

# MICROSOFT INNOVATION CHALLENGE - QueryGenie

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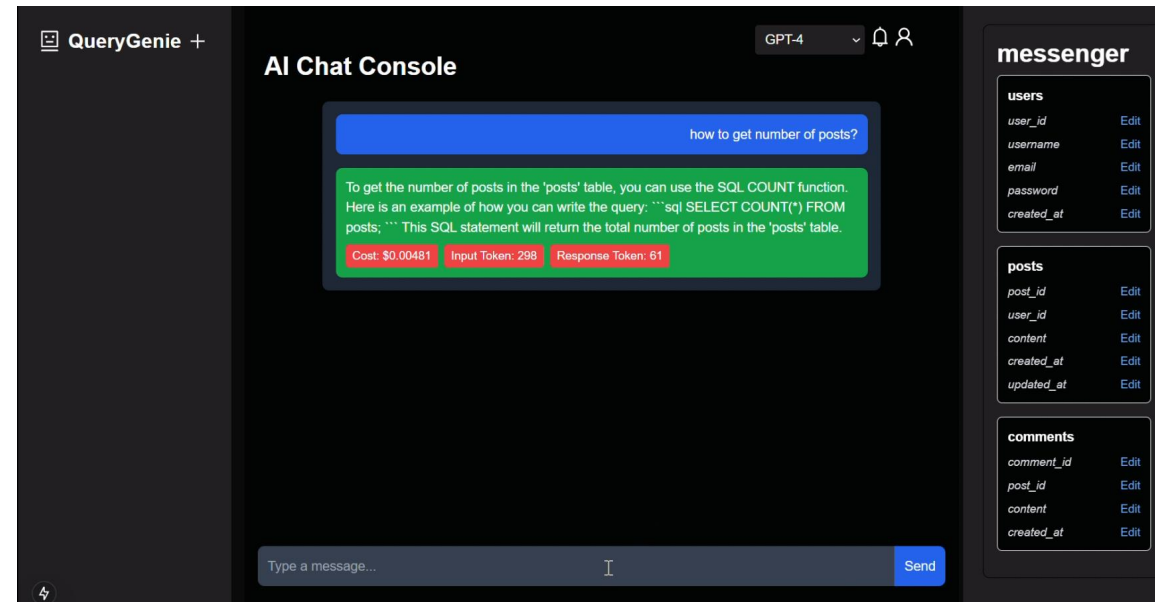


# QueryGenie

**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)

The screenshot displays the QueryGenie AI Chat Console interface. The top left corner features the 'QueryGenie +' logo. The main title 'AI Chat Console' is centered at the top. On the right side of the top bar, there is a dropdown menu set to 'GPT-4', a bell icon for notifications, and a user profile icon. The central area contains a chat history with a blue prompt box asking 'how to get number of posts?'. The response, in a green box, explains the SQL COUNT function and provides an example query: `sql SELECT COUNT(*) FROM posts;`. Below the response, three red boxes show usage statistics: 'Cost: \$0.00481', 'Input Token: 298', and 'Response Token: 61'. At the bottom, there is a text input field with the placeholder 'Type a message...' and a blue 'Send' button. On the right side, a 'messenger' panel lists three database tables: 'users', 'posts', and 'comments'. Each table lists its columns and has an 'Edit' link next to each column name.

**QueryGenie +**

**AI Chat Console**

GPT-4

how to get number of posts?

To get the number of posts in the 'posts' table, you can use the SQL COUNT function. Here is an example of how you can write the query: `sql SELECT COUNT(*) FROM posts;` This SQL statement will return the total number of posts in the 'posts' table.

Cost: \$0.00481 Input Token: 298 Response Token: 61

Type a message... Send

**messenger**

**users**

user_id	Edit
username	Edit
email	Edit
password	Edit
created_at	Edit

**posts**

post_id	Edit
user_id	Edit
content	Edit
created_at	Edit
updated_at	Edit

**comments**

comment_id	Edit
post_id	Edit
content	Edit
created_at	Edit

# SCREENSHOTS

(token limit  
notification)



# SCREENSHOTS

(database details linking)

The screenshot displays the QueryGenie AI Chat Console interface. At the top left, the logo 'QueryGenie +' is visible. On the top right, there is a 'Select Model' dropdown menu, a bell icon for notifications, and a user profile icon. The main heading 'AI Chat Console' is centered at the top. A modal window titled 'Database Details' is open, containing the following fields:

- Database Name:** A text input field containing the value 'messenger'.
- Number of Tables:** A dropdown menu currently showing the value '3'.
- Table 1:**
  - Table Name:** An empty text input field.
  - Number of Columns:** A text input field containing the value '0'.
- Table 2:**
  - Table Name:** An empty text input field.
  - Number of Columns:** A text input field containing the value '0'.

At the bottom of the modal, there is a chat input area with the placeholder text 'Type a message...' and a blue 'Send' button. A small lightning bolt icon is located in the bottom left corner of the console area.



# SCREENSHOTS

(token limit  
notification)



THANK YOU