KGiSL INSTITUTE OF TECHNOLOGY

COIMBATORE – 641035

Department of Information Technology

CAPSTONE PROJECT

Next Gen POS System

Submitted by

Haaripriya.A.L	**- 711721205018**
Shreevarsha.G	**- 711721205051**
Shereena.A	**- 711721205049**
Nishanthiakshayaa.S	**- 711721205040**

KGiSL INSTITUTE OF TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

BONAFIDE CERTIFICATE

Certified that this Capstone Project **"Next Gen POS System"** is the bonafide work done by **Haaripriya.A.L(711721205018), Shreevarsha.G(711721205051), Shereena.A (711721205049) , Nishanthiakshayaa.S(711721205040)** under my supervision.

SUPERVISOR

Mr.Mani Deepak Choudhry, B.Tech, M.E. (Ph.D),

Assistant Professor,

Department of Information Technology.

HEAD OF THE DEPARTMENT

Dr.N.Sankarram,

Prof & Head,

Department of Information Technology.

ABSTRACT

The next-gen grocery store POS system is designed to streamline checkout processes and manage inventory efficiently. It includes a user interface for cashiers to ring up purchases, process payments, and print receipts. The system tracks inventory levels in real-time, automatically updating stock when items are sold. It also supports promotions and discounts, helping to boost sales and customer satisfaction.

Security measures are in place to protect sensitive payment information, ensuring compliance with industry regulations. Overall, the POS system aims to enhance the shopping experience for both customers and staff, improving operational efficiency and driving business growth.

By prioritizing user-friendly interfaces, reliable inventory Management and secure transactions, this POS abstraction enhances the overall shopping experience for customers and streamlines operations for store staff.

CHAPTER-1

1.1 INTRODUCTION

Amidst the ever-evolving business environment, technology plays a crucial role in optimizing processes and elevating customer interactions. Within this framework, the creation of a Next Generation Point of Sale (POS) system stands out as a significant initiative, set to revolutionize efficiency, capabilities, and user contentment across retail and hospitality industries.

Through the amalgamation of UML diagrams and cutting-edge front-end like HTML and CSS and back-end like Python – Django. we've brought to life a sophisticated POS System. Crafted with elegance, our application not only entices but also ensures seamless navigation, catering to the retail and hospitality sectors with ease. Our journey towards the development of NextGenPOS isn't just about technological advancement; it's a commitment to empowering businesses with a versatile, resilient, and customer-centric solution, perfectly attuned to the demands of modern-day markets.

1.2 PROBLEM STATEMENT

Develop a next Gen POS System by incorporating all UML diagramsand develop a mini app for it.

1.3 EXISITNG SYSTEM

- The existing NextGenPOS system is a cutting-edge platform designed to upgrade point-of-sale operations in retail and hospitality. It's packed with advanced features to streamline tasks like inventory management, sales processing and customer engagement.

- Powered by technologies like cloud computing and AI, it offers an intuitive interface, seamless integration, and robust security. In essence, it's revolutionizing POS solutions, empowering businesses to excel in today's market.

KEY FEATURES :

- ✓ Intutive User Interface
- ✓ Comprehensive Product Management
- ✓ Scalablility
- ✓ Customization
- ✓ Efficient Billing System

TARGET AUDIENCE :

- The target audience for the next-gen POS system includes retail stores, restaurants, cafes, hotels, service-based businesses, small startups, franchise owners, and large corporations.
- These businesses rely on efficient transaction processing, inventory management, and customer engagement tools provided by the POS system to drive their operations forward.

1.4 PROPOSED SYSTEM

- Our Project is implemented for Grocery based POS system. It includes multiple options like Adding category list, Adding product list and ordering the user needed grocery items , billing and printing the receipt ……;these features are available in our POS System.

TECHNOLOGY USED

- ✓ Front-end technologies such as HTML and CSS
- ✓ Back-end technologies such as Python, Django
- ✓ Database Management such as PostgreSQL

1.5 MODULES DESCRIPTION

Login Component

- Authentication will be done by the login page.

Home Component

- The Home module displays the details about the number of available category,product and total sales amount.

Category List Component

- Renders category list with their name description , status , action and an"Add New" button.
- When the "Add" button is clicked, it calls the addItem function toadd the item to the category list.

Product List Component

- Renders product list with category , product name, description , status , Action and an "Add New" button.
- When the "Add" button is clicked, it calls the addItem function toadd the item to the product list.

POS Component

- When we select the product and quantity, the total bill amount will be generated with Tax.
- Provides a “Add Item” button to add item with it’s category and quantity.

Sale Component.

- Displays the total number of items sold and also renders the customer details with their respective price and product.

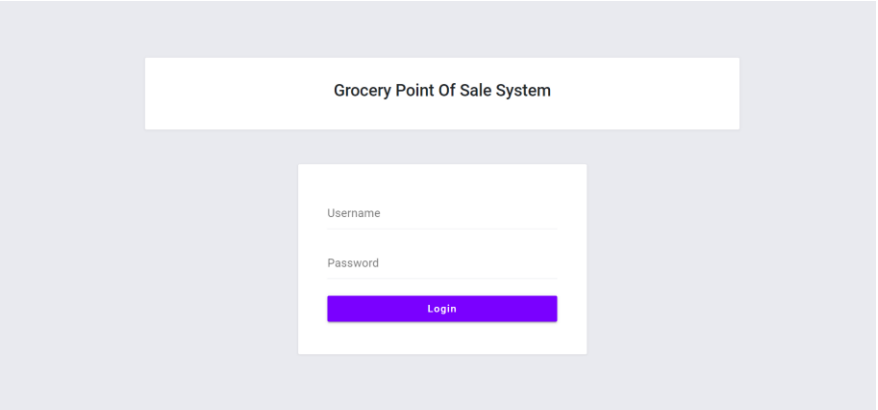
Checkout and Print

✓ Provides a "Checkout" button to clear the order and reset customerdetails and payment method.

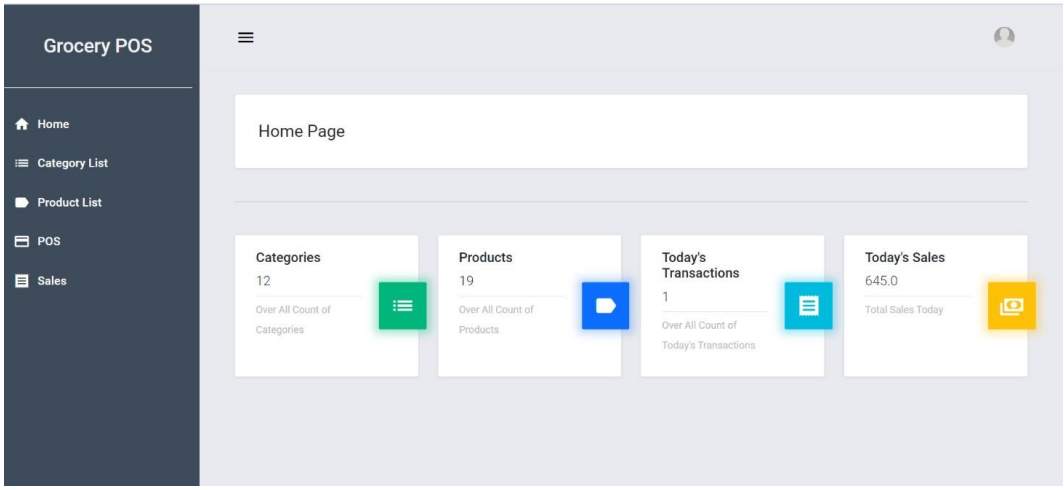
✓ Provides a button to print the receipt

1.6 RESULTS

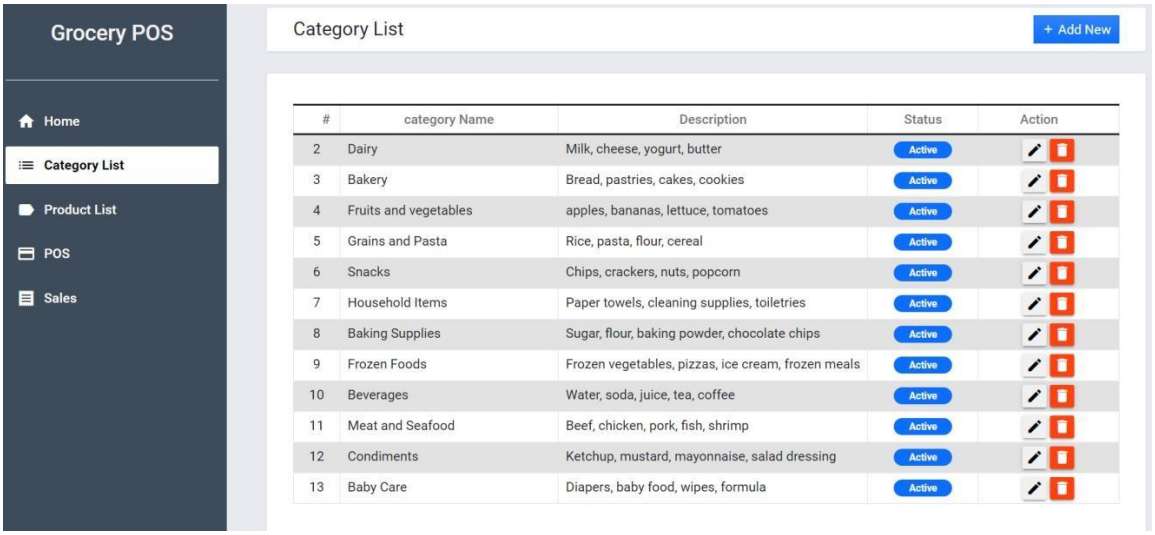
Login page



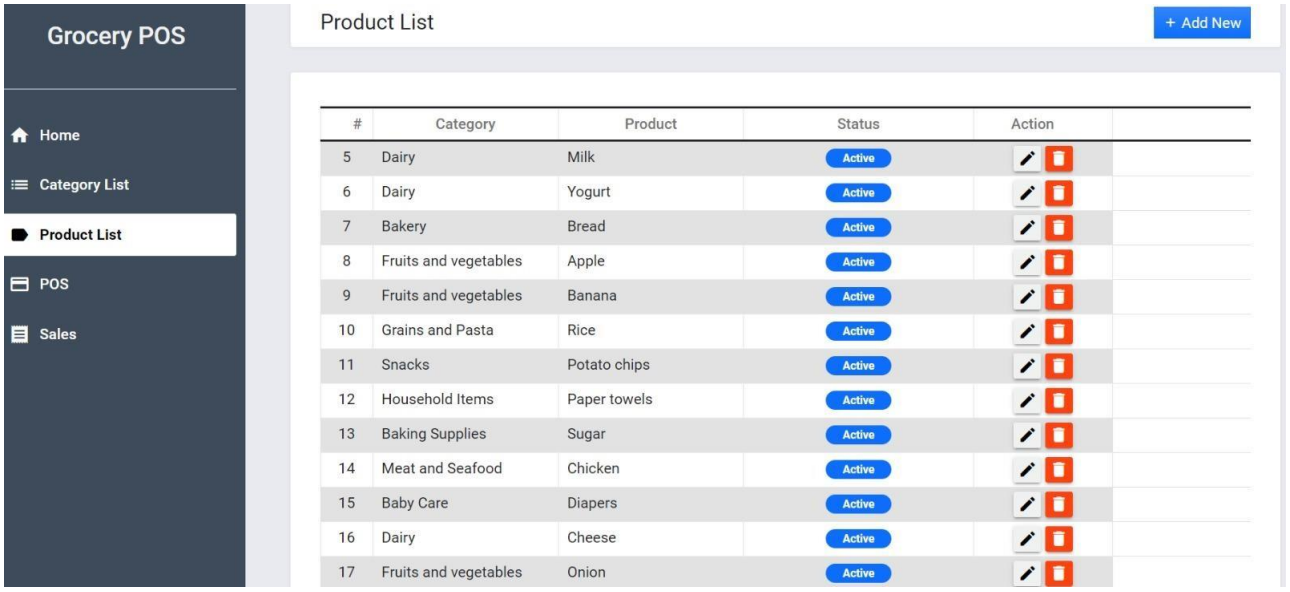
Home page



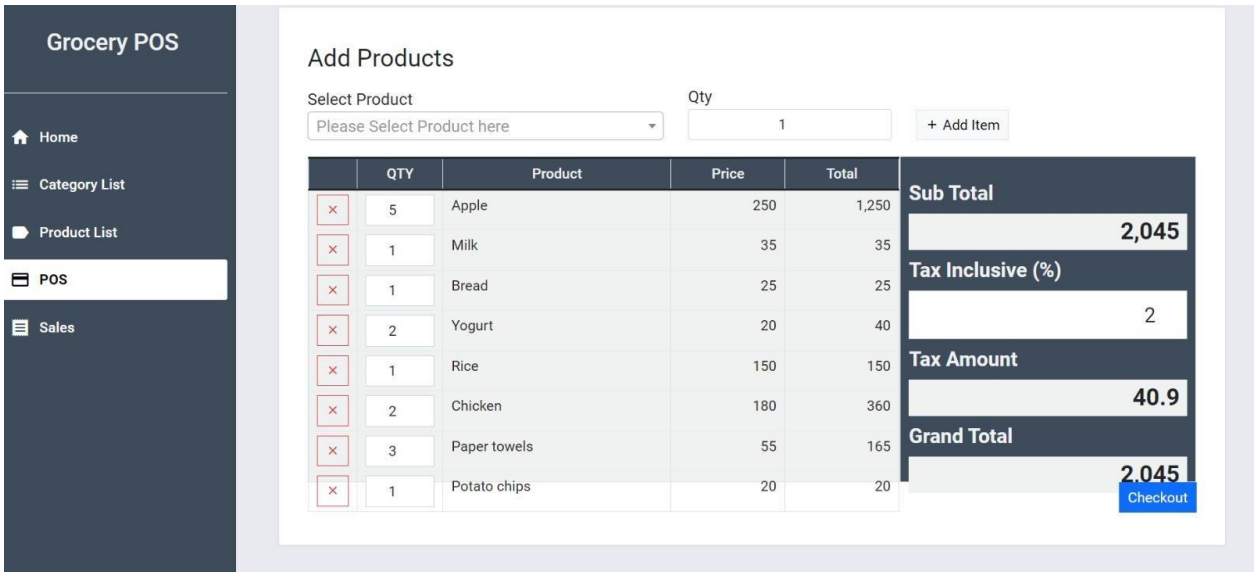
Category List



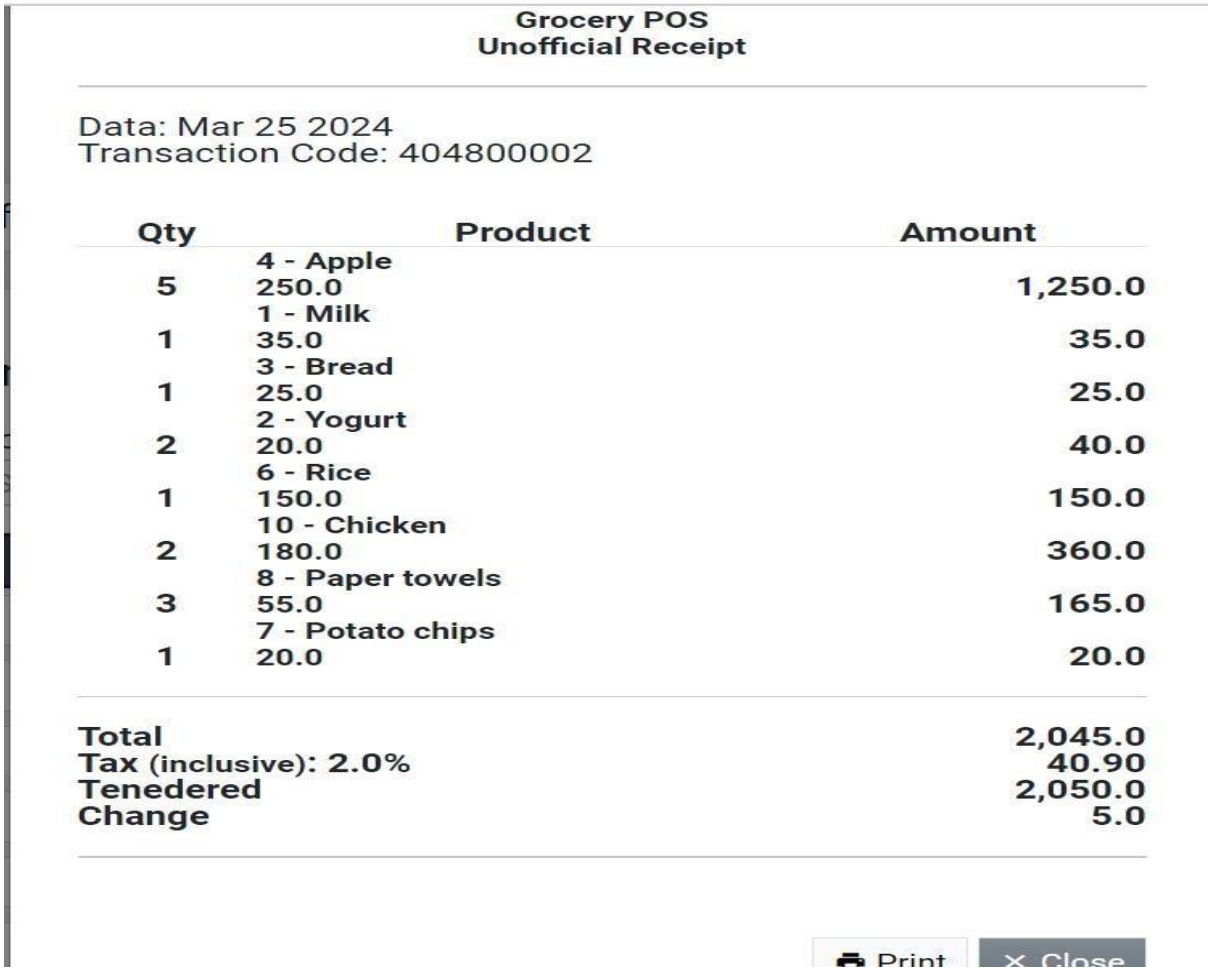
Product List



Adding Products to Checkout



Checkout and Printing Receipt



Grocery POS
Unofficial Receipt

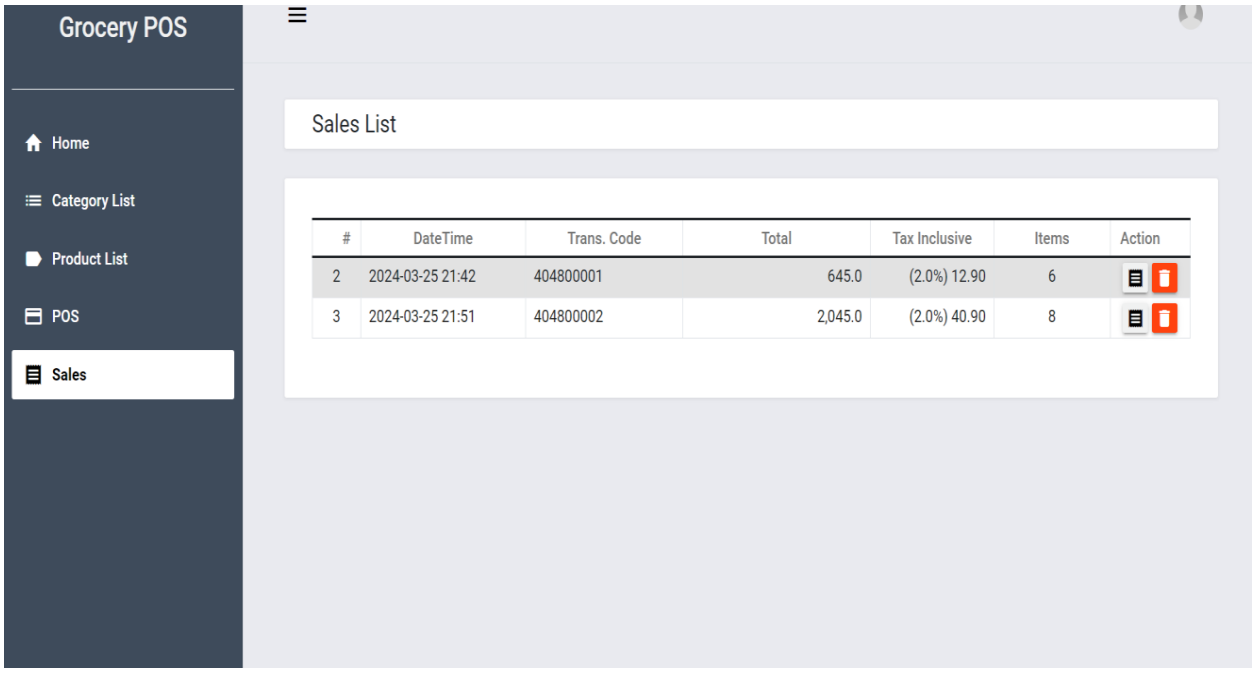
Data: Mar 25 2024
Transaction Code: 404800002

Qty	Product	Amount
5	4 - Apple 250.0	1,250.0
1	1 - Milk 35.0	35.0
1	3 - Bread 25.0	25.0
2	2 - Yogurt 20.0	40.0
1	6 - Rice 150.0	150.0
2	10 - Chicken 180.0	360.0
3	8 - Paper towels 55.0	165.0
1	7 - Potato chips 20.0	20.0

Total	2,045.0
Tax (inclusive): 2.0%	40.90
Tenedered	2,050.0
Change	5.0

Print Close

Sales List



1.7 CONCLUSION

In conclusion, the next-generation POS system for grocery stores promises a transformative shift in operations, customer service, and overall efficiency. Leveraging cloud computing, AI, and mobile integration, this system enables seamless scalability, real-time insights, and enhanced customer experiences. With cloud-based infrastructure, grocers gain flexibility and accessibility, allowing them to adapt swiftly to changing market dynamics and scale operations efficiently. AI-driven analytics provide invaluable insights, from personalized recommendations to optimized inventory management, empowering grocers to make data-driven decisions and anticipate consumer trends. Mobile POS capabilities further elevate the customer experience, offering convenient checkout options and reducing wait times. By prioritizing data security and compliance, this next-gen system ensures customer trust and protection, enhancing the overall reputation of the grocery store. In essence, the next-generation POS system represents a significant advancement in grocery retail, promising to revolutionize the industry landscape and drive sustainable growth.