

EE3251: PROGRAMING PROJECT
GROUP PROJECT

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Project POS

2 INTRODUCTION

Ensure the system is a computerized system that is used to manage and process transactions at a retail establishment. In the context of a food store, a POS system can be used to manage sales, process payments, and generate daily sales report. The primary purpose of the system is to streamline the sales process and provide a more efficient and accurate method of managing transactions. With this system, food store users can quickly enter items, process payments, and track transactions levels in real-time, which can help reduce errors and improve customer service. In addition to the basic functions of a system, a food store may also choose to integrate additional features such as find most selling items and menu management to further enhance the capabilities of the system. Overall, a POS system can be a valuable tool for a food store to increase efficiency, improve accuracy, and ultimately provide a better customer experience. By the manage the directory in the admin level.



3 PROJECT DETAILS

3.1 Background

A POS system usually consists of software that facilitates transactions and controls inventory and client information in addition to hardware like a touch screen monitor, cash register, barcode scanner, and receipt printer.

Since POS systems have a number of advantages for both eatery owners and patrons, they have grown in popularity in recent years.

From this POS system we can achieve;

Transactions that are quicker and more efficient: A POS system can shorten the time it takes to enter orders, compute totals, and complete payments.

Accuracy is increased because POS systems lessen the possibility of mistakes being made during order entry and payment processing, ensuring that customers receive the right orders and that transactions are accurately documented.

Better transaction management: Restaurant owners can monitor daily transaction level, total transaction and priority list of food in real-time with POS systems, which makes it simpler to handle the daily need of ingredients needed.

POS systems can produce thorough reports on sales and food assisting restaurant owners in

spotting patterns and taking data-driven decisions.

Customer experience is improved by POS systems' because it is easier rather than the manual process.

3.2 Goals

System is designed to simplify the payment process by automating tasks such as order entry, payment processing, and receipt printing. By making transactions faster and more efficient, system can help reduce customer wait times and improve overall service.

Real-time sales management. This involves keeping tabs on the daily transactions or order details, total order details and food selling details. This analysis specially the food selling details is really supportive to analyze which kind of food customer prefer to buy and then to identify which ingredients should be ready daily the most and to improve the quality of other food items as well for repeat business.

It can also be helpful to produce in-depth reports on client behavior and sales data. Customer behavior through around the year is important to identify the seasons customers attract most and other seasons. The system can assist restaurant owners and managers in making data-driven choices that can increase the general effectiveness and profitability of their company by providing accurate data on these metrics.

4 OBJECTIVE AND SCOPE

4.1 Objective

Objective is streamline the sales process and provide a more efficient and accurate method of managing transactions. The system is designed to improve the overall performance of the store by providing real-time faster transaction processing, and better customer service.

4.2 Scope

The food shop can manage sales transactions, handle payments, and generate receipts thanks to the sales management system. Additionally, keeping note of sales data and producing reports can aid in making better decisions.

- Sales management: The grocery store can monitor transactions in real time. Additionally, it can support product ordering and forecasting.
- Employee management: can be helpful to security system as well, admin can add employees as users when needed.
- Analytics and Reporting: can provide valuable data analytics and reporting capabilities to help the food store make informed decisions. It can also help with identifying daily sales and total.

5 DELIVERABLES

- **Software:** The POS software, which contains the user interface, database, and all functionalities required to handle sales and users, is the system's main deliverable.
- **Hardware:** Particular hardware parts, such as a touch panel, barcode scanner, cash drawer, receipt printer, and credit card reader, might be needed by the system. These parts are also regarded as system outputs.
- **Implementation and configuration:** To satisfy the unique needs of the grocery store, the system needs to be installed, set up, and configured. These services will be offered by the provider as deliverables.
- **Assistance:** The vendor must continue to offer technical assistance, upkeep, and upgrades to the grocery store. These services are also regarded as system outputs.
- **Customization:** The vendor may offer customization services as deliverables depending on the particular requirements of the food shop. Customized reports, system integrations, and extra features tailored to the needs of the grocery shop are a few examples and identifying opportunities for growth.

6 OBSTACLES AND LIMITATIONS

This kind of software must be handled by the user with some knowledge, so first before using the system we must give the technical knowledge to the users about how the system works.

And the system doesn't have the customer login so as the user until this is a network with an internet server we have to add the orders through the user.

Limitation of the food limits according to when we put a lot of items when it comes to bill it creates a long bill.

Technical Issue, like any software, a system can experience technical issues, such as software bugs or hardware failures. These issues can result in downtime and lost sales.

Security of A POS system can be a target for stealing transaction details and stealing money. The food store must take steps to ensure the security of the system from users and other external parties.

Staff Resistance is when we consider the Employees may resist using the new system if they are not trained properly or if they find it difficult to use. This can result in lost productivity and errors.

Not having advanced inventory management or analytics capabilities is reducing the quality of the system.

7 MAIN USERS

Implementing the admin and user roles frequently involves using user authentication and authorization processes. User authentication makes ensuring that users who log in are authenticated and given the proper access. The system then determines the user's role and permissions to limit what actions they may carry out within the programmed after successful authentication.

The separation between admin and user roles aids in upholding security, safeguarding confidential information, and assigning duties within a software system. Users have access that is customized to their requirements and tasks, while admins have the authority to manage and maintain the system and its users.

| | |
|-------|---|
| Admin | <p data-bbox="332 216 1280 310">Admin ID: This is a unique identifier for the admin user that allows you to log in to the POS system and perform various administrative functions.</p> <p data-bbox="332 327 1280 590">Add user: This is a function that allows the POS system admin to create a new user account in the system. This function typically requires the admin to enter the user's name and a password. Once the user account has been created, the user can log in to the POS system and perform various functions based on their assigned user role and permissions.</p> <p data-bbox="332 606 1280 869">Remove user: This is a function that allows the POS system admin to delete a user account from the system. This function is typically used when a user no longer needs access to the system or has left the organization. When a user account is deleted, all associated data and permissions are also removed from the system.</p> <p data-bbox="332 886 1280 1194">Change password: This is a function that allows an admin user to update their password in the POS system. This function is typically accessed from the Change Password-Admin page. To change their password, the user will usually need to enter their current password and then enter the new password they want to use and they have to re-enter the new password to ensure the password.</p> <p data-bbox="332 1211 1280 1520">Log out: This is a function that allows an admin user to securely end their session in the POS system. When an admin logs out, all active sessions and temporary data are cleared from the system, helping to protect against unauthorized access. Admins should always remember to log out of the system when they are finished using it, especially if they are using a shared device or network.</p> |
|-------|---|

User

User name: This is the name you use to identify yourself within the POS system.

Password: This is a secret code that is used to authenticate your identity and grant you access to the POS system. You should keep your password secure and change it regularly to prevent unauthorized access.

Change Password: As the same like in previous a user also has the capability to change his/ her password to ensure the security by time to time.

Food: By accessing this page specially the owner can get a list of summarizing for a food and it shows the food sold in a list in descending order with the quantity sold.

Order: This is a request made by a customer to purchase one or more food items. The order may include details such as the type and quantity of the item, any special requests or modifications, and the total price.

Bill: When clicking the generate bill the bill is calculated and user is given a chance to certify the order in order to reduce the mistakes that can be happened.

Today orders: In the same page left side user can see the real time daily orders list which also in descending order with the daily income and total income.

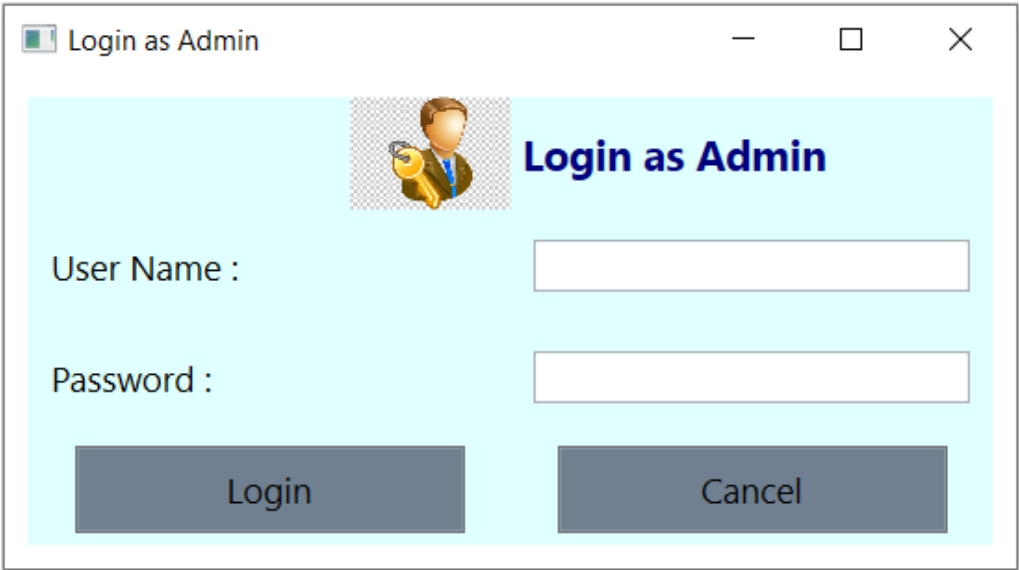
All Orders: By clicking all orders user can see the all orders happened in order for business analyze processes.

8 USER INTERFACES


8.1 Main Window



8.2 Process of the Admin



AddUser

Add User

Enter User Name :

Enter Password :

Save

Cancel

Change Password-Admin

Change Password - Admin

Current Password :


Enter Password :

Re-Enter New Password :

Save

Cancel

Remove User



Remove User

Enter User Name :


Enter Password :

Remove

Cancel

8.3 Process of the user

Login as User



Login as User

User Name:

Password :

Login

Cancel

Change Password-User

Change Password - User

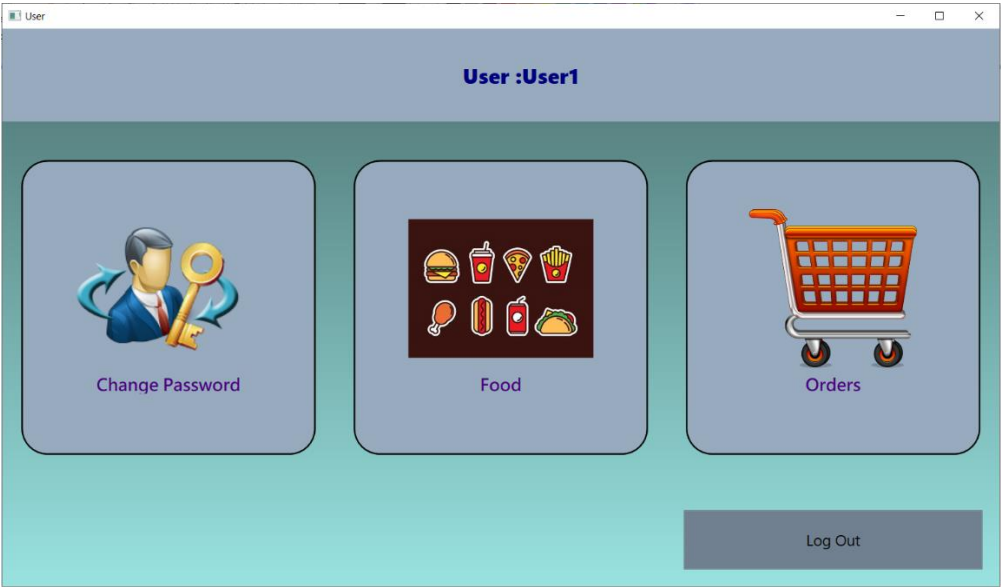
Current Password :

Enter Password :

Re-Enter New Password :

Save

Cancel



| Food Details | | | |
|------------------|---------|------------|----------|
| Food | Type | Unit Price | Qty Sold |
| Cupcake | Dessert | 500 | 16 |
| Pepper Chicken | Chicken | 800 | 15 |
| Ice Cream | Dessert | 800 | 14 |
| Strawberry Juice | Drink | 400 | 13 |
| Tomato Chicken | Chicken | 700 | 12 |
| Sweet Chicken | Chicken | 900 | 9 |
| Banan Waffle | Dessert | 900 | 9 |
| Cabbage Burger | Burger | 700 | 8 |
| Lychee Squah | Drink | 700 | 8 |
| Cappaccino | Drink | 500 | 6 |
| Onion Burger | Burger | 600 | 5 |
| Chili Burger | Burger | 500 | 5 |
| Ice Americano | Drink | 400 | 4 |
| Mustard Burger | Burger | 600 | 3 |
| Spicy Chicken | Chicken | 1100 | 3 |
| Pancake | Dessert | 600 | 1 |

Order

Orders

Today-Orders

New Order

| Invoice No. | Bill (Rs.) | Time |
|-------------|------------|----------------------|
| 1043 | 2600 | 5/21/2023 6:34:08 PM |

Today's Income (Rs.): 2600

Total Income (Rs.): 90600

All Orders

Burgers :

Onion Burger : 0

Chili Burger : 0

Cabbage Burger : 0

Mustard Burger : 0

Chicken :

Spicy Chicken : 0

Sweet Chicken : 0

Tomato Chicken : 0

Pepper Chicken : 0

Drinks :

Ice Americano : 0

Cappacino : 0

Lychee Squah : 0

Strawberry Juice : 0

Desserts :

Pancake : 0

Cupcake : 0

Ice Cream : 0

Banana Waffle : 0

Generate Bill

Clear

Close

All Orders

| Invoice No. | Amount (Rs.) | Time |
|-------------|--------------|-----------------------|
| 1001 | 600 | 4/14/2023 8:53:56 PM |
| 1002 | 700 | 4/14/2023 8:55:06 PM |
| 1003 | 2700 | 4/14/2023 8:55:19 PM |
| 1004 | 1400 | 4/14/2023 8:58:50 PM |
| 1005 | 900 | 4/14/2023 9:01:19 PM |
| 1006 | 900 | 4/15/2023 8:13:08 AM |
| 1007 | 2500 | 4/15/2023 8:13:47 AM |
| 1008 | 800 | 4/15/2023 8:14:40 AM |
| 1009 | 3400 | 4/20/2023 11:18:16 AM |
| 1010 | 2400 | 4/20/2023 11:18:29 AM |
| 1011 | 1800 | 4/20/2023 11:21:58 AM |
| 1012 | 1500 | 4/20/2023 11:29:17 AM |
| 1013 | 1800 | 4/20/2023 11:29:57 AM |
| 1014 | 13900 | 4/20/2023 11:35:09 AM |
| 1015 | 3200 | 4/20/2023 11:37:26 AM |
| 1016 | 1600 | 4/20/2023 11:37:55 AM |

Close

9 SUSTAINABILITY

- **Cloud-Based System:** Opt for a system that is cloud-based to eliminate the need for local servers and hardware, decrease energy use, and cut carbon emissions.
- **Remote Access:** A cloud-based system enables workers of a grocery store to access the system from any device with an internet connection, enabling remote work and reducing the need for commuting to the store.
- **Inventory Management:** By keeping an eye on stock levels, reducing overstocking, and preventing the sale of expired goods, the system's inventory management tools can help you cut down on food waste.
- **Choose suppliers who priorities sustainability in their operations,** such as those who source products from nearby farms to cut down on transportation emissions or who use eco-friendly packaging.
- **Paperless Options:** Offer customers the option to receive electronic receipts via email or text message, reducing the need for paper receipts
- **Recyclable Materials:** Choose system hardware made with recyclable materials, such as biodegradable or recycled plastic.

10 REFERENCES

[1]“Xaml Tech - Freelancer on Guru,” *POS Point of Sale System in WPF or C# (4129126) - Freelancer on Guru*. <https://www.guru.com/service/pos-point-of-sale-system-in-wpf-or-c-/india/maharashtra/pimpri-chinchwad/4129126>

[1]“C# WPF Design UI - Point of Sale,” *YouTube*, Jun. 09, 2019. <https://www.youtube.com/watch?v=gx5iJyYwFfY>