Team 3 GitHub Documentation

1. Abstract
   - **A brief summary of the implementation to the project and objectives.**
     The feature voice assistant is built for two pages. One is for the News Pages and the other is the Stocks and Funds page. In the news page, when the user searches for the company, a list of articles are displayed now. Using this voice assistant the user can ask the bot to summarize all the news articles that are displayed in the News page.

     In the Stocks and Funds page, when the user searches for the company details of the company stock is displayed. Along with that we plan to have a voice assistant that can answer basic questions about the company stocks. Example : The user can ask what is the 52 week high of NVDA(Ticker of the company)? Or What is the stock price of TSLA? I voice assistant will reply with the answer of these questions.

2. Features Implemented
   - **A list of features developed, including descriptions and significance.**
     Same as in the previous question
     - News summarizer voice assistant
     - Basic Stocks and Funds voice assistant

3. Code Highlights
   - **Key pieces of code or logic that is worth mentioning**
     News summarizer :
     The main piece of news summarizer is a summarizer model. This model is extracted from hugging face. The text extracted from the API is pre-processed before inputting into the summarizer model. The sentences in articles are grouped into chunks with a maximum word count of 500.This ensures that each chunk stays within the summarizer's input limit, which is crucial when working with models like Hugging Face's transformers. Sentences are iteratively added to the current chunk until adding another sentence would exceed the max_chunk size.
     If the limit is exceeded, a new chunk is started, and the process continues.
     Stock and Funds Q and A:
     The main piece of the model is extracting the keywords from the user's voice and extracting ticker and context from it and giving responses according to the context and ticker by mapping to standard responses.

4. Challenges and issues
   - Possible challenges and issues arised or may arise in the future.
     Need to work on the voice input part. As there are times where the voice recognizer is not properly identifying what is said by the user. This may create an issue while extracting the ticker from the input message.

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5. Solutions and Fixes
   - Strategies to fix possible challenges
     Need to use different and advanced voice recognising models that can capture human voices irrespective of the accent and background noise.

6. Future Work and suggestions
   - Suggestions for further development or improvement of the project or the feature
     - Can use a better voice recognition model
     - Fine tune the summarizer model
     - This model does not store any response. It just fetches the text from the API and reads the data fetched from the API. Would be nice if there is actually a model that tracks the response and trains on that response. This can make the model know which companies are mostly being asked and user's preferences.

7. Repository and Documentation Links
   - URLs to any relevant documentation.
     https://github.com/jeffreywallphd/AutoProphet/tree/FALL2024-BA5200-Team3/prototypes/Fall2024/Team3