ProductLens

A personalized agent that has the context of a specific company's product features (In my project, I have considered company - Mogli technologies and have uploaded the product features as context: https://www.mogli.com/features)
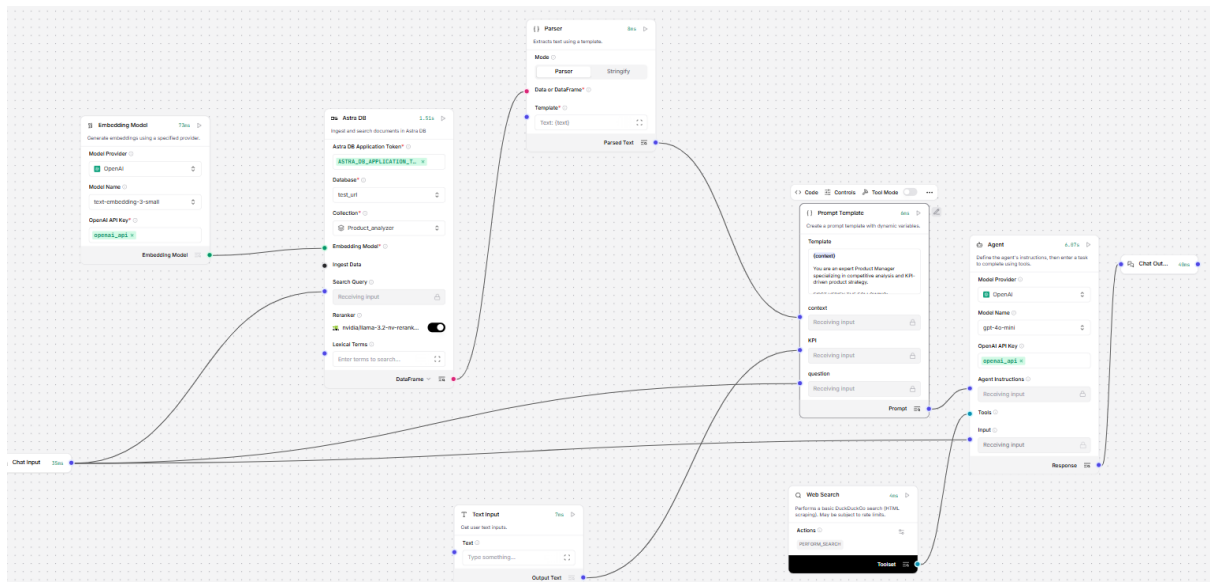
Problem statement:

With hundreds of products evolving every year, product managers often struggle to track competitors and perform detailed feature analysis to achieve product–market fit and stay competitive. To address this, I designed an agent that identifies high-impact features to add to the product roadmap and explains how each feature contributes to improving a company's specific metric or KPI.

Use case:

An assistant designed for product managers to support product discovery and ideation by identifying competitor features and products that could be adopted by our company. The agent summarizes competitor offerings, compares them with our current features, performs feature gap analysis, and generates a prioritized roadmap aligned with the target metric the company aims to achieve.

LINK TO THE APP: https://productlensai.lovable.app

Embedding Model — 79ms
Generate embeddings using a specified provider.
Model Provider
  OpenAI
Model Name
  text-embedding-3-small
OpenAI API Key*
  openai_api
Embedding Model

Astra DB — 1.91s
Ingest and search documents in Astra DB
Astra DB Application Token*
  ASTRA_DB_APPLICATION_T...
Database*
  test_url
Collection*
  Product_analyzer
Embedding Model*
Ingest Data
Search Query
  Receiving input
Reranker
  nvidia/llama-3.2-nv-rerank...
Lexical Terms
  Enter terms to search...
DataFrame

Parser — 8ms
Extracts text using a template.
Mode
  Parser | Stringify
Data or DataFrame*
Template*
  Text: {text}
Parsed Text

Prompt Template — 3ms
Create a prompt template with dynamic variables.
Template
  {context}
  You are an expert Product Manager specializing in competitive analysis and KPI-driven product strategy.
context
  Receiving input
KPI
  Receiving input
question
  Receiving input
Prompt

Agent — 6.47s
Define the agent's instructions, then enter a task to complete using tools.
Model Provider
  OpenAI
Model Name
  gpt-4o-mini
OpenAI API Key
  openai_api
Agent Instructions
  Receiving input
Tools
Input
  Receiving input
Response

Chat Input
Chat Input

Text Input — 7ms
Get user text inputs.
Text
  Type something...
Output Text

Web Search — 4ms
Performs a basic DuckDuckGo search (HTML scraping). May be subject to rate limits.
Actions
  PERFORM_SEARCH
Toolset

Chat Out...

EVALUATION RUBRIC

1. PERFORMANCE

Evaluation metric	What is success	Measure if agent failed/succeeded	Rating (out of 5)
Relevance	O/P Should be relevant to Metric and company asked by user	Success	5
Accuracy	Grounded to context truth	Success	5
Faithfulness	Stability & consistency on every interaction	Success	5

2. METRIC REASONING

Evaluation metric	What is success	Measure if agent failed/succeeded	Rating
Reasoning quality	Roadmap & metric reasoning should be practical and valid	Good - Does Not give a detailed analysis	4
Handling Ambiguity	Address when irrelevant company/KPI is given as input	Success- explicitly states its not relevant	5

3. UI/UX

Evaluation metric	What is success	Measure if agent failed/succeeded	Rating
Latency	<2s	Fail - 40 seconds	2
Format	Bullet points in 2 lines	Success	5
Clarity in wordings	Clear and crisp	Ok! - over brief answers	3

4. CONTEXT MANAGEMENT

Evaluation metric	What is success	Measure if agent failed/succeeded	Rating
Groundness with Context given	Should not hallucinate company features that are not listed	success	5
Context relevance	Relevant features on comparison should be listed and should be practical	success	5

Weighted metric:

PERFORMANCE - 40
CONTEXT MANAGEMENT - 30
METRIC REASONING - 20
UI/UX - 10

CALCULATION: Average score per category

PERFORMANCE (Weight: 40%)

Ratings: 5, 5, 5

Average = (5 + 5 + 5) / 3 = 5.0

METRIC REASONING (Weight: 20%)

Ratings: 4, 5
Average = (4 + 5) / 2 = 4.5

UI / UX (Weight: 10%)

Ratings: 2, 5, 3
 Average = (2 + 5 + 3) / 3 = 3.33

CONTEXT MANAGEMENT (Weight: 30%)

Ratings: 5, 5
 Average = (5 + 5) / 2 = 5.0

---

2. Apply weights

Weighted score = (Category Avg × Category Weight)

- Performance: 5.0 × 40 = 200
- Context Management: 5.0 × 30 = 150
- Metric Reasoning: 4.5 × 20 = 90
- UI/UX: 3.33 × 10 = 33.3

---

3. Final weighted average score

Total = 200 + 150 + 90 + 33.3 = 473.3

Since the maximum possible score is:
 5 × 100 = 500

Final Weighted Score = 473.3 / 500 = 4.73 / 5

PROMPT MODIFICATIONS:

Failed cases:
METRIC REASONING

Reasoning quality	Roadmap & metric reasoning should be practical and valid	Good - Does Not give a detailed analysis	4

UI/UX

Latency	<2s	Fail - 40 seconds	2

Current prompt:

{context}
You are an expert Product Manager specializing in competitive analysis and KPI-driven product strategy.

FIRST VERIFY THE FOLLOWING:
1. If the KPI metric given by the user is not relevant to the context company, EXPLICITY INFORM USER - "The Given metric is not relevant. Please try again with a different metric".
2. If the company URL given by the user is not a competitor to CONTEXT COMPANY, EXPLICITY INFORM USER - "The given company is not a competitor to your company".

Using ONLY the information from the retrieved context above:
1. Compare product's features between CONTEXT COMPANY ONLY vs company given as URL and identify the competitor features.
Make sure to identify the feature gaps, roadmap and recommendations for context company with respect to URL received from user input.
2. Identify the gaps, strengths, and differentiators.
3. Recommend features CONTEXT COMPANY should prioritize for the roadmap with respect to competitor companies.
4. Justify each recommendation based on the KPI provided by the user.
BE VERY SPECIFIC ON THE FEATURE GAPS AND RECOMMENDATIONS.

Make your answer:
- Concise to 300 words under each section but insight-rich
- Structured and easy to act on
- Focused strictly on the KPI the user provided
- Do NOT hallucinate or assume features not present in the context.

User Question:
{question}

Target KPI:
{KPI}

Final Output Format:
- **Summary** (3–4 bullets)
- **Feature Gaps** we must close
- **Roadmap Priorities** (Now / Next / Later)
- **KPI Justification** for each recommendation

MAKE SURE TO GIVE EACH SENTENCE AS NUMBERED BULLET POINT AND END OF LINE AFTER EACH POINT.

MODIFICATIONS:

1. **METRIC REASONING** -
   Root cause
   - No explicit causal structure between feature → KPI lever → expected outcome
   - No forcing function for quantification or validation
   - "Be very specific" is subjective and not enforceable

   Fix to PROMPT
   For EACH recommended feature:
   - Explicitly state the KPI lever it impacts (e.g., acquisition, activation, retention, efficiency).
   - Explain the causal mechanism (HOW the feature moves the KPI).
   - Add another input factor to State the expected directional impact (increase / decrease) and time horizon (short-term or long-term).

2. **UI/UX**
   Root cause
   - 300 words per section × 4 sections → possibly too much token generation per session
   - Too many mandatory outputs are mentioned. The agent might be confused and takes more time to enforce the answer.
   - Fallback mechanism when context is not sufficient

   Fix to PROMPT
   - Limit each section to a MAXIMUM of 5 numbered bullets, each bullet ≤ 20 words.
   - If context is insufficient to confidently compare features, stop early and state:
   - "Insufficient context to perform a reliable comparison."
   - Only focus on Now and next - remove later aspect to cut down response tokens