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Strength of Quick Response Code in Smart Billing System

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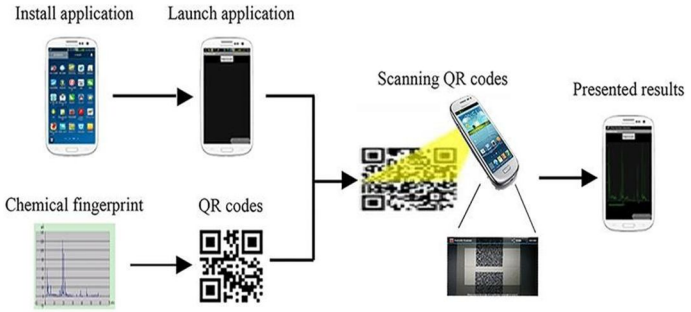
Abstract: ***The daily grocers and retail establishments are the main focus of Smart Billing System. In order to decrease store thefts and improve the effectiveness of the billing system, smart billing systems employing RFID operate on a similar basis. When a consumer wants to purchase a product, they must first scan the QR code located on the back of the item. This will take them to ourapp, where they may view more information about the product and select whether or not to go to checkout.***
Keywords: efficient, modern, digital, shopping app

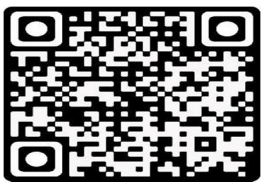
I. INTRODUCTION

There are many people in India. As a result, crowding has escalated into a significant issue in many places. We plan todevelop a sophisticated and contemporary charging system to handle this problem. You may access the payment gateway by scanning the QR code with an app. This will lessen the issue of congestion. Computers can now monitor identities and comprehend the world without the constraintsimposed by manually supplied data thanks to RFID and sensor technologies. This software will encourage purchasing using a scanner that is integrated into it, which will make the procedure simple and time-saving. The QR code scanner is a novel idea that makes use of matrix QR codes, the most recent advancement in the QR code system. Nowadays, we see this kind of QR code in every payment method. The user interface and design of the software are user-friendly. A QR code, sometimes referred to as a rapid response code, is a pattern of stripes and blocks of black and white that contains information that can beaccessed by scanning the code.

II. METHODOLOGY/EXPERIMENTAL

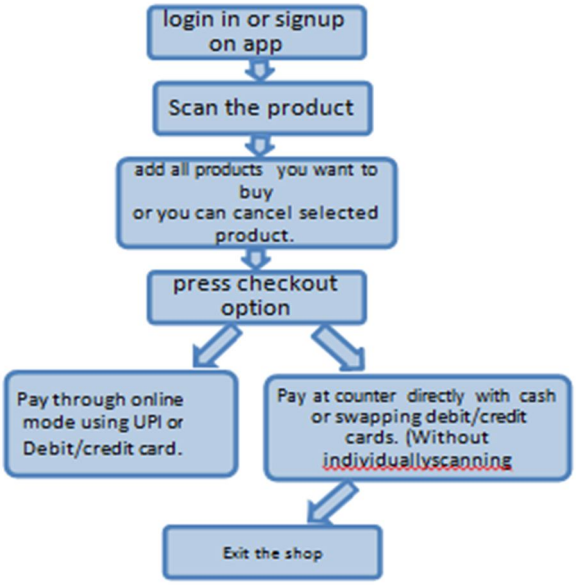
The consumer will be sent to adding the goods to their virtual cart when the QR code scanner in the app scans the QR code on the back of the item. At this point, the client must select whether they want to proceed to checkout and purchase the items in their cart or not. After installing the app, the user must first establish an account before they can proceed with the next step. We choose matrix QR codes over 1D barcodes since they are less practical for customers to use a QR code gun while 2D matrix QR codes are a developing area of new technology. Moreover, 2 Dimensional QR codes have a high degree of mistake correction, can hold more modern data, and are faster to use Here is an example of a QR code -





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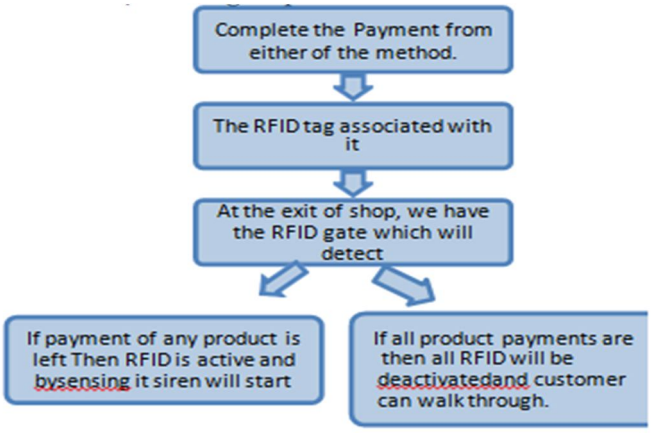
The block diagrams below and the diagram above summarize the process technique and how it works.



A. Algorithm

Security:

1) When a consumer scans a product, a code directs them to a panel with their shopping basket and theproduct's details.
2) The customer will continue to make the purchase of theitem using an online payment method.
3) Upon successful payment and the customer's secure exit from the store, RFID tags on products will now be disabled.



Block Diagram for security of the system

B. Methodology

Actual application testing entails integrating payment foreach product and scanning the QR codes of three to four different goods. The customer may log in, enter their name and basic information, build their own cart, and add products to it.

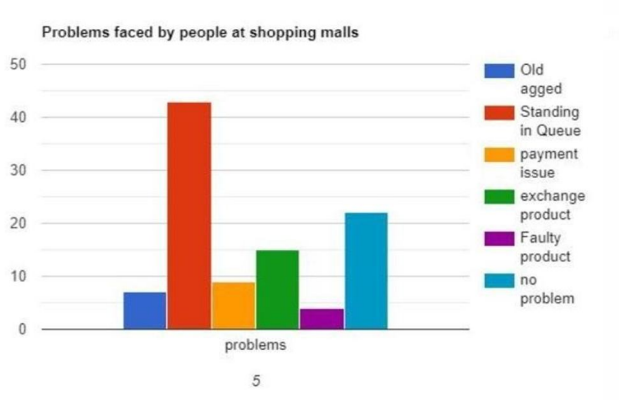
Features of the software include:

1) It addresses the issue of stealing at mall billing countersand helps the digital INDIA campaign.
2) This program is user-friendly.
3) Accessible on a worldwide scale.
4) This program is very simple to use.

III. RESULTS AND DISCUSSIONS

A user will be able to scan products and make a shoppinglist after the program is finished.

1) Following that, instead of scanning each item at the counter individually, he or she may create a QR code of theuser's list that can be scanned at the billing counter to complete the payment right away.
2) He or she may go to the checkout without being interruptedand pay the bill using UPI on the app.



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IV. FUTURE SCOPE

We want to release the software on all operating systems inthe future, including iOS, Windows, and Android.
This method may be improved to prevent missing RFID tagsin one or more goods or the loss of the shopping cart.
Conclusion: Although the system's initial cost may be costly, it will eventually prove to be more advantageous than manual or QR code shopping methods.

V. CONCLUSION

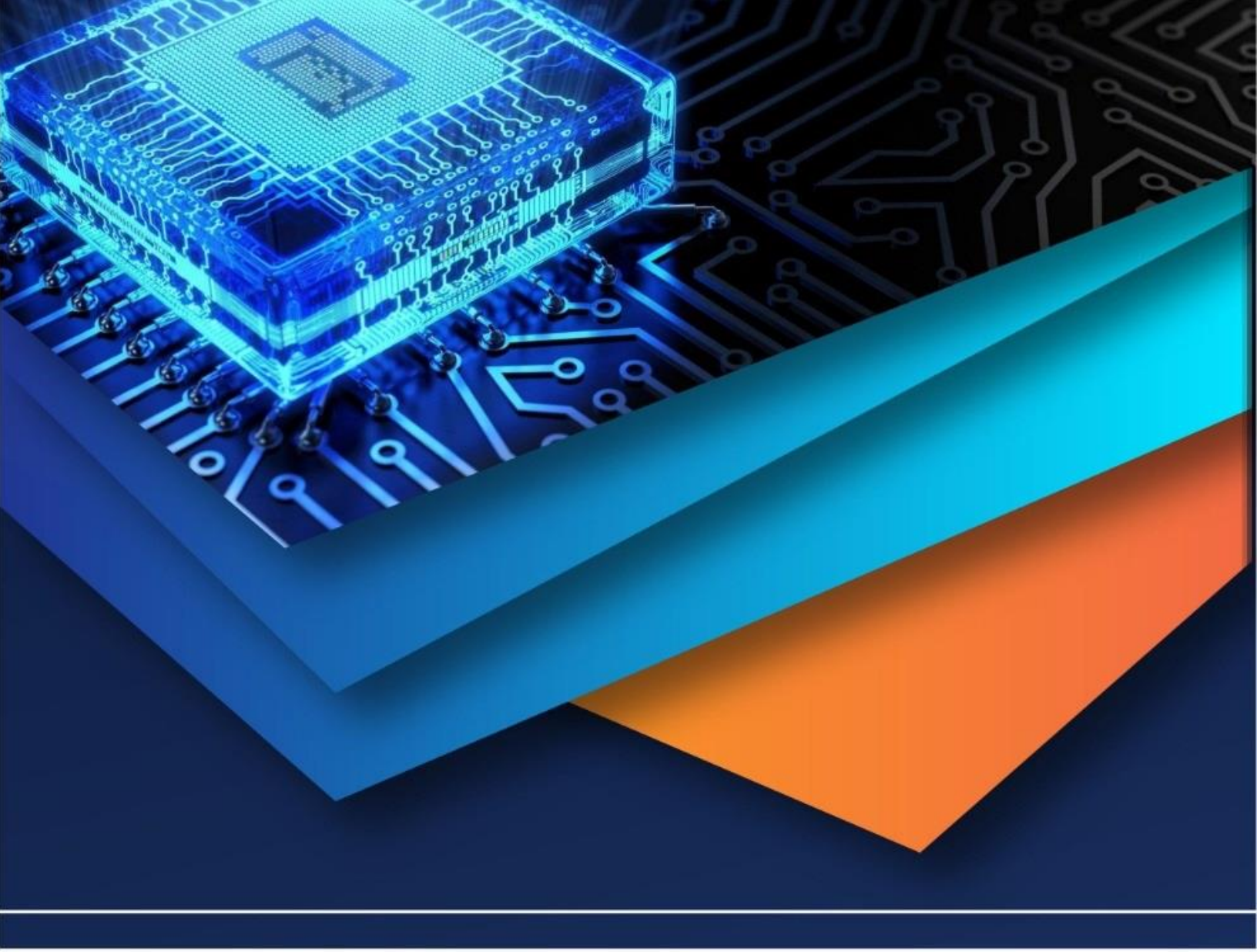
The goal of group 11 is to give Indian residents access toa simple, contemporary, digital, and theft-proof means ofbilling.
With an initial focus on malls and a gradual expansion to grocery stores and shops in our neighborhood, we think the software we are creating will be incredibly beneficial to the current market. This RFID-based system is effectiveand has promising performance. We also create performance assessments and a secure communication channel. constructing a prototype to evaluate the system's detailing the entire design's usefulness. This project simplifies the billing process. uses RFID technology to speed up the process and boost security. This will raise thestandard of the entire purchasing experience.

VI. ACKNOWLEDGMENT

We thank mr. Lokesh khedekar, our Professor, for giving us this chance to discuss such a great topic. We value the opportunity and want to work on similar projects in the future. Also, this project deepened our knowledge and aided us in our academic curriculum.

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