SECD2613

SYSTEM ANALYSIS AND DESIGN

SECTION 03

SEMESTER II 2024/2025

TITLE:

PROJECT P3

(ANALYSIS AND DESIGN)

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PHASE 3: (ANALYSIS AND DESIGN)

1.0 OVERVIEW OF THE PROJECT

In today's fast-paced retail environment, effective inventory and sales management is crucial for small shops. Many stores still use manual methods such as writing on paper or using basic spreadsheets. This often leads to problems such as wrong stock counts, forgotten expiry dates, missed deliveries, and poor tracking of supplier items. These inefficiencies can result in financial loss, product wastage, and frustrated staff or customers.

Mrs. Salmi, a small business owner who runs a mini mart at KTDI, UTM (University Technology Malaysia) is facing several challenges with her manual-based business. We visited the mart and noticed the difficulties the staff faced in keeping track of stock and sales. They still use manual data entry, which causes mistakes between actual stock and what is recorded. Sometimes, expired items are not removed in time, and sales reports are not accurate. These problems showed us the need for a better system. Therefore, this project aims to design a suitable inventory and sales management system for Mrs. Salmi’s mini mart. The system will include stock-in/stock-out tracking, expiry alerts, barcode scanning, integrated payment tracking, receipt printing and sales performance reporting.

This report includes 3 main phases. The first phase is regarding the project proposal, which we identify the problem faced by the owner and propose suitable solutions. We also defined the objectives to be achieved and the scope of this project. The planning for the project is done by using Work Breakdown Structure (WBS) and charts to ensure consistent project progress.

The second phase is about information system gathering and requirement. In order to design a suitable inventory and sales management system for the mini mart business, we conducted interviews to gather information regarding the current system and the business workflow. We also identify the functional and non-functional requirements and develop the current logical DFD to ease the analysis of the business current system later.

The third phase which is also the last phase of the project is related to the analysis of the current system and design of the new system. In this phase, we develop both logical and physical DFD for the new system and also included a system prototype based on the designed system by using Figma to perform demonstration.

2.0 PROBLEM STATEMENT

Since Mrs. Salmi's mini mart operates using a manual system, inventory tracking as well as sales recording only relies on notebooks, spreadsheets and calculators. Due to the lack of integrated inventory and sales management approach, Mrs. Salmi faces several issues in the daily operation of her mini mart. The issues are outlined below:

- **Lack of real time inventory tracking:** The activity of recording inventory updates (stock in/out) is done manually, which causes time delays in stock control and difficult to monitor stock availability.
- **Unmonitored expiry dates:** Expired products are not tracked systematically, leading to the possibility of selling expired goods to customers.
- **Inaccurate total calculations during checkout:** Manual calculations using calculator increase the risk of human error, which results in incorrect billing that affect business revenue and customer satisfaction.
- **Inaccurate sales recording:** Manual transaction recording from various sources increases the risk of missing entries and duplication resulting in inaccurate sales report.
- **No real-time visibility in sales trends:** The business is unable to determine the best-selling products and take informed actions to boost the business sales.
- **No automated receipt generation:** The business is unable to generate instantaneous digital receipts for customers and business record purpose.
- **Reduced sales during semester break:** Number of customers are reduced during semester break as students are away from campus and negatively affect business sales.

3.0 PROPOSED SOLUTIONS

To solve the current problems faced by Mrs. Salmi's business, we propose the development of a mobile application that integrates with inventory and sales management system. This mobile application will help Mrs. Salmi's business to efficiently manage the inventory and sales digitally and minimize physical workload.

The mobile application will have two main features which are the Inventory Management System and Sales Management System. For the Inventory Management System, owner and staff will be able to register the products into the system by entering the product details including name, selling price, expiry date and available quantity. The system will also include an automatic alert feature which user will be informed when restocking is needed or when the product is near the expiry date. The Inventory Management System should be able to update automatically from time to time especially after the products are scanned for checkout.

For the Sales Management System, owner and staff will be able to perform barcode scanning via the mobile application to checkout customers items. The system will automatically calculate the total amount to be paid and generate a digital receipt for customers after payment. Each transaction will be recorded in the system for sales reporting. Lastly, owner will be able to view real time sales performance for the business, identify the best-selling products and make decisions to boost the business revenue.

Technical Feasibility:

The proposed solution involves the development of a mobile application integrated with inventory and sales management system. From a technical perspective, the project is technically feasible and can be developed using available common tools and current technologies.

In terms of hardware, the system can be operated using existing smartphones that have a clear camera that support barcode scanning. For software development, the application framework can be built using React Native. This framework allows cross-platform deployment in both iOS and Android devices. Meanwhile for the data storage, there are several real-time cloud databases such as Firebase that can be used to store inventory and sales data securely. The integration of external APIs such as Touch 'n Go e-wallet API also allows digital payment within the sales management system.

With skilled developers and accessible frameworks, the proposed system is technically well-supported.

Operational Feasibility:

The proposed system is designed as a smartphone-based mobile application. From an operational perspective, the project is operationally feasible as both owner and staff can operate the system easily with guided steps.

Nowadays, public are expose and familiar with the use of smartphone and mobile applications, making our proposed system accessible and convenient for the business daily operation. The system interface will be user-friendly to ensure the ease of use. As the business only involves small number of staff, training can be conducted easily to ensure owner and staff are familiar with the use and features of the system.

With sufficient training and support, the proposed system can be implemented smoothly into the business operation. Therefore, the proposed system is said to be operationally feasible.

Economic Feasibility:

Since the proposed system can be operated using existing smartphones, no additional hardware costs are required. The development of the mobile application also can be achieved using low-cost development tools such as React Native and Firebase for data storage. Therefore, the proposed system is said to be economically feasible as the system requires only minimal development and maintenance expenses and it helps to reduce losses cause by human errors and provide insights to boost sales performance.

Overall, the inventory and sales management system for Mrs. Salmi mini mart is feasible in terms of technical, operational and economic.

4.0 CURRENT BUSINESS PROCESS AND WORKFLOW

4.1 Current Business Process:

1) Scenario 1: Inventory Management

New products and restocked products are manually recorded in a book, including product name, price and quantity. After that, restocking will be done after manually checking the shelves. If the product is on low stock, owner will refer to the supplier contact book and contact the supplier to order more stocks. If the product is expired, the staff will remove the product from the shelves and replace it with other unexpired product.

2) Scenario 2: Sales Management

During customer checkout, owner or staff have to remember all the items price and calculates the total prices for customer chosen items using a calculator. Then, customer can pay for their items using cash or transfer it into the mini mart's e-wallet or bank account. After payment, customers do not receipt receipts and can exit the mart with their b.0 ought items.

3) Scenario 3: Sales Reporting

After the closing of the mini mart for each day, owner will have to sum up all the received money by referring to various sources such as the mini mart's Touch n' Go account, bank account and cash to obtain the total sales for each day. The total sales for each day is not enough and accurate to show the business performance as the total sales is only the total money receive for the day, and not the gross revenue for the sales.

4.2 Functional Requirement:

Function	Input	Process	Output
Product Registration	Product details such as name, price, quantity, expiry date and supplier information	Store product data into the system	Product is added into the system and can be referred to
Real-Time Stock Updating	Quantity sold or restocked	Automatically increase or reduce product quantity	Updated stock level
Expiry Alert	Expiry date of the products	Always monitor the expiry date from the current time	Alert notifications for items that is near the expiry date
Sales Checkout	Product barcode	Scan barcode, add items into transaction details and calculate the total	Display total amount and quantity of items scanned
Receipt Generation	Completed transaction	Format the transaction data into receipt	Generate digital receipt
Transaction Recording	Completed transaction	Store transaction with its details into the system	Customer transaction details are recorded into the transaction history and can be referred to
Sales Report Generation	Transaction records	Analyse sales from time to time	Generate sales report and show best-selling items

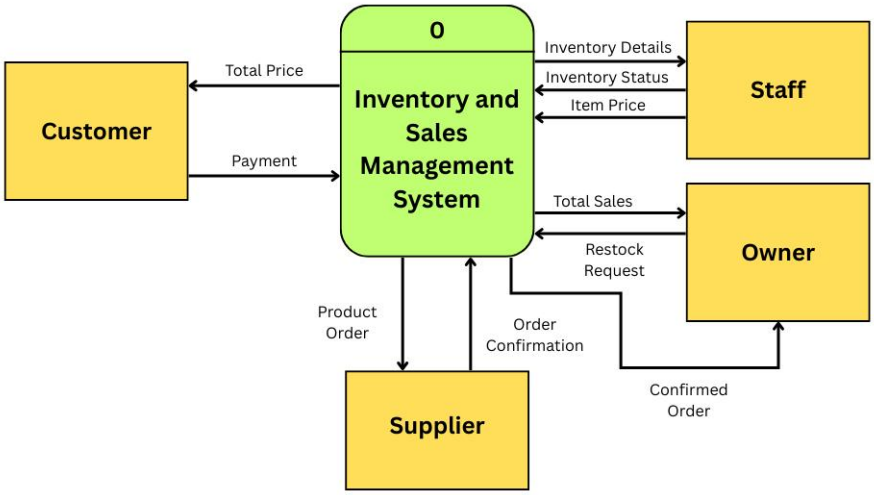
4.3 Non-Functional Requirement:

Performance Requirements	- The system must respond within 3 seconds after barcode scans - Inventory and sales data are updated within 5 minutes after transaction - System are able to handle more than 100 transactions per day smoothly
Control Requirements	**-** Only authorized owner and staff can access to the system - All data should be stored securely in the cloud - System should be available during the operational hours

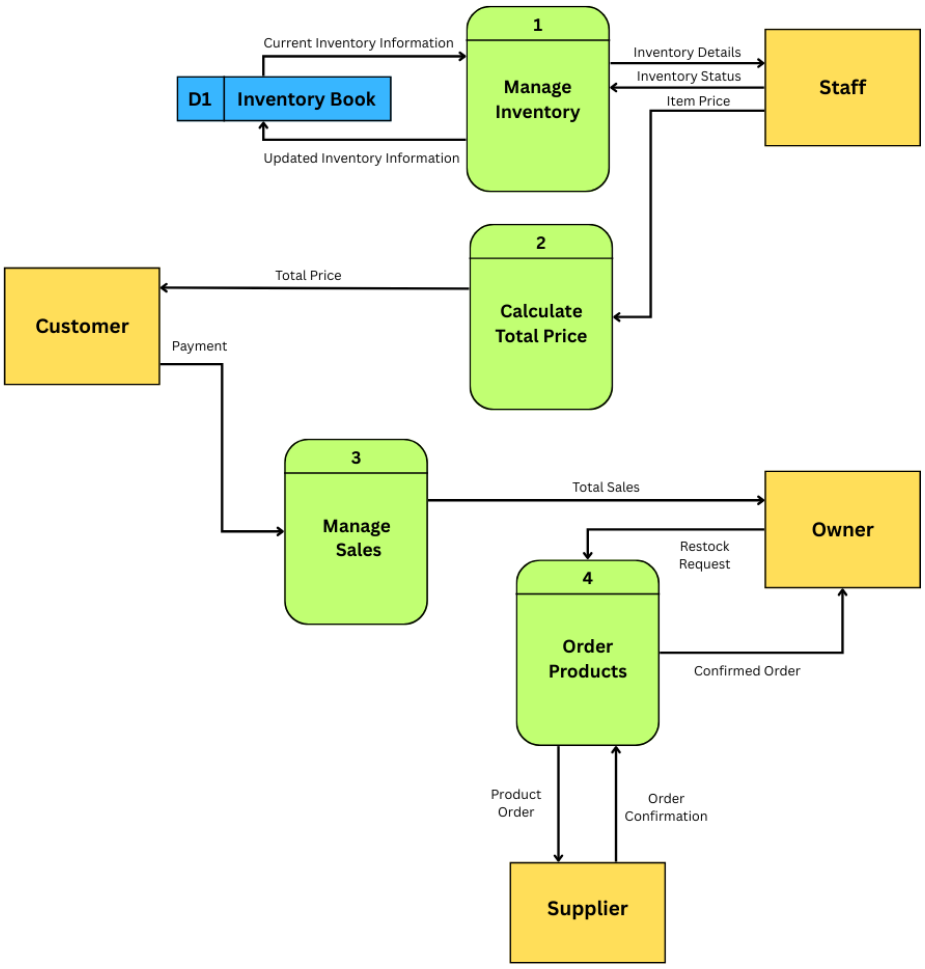
5.0 LOGICAL DFD (AS-IS)

Since Mrs. Salmi's current business process does not involves digital system, therefore, the DFD diagrams will be based on manual workflow only.

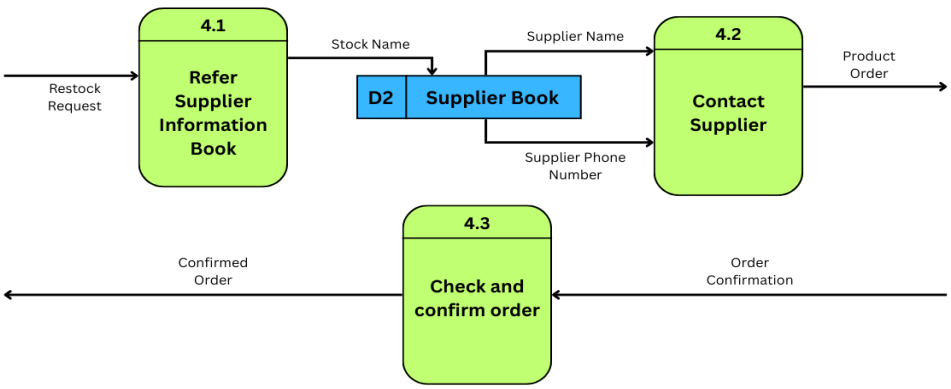
1) Context Diagram



2) Diagram 0



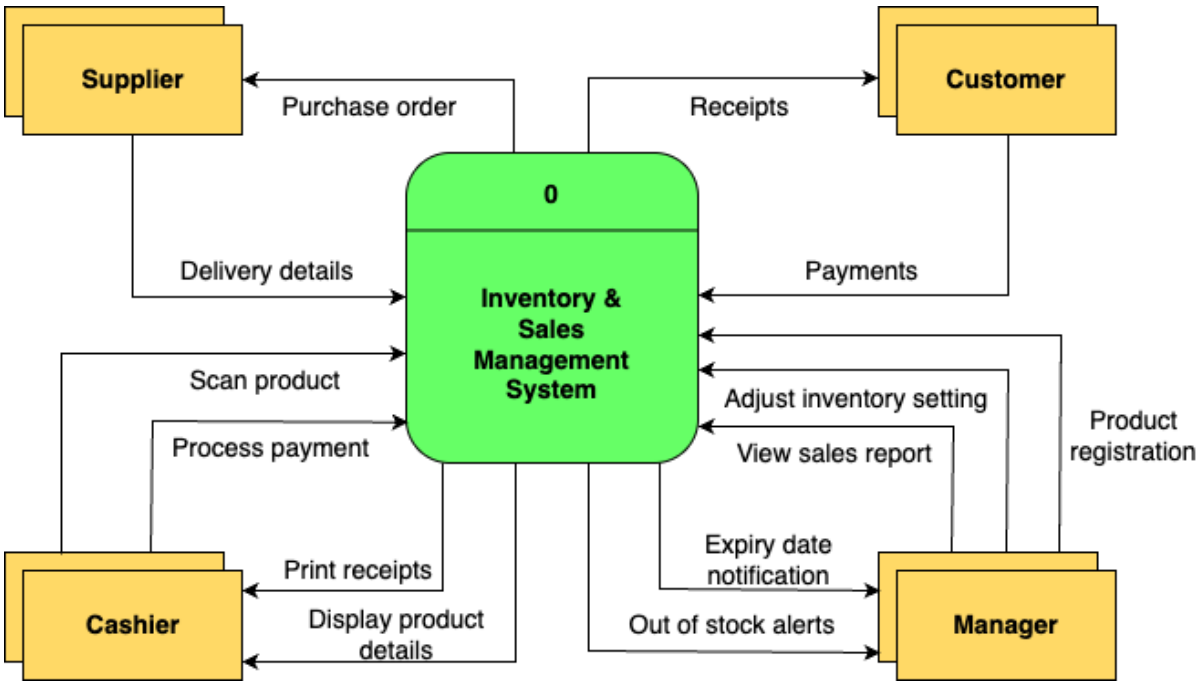
3) Child Diagram: Order Products



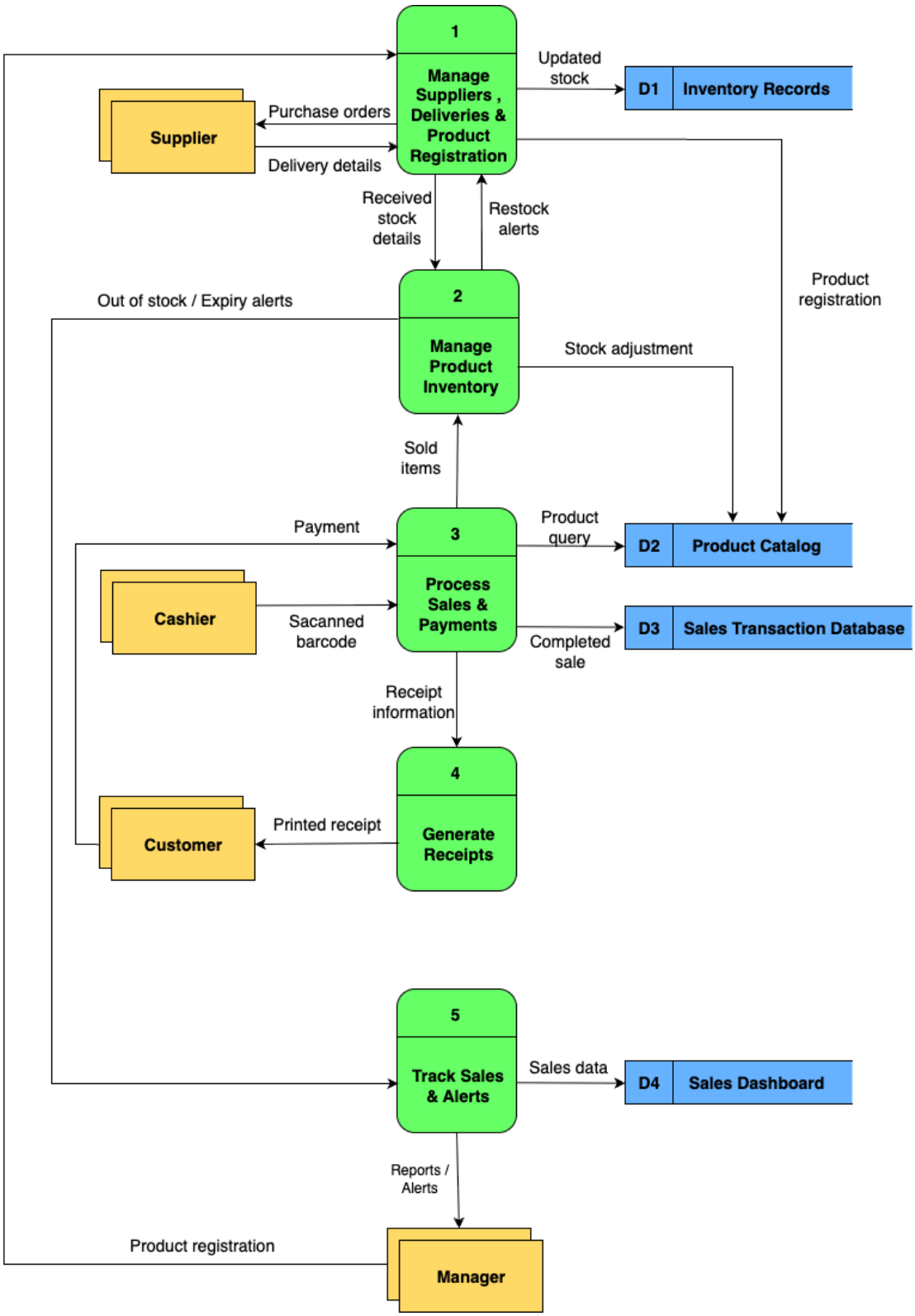
6.0 SYSTEM ANALYSIS AND SPECIFICATION

6.1 Logical DFD TO-BE System:

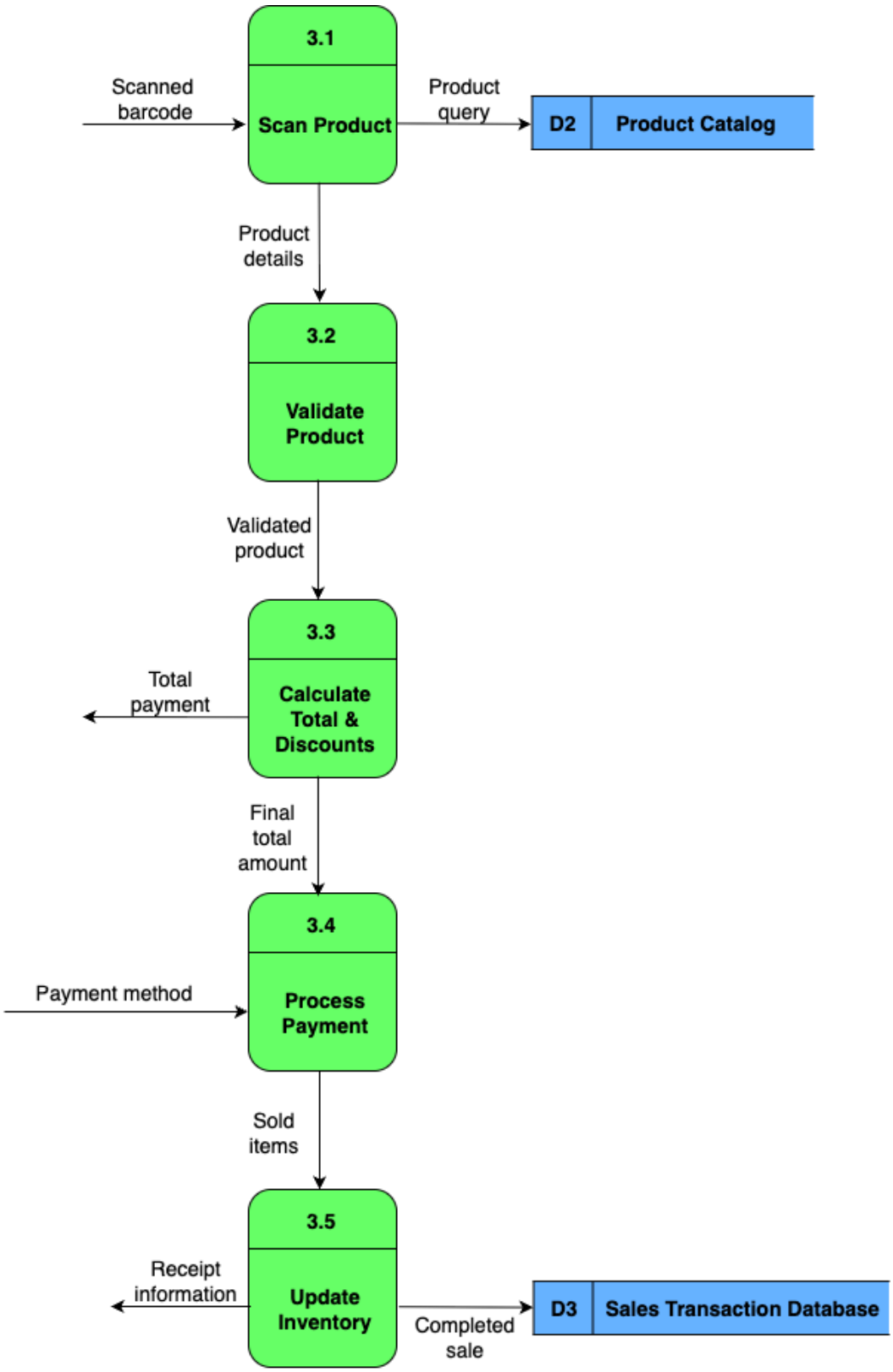
1) Context Diagram



2) Diagram 0


1
Manage Suppliers , Deliveries & Product Registration
Updated stock
D1
Inventory Records
Supplier
Purchase orders
Delivery details
Received stock details
Restock alerts
Product registration
2
Manage Product Inventory
Out of stock / Expiry alerts
Stock adjustment
Sold items
3
Process Sales & Payments
Payment
Product query
D2
Product Catalog
Cashier
Sacanned barcode
D3
Sales Transaction Database
Completed sale
Receipt information
4
Generate Receipts
Customer
Printed receipt
5
Track Sales & Alerts
Sales data
D4
Sales Dashboard
Reports / Alerts
Product registration
Manager

3) Child Diagram: Process Sales and Payment



6.2 Process Specification

1. Context Diagram

The Inventory & Sales Management System will simplify stock management, sales processing and tracing suppliers for retail shops. It will soon replace manual use of stock notes through a digital system like:

- Allow barcodes scanning for every product to look at their information
- Automatically updates stock levels during deliveries and sales
- Tracks product expiry dates and alerts staff when stock is running low
- Stores supplier and delivery details for easier stock management
- Generates customer receipts in printable or digital form
- Provides dashboards showing sales performance and trends
- Minimizes human mistake, enhance service speed and improve decision making

External entities such as *Cashier*, *Customer*, *Supplier* and *Manager* interact with the system by using various modules.

2. Diagram 0

- **Process 1: Manage Suppliers & Deliveries**
  - Description: This process handles supplier interactions, stock deliveries, and new product registration
  - Inputs:
    - ➢ "Delivery details" (from *Supplier*)
    - ➢ "Product registration" (from *Manager*)
    - ➢ "Restock alerts" (from *Process 2*)
  - Outputs:
    - ➢ "Update stock" (to *D1 Inventory Records*)
    - ➢ "Received stock details" (to *Process 2*)
    - ➢ "Purchase orders" (to *Supplier*)
    - ➢ "Product registration" (to *D2 Product Catalog*)
  - Data Stores:
    - ➢ *D1 Inventory Records*

    - ➢ *D2 Product Catalog*
- Explanation:
    1) Receive delivery details from *Supplier*.
    2) Update the stock in *D1 Inventory Records.*
    3) Sent product registration from *Manager*.
    4) Verify delivered items against purchase orders.
    5) Store the product registration data into *D2 Product Catalog*.
    6) Update *D1 Inventory Records* with the updated stock quantities.
    7) Generate restock alerts to the *Manager* when stock levels are low.

- **Process 2: Manage Product Inventory**
    - Description: This process is responsible for tracking stock levels, expiry dates and generating alerts
    - Inputs:
        - ➢ "Received stock details" (from *Process 1*)
        - ➢ "Sold items" (from *Process 3*)
    - Outputs:
        - ➢ "Out of stock / Expiry alerts" (to *Manager*)
        - ➢ "Stock adjustment" (to *D2 Product Catalog*)
        - ➢ "Restock alerts" (to *Process 1*)
    - Data Stores:
        - ➢ *D2 Product Catalog*
    - Explanation:
        1) Received stock details from *Process 1*.
        2) Deduct sold items from *Process 3*.
        3) Updates stock quantities after sales/deliveries.
        4) Generate out of stock/expiry alerts to the *Manager*.

- **Process 3: Process Sales & Payments**
    - Description: This process manages barcode scanning, payment processing, and receipt generation
    - Inputs:
        - ➢ "Scanned barcode" (from *Cashier*)
        - ➢ "Payment" (from *Customer*)
    - Outputs:
        - ➢ "Product query" (to *D2 Product Catalog*)
        - ➢ "Completed sale" (to *D3 Sales Transaction Database*)
        - ➢ "Sold items" (to *Process 2*)
        - ➢ "Receipt information" (to *Process 4*)
    - Data stores:
        - ➢ *D2 Product Catalog*
        - ➢ *D3 Sales Transaction Database*
    - Explanation: This process has broken down into sub-processes (3.1 to 3.5) as detailed below.

- **Process 4: Generate Receipts**
    - Description: Creates and prints receipt for the customers
    - Inputs:
        - ➢ "Receipt information" (from *Process 3*)
    - Outputs:
        - ➢ "Printed receipt" (to *Customer*)
    - Explanation:
        1) Receive receipt information from *Process 3*.
        2) Format the receipt information with shop name, items, total and payment method.
        3) Print the printed receipt to the *Customer*.

- **Process 5: Track Sales & Alerts**
    - Description: This process generate reports and alerts for the management
    - Inputs:
        - ➢ “Out of stock / Expiry alerts” (from *Process 2*)
    - Outputs:
        - ➢ “Reports/Alerts” (to *Manager*)
        - ➢ “Sales data” (from *D4 Sales Dashboard*)
    - Data stores:
        - ➢ *D4 Sales Dashboard*
    - Explanation:
        1) Aggregate sales data.
        2) Identify popular products and sales performance.
        3) Generate reports / alerts like daily sales summary, low stock reports and expiry warnings.
        4) Display reports / alerts to *D4 Sales Dashboard* for the *Manager*.

3. **Child Diagram**

- **Process 3.1: Scan Product**
  - Input: “Scanned Barcode” (from *Cashier*)
  - Outputs:
    - ➢ “Product query” (to *D2: Product Catalog*)
    - ➢ “Product details” (to *Process 3.2*)

- **Process 3.2: Validate Product**
  - Input: “Product details” (from *Process 3.1*)
  - Output: “Validated product” (to *Process 3.3*)

- **Process 3.3: Calculate Total & Discounts**
  - Input: : “Validated product” (from *Process 3.2*)
  - Output:
    - ➢ “Total payment” (to Customer for a review)
    - ➢ “Final total amount” (to *Process 3.4*)

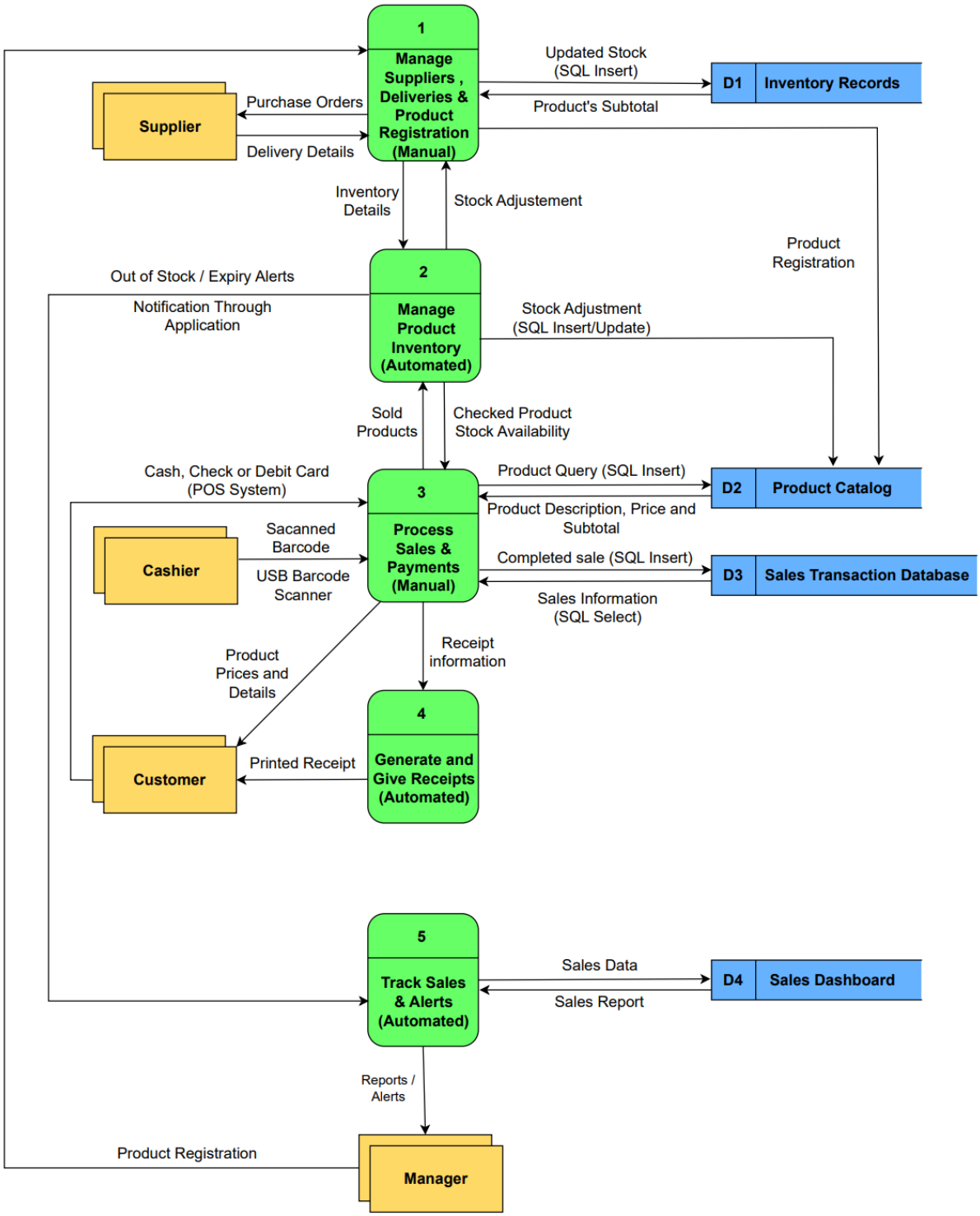
- **Process 3.4: Process Payment**
  - Input:
    - ➢ “Payment method” (cash/card/tng from *Customer*)
    - ➢ “Final total amount” (from *Process 3.3*)
  - Output: “Sold items” (to *Process 3.5*)

- **Process 3.5: Update Inventory**
  - Input: “Sold items” (from *Process 3.4*)
  - Outputs:
    - ➢ “Completed sale” (logs transaction in *D3 Sales Transaction Database*)
    - ➢ “Receipt information” (sent to *Process 4.0* in parent DFD)

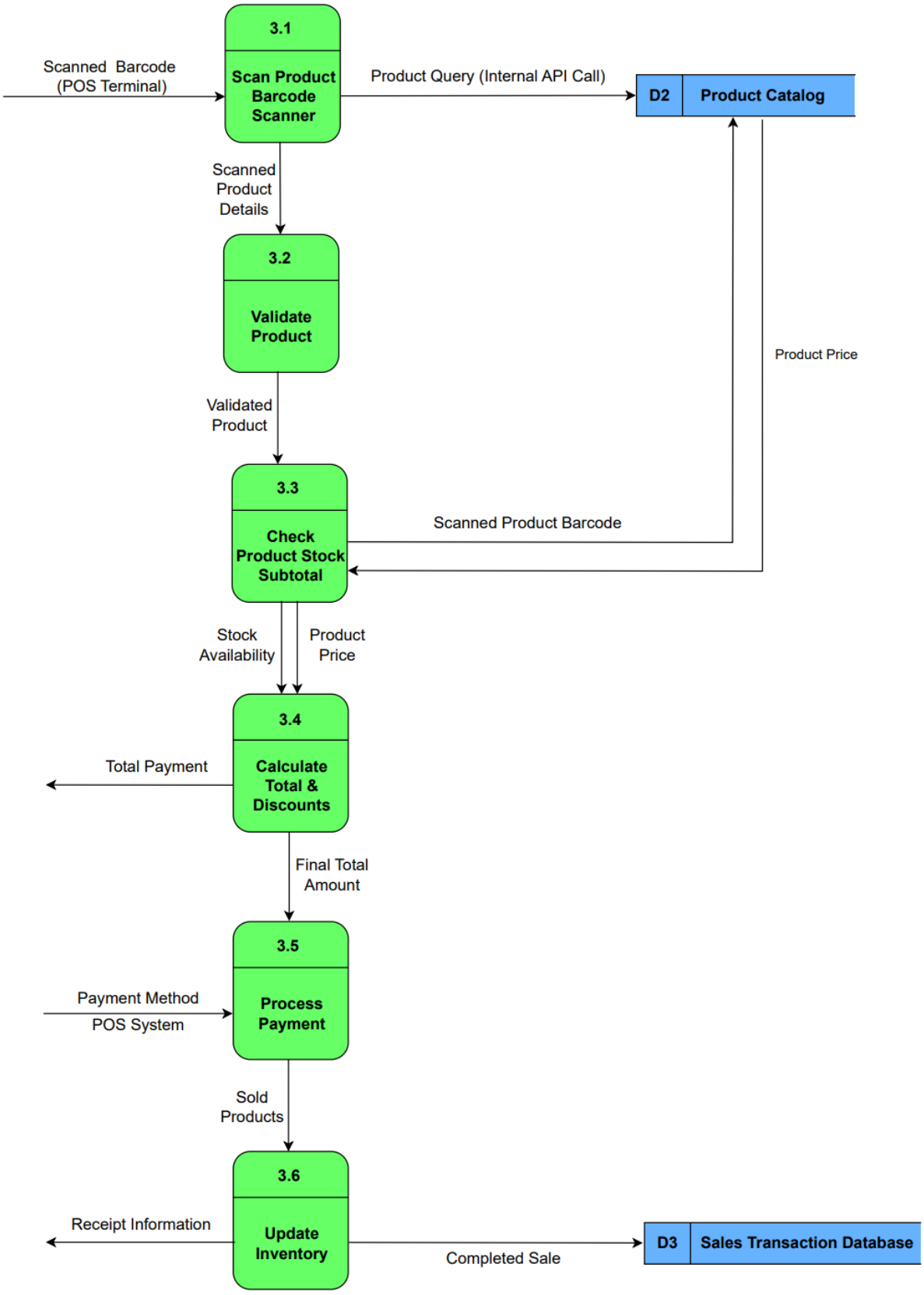
7.0 PHYSICAL SYSTEM DESIGN

7.1 Physical DFD TO-BE System:

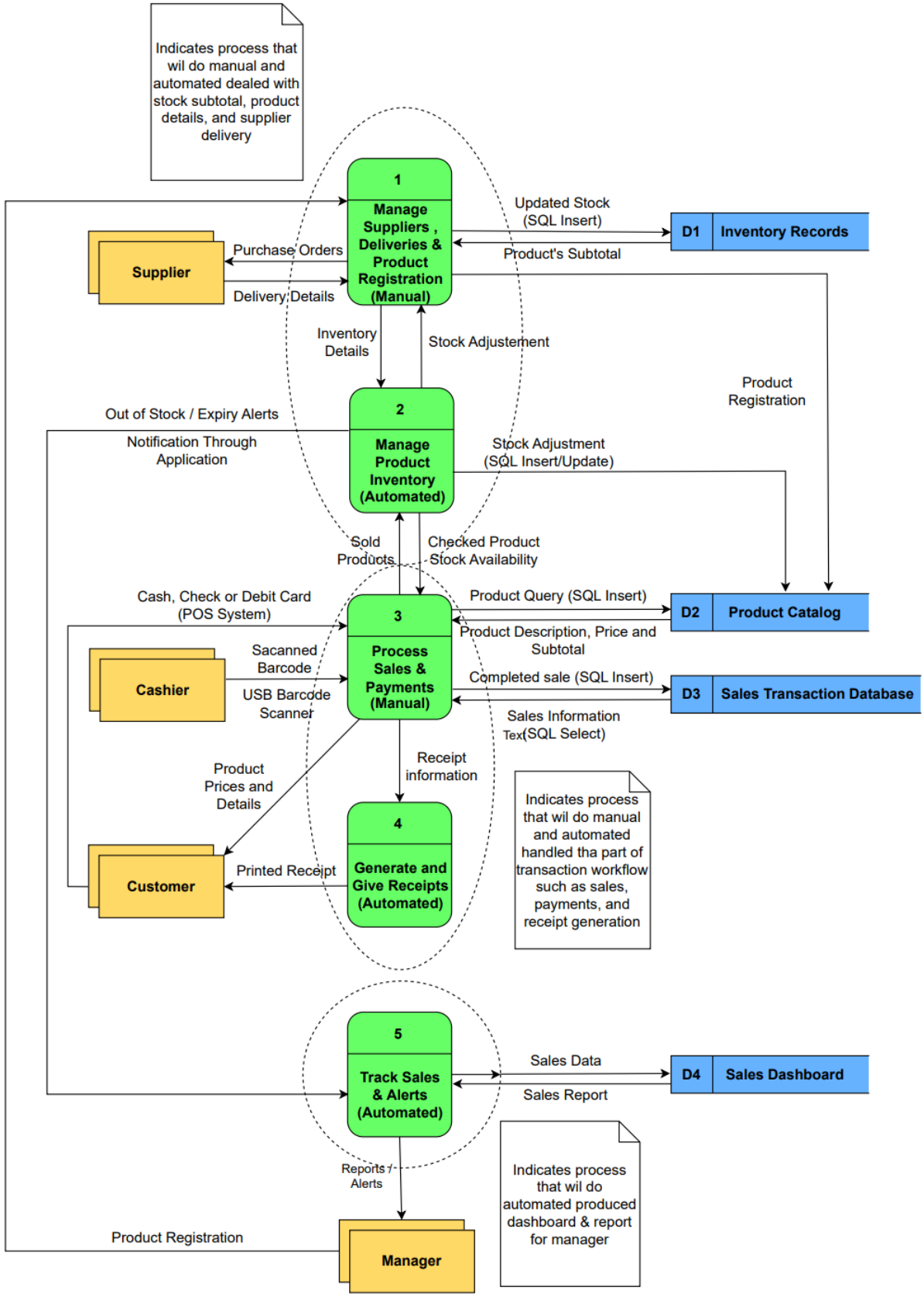
1. **Diagram 0**



2. Child Diagram



3. Partitioning



4. CRUD Matrix

This CRUD Matrix shows the detailed Create, Read, Update, Delete actions for each process.

Process / Data Store	**D1 Inventory Records**	**D2 Product Catalog**	**D3 Sales Transaction DB**	**D4 Sales Dashboard**
1. Manage Suppliers, Deliveries & Product Registration	CRU	CRU	-	-
2. Manage Product Inventory	RU	R	-	R
3.1 Scan Product	R	R	-	-
3.2 Validate Product	R	R	-	-
3.3 Check Product Stock Subtotal	R	R	-	-
3.4 Calculate Total & Discounts	R	R	-	-
3.5 Process Payment	-	-	C	-
3.6 Update Inventory	U	-	U	-
4. Generate Receipts	-	-	R	-
5. Track Sales & Alerts	R	R	R	CU

8.0 SYSTEM WIREFRAME

We have designed a system wireframe for an Inventory and Sales Management System for retail shops. The system is designed to helps store owners or cashiers can manage store inventory, process sales, track product expiry date and available stock, and they can view the overall sales reports through a mobile app. It also provides barcode scanning for faster operations. There are several functions in our system that had listed below.

8.1 Tools Bar (Navigation Bar):

The system is designed with a tools bar which is available on every page to allow quick navigation.

Tools bar includes:

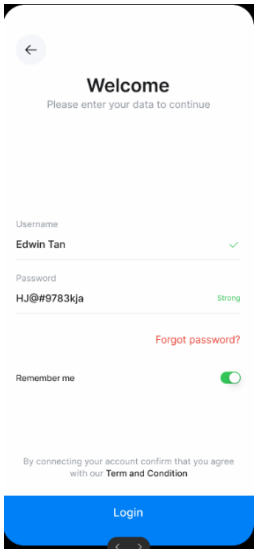
- Dashboard
- Inventory
- Scan (for payment & checkout)
- Report
- Setting

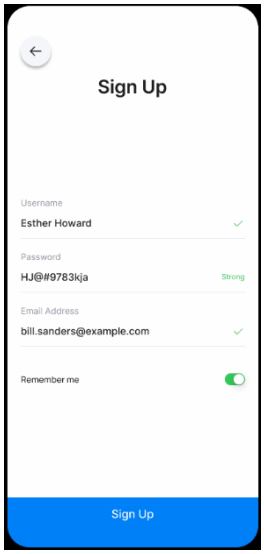
8.2 Login & Sign Up:

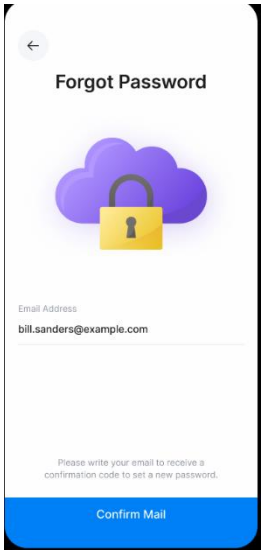
For the authentication interface, the system is designed with log in and sign up for new user. Additionally, we also provide the ‘Forgot Password’ function to help user who can’t remember/ forget their password to recover it

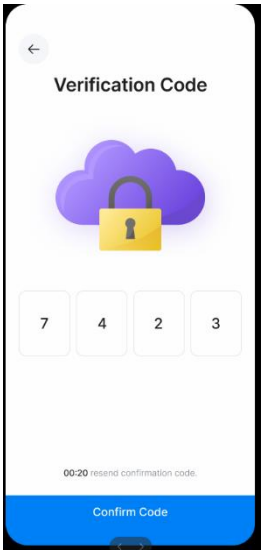
Functions:

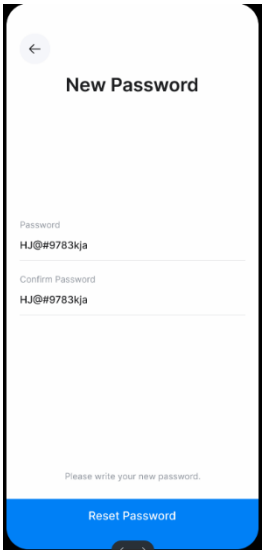
- User Login with email and password.
- New user registration (Sign Up).
- Password recovery (Forgot Password).









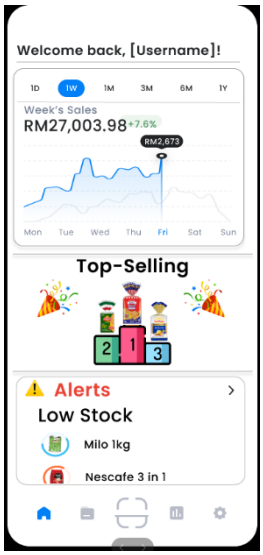


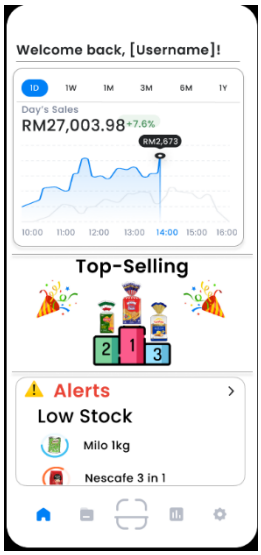
8.3 Dashboard:

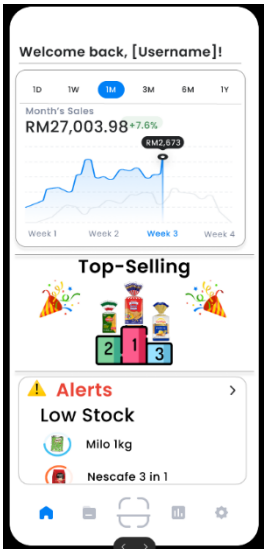
In Dashboard page, at the top of the page have a sales report that represents in graph which can filter with 1 day, 1 week, 1 month, 3mmonth and 1 year. After the graph there is a small podium to show the top 3 selling products. Next, we have low stock alert at the bottom to notice user which product are low stock and going to expired.

Functions:

- Sales Graph (1 Day, 1 Week, 1 Month, 3 Months, 1 Year).
- Top-Selling Products list.
- Alerts for item near to expire and low stock items.
- All sections are clickable:
    - Clicking "Sales Graph" and "Top-Selling" will direct to report page.
    - Clicking "Alert" opens inventory page with highlighted items.





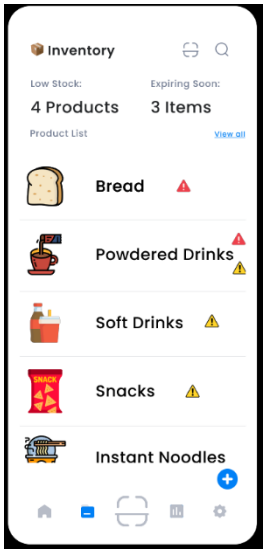


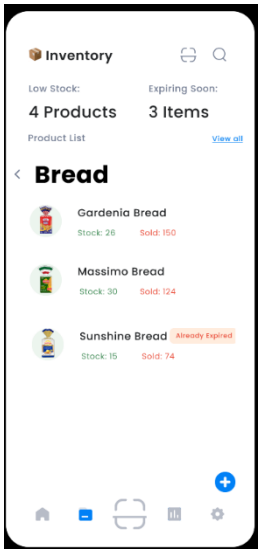
8.4 Inventory:

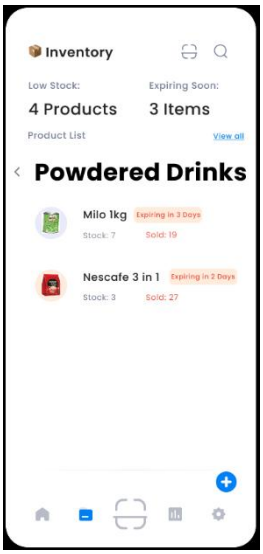
Inventory page has been categorized to bread, powdered drink, soft drinks, snacks and instant noodle. They will be showing 2 kinds of warning sign at the right of the category box to inform user that which category is expired (red sign) and low stock (Yellow sign).

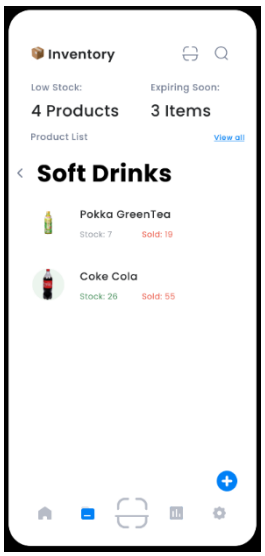
Functions:

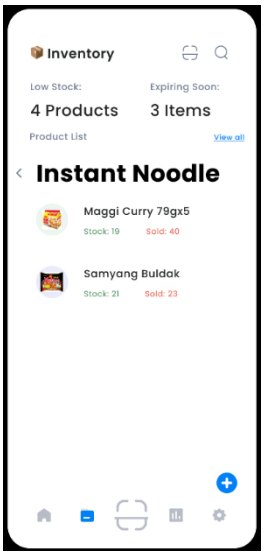
- Quick View: See how many items are low stock and expired soon.
- "View All" button: Displays full product list
- Clicking on any item:
    - Product Name, Selling Price, Supplier Cost Price, Supplier Name & Phone.
    - "Order More" button to reorder items.
- Scan icon (top-left) for barcode scanning to add items.
- "Add" button for adding or editing product details manually:
    - SKU/Product Code, Product Name, Quantity, Selling Price, Supplier Cost, Expiry Date, Supplier Name, Supplier Phone.

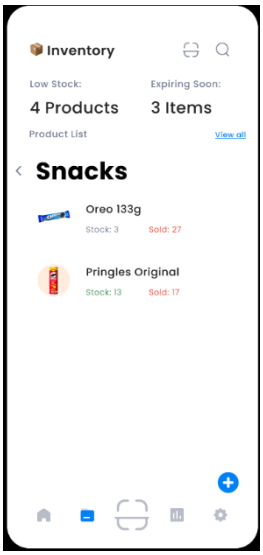

Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Bread
Powdered Drinks
Soft Drinks
Snacks
Instant Noodles

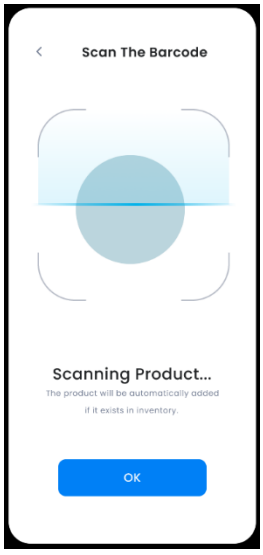

Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Bread
Gardenia Bread
Stock: 26
Sold: 150
Massimo Bread
Stock: 30
Sold: 124
Sunshine Bread
Already Expired
Stock: 15
Sold: 74

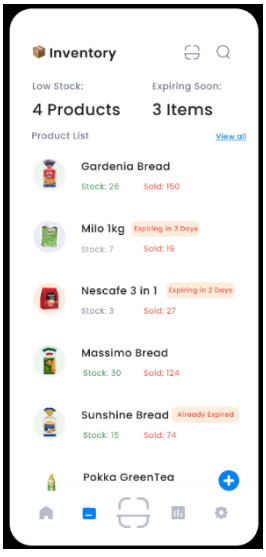

Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Powdered Drinks
Milo 1kg
Expiring in 3 Days
Stock: 7
Sold: 19
Nescafe 3 in 1
Expiring in 2 Days
Stock: 3
Sold: 27

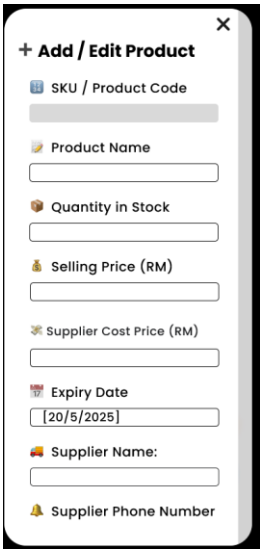

Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Soft Drinks
Pokka GreenTea
Stock: 7
Sold: 19
Coke Cola
Stock: 26
Sold: 55


Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Instant Noodle
Maggi Curry 79gx5
Stock: 19
Sold: 40
Samyang Buldak
Stock: 21
Sold: 23


Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Snacks
Oreo 133g
Stock: 3
Sold: 27
Pringles Original
Stock: 13
Sold: 17


Scan The Barcode
Scanning Product...
The product will be automatically added
if it exists in inventory.
OK


Inventory
Low Stock:
4 Products
Expiring Soon:
3 Items
Product List
View all
Gardenia Bread
Stock: 26
Sold: 150
Milo 1kg
Expiring in 3 Days
Stock: 7
Sold: 19
Nescafe 3 in 1
Expiring in 2 Days
Stock: 3
Sold: 27
Massimo Bread
Stock: 30
Sold: 124
Sunshine Bread
Already Expired
Stock: 15
Sold: 74
Pokka GreenTea

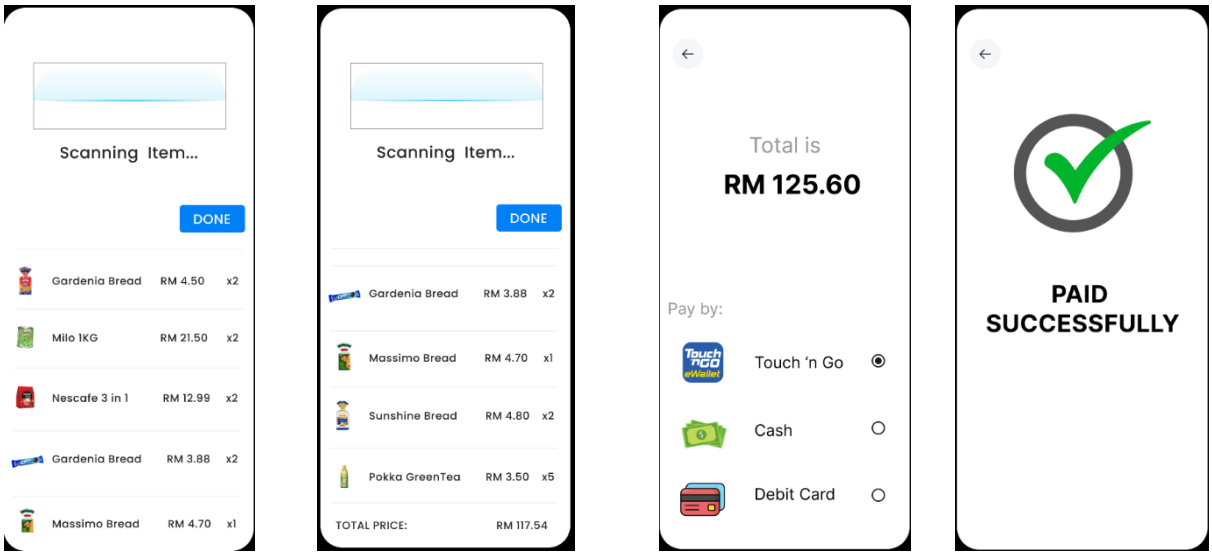

Add / Edit Product
SKU / Product Code
Product Name
Quantity in Stock
Selling Price (RM)
Supplier Cost Price (RM)
Expiry Date
[20/5/2025]
Supplier Name:
Supplier Phone Number

8.5 Barcode Scanning / Payment (Cashier Function):

In this middle of the tools bar, user can use the scan icon to proceed cashier process.

Functions:

- Scan products using the phone's camera (acts as cashier scanner).
- Item scanned will list at bottom with quantity and price.
- Shows total amount at bottom when scrolling.
- "Done" button allows payment selection:
    - Choose payment method (cash, QR payment, Debit).
- Displays "Payment Successful" confirmation.

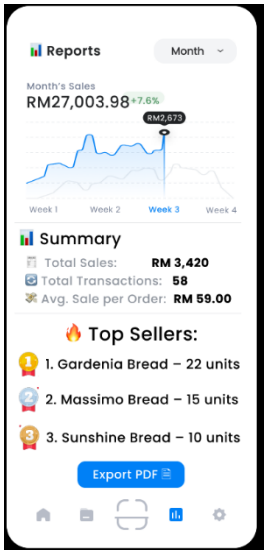


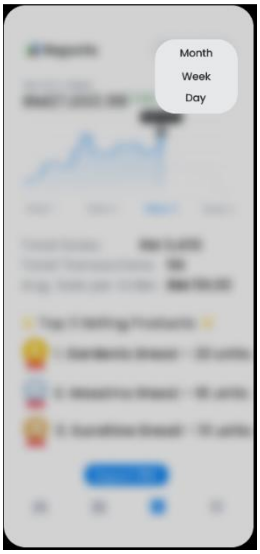
8.6 Report Page:

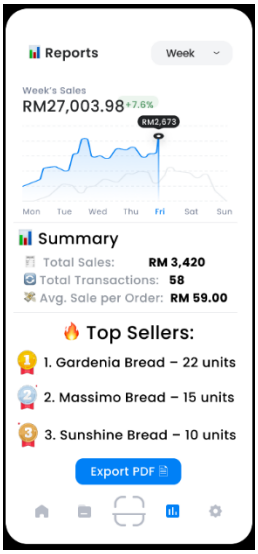
In the report page we have present the sales report in sales graph user can choose for daily, monthly, year sales. There is a short summary below the graph including total sales, total transactions and average Sales per transaction. The top 3 selling products will also show after the summary include the product name and quantity sold.

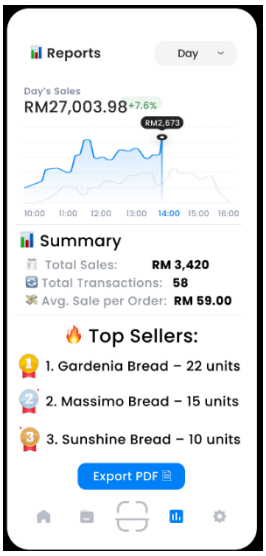
Functions:

- Sales Graph (filter by Day, Week, Month).
- Export Report as PDF.







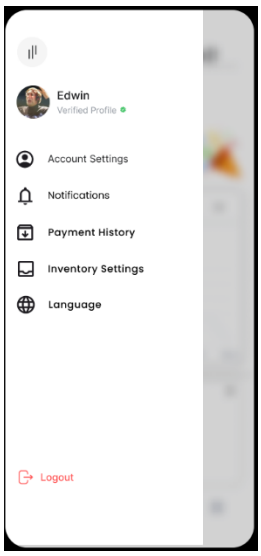


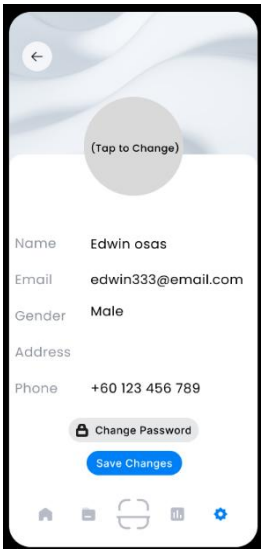
8.7 Setting Page:

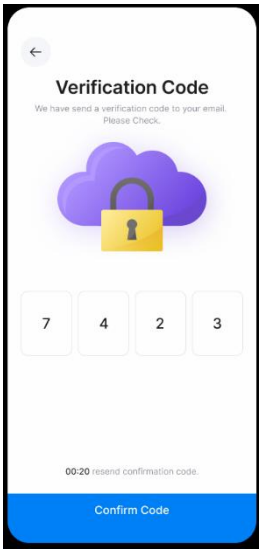
User can view their profile section with photo and basic info. There consist of several setting that can be done by user which is Account Setting, Notification Settings, Payment History, Inventory Settings Language Setting.

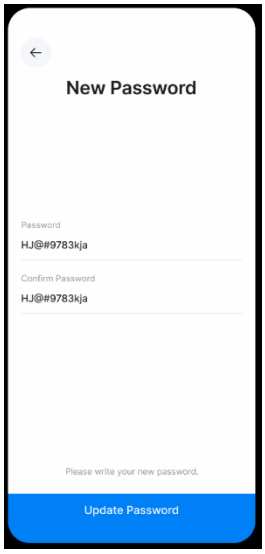
Functions:

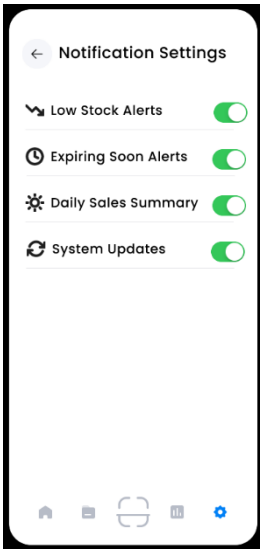
- Account Settings:
    - Edit Name, Email, Gender, Address, Phone, Change Password.
- Notification Settings:
    - Low Stock Alert.
    - Expiring Soon Alert.
    - Daily Sales Summary.
    - System Updates.
- Payment History:
    - List of customer payments with total amount and transactions.
    - Expand payment details to see:
        - Payment Method.
        - Purchased Items and Quantities.
- Inventory Settings:
    - Set Low Stock Alert Threshold.
    - Set Expiry Alert Days.
- Language Setting.
- Log out.

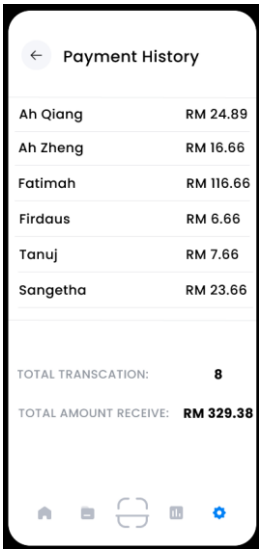

Edwin
Verified Profile
Account Settings
Notifications
Payment History
Inventory Settings
Language
Logout

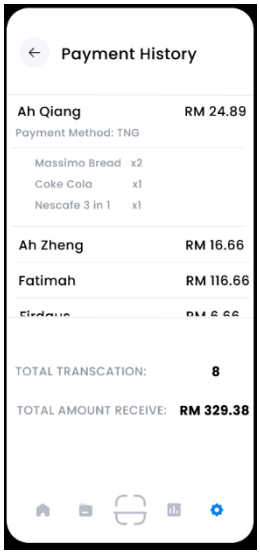

(Tap to Change)
Name
Edwin osas
Email
edwin333@email.com
Gender
Male
Address
Phone
+60 123 456 789
Change Password
Save Changes

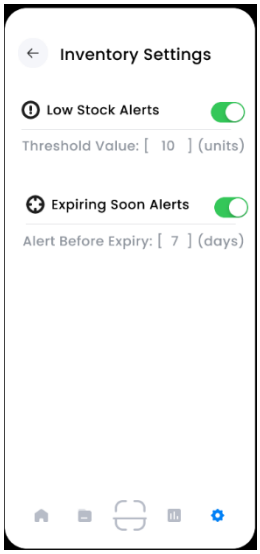

Verification Code
We have send a verification code to your email. Please Check.
7
4
2
3
00:20 resend confirmation code.
Confirm Code

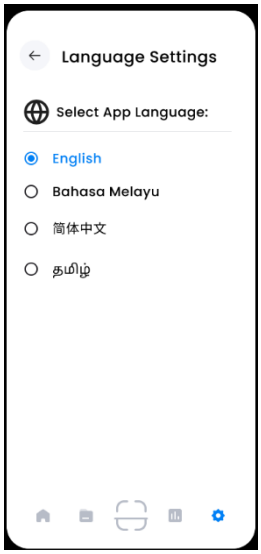

New Password
Password
HJ@#9783kja
Confirm Password
HJ@#9783kja
Please write your new password.
Update Password


Notification Settings
Low Stock Alerts
Expiring Soon Alerts
Daily Sales Summary
System Updates


Payment History
Ah Qiang RM 24.89
Ah Zheng RM 16.66
Fatimah RM 116.66
Firdaus RM 6.66
Tanuj RM 7.66
Sangetha RM 23.66
TOTAL TRANSCATION: 8
TOTAL AMOUNT RECEIVE: RM 329.38


Payment History
Ah Qiang RM 24.89
Payment Method: TNG
Massimo Bread x2
Coke Cola x1
Nescafe 3 in 1 x1
Ah Zheng RM 16.66
Fatimah RM 116.66
TOTAL TRANSCATION: 8
TOTAL AMOUNT RECEIVE: RM 329.38


Inventory Settings
Low Stock Alerts
Threshold Value: [10] (units)
Expiring Soon Alerts
Alert Before Expiry: [7] (days)


Language Settings
Select App Language:
English
Bahasa Melayu
简体中文
தமிழ்

8.8 Input and Output Devices:

Function / Page	**Input Devices**	**Output Devices**
Login / Sign Up / Forgot Password	Touchscreen (Typing on keyboard)	Phone Display (Login Status, Messages)
Dashboard	Touchscreen (Tap, Swipe on graph & buttons)	Phone Display (Sales Graph, Alerts, Data Lists)
Inventory Page	Touchscreen (Tap, Typing, Button Press), Camera (Barcode Scan)	Phone Display (Item Lists, Warnings)
Add / Edit Item Page	Touchscreen (Typing, Tap Buttons), Camera (Barcode Scan)	Phone Display (Product Details, Confirmation)
Barcode Scanning / Payment Page	Camera (Barcode Scanner), Touchscreen (Tap Payment Button)	Phone Display (Item Cart, Total Price, Payment Status)
Report Page	Touchscreen (Tap Filters, Tap Export PDF)	Phone Display (Graphs, Sales Reports, PDF Export)
Settings Page	Touchscreen (Tap, Typing, Toggle Settings)	Phone Display (Settings Info, Notification Settings, Payment History)

9.0 SUMMARY OF THE PROPOSED SYSTEM

The proposed system is a mobile-based inventory and sales management application designed to digitize and streamline business operations at Mrs. Salmi's mini mart. It replaces the current manual process with digital tools that enable efficient inventory tracking, automated sales processing, and real-time reporting. The system allows staff to register products with key details such as quantity, price, and expiry date, and will automatically generate alerts for low stock and upcoming product expiry. This improves product availability, prevents wastage, and ensures the mart stays well-stocked and compliant with safety standards.

For the sales process, the application features barcode scanning for quick and accurate product entry during checkout. It automatically calculates total payment, supports various payment methods (cash, QR, debit), and generates digital receipts for customers. Each transaction is recorded and stored in a secure cloud database, making it easier to track and review daily operations. The application also includes a dashboard that shows sales trends and identifies top-selling items, helping the owner make data-driven decisions to improve business performance.

From a feasibility standpoint, the proposed system is technically, operationally, and economically viable. It runs on existing smartphones using technologies like React Native and Firebase, ensuring minimal development and hardware costs. The user-friendly interface ensures easy adoption by the staff, with built-in features such as alerts, notifications, and a structured navigation system. Ultimately, this mobile application not only improves daily operational efficiency but also provides valuable insights that can drive growth and sustainability for Mrs. Salmi’s business.