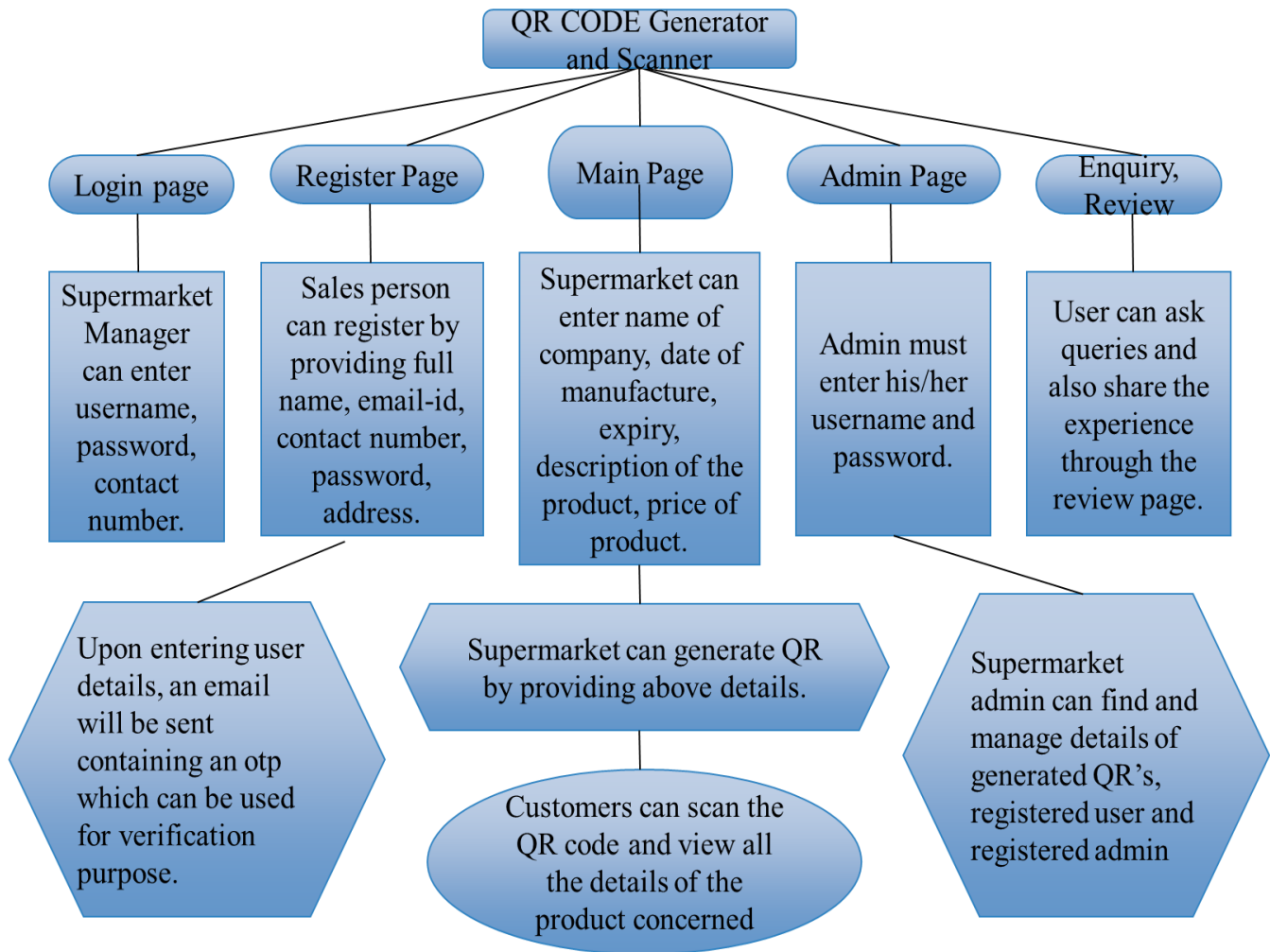
## **Chapter 3**

### **Proposed System :**

In supermarkets and stores companies find it difficult to mention all the details of the commodities. In the proposed system, customers can directly scan the QR code generated by our system and thereby accumulate all the details of the commodity, such as name of company, name of product, date of manufacture, date of expiry, description of product, price of product. The system will ensure all the necessary information collected on a single platform just by scanning a QR code and save everyone's time. The aim of system is to develop a system of improved facilities. The proposed system can overcome all the limitation of the existing system and reduce the manual work.

- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time required.





## Block Diagram

### Important Features are as Follows :

- The above block diagram is made to highlight the key components in our project in a hierarchical layout.
- Within the title block there are 5 major subtopics which are main page, admin page, login page, register page, token
- Below the login page, the important functions are specified regarding what information will be displayed on scanning the qr code.
- Below the register page the steps to register are described.
- Below the main page the whole idea of the system is explained briefly,
- Admin page provides access to user details in the database and helps to manipulate data.
- Enquiry and review page enhance the features of the system.
- In this way the above block diagram mentions the project details efficiently and effectively.

## Chapter 4

### Features And Functionality:

The system design will give full functionality and offer maximum information about the products on their tips of tech devices. It offers a responsible and attractive interface, also defining the products categories clearly.

#### ➤ Modules:

- Login Module: Used for managing the login details.
- Admin Module: Helps and guides the admin.
- User Module: Used for managing the users of the system.
- Main Module: Shows QR codes of products with details.

It will be convenient for the shop-owners and buyers when it comes to shopping. The system design being simple and significant will provide all the important details to the buyers regarding the product. Buyers can view all the details on their tips of tech devices simply by scanning QR code, thus saving time and energy. The brands and products can be distinctly sorted out along with their respective QR codes.

## **Chapter 5**

### **Project Outcome :**

1. Company can register by providing full name, email-id, contact number, password and address.
2. Company can login by entering username, password and contact number.
3. Consumer can scan QR code by choosing name of company, name of product.
4. The generated QR code will contain date of manufacture, date of expiry, description of product, price of product.
5. For admin access, the admin must enter username and password.
6. Operator can also ask doubts, give reviews and contact.

## **Chapter 6**

### **Software Requirements :**

#### **1. IDE: - PyCharm**

It was used for writing and executing the logic and codes.

#### **2. Front End:- Python Tkinter**

It was used to create design using Python .

#### **3. Database:- XAMPP**

It was required to network and connect the databases and complete the project for execution.

## **Chapter 7**

### **Project Design:**

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps :

#### **1. Primary Design Phase :**

In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

#### **2. Secondary Design Phase :**

In the secondary phase the detailed design of every block is performed.

**The general tasks involved in the design process are the following :**

1. Design various database structures.
2. Specify details of programs to achieve desired functionality.
3. Design the form of inputs, and outputs of the system.
4. Perform documentation of the design.
5. System reviews.

## User Interface Design:

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue.

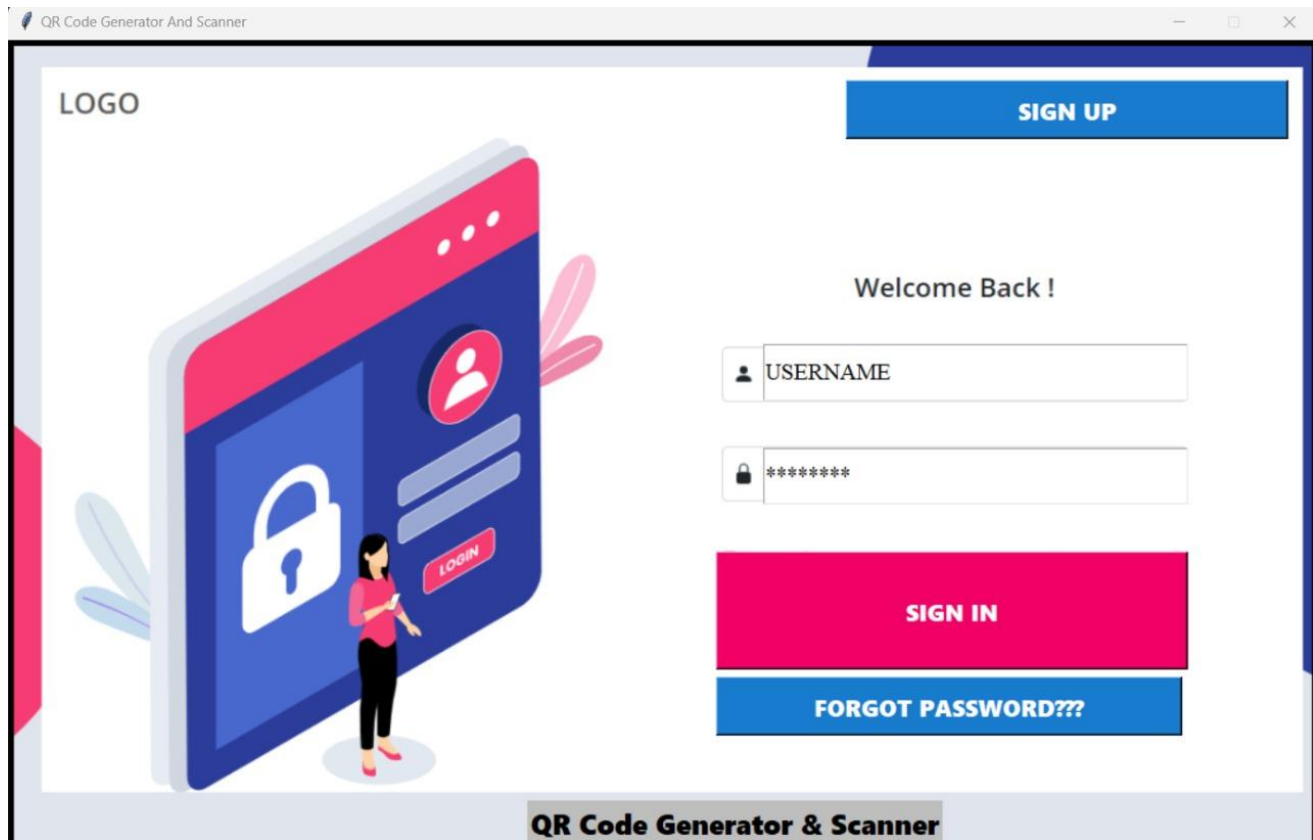


Fig.1- Login Page

- User can login by entering username and password.

The screenshot shows a web browser window titled "QR Code Generator And Scanner". The page has a header with the title "SIGN UP" in large blue letters. On the left, there is a large illustration of a person sitting on the floor, working on a laptop, with a large screen displaying a "Sign Up" form. A red "Pro" badge is in the top left corner of the illustration. On the right, there are six yellow input fields with the following labels: "CREATE USERNAME", "CREATE PASSWORD", "CONTACT NUMBER", "EMAIL-ID", "ADDRESS", and "ENTER AADHAR/PAN CARD NUMBER". Below these fields is a red button labeled "REGISTER ME".

**SIGN UP**

CREATE USERNAME

CREATE PASSWORD

CONTACT NUMBER

EMAIL-ID

ADDRESS

ENTER AADHAR/PAN CARD NUMBER

**REGISTER ME**

**QR Code Generator & Scanner**

Fig.2- Sign up Page

- User can register by giving username, password, contact number, email id, address and Aadhar/pan card number.

The screenshot shows a web browser window titled "QR Code Generator And Scanner". The page has a header with the title "Forgot Your Password ?" in large black letters. On the left, there is a large illustration of a person sitting on the floor, looking confused, with a large blue padlock on a screen. A speech bubble with a key icon is next to the person. On the right, there are two yellow input fields with the following labels: "ENTER YOUR USERNAME" and "ENTER YOUR REGISTERED EMAIL ID". Below these fields is a blue button labeled "RECEIVE OTP".

**Forgot Your Password ?**

ENTER YOUR USERNAME

ENTER YOUR REGISTERED EMAIL ID

[Back to sign in](#)

**RECEIVE OTP**

Fig.3- Password Reset Page

- If user has forgot his/her password then he/she must have to enter username and email id to receive OTP.

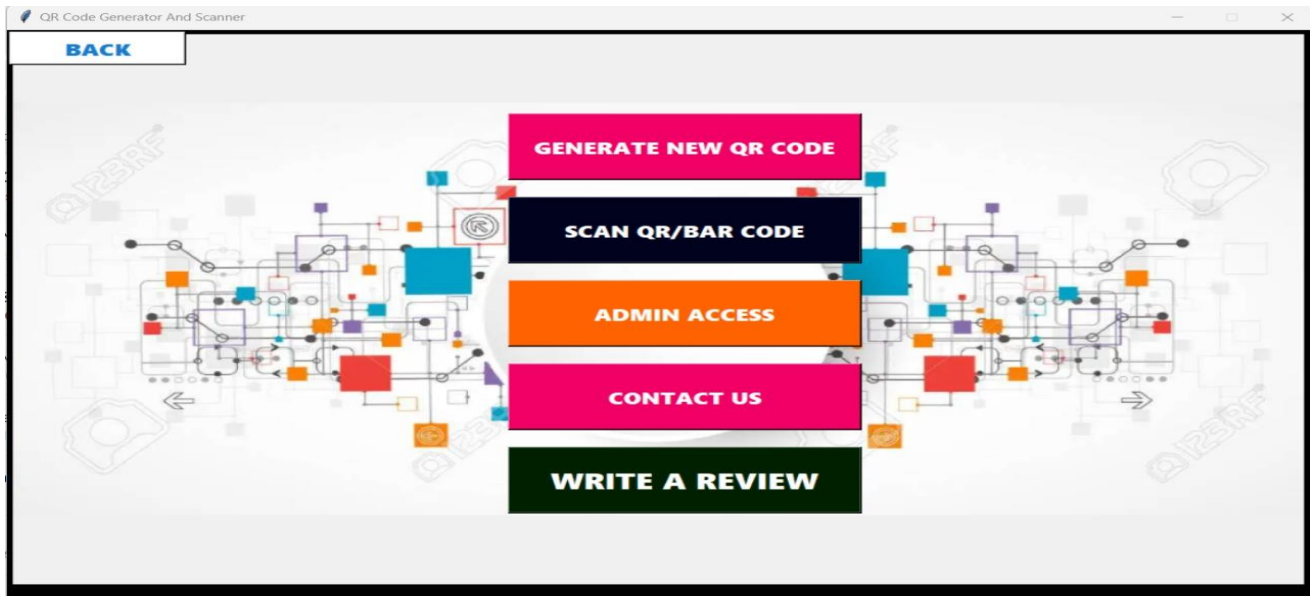


Fig.4- User Interfere

- Here user can select Generate QR or Scan QR/Bar code.
- Admin can login using this interfere.
- And user can contact us and can give the feedback as well.

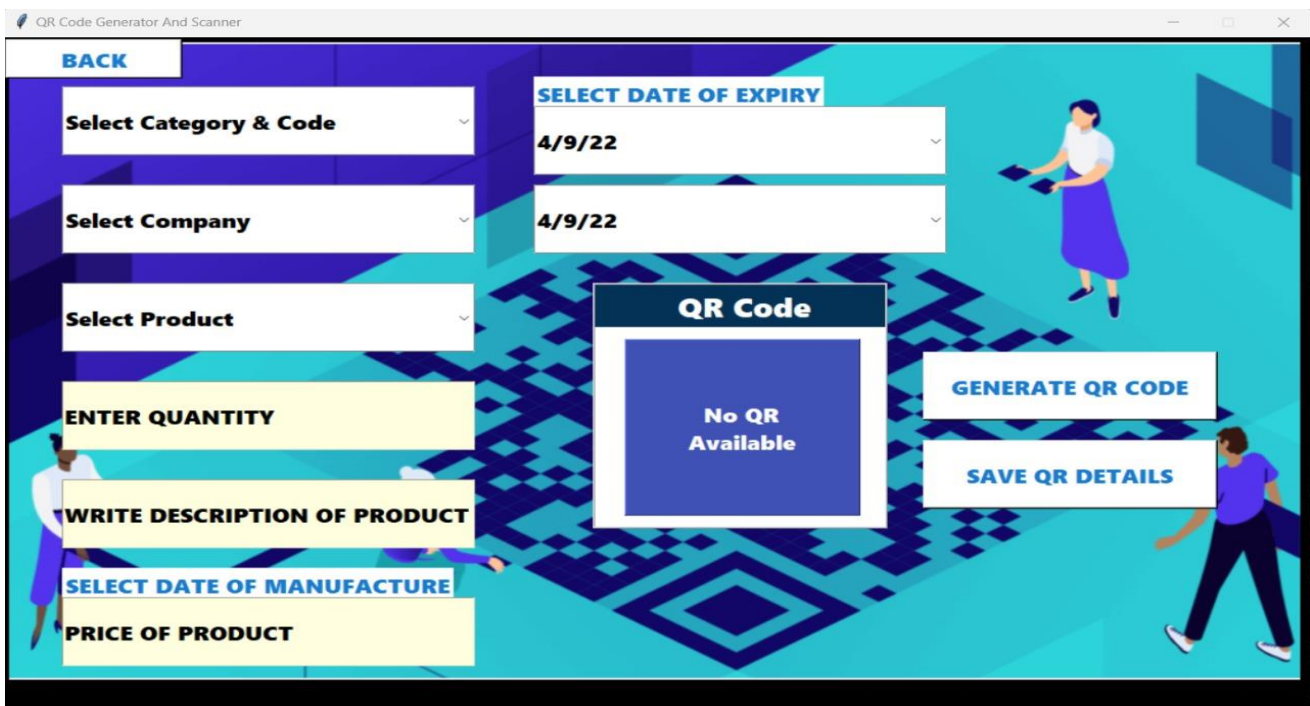


Fig.5- QR Generation Page

- User can generate QR by entering the name of company, name of product, date of manufacturing, date of expiry, price of product and brief description of product.
- User can also scan the generated QR/Bar code.



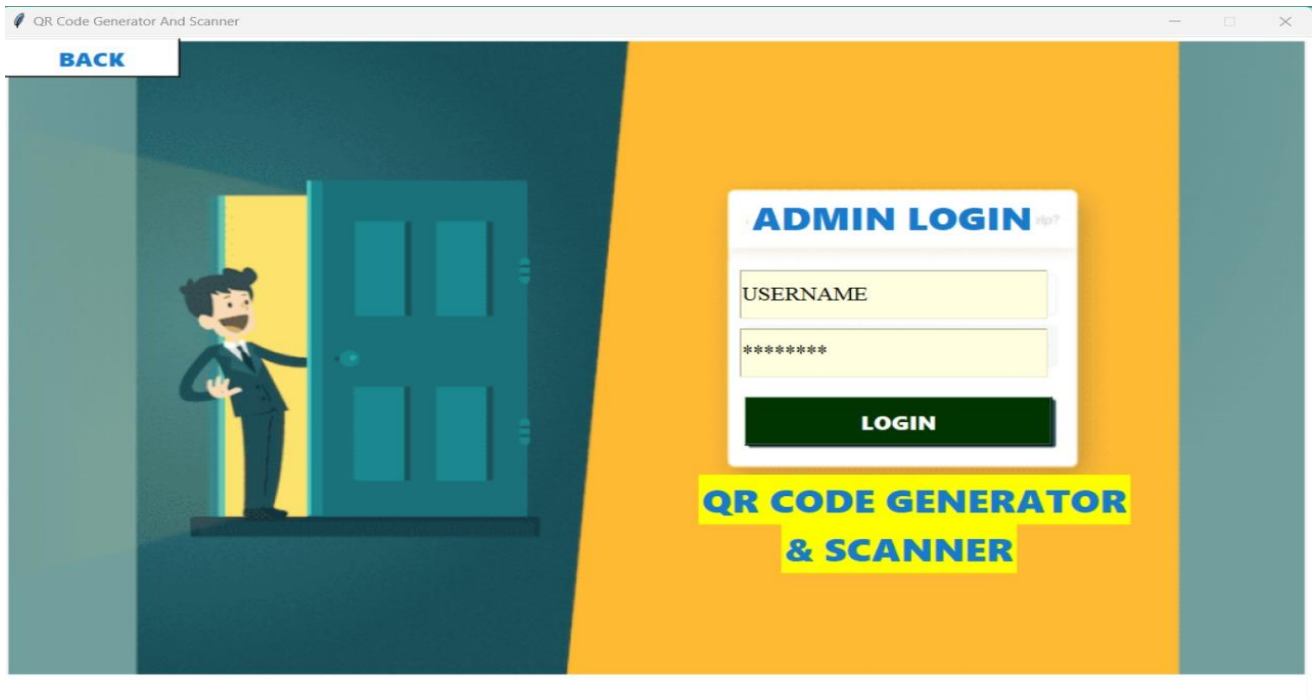


Fig.6- Admin Login

- Admin can login by entering the username and password.

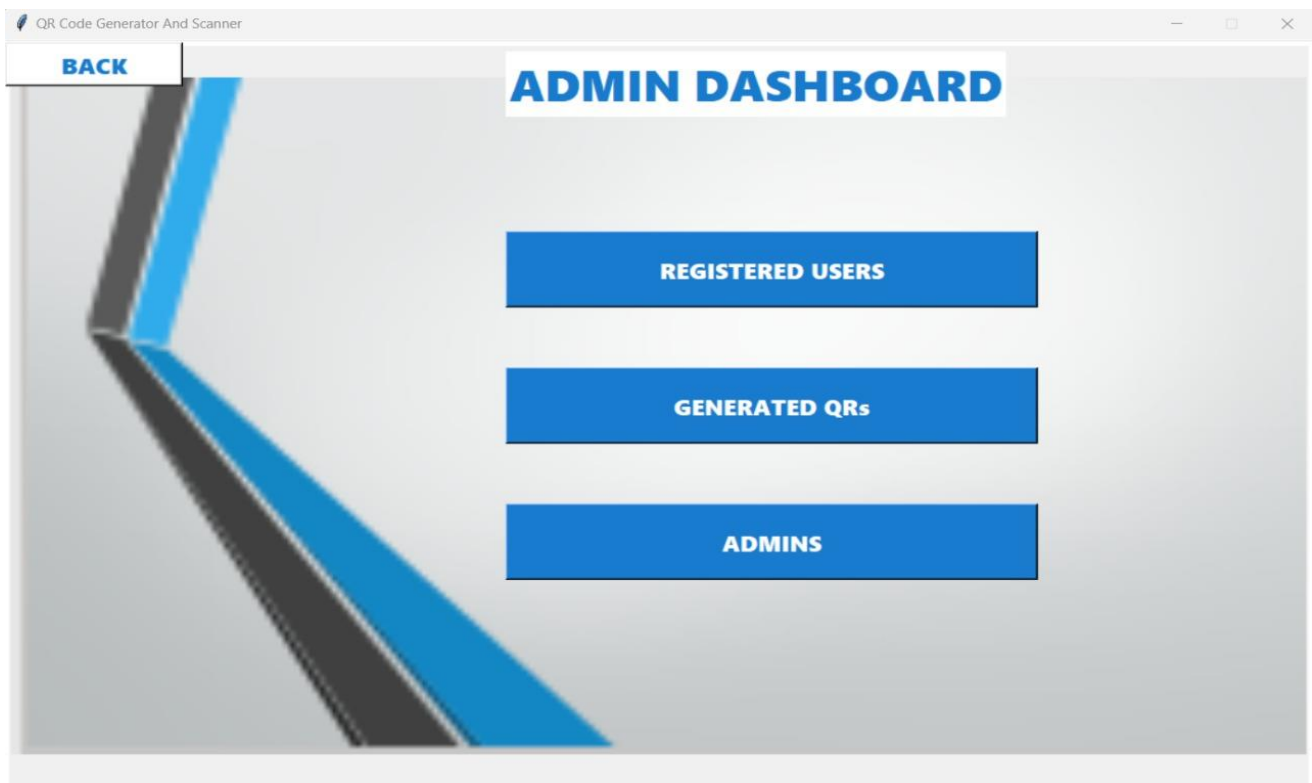


Fig.7- Admin Interface

QR Code Generator And Scanner

**BACK**

**ADD USER**

**UPDATE USER DETAILS**

**DELETE USER DETAILS**

**ID**

**USERNAME**

**CONTACT**

**ADDRESS**

**PINCODE**

ID	UserName	Contact	Address	PinCode
1	Sarthak	9820936633	Mumbai	400019
2	Mansi	9820549307	Mumbai	400018
4	Sarthak	9820936633	Mumbai	400019
10	CREATE USERNAME	CONTACTCT NUMBER	ADDRESS	0
11	Prathamesh	9623055092	Mumbai	0
12	Prathamesh	9820936633	thane	0
13	CREATE USERNAME	CONTACTCT NUMBER	ADDRESS	0
14	CREATE USERNAME	CONTACTCT NUMBER	ADDRESS	0
15	CREATE USERNAME	CONTACTCT NUMBER	ADDRESS	0
16	CREATE USERNAME	CONTACTCT NUMBER	ADDRESS	0

Fig.8- Registered User Interface

- Admin can find and manage the registered user.

QR Code Generator And Scanner

**BACK**

**DELETE QR DETAILS**

**EDIT QR DETAILS**

**PRODUCT CODE**

**NAME OF COMPANY**

**NAME OF PRODUCT**

**DATE OF EXPIRY**

**PRICE**

Product Code	Company	Product	Date Of Expiry	Price
1234	Sarthak	Sarthak	23	1222222
1234	Sarthak	Sarthak	20	2147483647
22222	s	s	3	22
1	Great	Awesome	90	90
PRODUCT CODE	NAME OF COMPANY	NAME OF PRODUCT	ENTER DATE	PRICE OF PRODUCT
PRODUCT CODE	Select Company	Select Product	ENTER DATE	PRICE OF PRODUCT
145-Clothing	Atlantic Collection	TShirt	4/28/23	800

Fig.9- Generated QR Interface

- Admin can find and manage the generated QR's.

QR Code Generator And Scanner

**BACK**

**ADD ADMIN**

**DELETE ADMIN**

**ADMIN ID**

**ADMIN USERNAME**

**ADMIN PASSWORD**

ID	UserName	Password
1	Sarthak	AdminSarthak
3	mansi	mansi

Fig.10- Registered User Interface

- Admin can find and manage registered admin's.

QR Code Generator And Scanner

**BACK**

**ADDRESS**

**7TH FLOOR**

**KOHINOOR SQUARE,N.C.KELKAR MARG,**

**SHIVAJI PARK,DADAR WEST,**

**MUMBAI 400028**

**SEND A MESSAGE**

Name

Email-ID

Message

**SEND**

Fig.11- Contact Us

- User can contact us or send message by providing name and email id.

QR Code Generator And Scanner

**BACK**

**REVIEW YOUR EXPERIENCE BY ANSWERING THE FOLLOWING QUESTIONS**

**Q)HOW WAS YOUR EXPERIENCE WITH THE SYSTEM?**

☐ VERY GOOD ☐ GOOD ☐ AVERAGE ☐ CAN BE BETTER ☐ WORST

**Q)HOW MUCH DID IT HELPED YOU AT SUPERMARKET?**

☐ VERY MUCH ☐ AVERAGE ☐ DIDN'T HELPED A LOT

**Q)HOW EASY WAS IT FOR THE ADMIN TO CONTROL THE SYSTEM?**

☐ VERY EASY ☐ EASY ☐ AVERAGE ☐ DIFFICULT ☐ EXTREMELY DIFFICULT

**Q)WOULD YOU RECOMMEND IT TO OTHER SUPERMARKETS?**

☐ DEFINITELY ☐ WOULD THINK ☐ WOULD NOT RECOMMEND

**Q)SUGGEST ANY CHANGES THAT YOU WOULD LIKE TO SEE**

**SUBMIT**

Fig.12- Feedback

- User can give feedback by answering some questions.

## Chapter 8

### Project Scheduling Template

Sr. No	Group Member	Time duration	Work to be done
1	Kaushal Nikam	1 <sup>st</sup> week of January	Implementing 1 <sup>st</sup> module (Designing the login page or admin will login with security verification and will enter to the main menu)
2	Rohin Ambati	2 <sup>nd</sup> week of January	Testing 1 <sup>st</sup> module (Main menu, this will consist of the main page where admin has to select various product options)

3	Sarthak More	3 <sup>rd</sup> week of January	Implementing 2nd module (designing next page with additional information and database connectivity)
4	Prathamesh Lambate	By the end of march month	Implementing 3 <sup>rd</sup> and 4 <sup>th</sup> functionality (on this page admin can view the details in the qr code)

## **Chapter 9**

### **Conclusion:**

Our project is only a humble venture to satisfy the needs of customers. Several user-friendly codes have also been adopted. This shall prove to be a powerful package in satisfying all the requirements of the users. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

## Chapter 10

### References:

1. <https://youtu.be/IOhZqmSrlE>
2. [https://www.youtube.com/channel/UCA1UW\\_\\_WEiBd1bmzyKlBUyw](https://www.youtube.com/channel/UCA1UW__WEiBd1bmzyKlBUyw)
3. <https://youtu.be/yB85BQZX2c8>