

Architecture Design

Languages/Frameworks/Libraries/Services/APIs: We will be using HTML,CSS, and javascript for the front end functionality. For the backend, we will be using python.

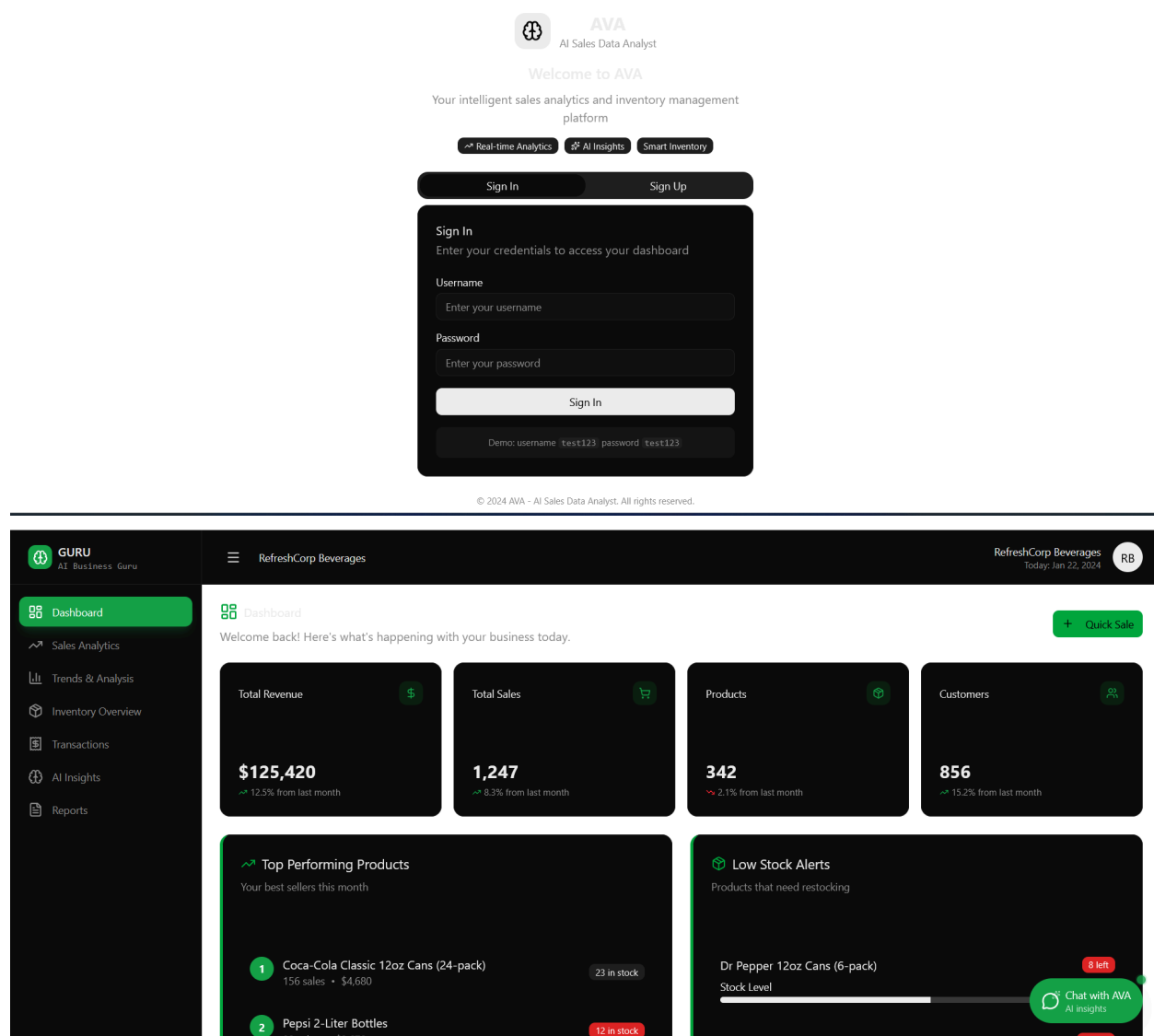
Front-end: Python/React Back-end : PostgreSQL/Django A.I.: Open AI APIs: Streamlit API

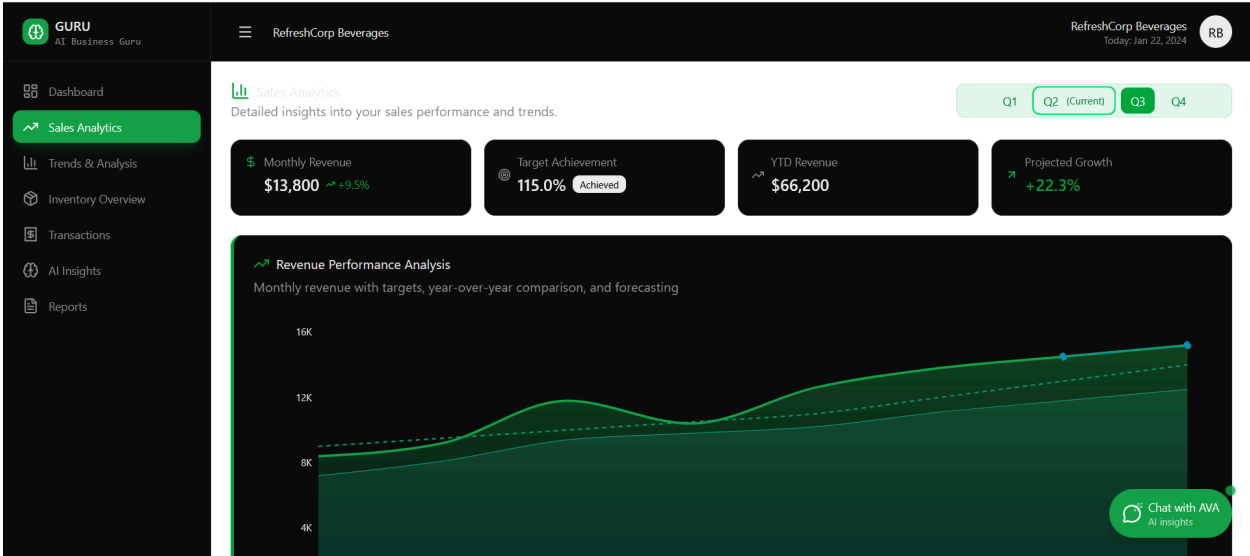
Package/Build Manager: npm, pip

Task Assignments:

Rajvir: I will assist with working on the front-end and also the back-end. Specifically, I can help with setting up the user login and signup page as well as the side navigation menu bar for the main application interface.

Embedded Images:





GURU

AI Business Guru

Dashboard

Sales Analytics

Trends & Analysis

Inventory Overview

Transactions

AI Insights

Reports

RefreshCorp Beverages

RefreshCorp Beverages

Today: Jan 22, 2024

RB

Transaction History

Track sales performance and customer purchase patterns.

Total Orders

42

Today

Total Revenue

\$1,285.3

Today's sales

Avg Order Value

\$30.60

Per order

Items Sold

156

Total units

Top Product

Coca-Cola Classic 24-pack

Best seller today

Recent Orders

Hourly Performance

Product Performance

Order History

Recent customer orders and purchase details

Filter

Export

Search orders...

Today

Order ID	Date & Time	Customer	Products	Order Total	Action
TXN-001	2024-01-22 14:30	Sarah Johnson	2x Coca-Cola Classic 12oz Cans (24-pack)	\$47.14	<div>View</div>

Chat with AVA

AI insights

GURU

AI Business Guru

Dashboard

Sales Analytics

Trends & Analysis

Inventory Overview

Transactions

AI Insights

Reports

RefreshCorp Beverages

RefreshCorp Beverages

Today: Jan 22, 2024

RB

AI Insights

AI-powered recommendations and predictions for your business.

Generate Report

Key Insights & Alerts

AI-generated insights based on your business data

Increase Coca-Cola Classic Inventory

Coca-Cola Classic 24-packs are selling 40% faster than predicted. Consider increasing stock by 60 units.

Potential revenue increase of \$900

92% confidence

Reorder now

Dr Pepper Stock Critical

Current sales velocity will exhaust Dr Pepper 6-pack stock in 3 days. Immediate reorder recommended.

Potential lost sales: \$350

88% confidence

Urgent restock

Peak Hours Staffing

Soda sales peak between 12-2 PM. Consider adding 1 staff member during these hours.

Estimated 15% reduction in wait times

85% confidence

Schedule review

Chat with AVA

AI insights

GURU

AI Business Guru

Dashboard

Sales Analytics

Trends & Analysis

Inventory Overview

Transactions

AI Insights

Reports

RefreshCorp Beverages

RefreshCorp Beverages

Today: Jan 22, 2024

RB

Reports & Analytics

Generate comprehensive business reports and schedule automated analytics.

Generate Reports

Recent Reports

Scheduled Reports

Quick Report Generation

Generate instant reports with customizable parameters

Date Range

Last 30 Days

Format

PDF Document

Custom Date

Pick a date

Generate All Reports

Sales Summary Report

Overview of sales performance, revenue trends, and key metrics

Frequency: Daily, Weekly, Monthly

Est. Time: 2 mins

Generate Report

Inventory Status Report

Current stock levels, low stock alerts, and inventory valuation

Frequency: Daily, Weekly

Est. Time: 1 min

Generate Report

Chat with AVA

AI insights

Designs:

- The Model View Controller(MVC) Design pattern will be used
- **View:**
 - Dashboard View
 - Sales Analytics View
 - Trends & Analysis View
 - Inventory Overview View
 - Transactions View
 - AI Insights View
 - Reports View

We used Figma Make to help with prototyping and visualizing our application. The following link can be utilized for a better demonstration of the applications basic functionality:

<https://www.figma.com/make/sthWQmmV8LkuuNrClfxj6k/AVA-Web-App?node-id=0-1&p=f&t=91A2VugzW361T8oC-0>

- **Deployment:** How will you deploy? Which hosting providers? Automation? Scripts? Explain.

We plan to demonstrate the application by using localhost before/if we choose to deploy it officially, considering this is a class project.

- **Development/Deployment Environments:** Are you using VMs (VMware) or Containers (Docker)? Explain.
- **Type of Web App:** SPA or traditional, or a mix? Explain.

We aim to build a transitional web application that is mobile friendly for the user.

- **URLs:** List URLs and link each one to the relevant page in your Detailed Design milestone.
- **REST API:** Document if implementing, list methods and parameters, and describe in English.
- **Views:** Embed images from your Design Milestone. Describe each view, like Header, Menu, Content.

The Model View Controller(MVC) Design pattern will be used.

- **View:**

- Dashboard View
- Sales Analytics View
- Trends & Analysis View
- Inventory Overview View
- Transactions View
- AI Insights View
- Reports View
-
- **Database Schema:** List tables/documents with attributes and their types. Describe each table and attribute in English.

Since our application is a data analyst, the database will store information related to items, customers, and orders. We aim to have a database with these tables. The customers table will store customer ID, name, email and phone number. Each item will also have be stored based on its name, associated price, and inventory stock. An order will consist of the customer ID of the customer who ordered it as well as the item(s) that was bought.

- Customers
 - `customer_id` (PK, int) — unique customer
 - `customer_name` (text) — display name
 - `email` (text, unique) — contact
 - `phone` (text, nullable)
 - `created_at` (timestampz)
- Items
 - `item_id` (PK, int)
 - `item_name` (text, unique)
 - `price` (numeric(12,2))
 - `stock_quantity` (int)
 - `category` (text, nullable)
 - `created_at` (timestampz)
- Orders
 - `order_id` (PK, int)
 - `customer_id` (FK → Customers)
 - `order_date` (timestampz)
 - `status` (text: Pending|Completed|Cancelled)
 - `total_amount` (numeric(12,2))
- Order_Items
 - `order_item_id` (PK, int)
 - `order_id` (FK → Orders)

- `item_id` (FK → Items)
- `quantity` (int)
- `unit_price` (numeric(12,2))
- `subtotal` (numeric(12,2)) ← `quantity * unit_price`