

B1

VISHWAKARMA
INSTITUTES



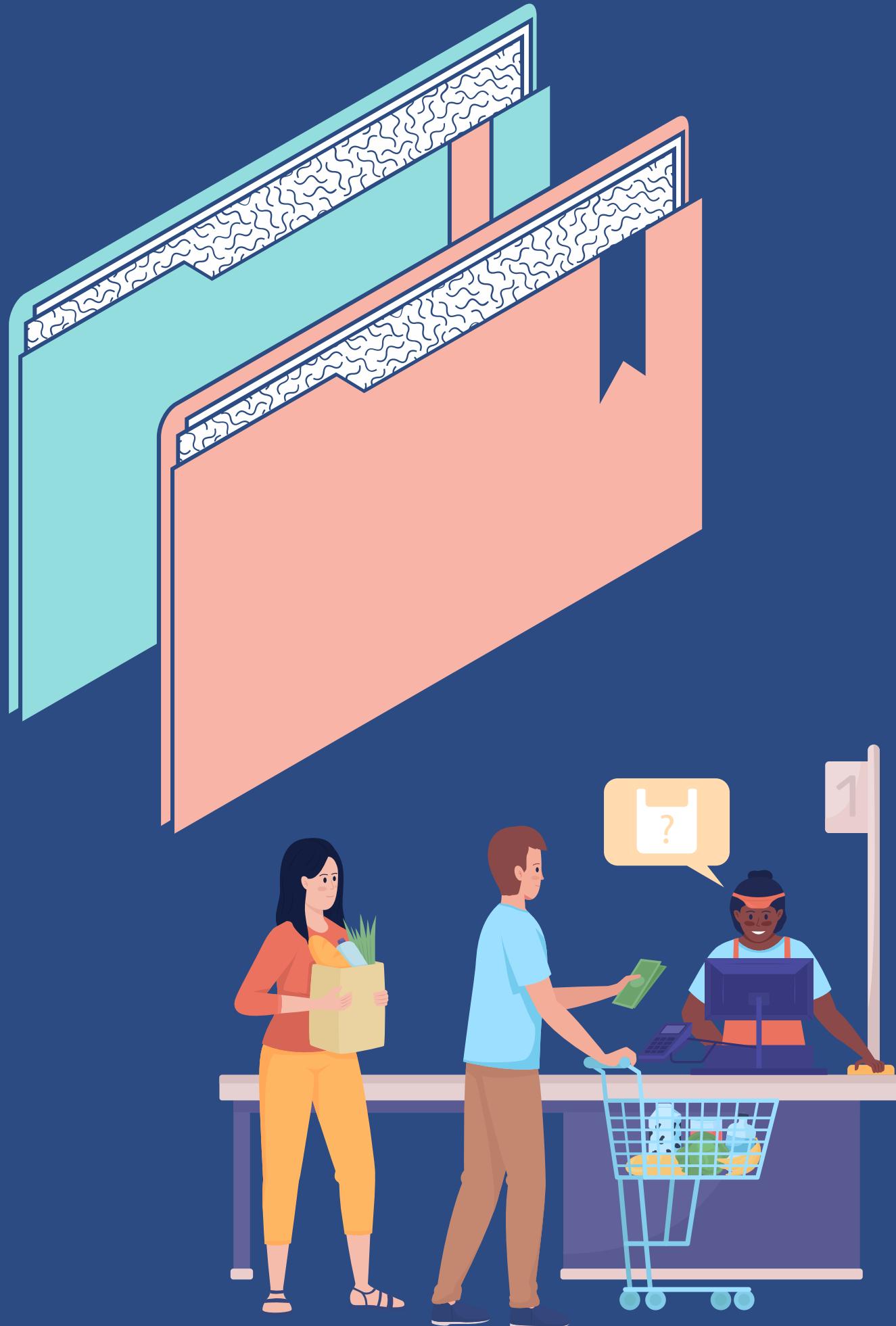
GUIDE: PROF. KULKARNI MUKUND MOHAN

SMART SHOPPING CART SYSTEM

- Aakash Matkar
- Akshay Jadhav
- Al Hussain Shaikh
- Anish Bonde



PROBLEM STATEMENT

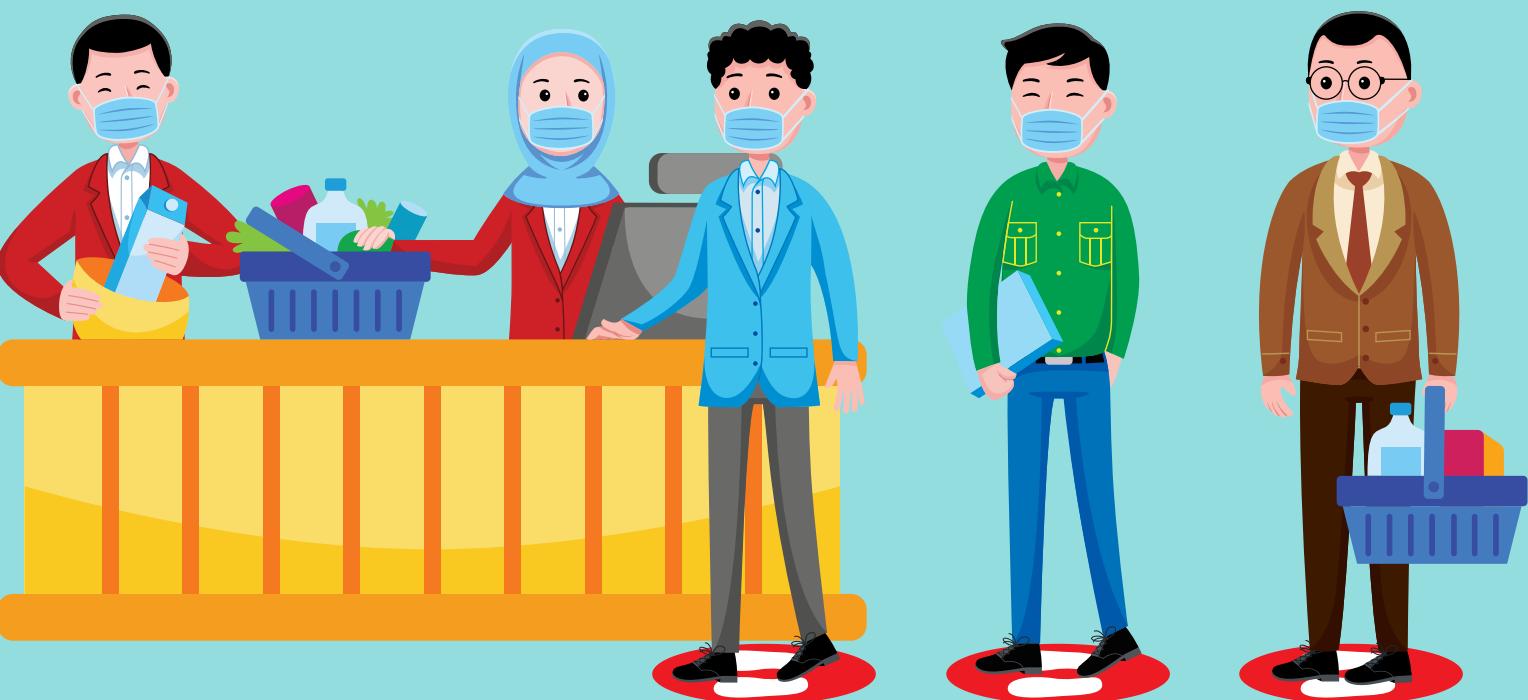


We notice the huge rush in the markets and malls on holiday as well as in the weekends. The problem occurs at the customer end to find their likely products and to pay the bills standing at long queue; both of these are time consuming and tiring.



OBJECTIVES

Items that are put in a smart shopping cart are read one by one and the bill is generated and displayed. After the final bill is generated the customer pays the bill by using an portal installed on their mobile phones. **The aim is to reduce the time consumption needed for the billing system.**



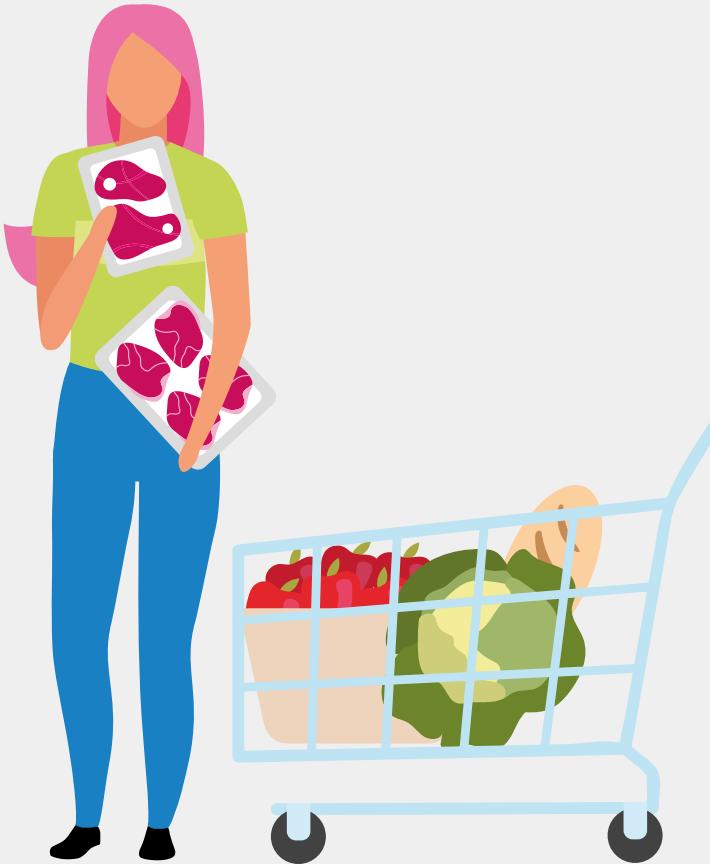


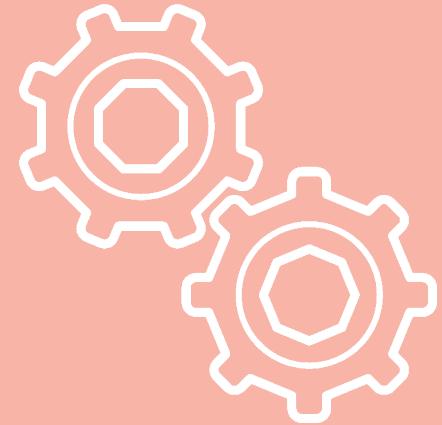
Domain

Retail



- The **Retail Domain** is the set of classes that represent the business objects used by Point-of-Service.
- Retail involves the sale of goods from a single point (malls, markets, department stores etc.) directly to the consumer in small quantities for his end use.





Tools & Technology



Technology

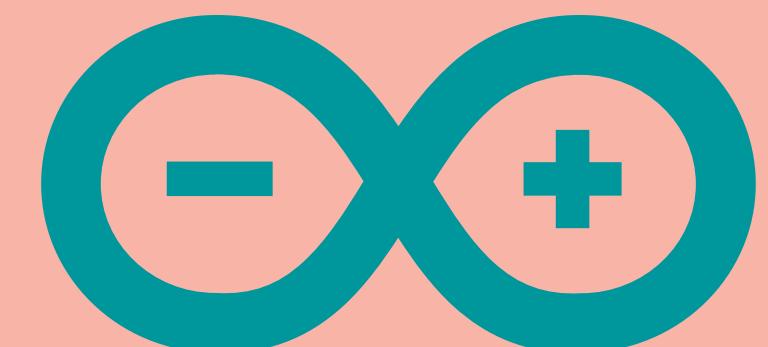
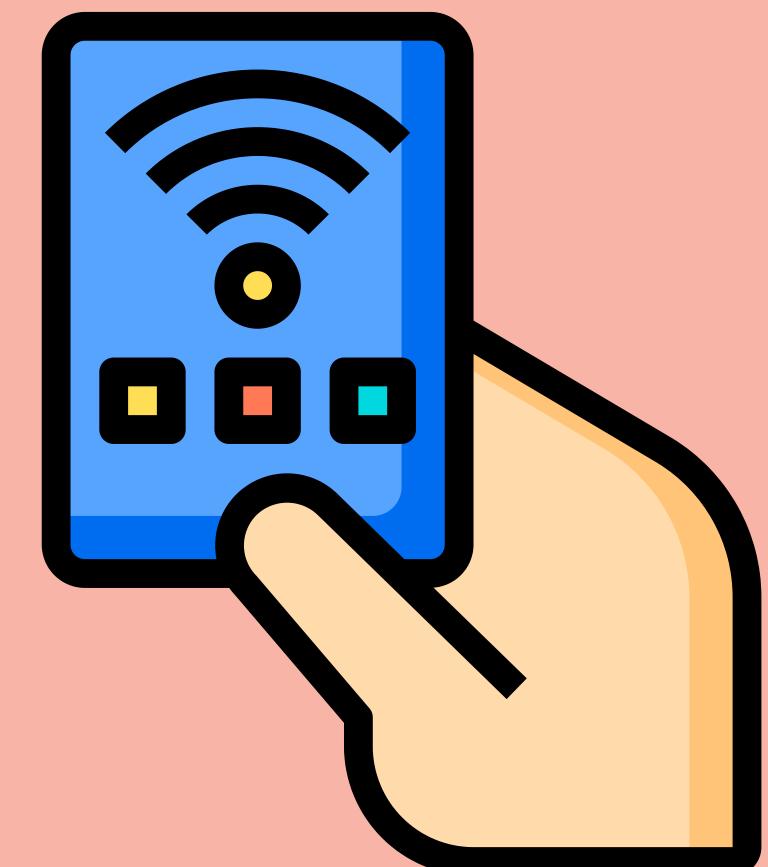
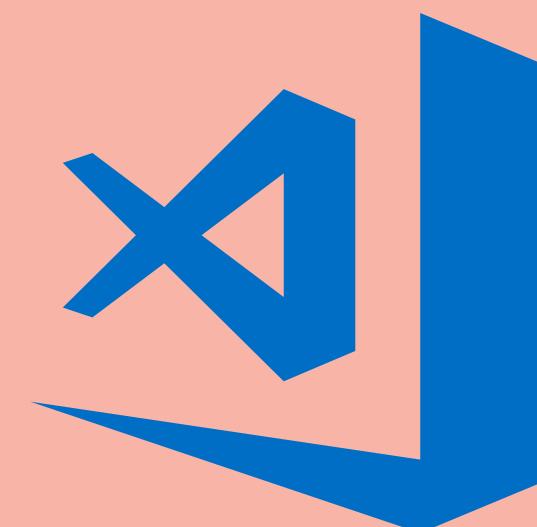
RFID (Radio Frequency Identification)

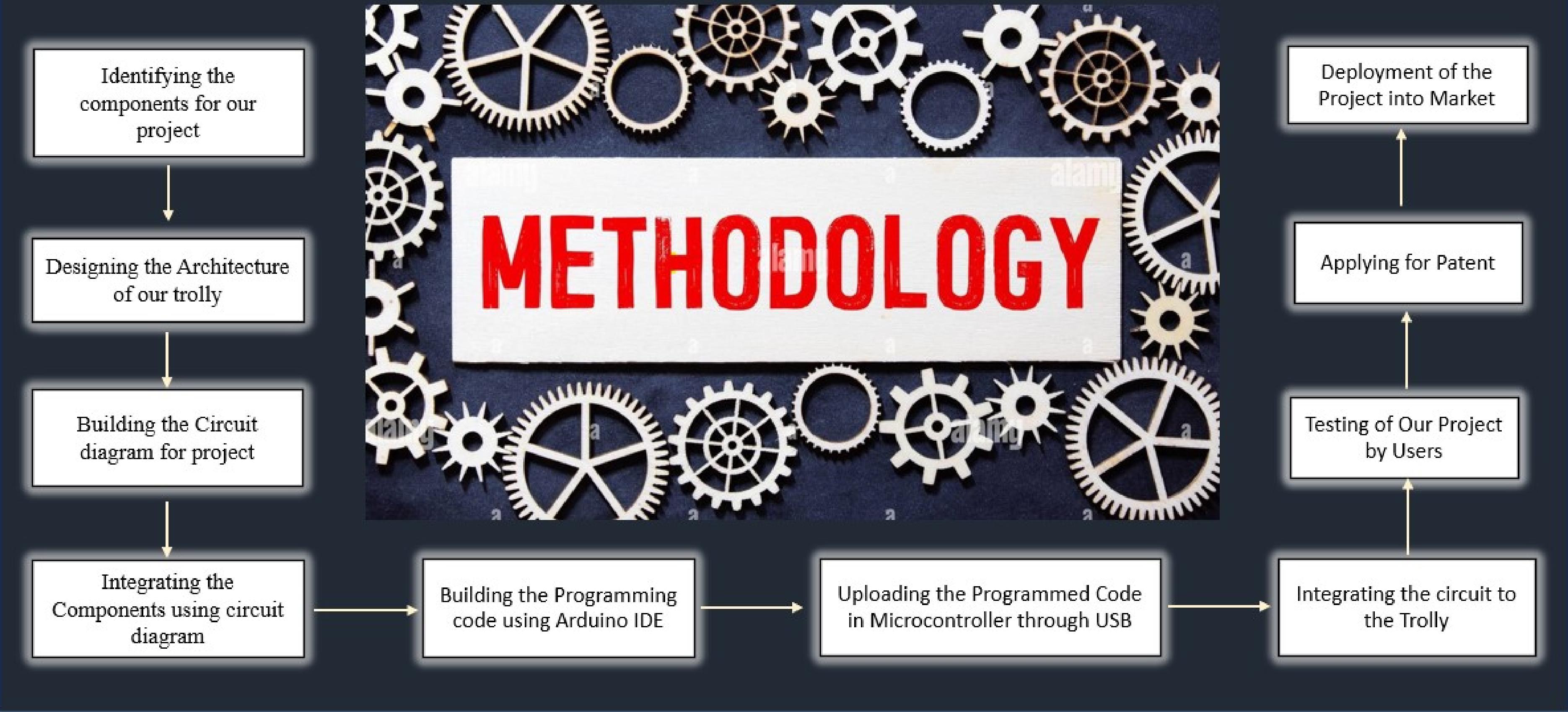
Components

ESP8266 NodeMCU
RFID Tag (Card)
RC522 Reader

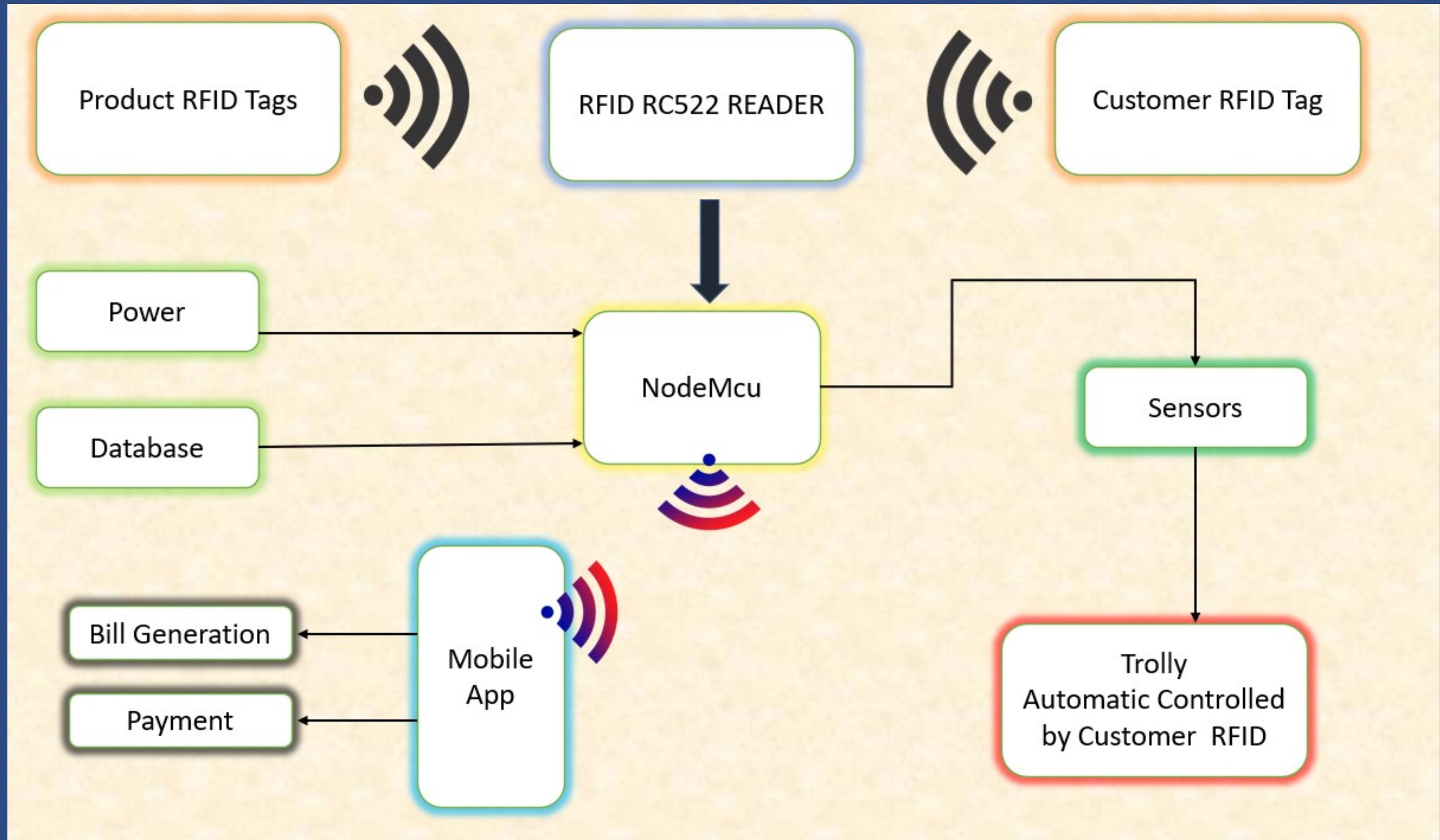
Tools

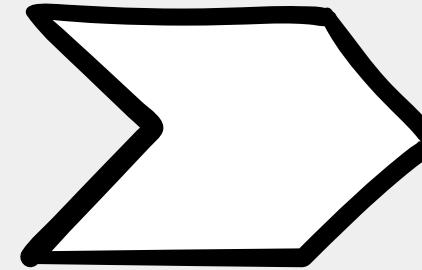
Arduino IDE
Visual Studio (Web Portal)



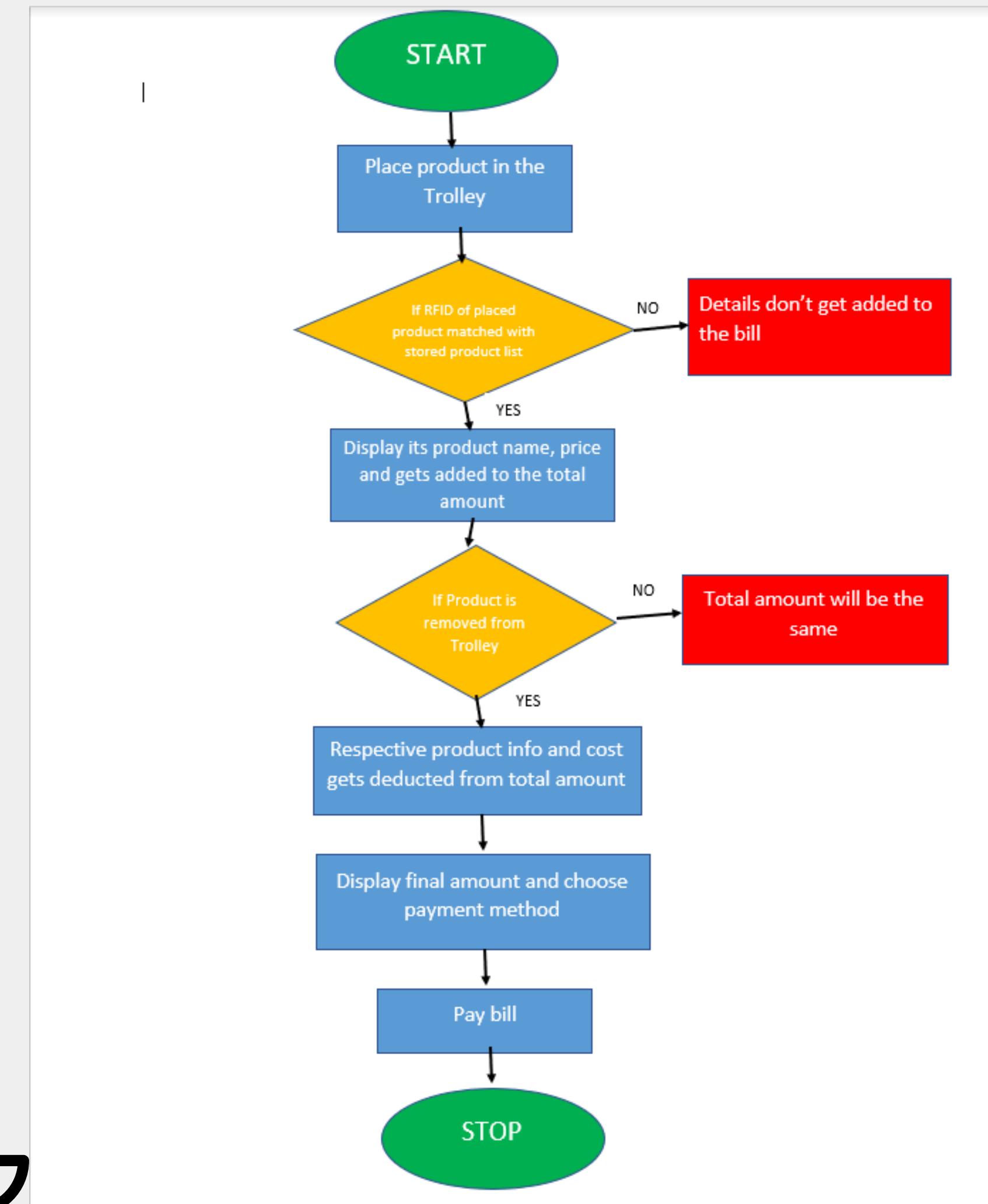


BLOCK DIAGRAM

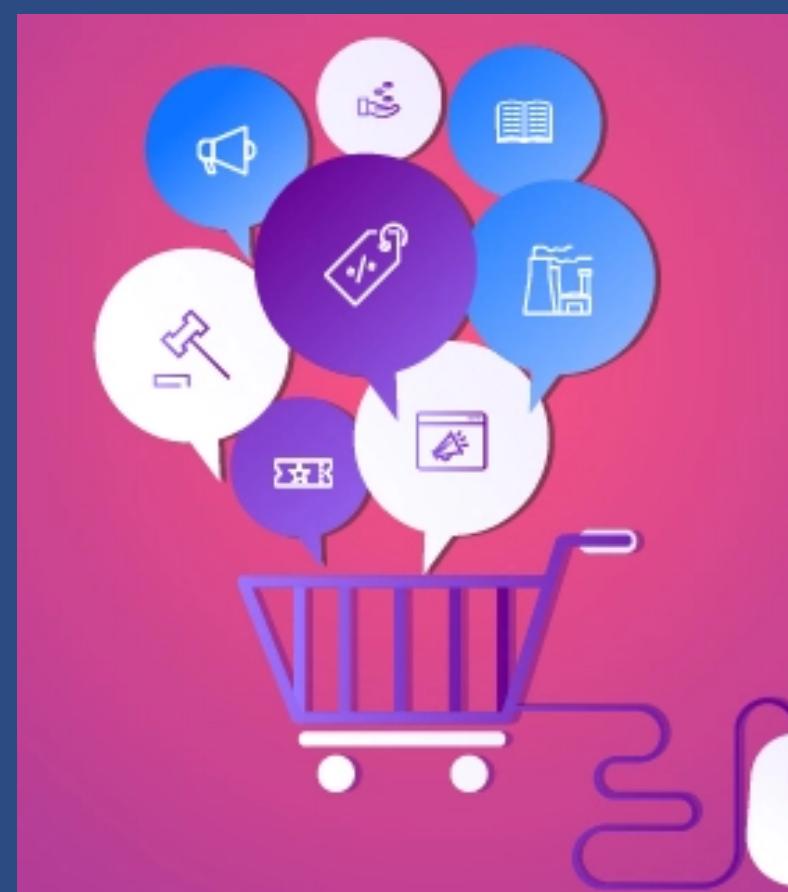




FLOWCHART



LITERATURE REVIEW



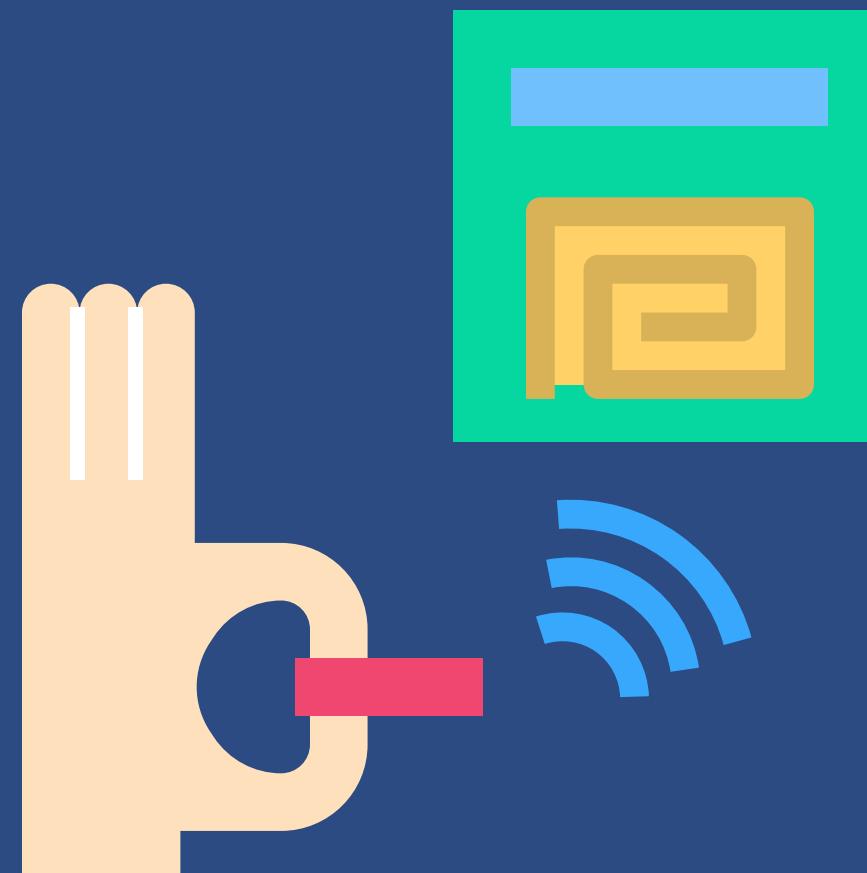
<u>TITLE</u>	<u>SMART SHOPPING CART USING RFID TECHNOLOGY</u>
<u>AUTHOR</u>	Alat Laxmi , Bhalerao Shraddha , Chothave Ajay , Pathan Samreen
<u>ABOUT</u>	In the proposed system every product has a unique RFID tag attached to it . The attached tag contains not only cost of the product but also additional information related to the product. While customer put the product in the cart at that time the RFID reader reads that RFID tag attached to that product.
<u>Components</u>	RFID Reader, Arduino Uno, LCD Display, RFID Card, Database, Mobile App
<u>TITLE</u>	<u>SMART SHOPPING CART USING RFID</u>
<u>AUTHOR(S)</u>	Vaidhyanathan RM, Venkata Krishnan M, Pradeep Raj G, Hemamalini S
<u>ABOUT</u>	The system will have an RFID tag attached to every single product. When we enter a shopping mall, connect trolley with mobile app.From admin, they can manage all sold-out items through a web application.
<u>Components</u>	RFID Reader,RFID tags,Node MCU,Arduino UNO,Web Application,Mobile App

**TITLE****SUPERMARKET SHOPPING SYSTEM USING RFID AS THE IOT APPLICATION.****AUTHOR(S)****Sakorn Mekruksavanich****ABOUT**

Smart shopping carts that the consumers can navigate in their search for their desired items are used, while promotional items are also recommended, and the billing information will be calculated during the customer's shopping activity.

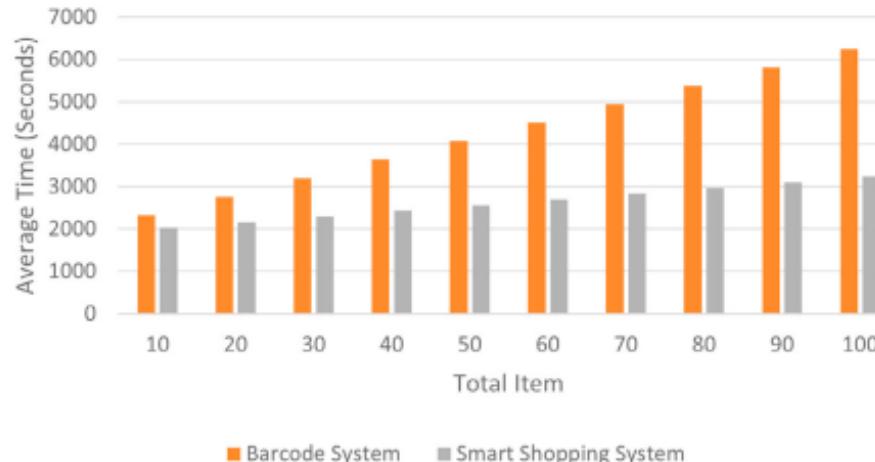
JOURNAL**IEEE Open Access Journal****TITLE****IOT-BASED SMART SHOPPING CART USING RADIO FREQUENCY IDENTIFICATION****AUTHOR(S)****MOBEEN SHAHROZ, MUHAMMAD FAHEEM MUSHTAQ, MAQSOOD AHMAD, et al.****ABOUT**

The proposed system prevents the customer to get an expired or undesired product by providing an android mobile application. Customer directly interacts with the product information. This information affects the preferences of the customer about the product and helps them to get the best quality product.



JOURNAL5th Internationa Conf. on CS & Computational Intelligence

Queue Time Comparation

TITLE**DATA TRANSMISSION USING RFID SYSTEM (2020)**AUTHOR(S)**Martinusa , Metta Saridewi Wahaba , Yudia , Hanry Ham**ABOUT

This paper shows that Smart Shopping Carts are able to reduce queue time by eliminating the barcode scanning process during the checkout process. System is developed using the Waterfall methodology and involves tools such as Arduino Uno, RFID, Visual Studio Code, Flutter, PostgreSQL, REST, React, Node.js

JOURNAL7th Internatn Conf. on Comunictn, Computing and Virtualiztn 2016TITLE**SMART CART WITH AUTO BILLING, PRODUCT INFO, RECOMM.**AUTHOR(S)**Ankush Yewatkara , Faiz Inamdarb , Raj Singhc , Ayushyad , Amol Banda**ABOUT

Proposed to develop a smart shopping cart system that will keep the track of purchased products and also online transactions for billing using RFID and ZigBee. The system will also give suggestions for products to buy based on user purchase history from a centralized system. In this system, every product in Mart will have RFID tag, and every cart will be having RFID Reader and ZigBee attached to it.





JOURNAL

International Journal of Scientific Research in Computer Science, Engineering and Information Technology

TITLE

RESEARCH ON SMART SHOPPING CART

AUTHOR(S)

Prof. Roopa C , Nivas Chandra Reddy

ABOUT

The statement of the Microcontroller for the set-up of RFID Reader and Zigbee. the label discovery of items by RFID Reader which is set in the cart and sending of item data from the cart to the Central billing unit through ZigBee and Wi-Fi Module Various factors like thing cost, thing name, and so on are constantly shown on LCD joined to the trolley.

JOURNAL

7th Internatn Conf. on Comunictn, Computing and Virtualiztn 2016

TITLE

QUEUING TIME & SHOPPING TIME OF D-MART CUSTOMERS

AUTHOR(S)

Ch. Hymavathi, Abhilash Nissankara Rao

ABOUT

The regression analysis on entry, billing, and exit time was done and it was found that exit time was most dependent on billing time. The suggestion was made to avoid the time wasted in the billing queue in the retail store and that store maintains a new billing process to reduce the billing waiting time..



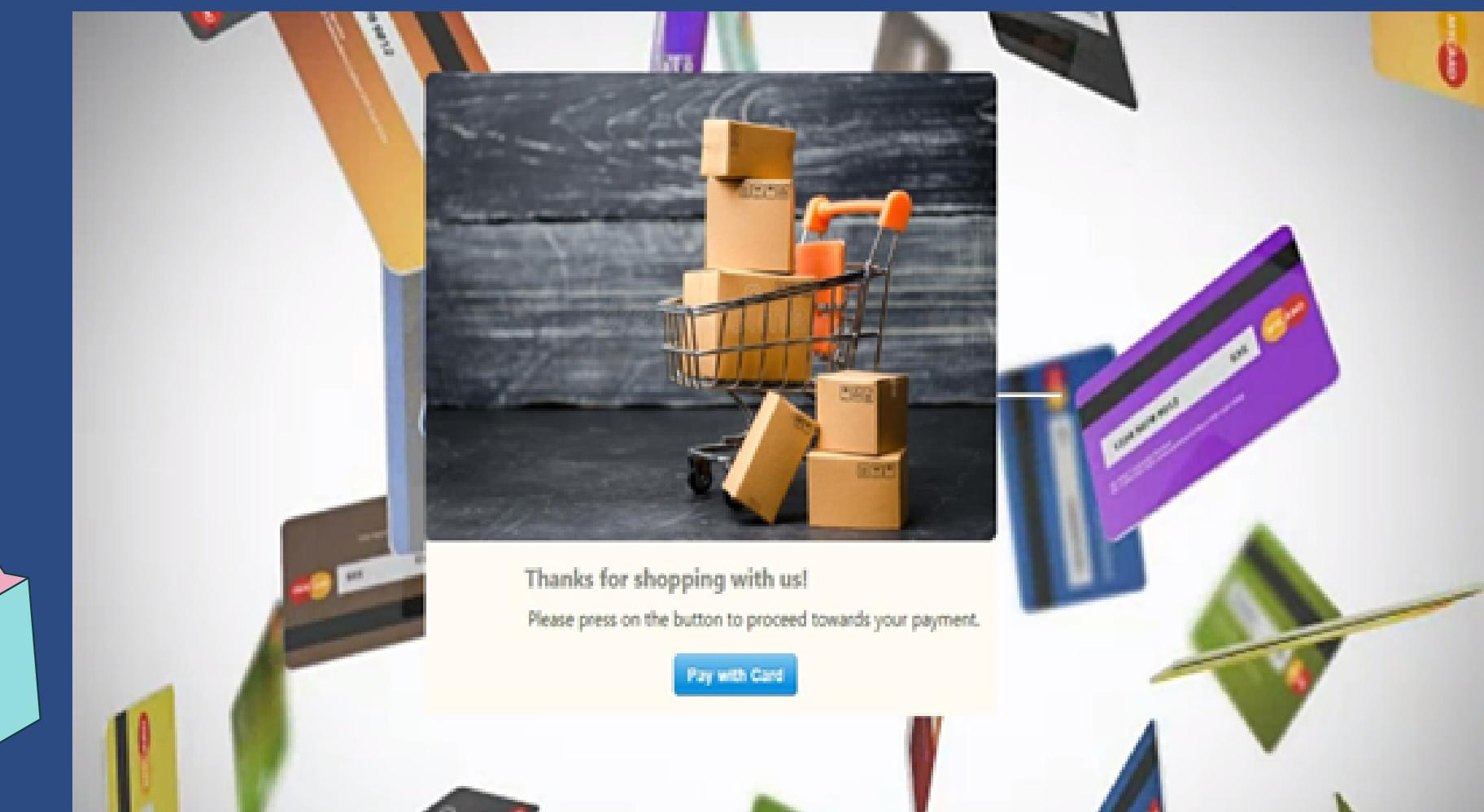
RESULTS



Welcome to GO CART

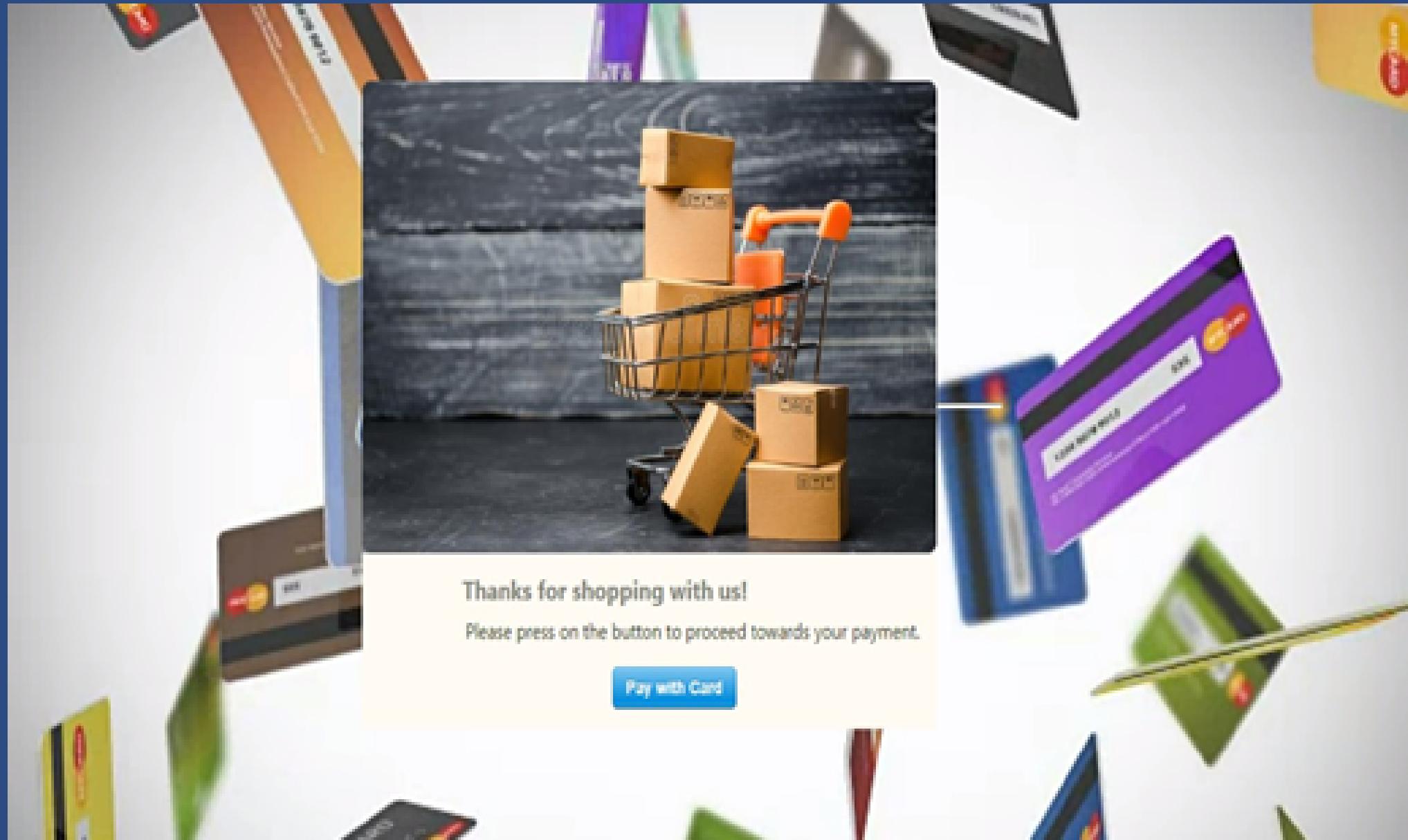
ITEMS	QUANTITY	COST
NesCafe	2	70
OREO	3	30
Nirma Powder(1KG)	1	80
Salt(200g)	1	25
Grand Total	7	205.00

Pay Now





RESULTS



Receipt from acct_1M4USPJUzCkPfiwW		
Receipt #1078-8501		
AMOUNT PAID	DATE PAID	PAYMENT METHOD
₹205.00	Dec 15, 2022, 5:55:28 PM	VISA - 4242
SUMMARY		
Go Cart Products	₹205.00	
Amount charged	₹205.00	



REFERENCES



- Subudhi, S.R., Ponnalagu, R.N.. An intelligent shopping cart with automatic product detection and secure payment system. 2019 IEEE 16th India Council International Conference, INDICON 2019
- Ms. Rupali Sawant, Kripa Krishnan, Shweta Bhokre, Priyanka Bhosale "The RFID Based Smart Shopping Cart", International Journal of Engineering Research and General Science Volume 3, Issue 2 pp 275-280, March-April, 2015.
- Subudhi, S.R., Ponnalagu, R.N.. An intelligent shopping cart with automatic product detection and secure payment system. 2019 IEEE 16th India Council International Conference, INDICON 2019
- Grewal, Dhruv & Hogeveen, Anne & Nordfält, Jens. (2017). The Future of Retailing. Journal of Retailing.

THANK YOU

