

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.

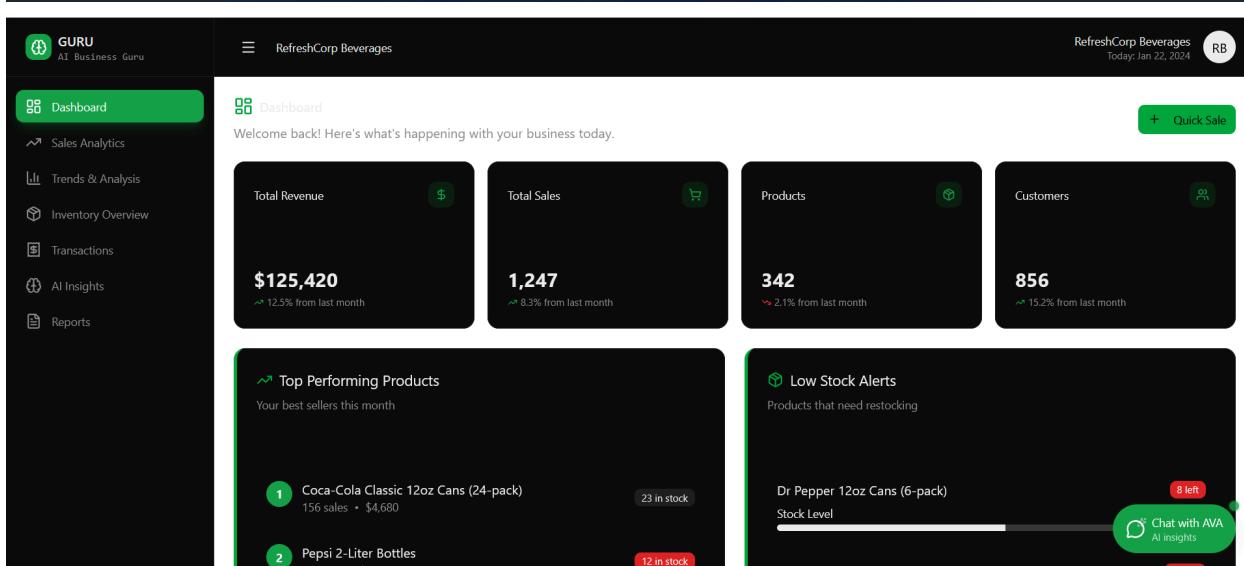
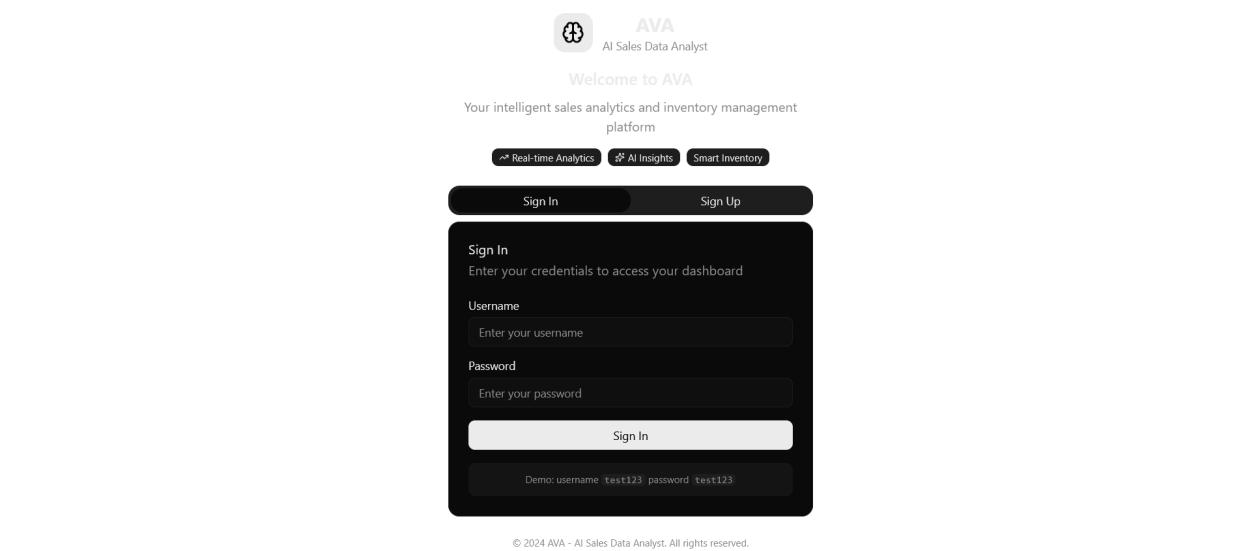
Front-end: Python/React Back-end : PostgreSQL/Django A.I.: Open AI APIs: Streamlit API

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:



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RefreshCorp Beverages

RefreshCorp Beverages Today: Jan 22, 2024 RB

Sales Analytics

Detailed insights into your sales performance and trends.

Monthly Revenue \$13,800 +9.5% **Target Achievement** 115.0% Achieved **YTD Revenue** \$66,200 **Projected Growth** +22.3%

Revenue Performance Analysis

Monthly revenue with targets, year-over-year comparison, and forecasting

Chat with AVA AI insights

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Trends & Analysis

Interactive charts and analytics for comprehensive business insights.

Product Profitability Cost vs Sales vs Profit analysis

Cost Sales Profit

Conversion Funnel Customer journey analysis

21.3% Conversion Rate

Demand Evolution Product demand trends over time

Coca-Cola Pepsi Sprite

Sales Velocity Product movement vs inventory levels

72 Avg Velocity

Regional Performance Sales by geographic regions

6 Active Regions

Market Share Category distribution analysis

45% Cola Dominance

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Inventory Overview

Monitor stock levels, track inventory value, and manage product availability.

+ Add Product

Total Inventory Value \$1,504 View top contributors • Click to view

Critical Stock 1 Items need immediate attention • Click to view

Low Stock 1 Items below minimum threshold • Click to view

Full Inventory Alerts & Visuals

Product Inventory

Manage your product stock levels and details

Search products... All Categories

Product	Category	Stock	Value	Status	Actions
Mountain Dew 16oz Bottles ID: P005	Citrus	72 units Min: 30	\$129	good	Restock

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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

Search orders... Today Filter Export

Order ID	Date & Time	Customer	Products	Order Total	Action
TXN-001	2024-01-22 10:00:00	Sarah Johnson	2x Coca-Cola Classic 12oz Cans (24-pack)	\$47.14	Chat with AVA AI insights

View

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AI Insights

AI-powered recommendations and predictions for your business.

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 Chat with AVA
AI insights

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 Chat with AVA
AI insights

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
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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 Format Custom Date
Last 30 Days PDF Document 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 Chat with AVA
AI insights

Inventory Status Report
Current stock levels, low stock alerts, and inventory valuation

Frequency: Daily, Weekly
Est. Time: 4 mins
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
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- Trends & Analysis View
- Inventory Overview View
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- 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` (timestamptz)
- Items
 - `item_id` (PK, int)
 - `item_name` (text, unique)
 - `price` (numeric(12,2))
 - `stock_quantity` (int)
 - `category` (text, nullable)
 - `created_at` (timestamptz)
- Orders
 - `order_id` (PK, int)
 - `customer_id` (FK → Customers)
 - `order_date` (timestamptz)
 - `status` (text: Pending|Completed|Cancelled)
 - `total_amount` (numeric(12,2))
- Order_Items
 - `order_item_id` (PK, int)

- o `order_id` (FK → Orders)
- o `item_id` (FK → Items)
- o `quantity` (int)
- o `unit_price` (numeric(12,2))
- o `subtotal` (numeric(12,2)) \leftarrow `quantity * unit_price`