

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green. They are positioned diagonally, with the blue one partially covering the green one.

AI Project - Chatbot

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Overview

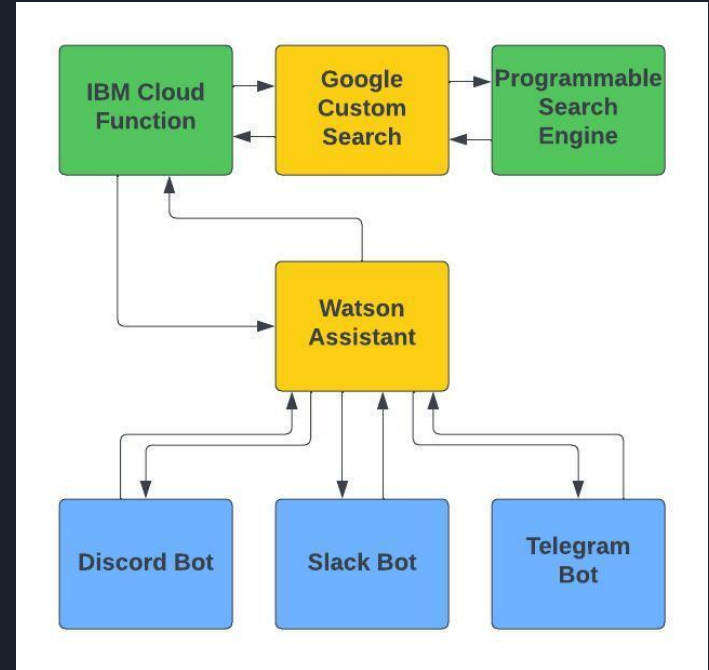
Issue: Many college students face challenges accessing textbooks due to their high costs.

- 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:

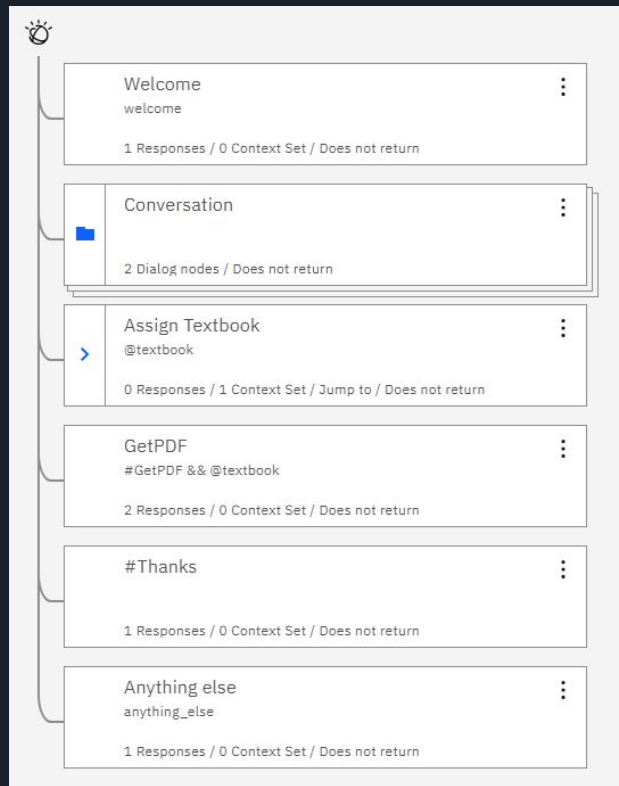
- #Greeting
- #GetName
- #GetPDF
- #Thanks

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.



Kevin D Today at 2:39 AM

@AI Project Hi my name is Kevin



AI Project BOT Today at 2:39 AM

Hi Kevin, I'm a Document Finding chatbot here to assist you with finding things like textbooks.



Kevin D Today at 2:39 AM

@AI Project Can you find me Clean Code



AI Project BOT Today at 2:39 AM

Here's what I found: https://thixalongmy.haugiang.gov.vn/media/1175/clean_code.pdf



Kevin D Today at 2:40 AM

@AI Project thank you



AI Project BOT Today at 2:40 AM

You're welcome!



Kevin Diaz 4:57 AM

@AI Project Hi



AI Project APP 4:57 AM

Hi, I'm a Document Finding chatbot here to assist you with finding things like publicly available textbooks.



Kevin Diaz 5:02 AM

@AI Project Can you help me find a book called Prediction Machines?



AI Project APP 5:02 AM

Here's what I found: [https://github.com/Chandra0505/Data-Science-Resources/blob/master/machine-learning/Prediction%20Machines-The%20Simple%20Economics%20of%20Artificial%20Intelligence%20by%20Ajay%20Agrawal.p](https://github.com/Chandra0505/Data-Science-Resources/blob/master/machine-learning/Prediction%20Machines-The%20Simple%20Economics%20of%20Artificial%20Intelligence%20by%20Ajay%20Agrawal.pdf)
df



Kevin Diaz 5:09 AM

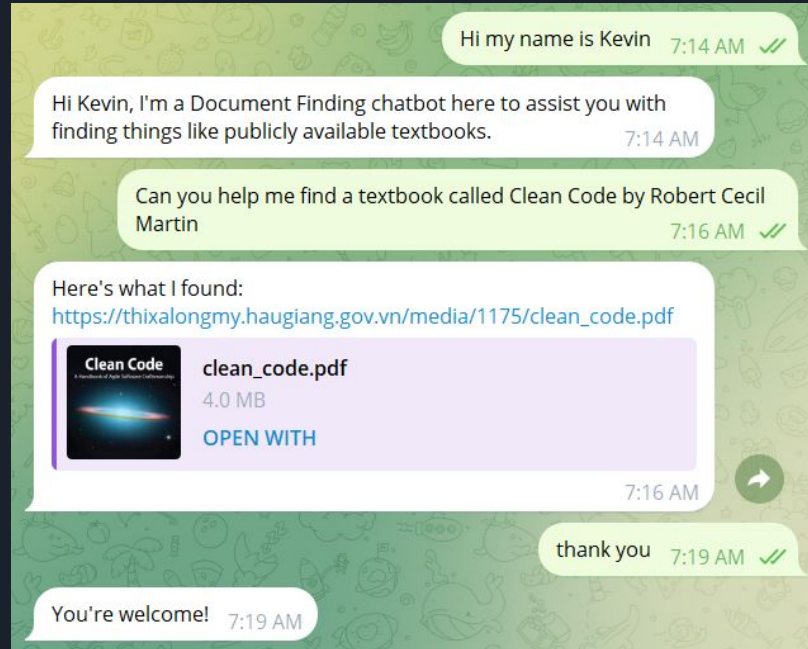
@AI Project thank you



AI Project APP 5:09 AM

You're welcome!

Bot Functionality





GitHub Repository

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