ShopWise ChatBot Details

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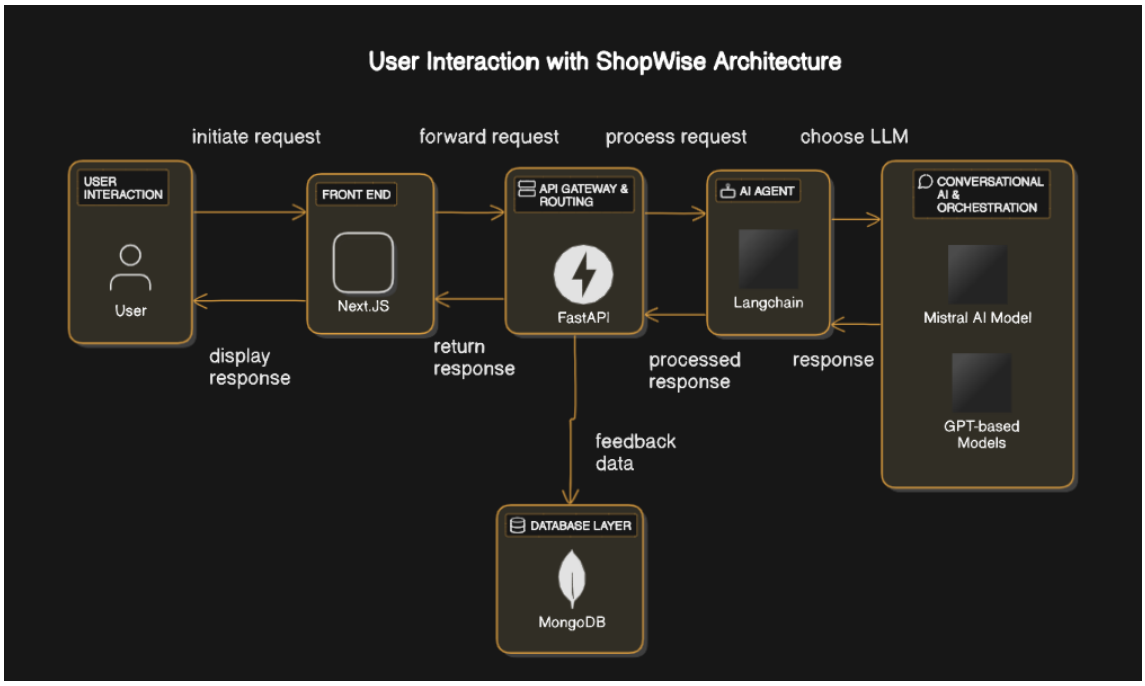
Problem Statement

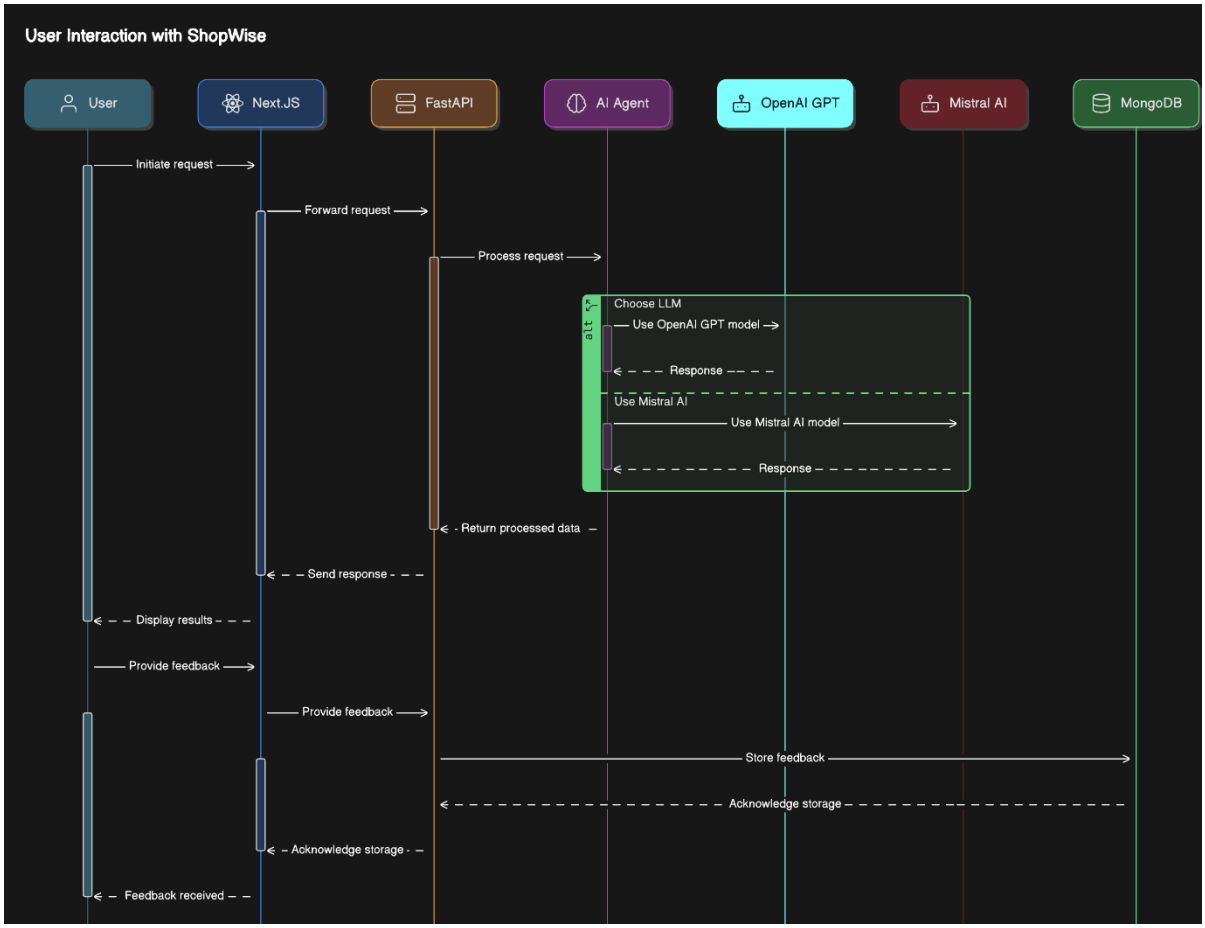
To build an AI-powered product support assistant for ShopWise

Architectural Diagrams:

a) Architectural Diagram



b) Sequence Diagram



Tech Stack:

Layer	Technology	Purpose
Front-End	Next.js	Building the user interface for the chatbot
Back-End	Python (FastAPI)	API development and handling backend logic
Large Language Model (LLM)	OpenAI GPT (ChatGPT)	Generating human-like responses to user queries
AI Agent	LangChain Framework (create_csv_agent)	Handling CSV data for advanced query processing
Database	MongoDB	Storing response details and user details
Hosting	AWS	Hosting the front-end and back-end services
Version Control	Git & GitHub	Source code management and collaboration

Key Features:

1. Context Understanding - Interpret and respond accurately based on the current user queries, and previous interactions

2. Product Comparison - compare details of at least 2 different products

3. Alternative Suggestions - suggest or recommend products matching a given criterion

4. Product Availability – tells whether product asked is available or not

5. Nested Requests – answers users query which is under another query

6. Order Status Check – gives status of the order

7. Tracking and Shipping Information – which location and shipping details are given

8. Return Eligibility – checks whether a product can be returned or not after delivery

9. Order History – users can see all previous orders details

10. Shipping Delay Inquiry – after delivery delay, next when products will be delivered

11. Order Assistance for Multiple Items – gives response for more than one query in a single interaction

12. Customer Feedback Collection -- encourages customers to leave reviews and ratings

Code Structure:

Inside **Oreilly-ShopWise-Chatbot** folder following folders are available:

backend –

controller –

feedbackController - submit_feedback api which adds or updates feedback data given by user

generateAnswerController - generate_answer api gives response to users query based on the choice of the LLM

data –

synthetic-orders-data and **synthetic-product-data** csv source data files

chatbot.py – generate_response, uses a LangChain CSV agent to process a user query against specified CSV files, returning a structured response with the query, agent's answer, and sources.

llm.py – contains all details of llm used including its parameters

main.py – initializes a FastAPI application with CORS middleware to allow requests from any origin and includes routers from generateAnswerController and feedbackController to handle specific API endpoints.

requirements.txt – all dependencies libraries are mentioned

doc -> architecture -> decisions – contains all architecture decision records for each component of application made during the design process

frontend –

src -app –

- **page.jsx –** contains all UI based components code
- **Style.css –** contains all style sheet code for components

Evaluation Scenarios:

1. Context Understanding

a. Prompt example 1: "I see there are some Sony TVs in your catalog. Can you compare the features and prices between the Sony KD75XF8596BU and other TV models you have?"

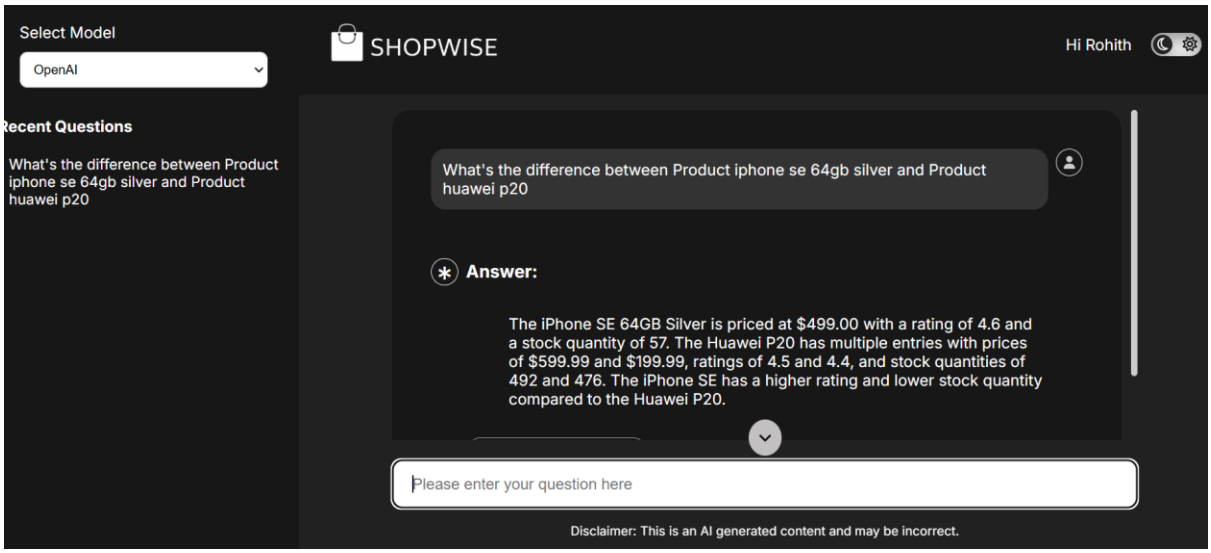
b. Prompt example 2: "Looking at the ratings distribution across different product categories, which category would you recommend for the most reliable purchases based on customer satisfaction?"

c. Prompt example 3: "I notice you have mobile phones and digital cameras. For someone interested in photography, would you recommend the Sony Xperia XA2 Ultra or the Pentax K-1 camera? Please explain the pros and cons of each for photography."

d. Prompt example 4: "Based on the stock quantities and prices shown in your inventory, which TV models offer the best value for money while still being readily available?"

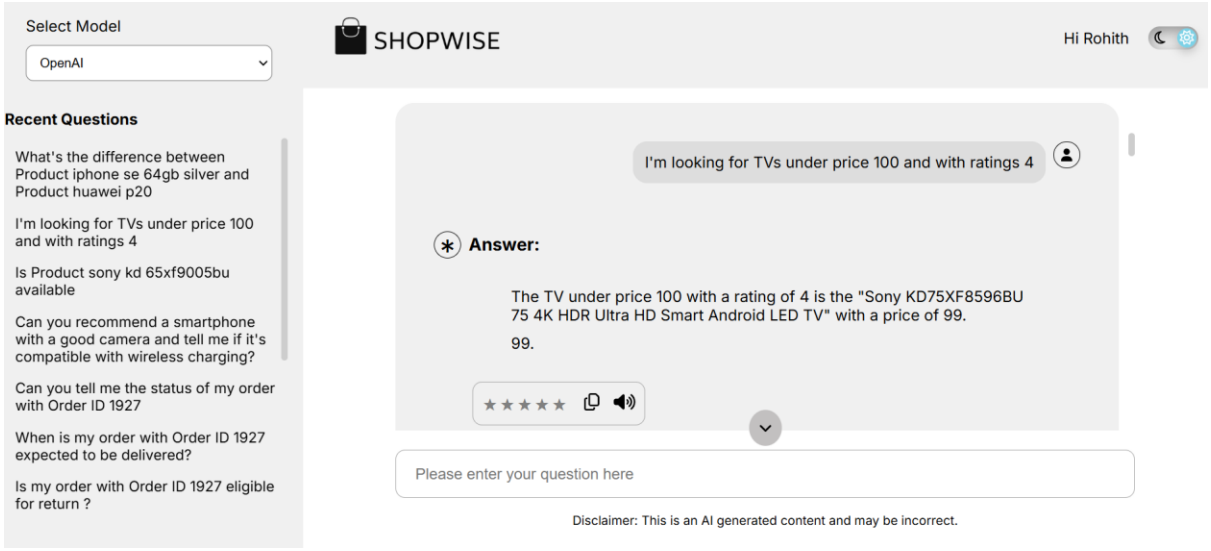
2. Product Comparison

Query: “What's the difference between Product iphone se 64gb silver and Product huawei p20?”



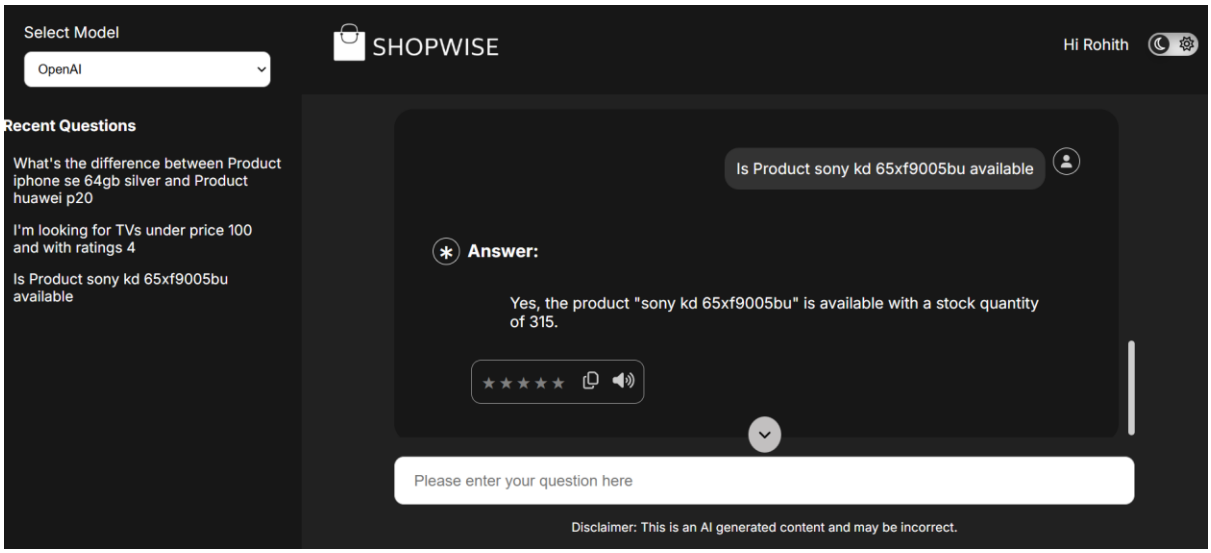
3. Alternative Suggestions

Query: “I'm looking for TVs under price 100 and with ratings 4”



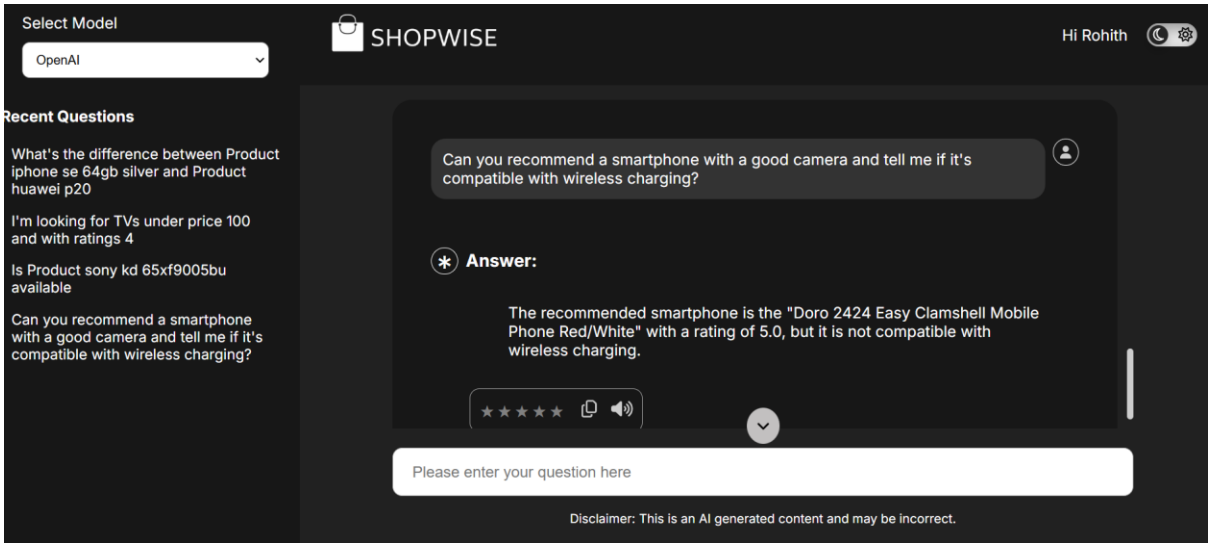
4. Product Availability

Query: “Is Product sony kd 65xf9005bu available”



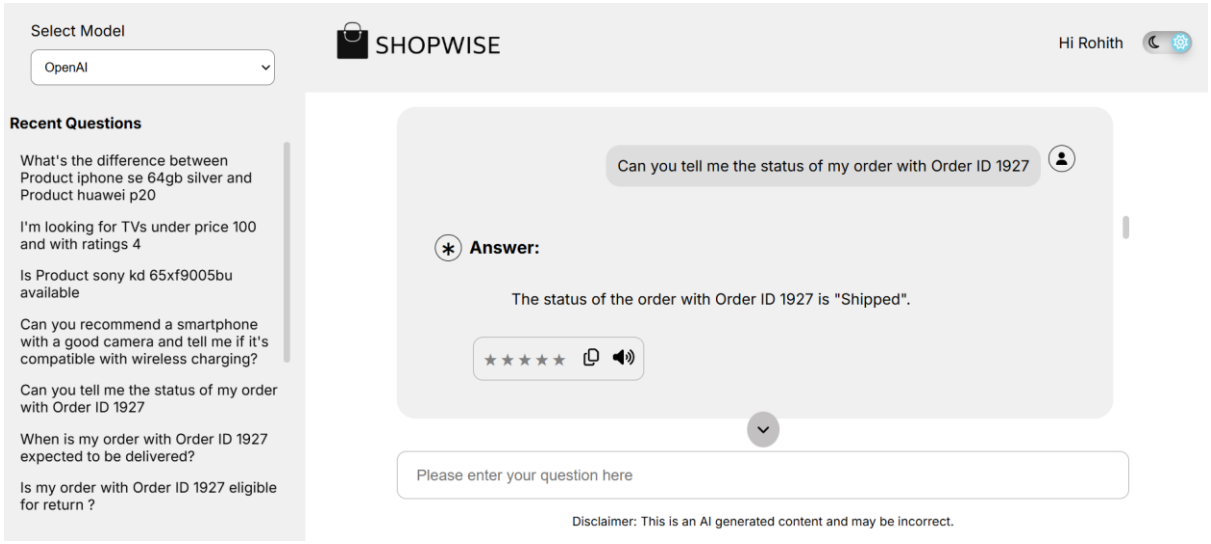
5. Nested Requests

Query: “Can you recommend a smartphone with a good camera and tell me if it's compatible with wireless charging?”



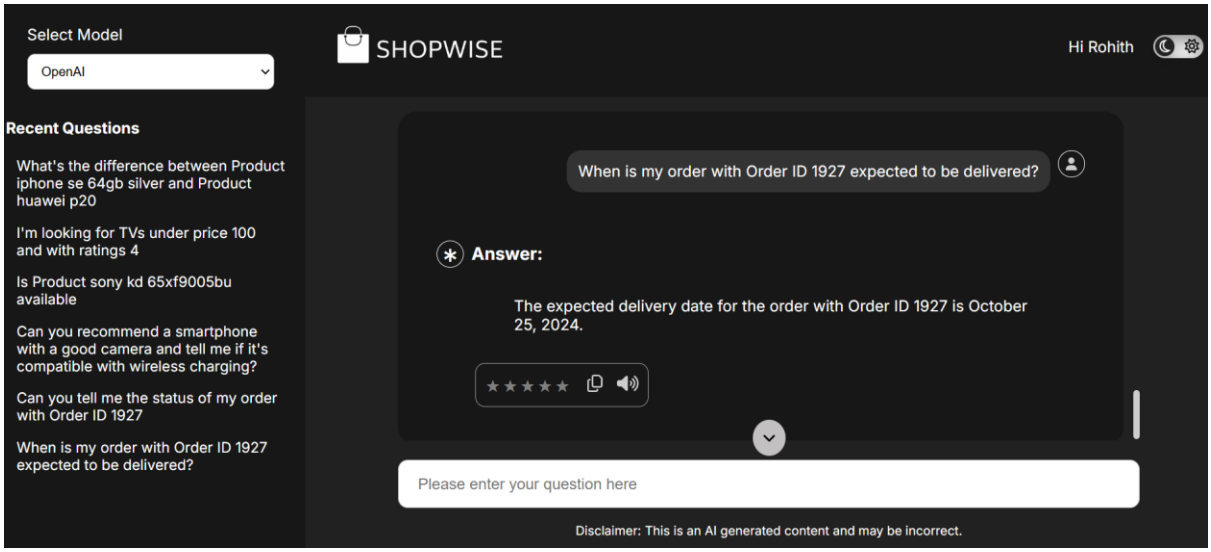
6. Order Status Check

Query: “Can you tell me the status of my order with Order ID 1927”



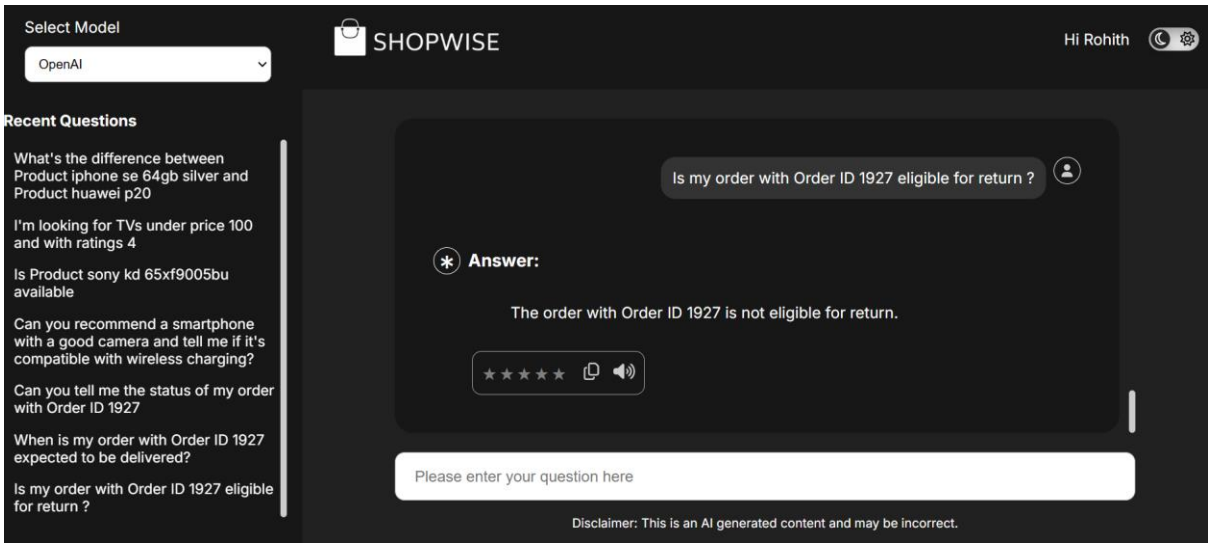
7. Tracking and Shipping Information

Query: “When is my order with Order ID 1927 expected to be delivered?"



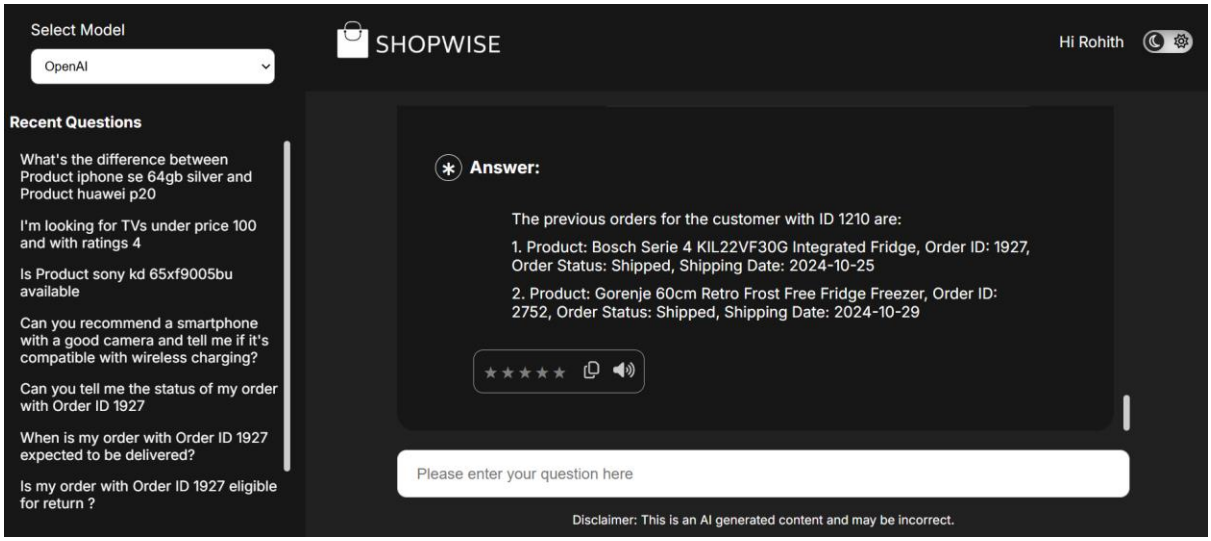
8. Return Eligibility

Query: “Is my order with Order ID 1927 eligible for return?"



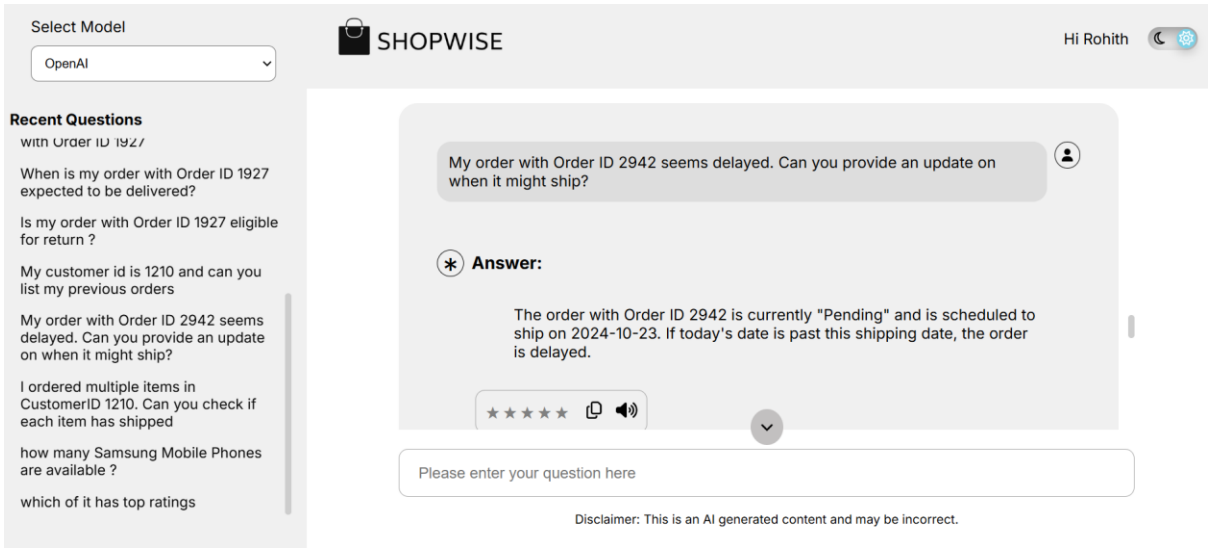
9. Order History

Query: “My customer id is 1210 and can you list my previous orders”



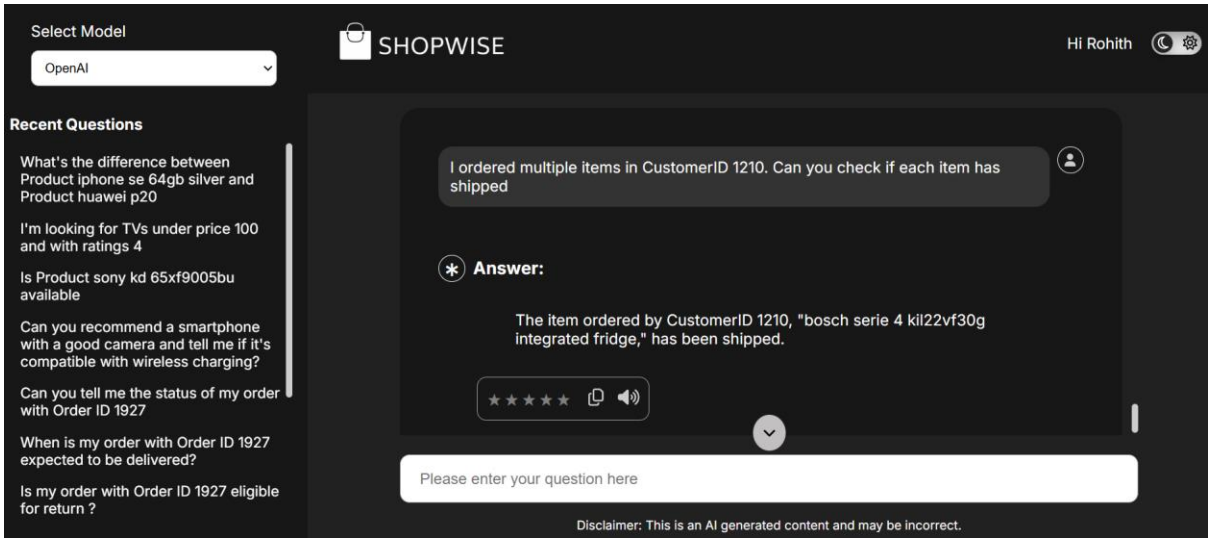
10. Shipping Delay Inquiry

Query: “My order with Order ID 2942 seems delayed. Can you provide an update on when it might ship?”



11. Order Assistance for Multiple Items

Query: “I ordered multiple items in CustomerID 1210. Can you check if each item has shipped”


Select Model
OpenAI
Recent Questions
What's the difference between Product iphone se 64gb silver and Product huawei p20
I'm looking for TVs under price 100 and with ratings 4
Is Product sony kd 65xf9005bu available
Can you recommend a smartphone with a good camera and tell me if it's compatible with wireless charging?
Can you tell me the status of my order with Order ID 1927
When is my order with Order ID 1927 expected to be delivered?
Is my order with Order ID 1927 eligible for return ?
SHOPWISE
Hi Rohith
I ordered multiple items in CustomerID 1210. Can you check if each item has shipped
Answer:
The item ordered by CustomerID 1210, "bosch serie 4 kil22vf30g integrated fridge," has been shipped.
Please enter your question here
Disclaimer: This is an AI generated content and may be incorrect.