AI Project - Chatbot

By: Kevin Diaz & Daniel Sheil

Overview

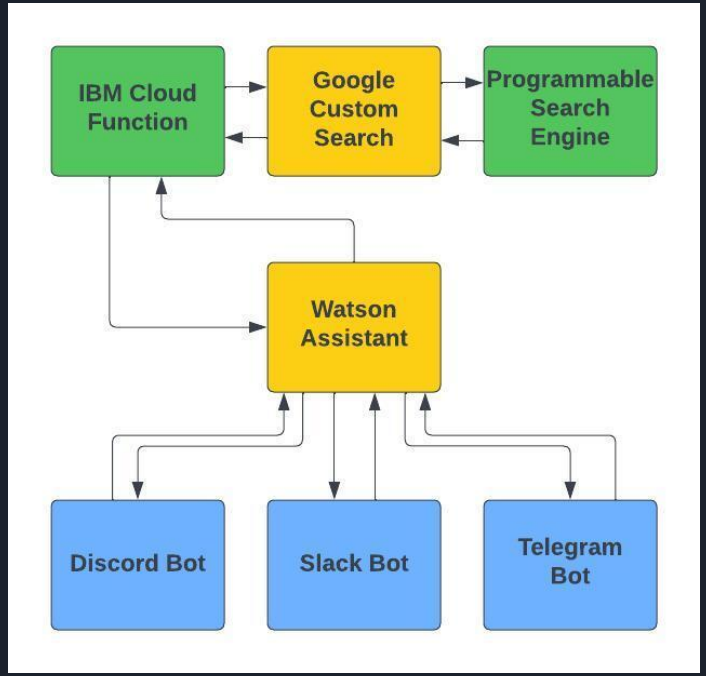
Issue: Many college students face challenges accessing textbooks due to their high costs.

- Financial barriers such as this can hinder students from achieving academic success and limits their learning opportunities.
- The internet has revolutionized information accessibility, but despite the vast amounts of online resources, finding free textbook alternatives remains a significant challenge for students

Solution: We created a chatbot powered by natural language processing to empower students to discover and access textbooks in PDF format seamlessly (for free!)

Tech Stack

1. Language: Python
2. Chatbot Platforms: Discord, Slack, Telegram
3. APIs: Watson Assistant, Google Custom Search
4. Serverless Computing: IBM Cloud Function
5. Google Programmable Search Engine



Watson Assistant

Intents:

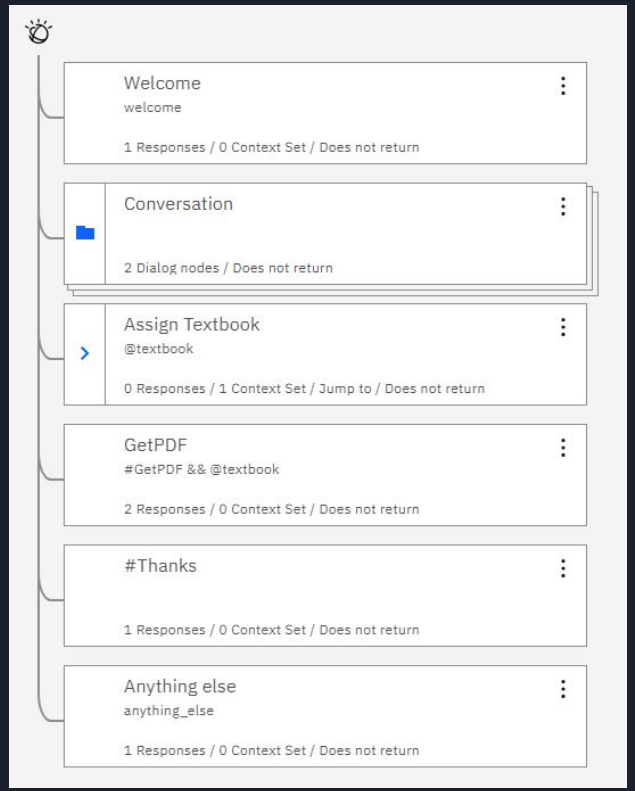
- #Greeting
- #GetName
- #GetPDF
- #Thanks

Entities:

- @authors
- @textbook
- @username

Webhooks:

- IBM Cloud Function



Limitations

Google Custom Search:

- Free: 100 searches per day

IBM Cloud Function:

- Deprecation: Will not be supported after October 2024

Future Improvements

Better Search Queries:

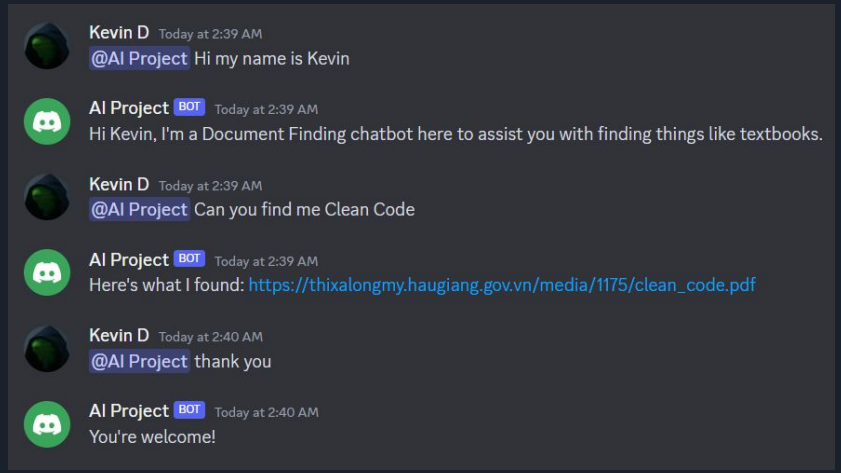
- Watson Assistant only passes the @textbook entity as a parameter
- For better results, we may also add the @author entity to the parameters

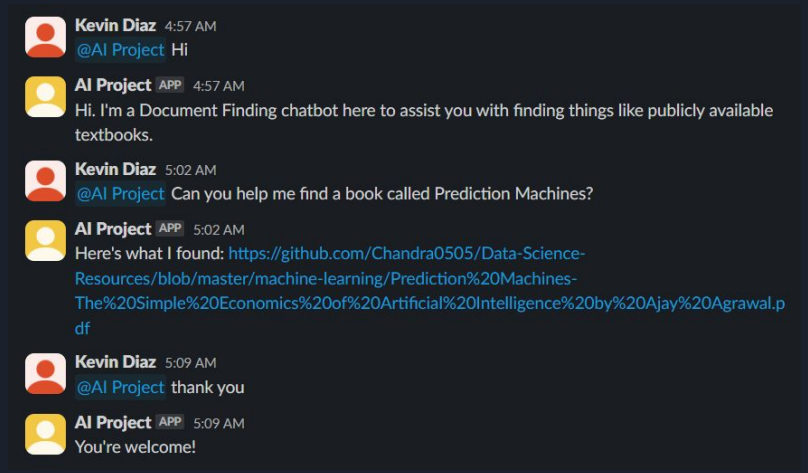
More Functionality:

- Google Custom Search API has more capabilities beyond finding links on the web:
  - Images
  - Specific File Types
  - Ranking of search results
  - Search within specific websites

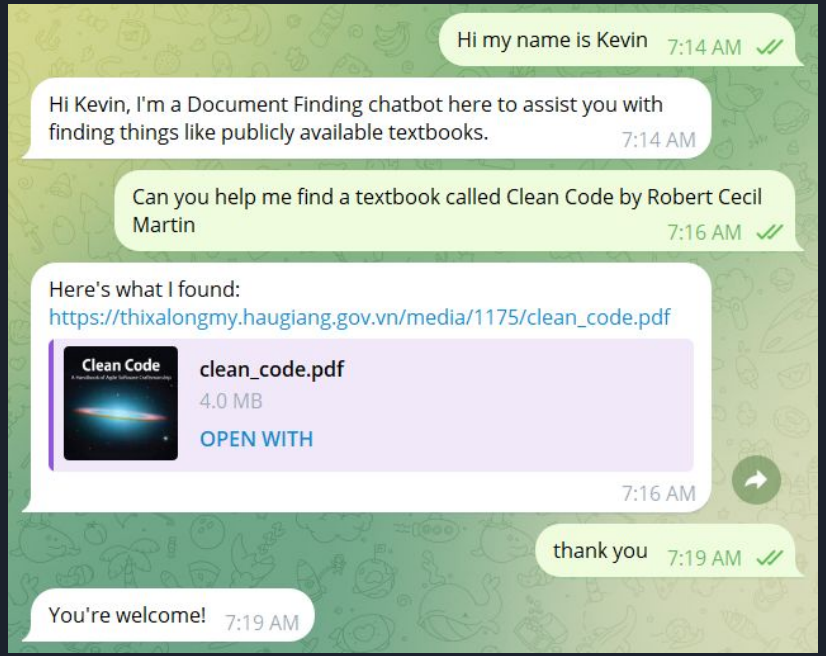
Bot Functionality

Users would be able to mention the bot's name within the channel and use natural language to ask for the textbook / document that they are searching for.





Bot Functionality



GitHub Repository

https://github.com/kevndiaz/ai-project-chatbot