

0.1 Application Architecture

0.1.1 Architectural Design

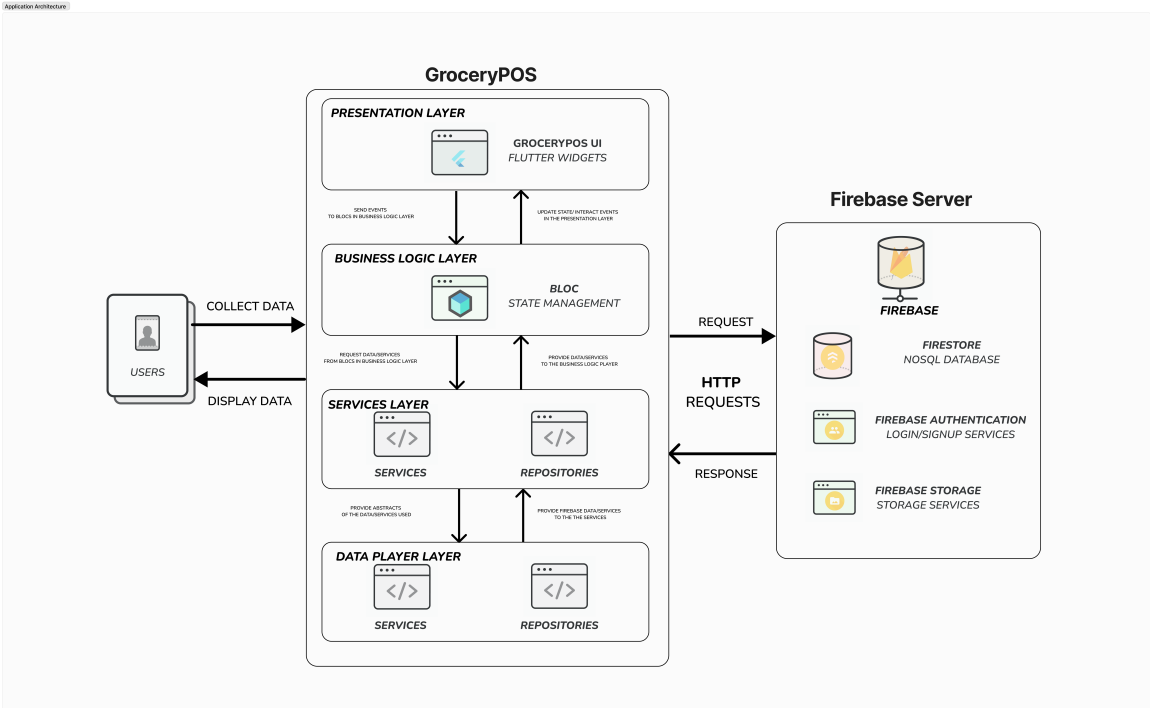


Figure 1: Application Architecture

0.1.2 Decomposition Description

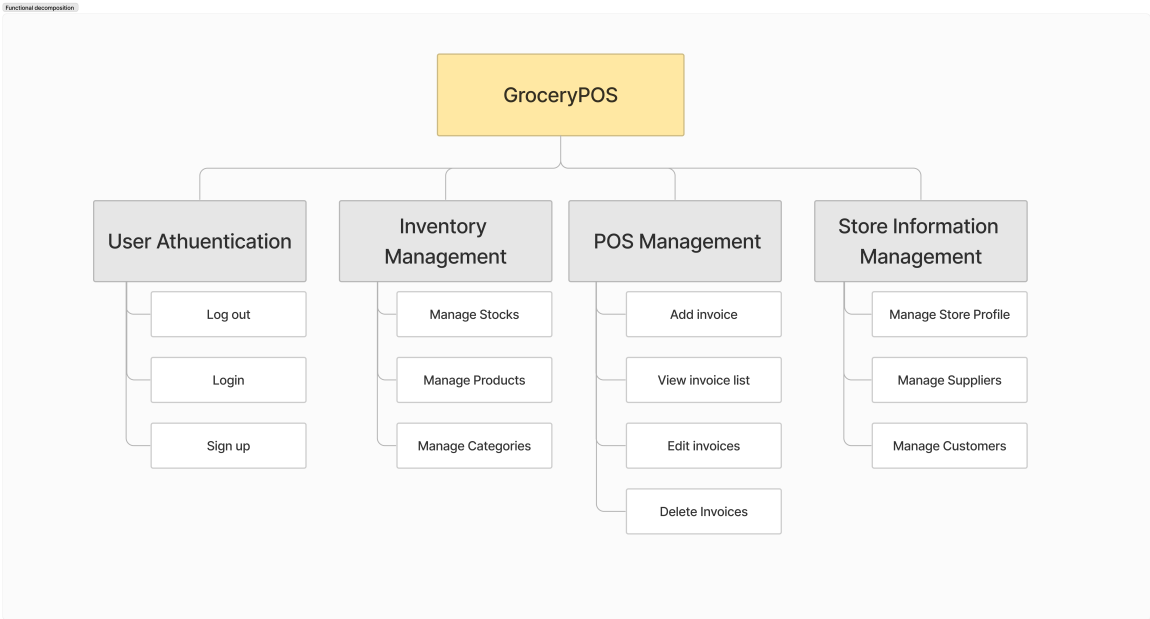


Figure 2: Decomposition Description

0.2 Data Design

0.2.1 Data Description

0.2.1.1 Entity-Relationship Diagram

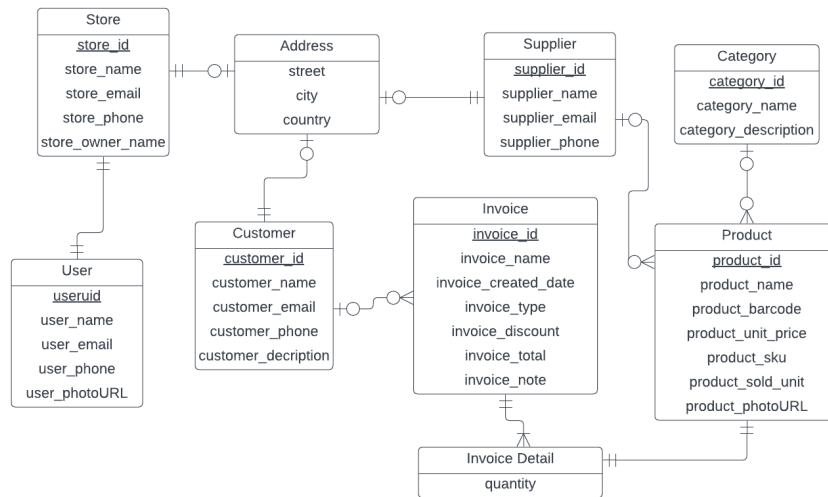


Figure 3: Entity-Relationship Diagram

0.2.1.2 Firebase Database Diagram

The root of Firebase Firestore Database:

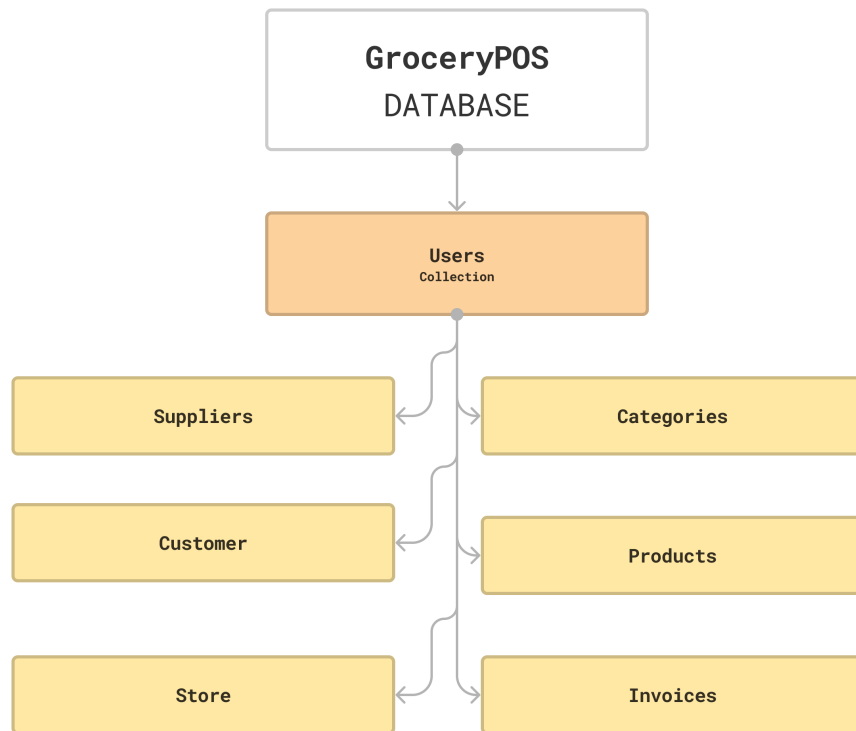


Figure 4: Firestore General

The User collections:

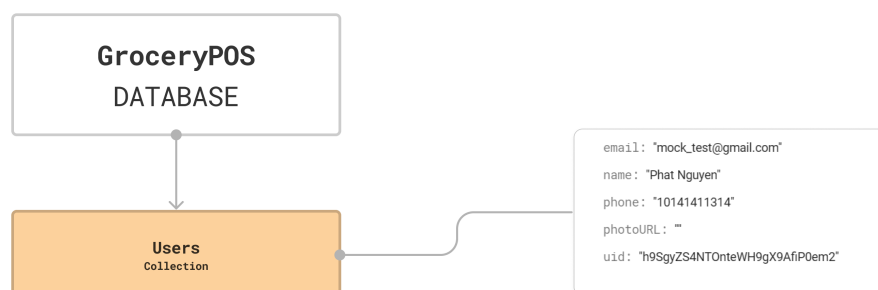


Figure 5: Firestore: User Collections

The Subcollections:

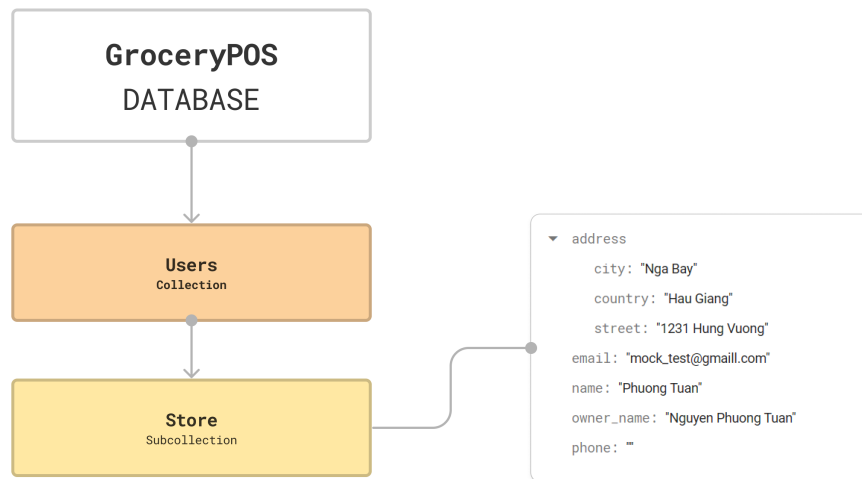


Figure 6: Firestore: Store Profile Collections

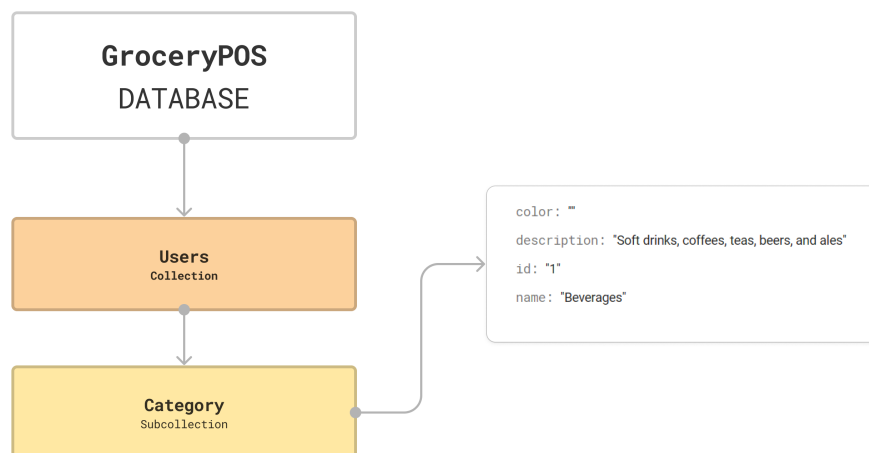


Figure 7: Firestore: Categories Collections

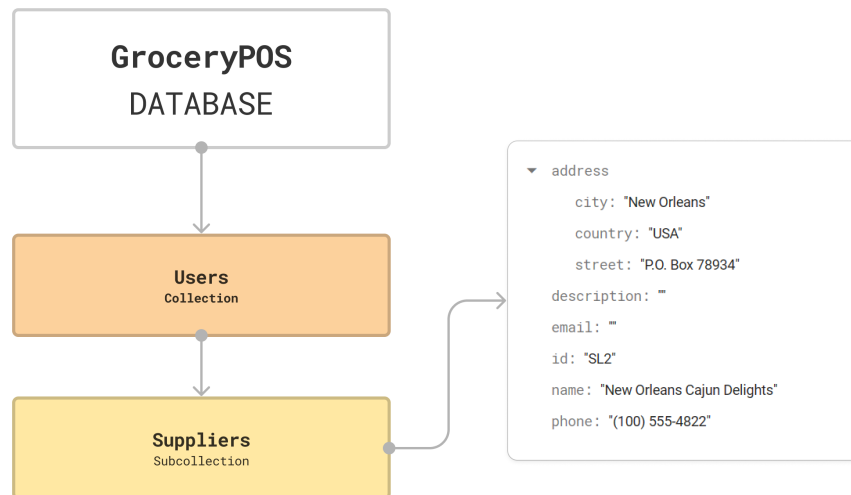


Figure 8: Firestore: Suppliers Collections

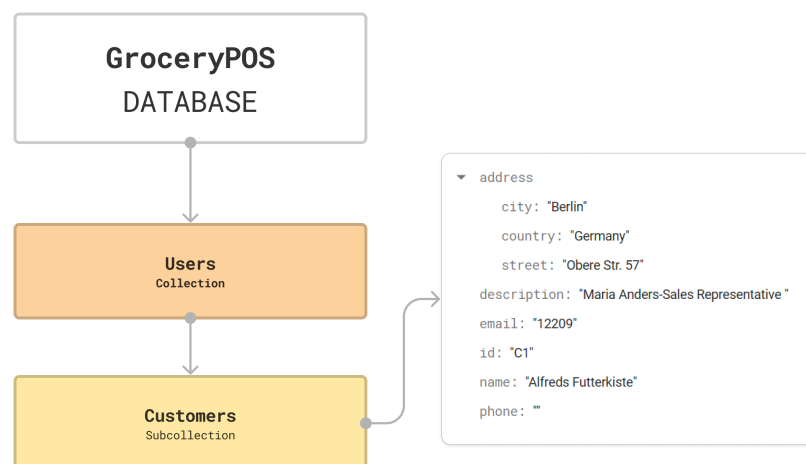


Figure 9: Firestore: Customers Collections

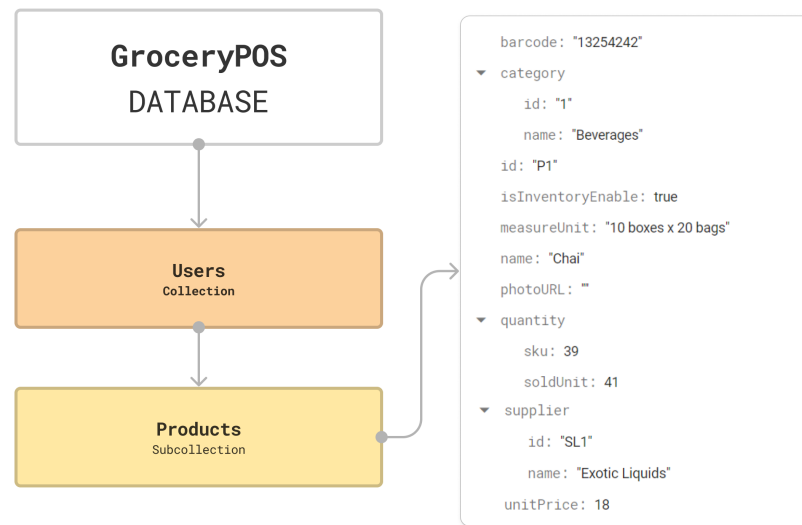


Figure 10: Firestore: Products Collections

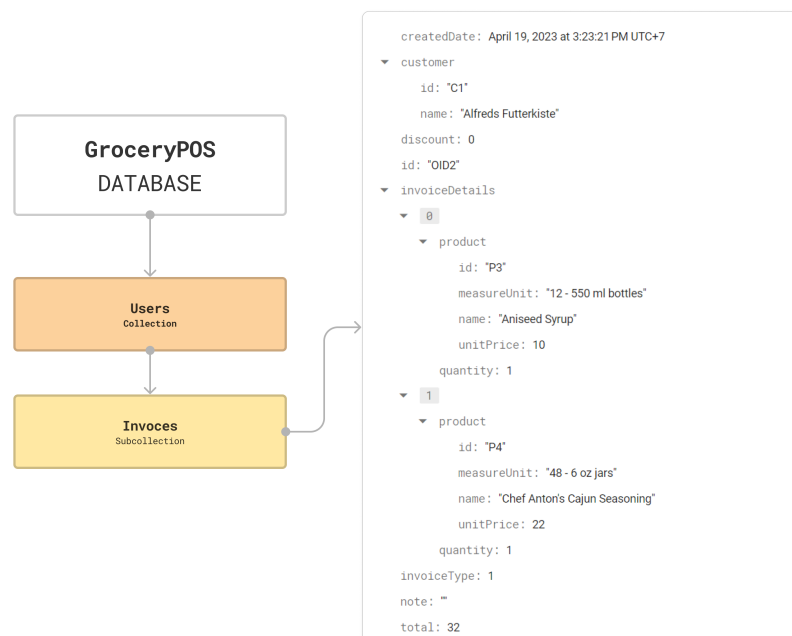


Figure 11: Firestore: Invoices Collections

0.2.2 Data Dictionary

Data	Type	Description
user_uid	String	The user authentication auto-generated ID by Firebase Authentication
name	String	The fullname of the user in profile.
email	String	The email which provided for the User Authentication
phone	String	The phone for OTP authentication in register.
photoURL	String	The reference to the user profile's in Google Cloud

Table 1: Data Description: User

Data	Type	Description
category_id	String	The unique ID to identify the category
category_name	String	The name of category.
category_description	String	The detail information about category.
category_color	String	The hex code of color to display the category.

Table 2: Data Description: Category

Data	Type	Description
supplier_id	String	The unique ID to identify the supplier.
supplier_name	String	The name of suppliers.
supplier_email	String	The email to contact suppliers.
supplier_phone	String	The number to contact suppliers.
supplier_description	String	The detail information about supplier.
supplier_address	Map	The address to retrieve directed contact suppliers
supplier_street	String	The detail of address.
supplier_city	String	The detail of address.
supplier_country	String	The detail of address.

Table 3: Data Description: Suppliers

Data	Type	Description
customer_id	String	The unique ID to identify the customer.
customer_name	String	The name of customers.
customer_email	String	The email to contact customers.
customer_phone	String	The number to contact customers.
customer_description	String	The detail information about customer.
customer_address	Map	The address to retrieve directed contact customers
customer_street	String	The detail of address.
customer_city	String	The detail of address.
customer_country	String	The detail of address.

Table 4: Data Description: Category

Data	Type	Description
product_id	String	The unique ID to identify the invoices.
product_barcode	String	The barcode of product.
product_name	String	The name of product.
product_measureUnit	String	The means of measurement of product.
product_unitPrice	Number	The price of product per measure unit.
product_photoURL	String	The reference to Google Cloud to retrieve photo.
product_quantity	map	The inventory quantity of the product.
product_sku	Number	The number of stock on unit of product
product_soldUnit	Number	The number of sold unit of product
product_supplier	map	The map to use reference Supplier Collections
product_supplier_id	String	The id of Supplier.
product_supplier_name	String	The name of Supplier.
product_category	map	The map to use reference Category Collections
product_category_id	String	The id of Category.
product_category_name	String	The name of Category.

Table 5: Data Description: Product

Data	Type	Description
invoice_id	String	The unique ID to identify the invoices.
invoice_createdDate	Timestamp	The timestamp when the invoice created
invoice_discount	Number	The discount of invoice.
invoice_note	String	The note of invoice.
invoice_total		The total cost of invoice.
invoice_invoice_details	Array	The list of invoice details of invoice.
invoice_invoiceType	Number	The number to identify the type of invoice: 0: Retail Invoices, 1: Customer Invoices
invoice_customer	Map	The map to reference Customer Collections
invoice_customer_id	String	The unique ID to identify the customer.
invoice_customer_name	String	The name of customers.

Table 6: Data Description: Invoices

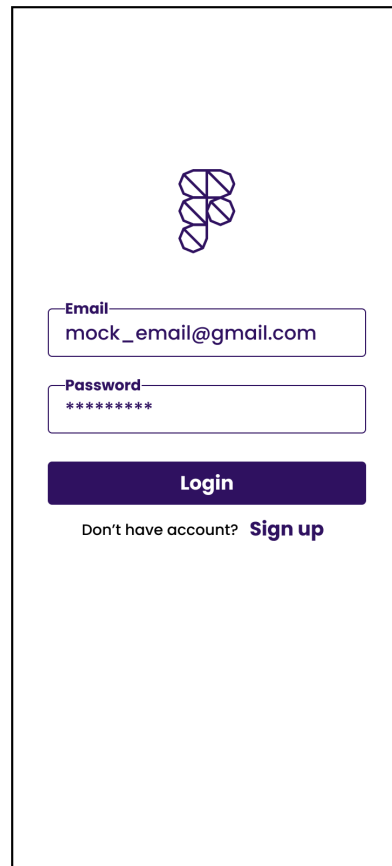
Data	Type	Description
product	map	The map object to store a copy of Product details
product_id		The map to use reference Product Collections
product_barcode	String	The barcode of product.
product_name	String	The name of product.
product_measureUnit	String	The means of measurement of product.
product_unitPrice	Number	The price of product per measure unit.
quantity	Number	The quantity of product in that invoice

Table 7: Data Description: invoices

0.3 Detailed Design

0.3.1 User Authentication

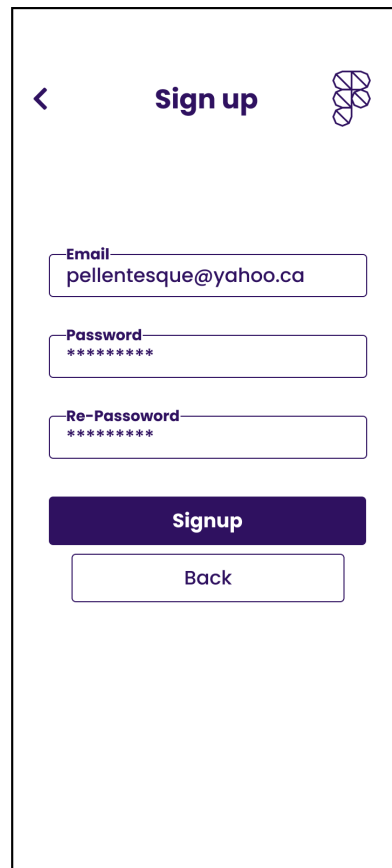
0.3.1.1 Login View



The image shows a mobile app login screen. At the top center is a logo consisting of five interlocking hexagons in a cross shape. Below the logo are two input fields: the first is labeled 'Email' and contains the text 'mock_email@gmail.com'; the second is labeled 'Password' and contains seven asterisks. Below these fields is a blue 'Login' button. At the bottom, there is a link that says 'Don't have account? Sign up'.

Figure 12: Detail Design: Login View

0.3.1.2 Sign Up View



The image shows a mobile application sign-up screen. At the top, there is a navigation bar with a back arrow on the left, the text "sign up" in the center, and a circular logo on the right. Below the navigation bar, there are three input fields: "Email" with the value "pellentesque@yahoo.ca", "Password" with masked characters "*****", and "Re-Password" also with masked characters "*****". Below these fields are two buttons: a blue "Signup" button and a white "Back" button with a blue border.

Figure 13: Detail Design: Sign Up View

0.3.2 Home View

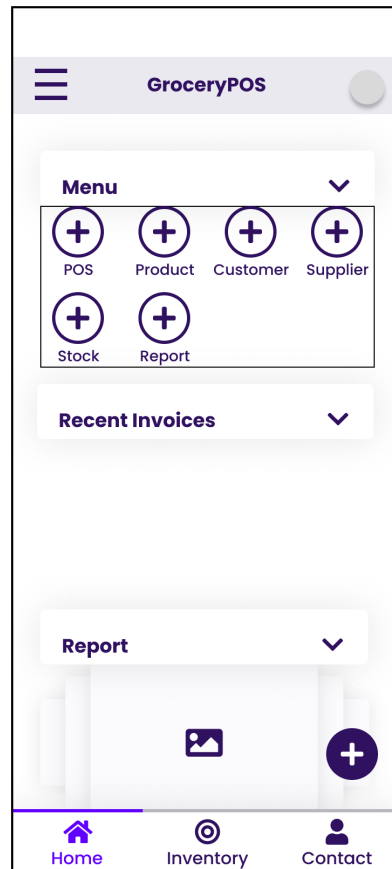


Figure 14: Detail Design: Home View

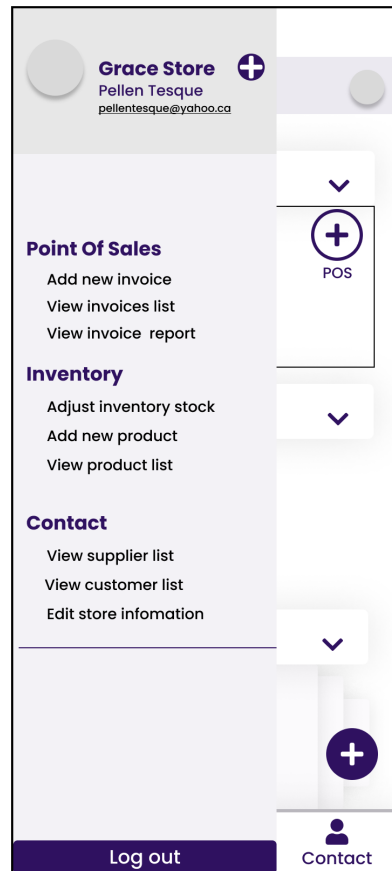
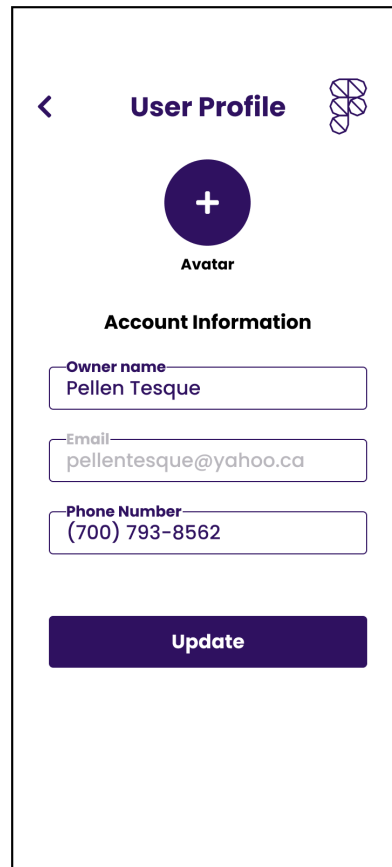


Figure 15: Detail Design: Home View Side Menu

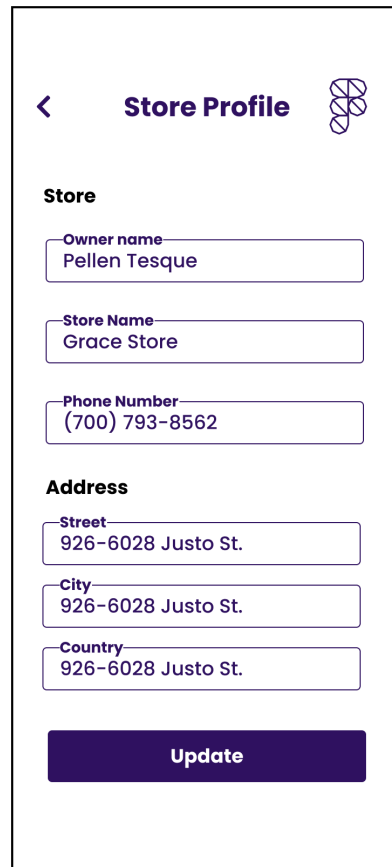
0.3.3 User Profile View



The image shows a mobile app UI for a 'User Profile' view. At the top, there is a back arrow on the left, the title 'User Profile' in the center, and a settings gear icon on the right. Below the title is a circular avatar placeholder with a white plus sign and the label 'Avatar' underneath. A section titled 'Account Information' follows. It contains three input fields: 'Owner name' with the value 'Pellen Tesque', 'Email' with the value 'pellentesque@yahoo.ca', and 'Phone Number' with the value '(700) 793-8562'. At the bottom of this section is a blue 'Update' button.

Figure 16: Detail Design: User Profile View

0.3.4 Store Profile View



The image shows a mobile app screen for 'Store Profile'. At the top, there is a back arrow and the title 'Store Profile' next to a circular logo. Below this, the section 'Store' contains three input fields: 'Owner name' with the value 'Pellen Tesque', 'Store Name' with 'Grace Store', and 'Phone Number' with '(700) 793-8562'. The 'Address' section follows, with three input fields: 'Street', 'City', and 'Country', all containing the value '926-6028 Justo St.'. At the bottom of the form is a large blue button labeled 'Update'.

Section	Field	Value
Store	Owner name	Pellen Tesque
	Store Name	Grace Store
	Phone Number	(700) 793-8562
Address	Street	926-6028 Justo St.
	City	926-6028 Justo St.
	Country	926-6028 Justo St.

Figure 17: Detail Design: Store Profile View

0.3.5 Contacts

0.3.5.1 Supplier View

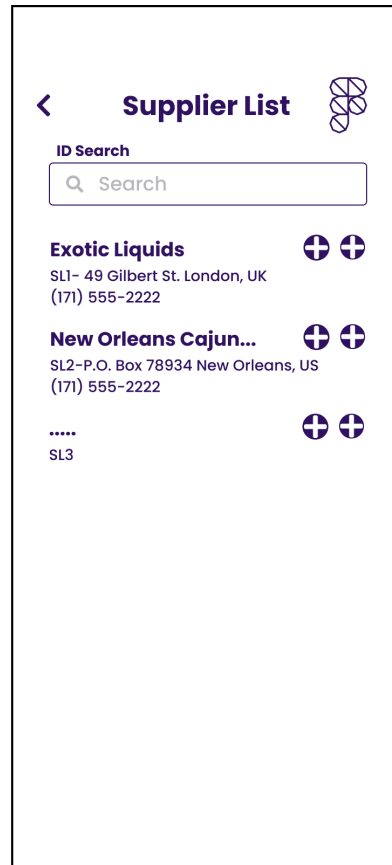



Figure 18: Detail Design: Supplier List View

<

Supplier Entry



Contact

Name

David White

Email

Tsde@outlook.ca

Phone Number

(700) 793-8562

Address

Street

926-6028 Justo St.

City

926-6028 Justo St.

Country

926-6028 Justo St.

Description

...

vt

Figure 19: Detail Design: Supplier Entry View

0.3.5.2 Customer View

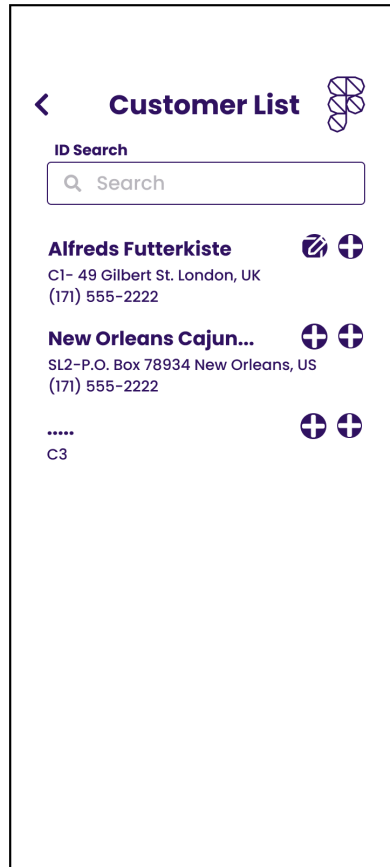


Figure 20: Detail Design: Customer List View

Customer Entry

Contact

Owner name

David White

Email

Tsde@outlook.ca

Phone Number

(700) 793-8562

Address

Street

926-6028 Justo St.

City

926-6028 Justo St.

Country

926-6028 Justo St.

Description

...

vt

Figure 21: Detail Design: Customer Entry View

0.3.6 Inventory View

0.3.6.1 Category View

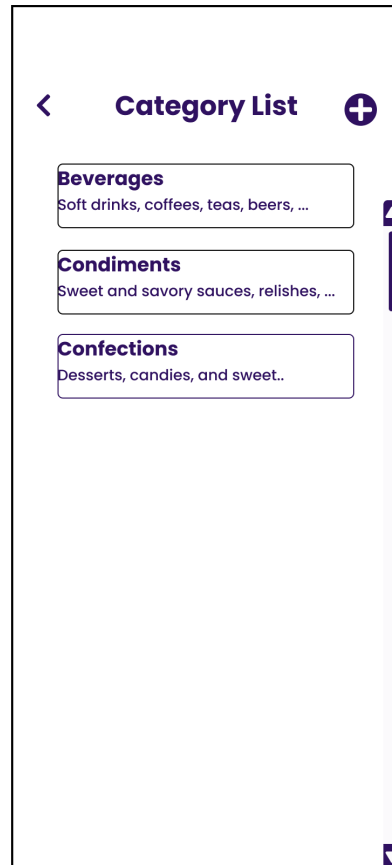
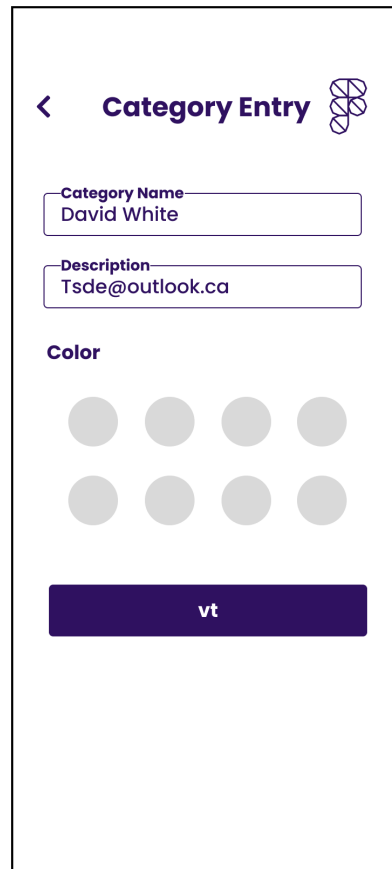


Figure 22: Detail Design: Category List View



The image shows a mobile app screen titled "Category Entry". At the top left is a back arrow icon. To the right of the title is a circular icon with a grid pattern. Below the title are two text input fields. The first is labeled "Category Name" and contains the text "David White". The second is labeled "Description" and contains the text "Tsde@outlook.ca". Below these fields is a section titled "Color" which contains two rows of four gray circular color selection buttons. At the bottom of the screen is a solid blue button with the text "vt" in white.

Figure 23: Detail Design: Category Entry View

0.3.6.2 Product View

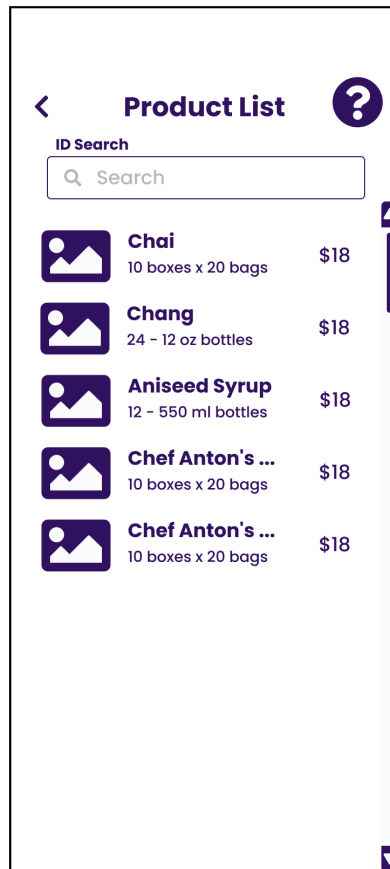



Figure 24: Detail Design: Product List View

<

Product Entry



+

Product Name

Chai

Measure Unit

(700) 793-8562

Barcode

(700) 793-8562

+

Category

Beverages

▼

Supplier

None

▼

Sale Price

18

Sold Unit

0

SKU

39

☒ Inventory Enable

Add product

Figure 25: Detail Design: Product Entry View

0.3.7 Point of Sales

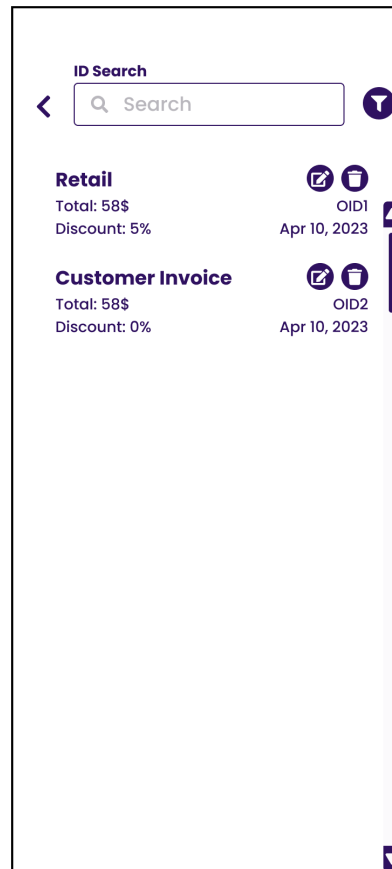


Figure 26: Detail Design: Invoice List View

Invoice Entry

Invoice Info:

Invoice ID

OID1

4/22/2012

Invoice Type

Retail

Customer

None

Items

Product Item

Chai 18\$

10 boxes x 20 bags

Qty

1

Chang 20\$

24 - 12 oz bottles

Qty

1

+ Add Item

Billing

Total

18

Discount

5%

Note

John Doe

Add Invoice

Figure 27: Detail Design: Invoice Entry View