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PROJECT NAME	Red Oscar POS Inventory Management System		
CLIENT	Red Oscar Japanese-Filipino Food House		
DURATION	3 months & 2 weeks		
START DATE	06/12/25	**END DATE**	08/01/25
DESCRIPTION			
The “Red Oscar Inventory Management System” is a comprehensive solution designed to streamline inventory tracking and management for Red Oscar Japanese-Filipino Food House. This system provides real-time visibility into stock levels, automates ordering processes, and helps minimize waste, ultimately improving efficiency and profitability.			

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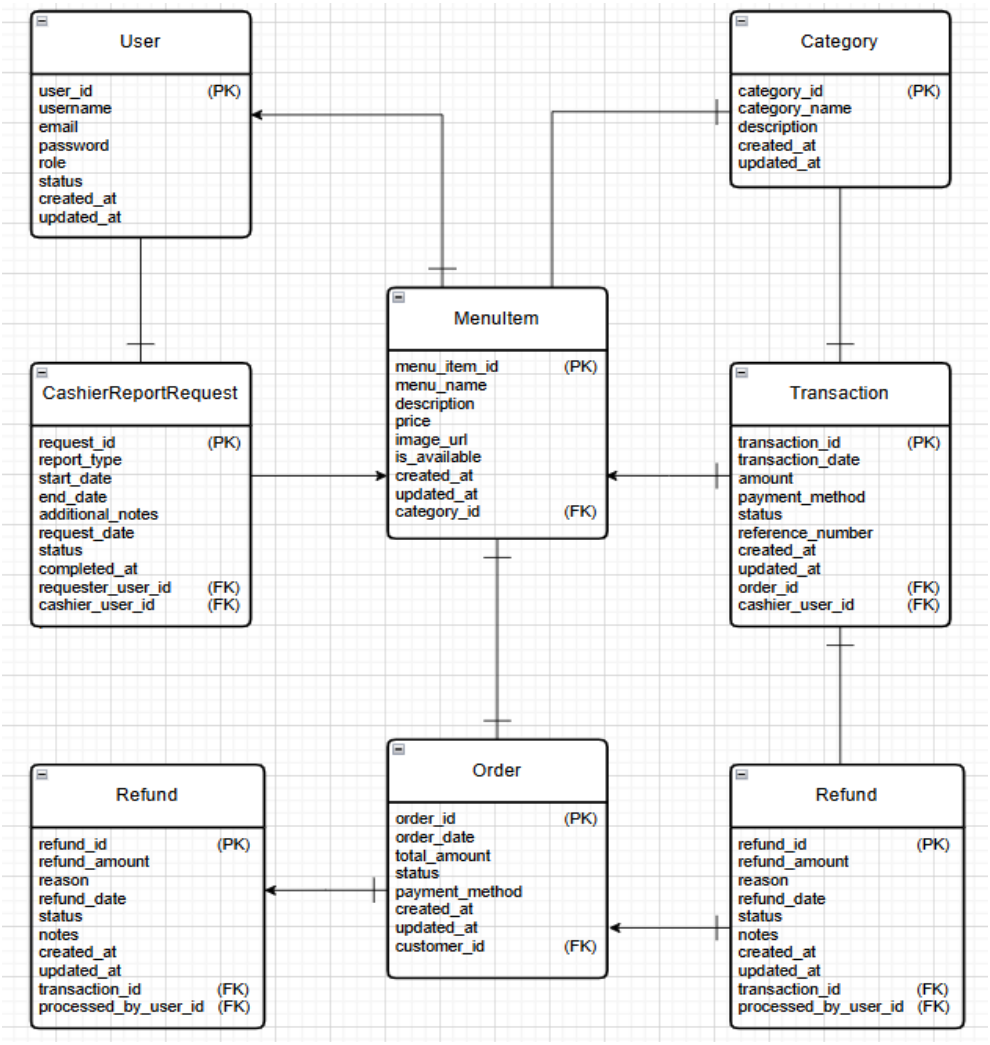
INPUT

SOURCES

- Cashier Transactions
- Database
- Admin Input

DATA FORMAT



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VALIDATION RULES

- Admin and Cashier's account are needed to be authenticated with their emails.
- Verify the username exists in the database.
- Password is required.
- Minimum length of password is 8.
- Consider password hashing

INPUT METHODS

- Login Credentials
- Request Reports from Cashiers
- A form for creating new cashier accounts or editing existing ones.
- Payment Amount

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PROCESS

ALGORITHMS

- **Login/Signup**

The users of the System are Admin and Cashiers, log-in their accounts and manage them.

- **Sales Reporting**

Only the Admin can see the sales inside the system and cashier can report sales in their account.

- **Transaction Processing**

Cashiers process transactions including add new orders, viewing active orders, and handle payments.

- **Admin User Management**

Admin can add, approve, update, and delete cashier accounts.

BUSINESS RULES

- Cashiers can only process transactions during their designated hours.
- Only the Admin can see the total sales.
- Admin can approve and declined refunds.
- Require the Cashiers to login credentials to access their account.
- Admin can track the Cashier's sales performance.
- Allow the Admin to manage and view sales reports.
- Cashiers can only accept cash payments.

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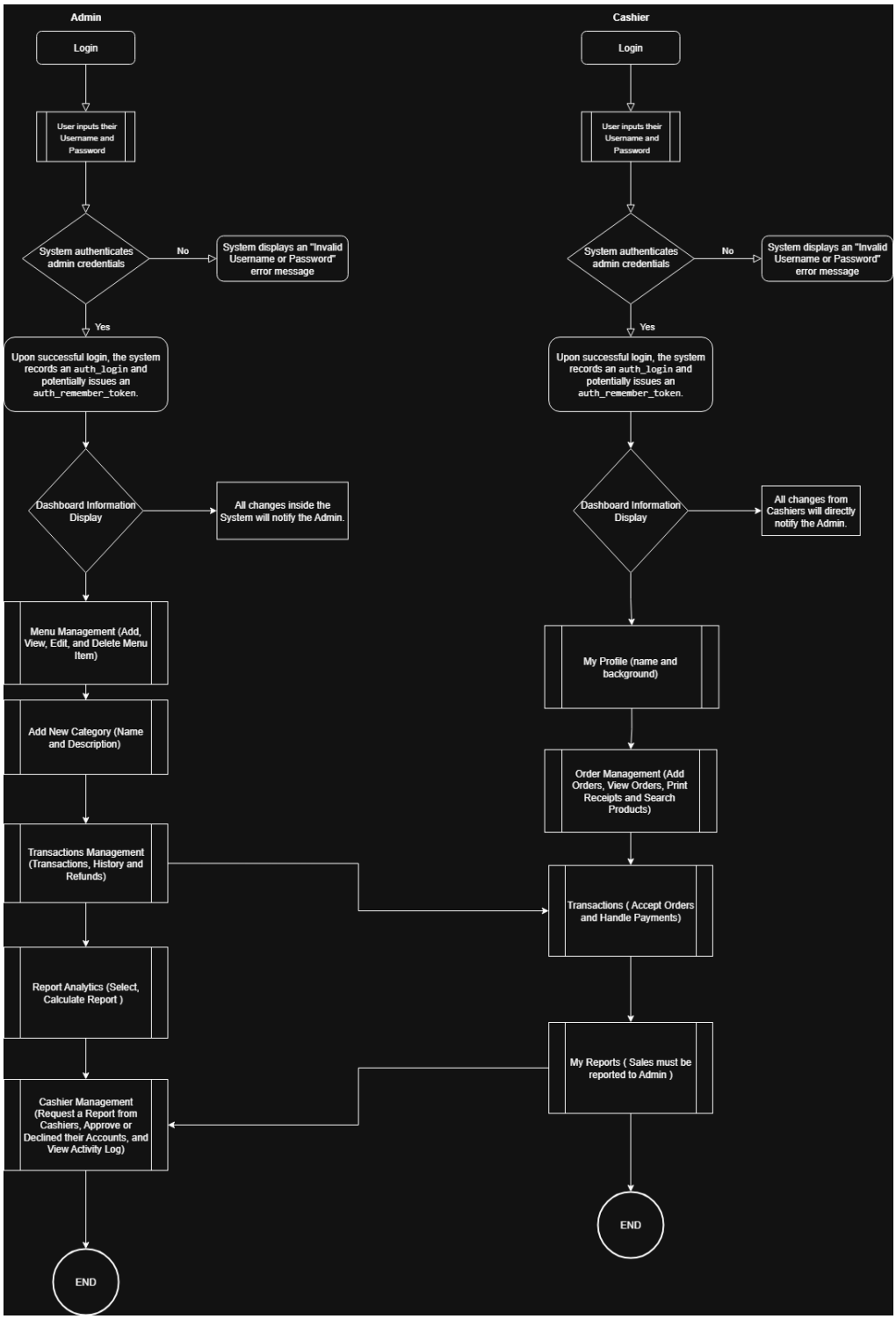
WORKFLOWS



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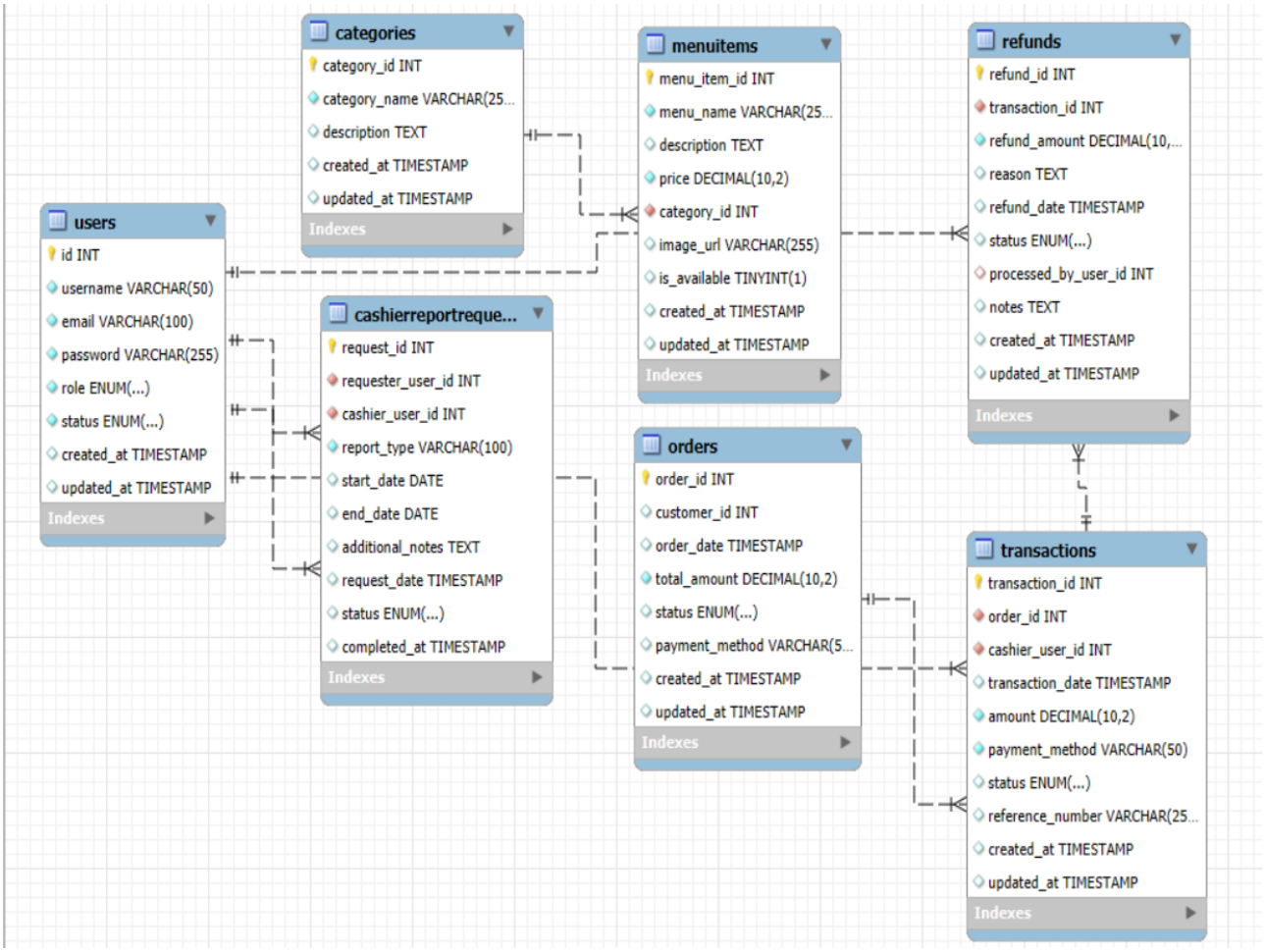
DATA STORED: PHYSICAL ER DIAGRAM



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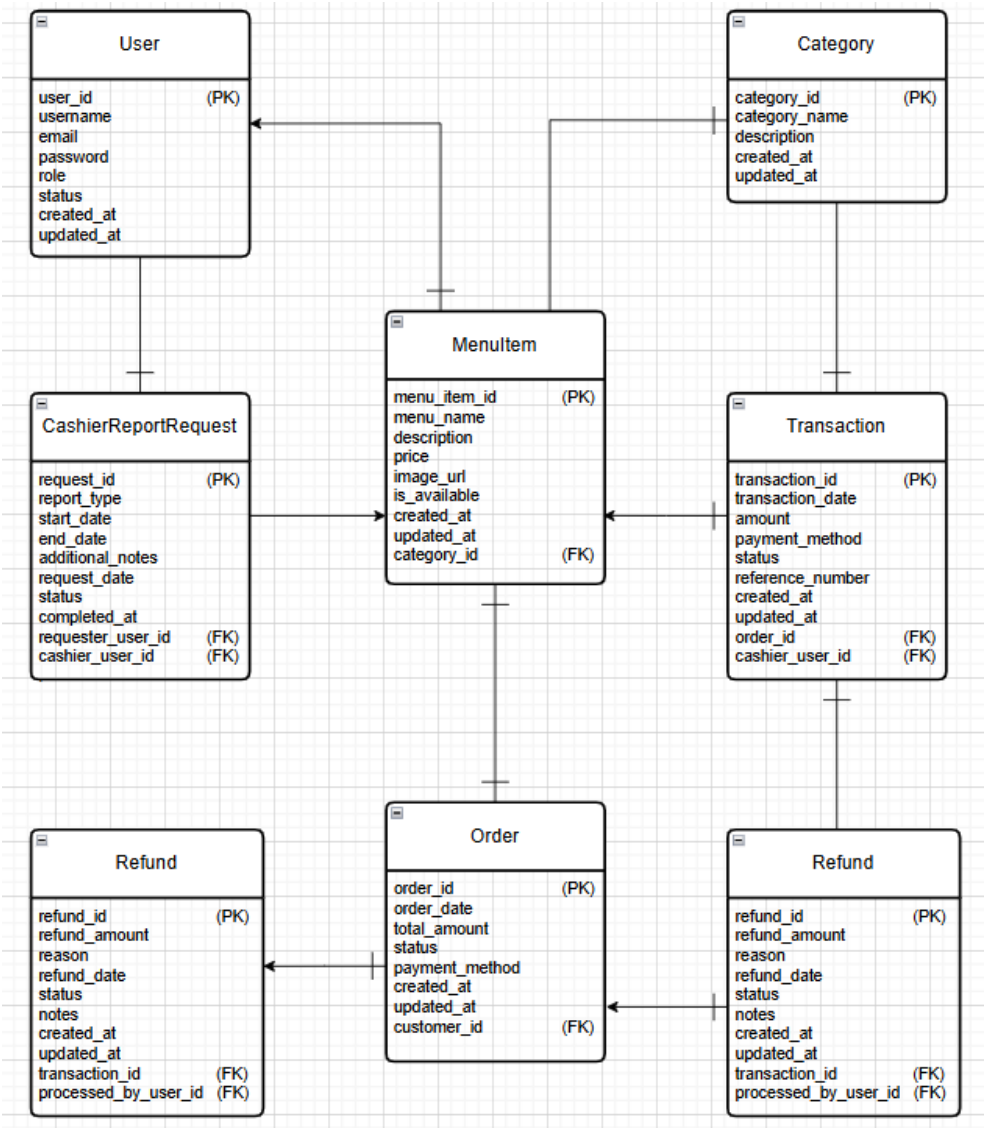
DATA STORED: LOGICAL ER DIAGRAM



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CONTENT

· **User** This table stores essential information about each user of the system. It includes unique identifiers, login credentials, role, current status, timestamps for creation and updates, and references to the users who performed these actions.

· **Category** This table defines classifications for organizing menu items. It includes a unique identifier, name, and description for each category.

· M**enu Item** This table holds detailed information for all items available for sale in the system. It includes a unique identifier, the item's name, description, price, an optional image URL, and a reference to its respective category.

· **Transaction** This table records every completed sales transaction. It includes a unique transaction identifier, the total amount paid, the payment method used, the transaction date, its current status, and a reference to the cashier who processed the transaction.

· **Cashier Request/Request** This table stores information about requests or incidents initiated by cashiers. It includes a unique request ID, the type of request, a detailed description, start and completion dates, additional notes, and its current status. It also includes references to the user who completed the request and the cashier who initiated it.

· **Order** This table represents a customer's order, which is linked to a specific transaction. It contains the order's unique ID, the total amount, payment method, its status, and timestamps for creation and updates, including references to the users who performed these actions.

· **Order item** This is a linking table that details the individual menu items included within a specific order. It connects an order with a menu item and records the quantity of the item and its price at the time of the order.

· **Refund** This table records all refund transactions. It includes a unique refund ID, the refunded amount, a link to the original transaction, the date of the refund, the payment method used for the refund, any notes, its status, and timestamps for creation and updates, along with a reference to the user who processed it.

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FREQUENCY

· **User** Access: Very frequent during system login for authentication and authorization checks. Moderately accessed for user profile viewing and administrative management. Updates: Infrequent. Updates occur when new users are onboarded, existing user details (e.g., email, role, status) are modified, or accounts are deactivated.

· **Category** Access: Accessed frequently when displaying menu items to cashiers or customers, and for generating sales reports that categorize data. Updates: Infrequent. Updates occur when new product categories are introduced or existing category names/descriptions require modification.

· **Menu Item** Access: Very frequent. Accessed for every item added to an order during a transaction, and for generating sales and product performance reports. Updates: Moderate to infrequent. Updates occur when new items are added, prices are changed, descriptions are updated, or items are made unavailable.

· **Transaction** Access: Extremely frequent for insertions (a new record for every sale). Accessed very frequently for real-time sales monitoring, end-of-day reconciliation, and all historical sales reporting. Updates: Primarily insertions. Updates are rare and might be for status changes in specific scenarios, though refunds are managed in a separate table.

· **Cashier Request/Request** Access: Moderate. Accessed by cashiers to submit new requests, and by managers/administrators to review, update the status, and resolve existing requests. Updates: Frequent. New records are added as requests are submitted, and existing records are updated as their status changes from pending to resolved.

· **Order** Access: Very frequent for insertions (a new record for every new order). Accessed frequently when viewing transaction details or for historical order analysis. Updates: Primarily insertions. Status updates might occur if the system supports an order fulfillment or processing workflow beyond the initial sale.

· **Order item** Access: Very frequent for insertions (multiple records per order). Accessed frequently in conjunction with Order and Menu Item to reconstruct the details of any given sale. Updates: Primarily insertions.

· **Refund** Access: Infrequent. Accessed specifically when a refund is processed and for financial reconciliation and auditing purposes. Updates: Primarily insertions (a new record for each refund). Status updates might occur if there's a multi-step approval process for refunds.

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CONTROL

ACCESS CONTROL

- **Admin Access Control**

possess comprehensive control over the POS system, enabling full management of user accounts, product catalog data, all transactions (sales and refunds), and system-wide configurations. They have the authority to manage user roles, oversee all data, and generate critical reports.

- **Cashier Access Control**

primarily authorized for operational tasks within the POS system. Their access allows them to process new sales transactions, read product information for sales, initiate personal requests, and manage basic transaction views, with limited capabilities to initiate refunds.

AUDIT TRAILS

- **User Login/Logout Activity**

  Tracks each login and logout attempt by users (Admin and Cashiers). Ensures proper authentication, monitoring login times, IP addresses, and failed login attempts.

- **Sales Transactions (Orders and Payments)**

  Tracks all completed sales transactions, including order creation and payment processing. Monitors all order inputs, payment methods used, transaction amounts, and the cashiers who process them.

- **Menu Item and Category Updates**

  Records any changes to the product catalog, including adding new items, updating prices, or modifying descriptions. Provides an audit trail for changes to menu items and categories, ensuring product consistency.

- **Inventory Changes (Stock Adjustments, Deletions)**

  Captures updates to inventory levels, including additions and deletions of stock. Provides traceability for stock adjustments made by cashiers or Admins to maintain proper inventory control.

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ERROR HANDLING

- **Invalid Login Credentials**

  When a user attempts to log in with incorrect username or password, the system denies access and prompts the user to try again. Action: Notify user of incorrect credentials and provide an option to reset the password if necessary.

- **Expired Session/Timeout**

  When a user session is inactive for an extended period, the system automatically logs out to prevent unauthorized access. Display a session timeout message and prompt the user to log in again.

- Insufficient **Permissions**

  When a user (Cashier) attempts to access functionalities (like viewing reports or processing refunds) they are not authorized to use. Display a permission error message and restrict access to the requested feature.

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BACKUP

- **Full System Backup**

  Perform a full backup of the entire POS system (including configurations, logs, and settings) on a weekly basis. Store full system backups in both on-site and cloud storage to ensure redundancy in case of system failure.

- **Regular Database Backups**

  Schedule automated backups of the entire database (User, Transaction, Menu Items, etc.) at regular intervals (e.g., daily, weekly). Ensure database backups are stored in a secure offsite location or cloud storage for disaster

- **Transaction Log Backup**

  Back up all transaction logs in real time or at specified intervals to maintain transaction integrity and history. Ensure transaction logs are backed up securely and accessible for auditing purposes in case of any discrepancies.

- **Sales Report Backup**

  Create backups of all generated sales reports, both real-time and historical, to ensure accurate reporting over time. Store sales reports in an easily accessible format, and ensure backups are encrypted for data protection.