

# Mekari Associate AI Engineer Challenge

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# The Challenge:

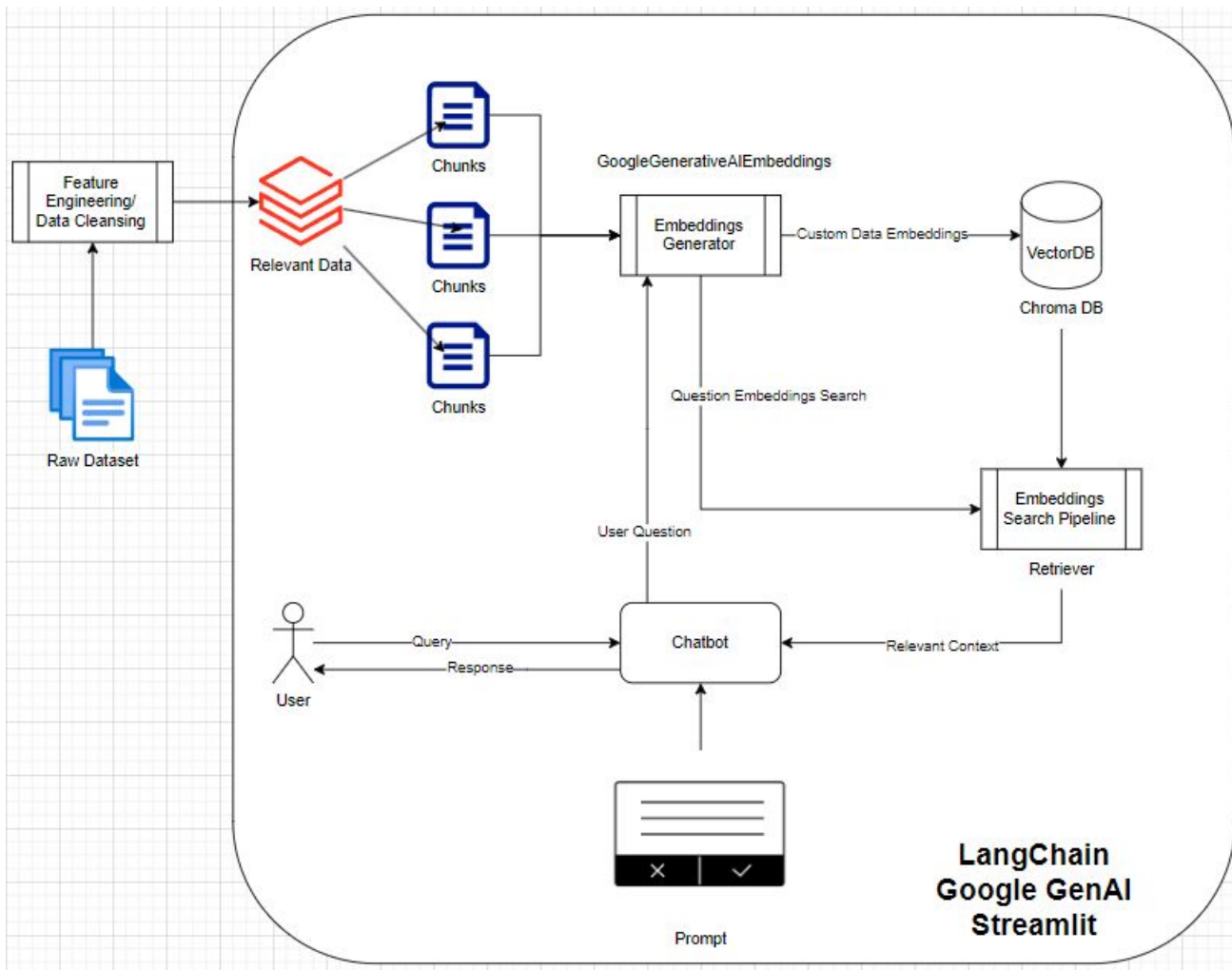
## Study Case

You are provided with a dataset comprising 3.4 million Google Store reviews for a music streaming application (e.g., Spotify) sourced from various users. The management is currently facing difficulties in extracting actionable insights from these reviews due to their unstructured nature and the sheer volume of data. Manual handling has proven to be time-consuming, and a more efficient solution is required to address management queries in a timely manner.

## Tasks

As an AI engineer at our company, your task is to develop an internal Q&A tool capable of extracting meaningful information from the Google Store reviews dataset (here) for the music streaming application (Spotify, source). The tool should provide insightful responses to a variety of management questions, such as:

# System High-Level Architecture



# Demo Screenshot

## Spotify Reviews Insights

Enter your question about Spotify reviews:

What are the primary reasons users express dissatisfaction with Spotify?

Get Insight

Users complain about song quality inconsistency, lack of flexibility for non-premium users, glitchy user interface, excessive ads, and limited control over their listening experience.

Response Quality Score: 0.69

## Spotify Reviews Insights

Enter your question about Spotify reviews:

What are the specific features or aspects that users appreciate the most in our application?

Get Insight

Retrieved Documents:

Document 1: I had a great experience with the application. It contains various helpful features. Now, they have even launched a podcast about the new features of the application and it has improved my experience a lot. But yes the advertisement of the new podcasts in between the songs is annoying. I suggest that it should come after the completion of one song. Moreover, even after giving the rating the system ask to rate the application. Please fix it. I hope, the team will work on it.

Document 2: It feels as if the dev team actually listens to us. I wrote two reviews asking for 2 features and they both got added. Granted, multiple people probably asked for it, but nice work regardless!

## Spotify Reviews Insights

Enter your question about Spotify reviews:

In comparison to our application, which music streaming platform are users most likely to compare our:

Get Insight

While Spotify's executives will find it useful to compare their service to the likes of Apple Music, Amazon Music, and Tidal, users are most likely to compare Spotify to YouTube Music.

Response Quality Score: 0.63

```
# Get the generated response text
generated_response_4 = response_4['output_text']

# Evaluate the response quality based on context
quality_score_4 = evaluate_response_quality(docs_4, generated_response_4)

# Output the quality score
print(f"Quality Score (Cosine Similarity): {quality_score_4:.4f}")
```

Quality Score (Cosine Similarity): 0.7001

```
question_4 = "Can you identify emerging trends or patterns in recent user reviews that may impact our product strategy?"
chain_4 = load_qa_chain(model, chain_type="stuff", prompt=prompt)
docs_4 = retriever.invoke(question_3)
response_4 = chain_4.invoke(
    {"input_documents": docs_4, "question": question_4}
    , return_only_outputs=True)
response_4
```

```
{'output_text': "Recent user reviews indicate growing dissatisfaction with the app's functionality and user interface. Specifically, users have complained about bugs, glitches, and a lack of customization options. These issues may prompt users to switch to alternative streaming services, so addressing them should be a priority for Spotify."}
```