Chatbot Email Assistant(Development)

Introduction

The Chatbot Email Assistant is a system designed to automate email processing and provide employee support within an organization. It utilizes the n8n workflow automation tool and various nodes to handle incoming emails and categorize them based on the department they should be routed to. This development page provides an overview of the system's workflow and the functionalities of each node involved.

Overview

The Chatbot Email Assistant automates email processing by categorizing incoming emails based on content and routing them to the appropriate department. It utilizes n8n workflow automation and CHATGPT API for decision-making. Each department has an assistant node that generates responses to emails, providing efficient employee support.

Nodes

The Chatbot Email Assistant workflow consists of the following nodes:

Node 1: INCOMING EMAILS

- This node listens to incoming emails using the IMAP protocol and connects to the Thunderbird email client. It captures the incoming emails and makes them available for further processing within the n8n workflow.

Node 2: DEPARTMENT SELECTOR

- After an email is received by the INCOMING EMAILS node, the DEPARTMENT SELECTOR node analyzes the email content to determine the department it should be sent to. This node leverages the CHATGPT API to make the decision. It prompts CHATGPT with the email content and expects a response containing the department name.

Prompt Details:

- Temperature: A temperature value of 0 is used to generate deterministic responses from the CHATGPT API, ensuring focused and consistent responses.
- Tokens: The token limit of 5 ensures that the generated response remains concise and within the expected length of a single word or a few short words.

Node 3: SWITCH

- The SWITCH node receives the department name determined by the DEPARTMENT SELECTOR node and routes the email to the corresponding department's assistant. The available departments are HR, Marketing, Sales, and Finance. Each department has its own assistant responsible for processing the emails.

Node 4: The Assistants

- These nodes process the emails received by the INCOMING EMAILS node and routed to the respective department assistants. Each assistant node utilizes the CHATGPT API to generate a response to the email. The prompt provided to CHATGPT includes three sections: Role Assignment, Data Reference, and Email Content. These sections guide CHATGPT on how to behave and provide the necessary information for formulating a proper response.

Node 5: ASSISTANT REPLIES

- The formulated response generated by the assistants is sent as a reply to the corresponding email received in the INCOMING EMAILS node. The email is sent using the appropriate SMTP settings to ensure the response reaches the original sender.

Training data

The AI assistant needs to be able to provide the correct information from the correct data. I wanted to do this by simply prompting the information to the assistant and asking to formulate a correct response. But due to the token limitations of the Chatgpt API, I decided to create 4 different departments. Marketing, H&R, Sales and Finance. Each department will be prompted in the same way but with their own dataset. You can download the complete data set over here: fakedata.text

Experimenting with ChatGPT in the Playground environment

I wanted to find out what model would be the best for this proof of concept. The model needed to respond to emails correctly and output an email format. The models can also be adjusted with numerous parameters, but I will be focusing on two parameters. The temperature and the amount of tokens. I conducted a quick experiment with the text davinci model and find out what the best temperature would be best for the emailing assistant.

Text-davinci-003:
Can do any language task with better quality, longer output, and consistent instruction-following than the curie, babbage, or ada models. Also supports some additional features such as inserting text.

I've looked at other models but they seemed to be quite expensive and did not have the correct response.

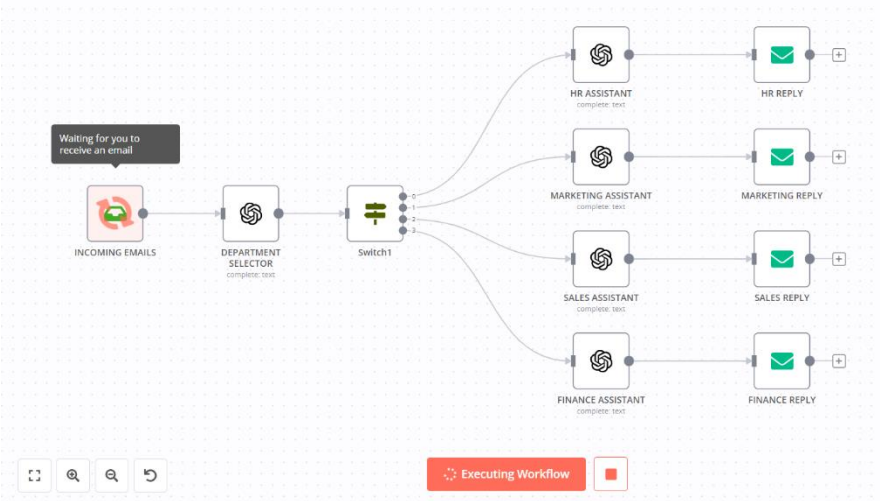
Temperature:
Controls randomness: lowering results in less random completions. As the temperature approaches zero, the model will become more deterministic and repetitive.

Tokens:

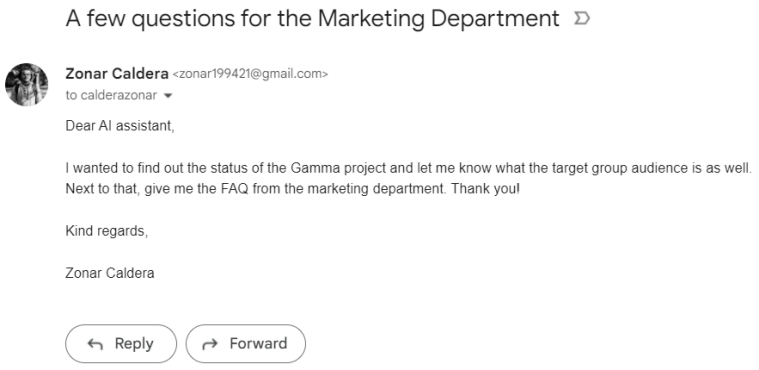
The maximum number of tokens to generate. Request can use op to 2,000 tokens or 4,000 tokens shared between prompt and completion. The exact limit varies by model. (One token is roughly 4 characters for normal English text)

The prototype

The N8N workflow starts of with a simple Email trigger node that is using IMAP. (Internet Message Access Protocol.



You can see here that I asked about a specific project, related to the fake data of course. Asking about the Gamma project and FAQ from the marketing department.



Now the N8N workflow is listening to the incoming email

Getting Started

To set up the Chatbot Email Assistant system, follow these steps:

1. Install n8n by following the official installation guide available at n8n.io.
2. Set up the necessary credentials for the Thunderbird email client, IMAP server, and SMTP server.
3. Create a new n8n workflow.
4. Configure each node as described in the Nodes Overview section, ensuring proper connections between nodes.
5. Customize the prompt and data references in the assistant nodes according to your specific requirements.
6. Save and activate the workflow.

Additional Resources

- **N8N**
  - n8n Official Website: Visit the official website to find information about n8n's features, use cases, and download n8n.
  - n8n Documentation: Access the official documentation for detailed guides, tutorials, and reference materials on using n8n, configuring nodes, creating workflows, and more.
- **Thunderbird**
  - Thunderbird Website: Explore the official website of Thunderbird to download the Thunderbird email client and access additional resources.
- **Scaling Up for an Organization**
- The Chatbot Email Assistant system