MICROSOFT INNOVATION CHALLENGE - QueryGenie

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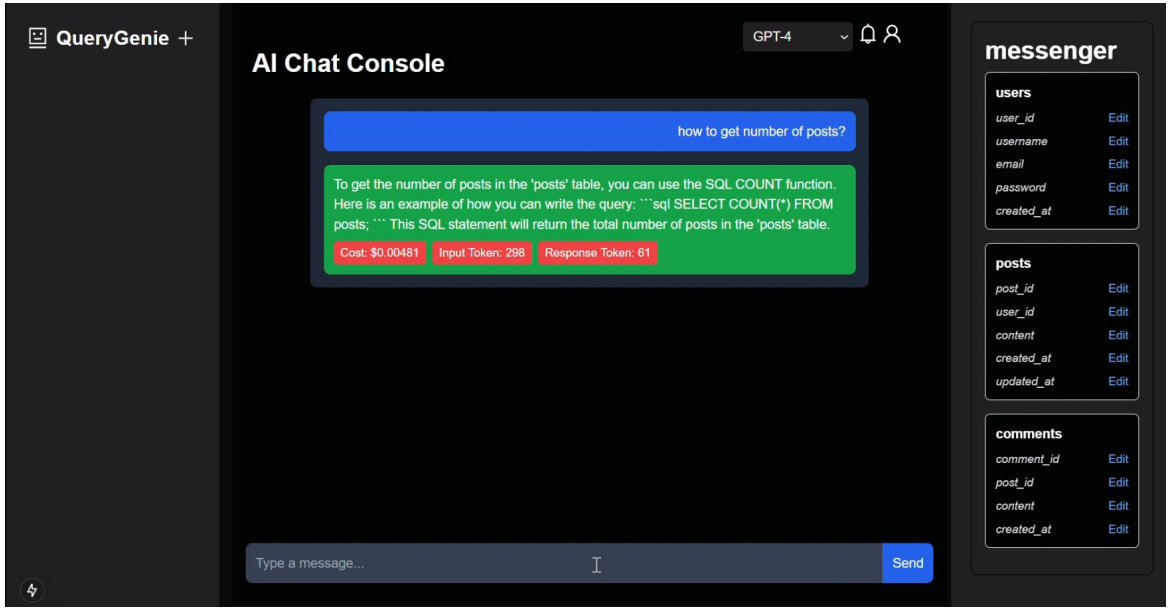
QueryGenie

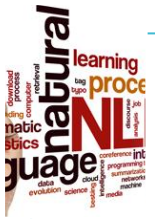
Talk it, query it, done!

QueryGenie is an advanced tool that converts natural language prompts (both text and voice inputs) to SQL queries. It manages the usage based on token counts and cost incurred, along with detailed analytics for each user profile.

Executive Challenge - "Chat with your data" token utilization and cost monitoring challenge



Features



Converts **natural language prompts to SQL queries**.

Supports both **text and voice** inputs and outputs.

Tracks **token counts** and **cost incurred**.

Provides **detailed analytics** for each user profile.

Notifies users when token limit is nearing based on set limits.

Allows **any form** of databases to be linked.

Considers **history** of the chat when required.

Innovation

Provides detailed analytics for each user profile while existing projects concentrates only on natural language prompts to SQL queries.

Follows separate notification system while existing projects lack them.

History can be deleted supporting responsible AI while existing projects could have missed them.

SQL Queries generated are read out loud which supports visually impaired users.

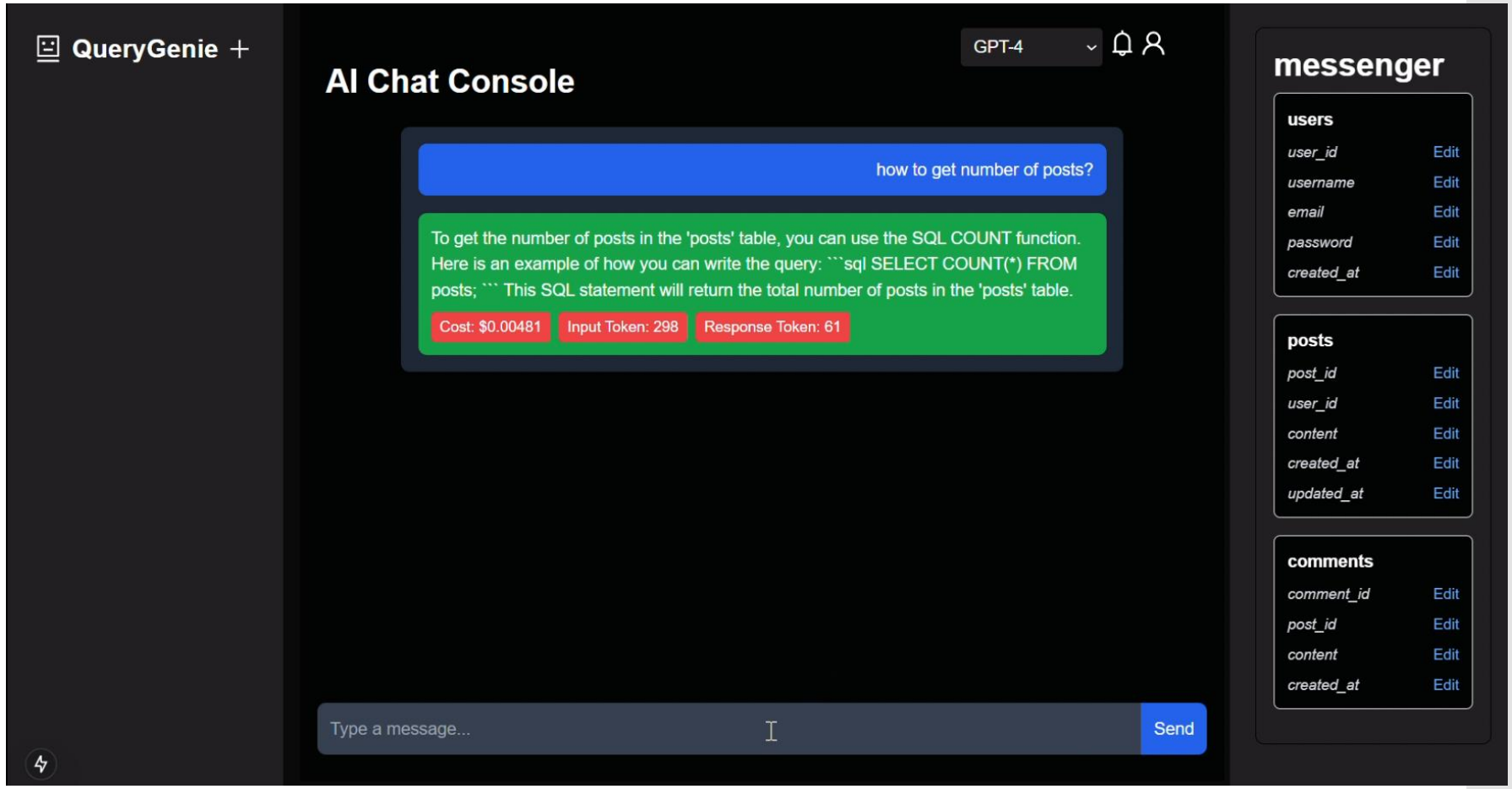
Prompts can be given in form of voice too for those who find it difficult to type.

Tools Used

- Azure Database for PostgreSQL (Database)
- Azure OpenAI (AI)
- Azure App Service (Hosting)
- Azure Authentication (Authentication)
- Python (Backend)
- Next.js (JavaScript - Frontend)
- GitHub Copilot
- Git and GitHub
- LangChain

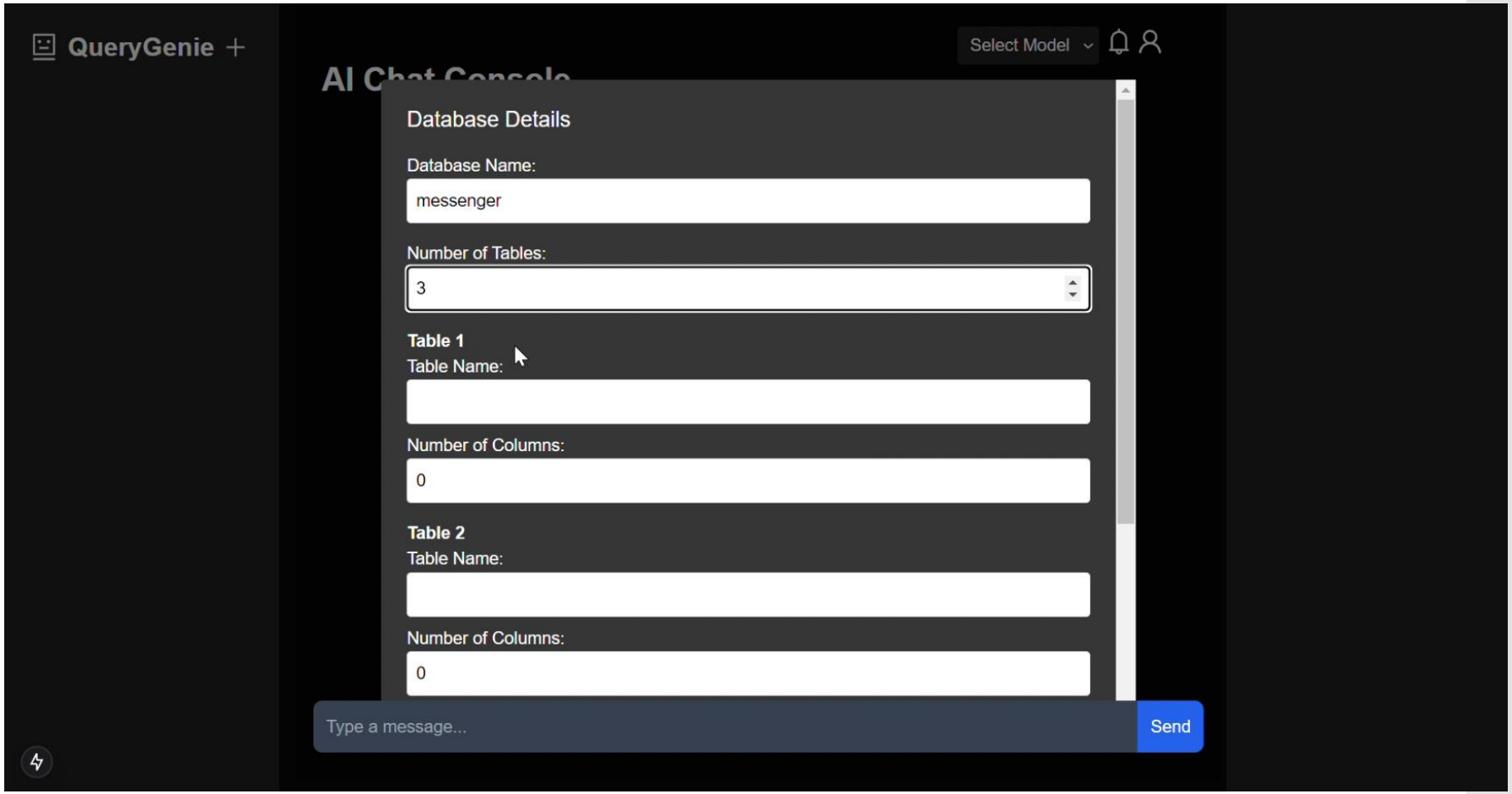
SCREENSHOTS

(main dashboard – prompt to query, right side database structure pane, left side history pane)



SCREENSHOTS
(token limit notification)

SCREENSHOTS (database details linking)



SCREENSHOTS
(token limit notification)

THANK YOU