# Weekly Progress Report

## Group 3

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## 1. BotUtils Package (Model)

- **Progress:** All core functionalities under the "Model" section have been successfully packaged into the **BotUtils** package. This provides a modular approach for handling various tasks like document embedding, retrieval, and chat-related functions.
- **Status:** Fully completed and operational.

## 2. Langchain Integration

- **Document Loader:** The document loader has been implemented and is now capable of efficiently retrieving and processing documents. It is fully functional and integrated with the backend.
- **Semantic Chunker:** The semantic chunker, which splits documents based on their semantic meaning, is in progress. Preliminary tests show success, but further optimizations are being conducted to improve accuracy and chunking quality.
- **Embedding Documents:** Document embedding functionality has been integrated, allowing documents to be converted into vector representations. Testing is ongoing to assess the embedding quality and performance.
- **Vector Store:** The vector store for managing document embeddings and facilitating efficient search and retrieval is in place and ready for production use. Initial tests confirm its operational stability.
- **Retriever:** The retriever functionality, responsible for fetching relevant documents from the vector store, has been implemented and is fully operational. Minor tweaks are being made for enhanced retrieval performance.
- **RAG Chain:** The setup of the Retrieval-Augmented Generation (RAG) chain has been completed, enabling the system to utilize retrieved documents in generating responses. The optimization phase is ongoing to improve response quality and speed.

## 3. Frontend Development

- **Initial Frontend:** The initial version of the frontend has been developed. It covers basic user interactions, allowing users to input data, receive outputs, and test the core functionalities.
- **Streamlit Frontend (yet to be completed):** The groundwork for the Streamlit-based frontend has been laid, but it is not yet fully functional. Full integration with the backend, UI enhancements, and user experience improvements are still pending.