CISC 593-B Proj 2

Project Proposal

Meeting Minutes Generator Using Generative AI (Web App)

Team Members and Responsibilities:

1. **Jaafar Bin Farooq** - Back-end Development, API Integration and AI Tools Integration
2. **Muhammad Irham Rahim** - Front-end Development and User Interface

Overview: The proposed project is a web application that automates the generation of meeting minutes using generative AI. The application will allow users to input meeting videos, audio files, or transcriptions, and will automatically generate concise and accurate meeting minutes. The aim is to simplify the process of documenting meeting details, saving time and ensuring consistency.

Major Features:

1. **Input Options**:
    - **Meeting Video**: Users can upload a video file of the meeting, which the system will process to extract audio and generate minutes.
    - **Meeting Audio**: Users can upload an audio file, and the system will extract transcriptions and generate minutes.
    - **Meeting Transcriptions**: Directly upload transcriptions if already available, allowing the system to generate minutes instantly.
    - **Link to Meeting Video/Audio (Tentative)**: Users can provide a link, and the system will attempt to download and process the file.
2. **Processing Capabilities**:
    - **Video Download and Extraction**: The system will support downloading video files from provided links using Python libraries. It will extract audio and transcriptions from video files using AI-based tools. *(Lead: Jaafar Bin Farooq)*
    - **Audio to Text Conversion**: AI-based tools will be used to convert audio files into transcriptions efficiently. *(Lead: Jaafar Bin Farooq)*
    - **Generative AI for Minutes Creation**: Using ChatGPT API, the system will prompt the model to create concise and relevant meeting minutes from the transcriptions. *(Lead: Mazhar Uddin Mohammed)*
3. **User Interface**:
    - A user-friendly front-end will be developed to handle file uploads, display processed data, and present the generated meeting minutes. *(Lead: Muhammad Irham Rahim)*
4. **System Architecture**:
    - **Front-end**: A responsive web interface for uploading files and viewing results. *(Lead: Muhammad Irham Rahim)*

    - **Back-end**: A Python-based back-end using FastAPI to handle file processing, AI integration, and data management. *(Lead: Jaafar Bin Farooq)*
5. **Testing**:
    - **Unit Tests**: Will be conducted on key modules such as file upload, processing, and API integration to ensure each component functions correctly. *(Lead: Siva Kumar Naik Bukke)*
    - **Acceptance Testing**: To validate the complete user experience and functionality against the initial requirements. *(Lead: Siva Kumar Naik Bukke)*
    - **Integration Testing**: To ensure all modules interact seamlessly without errors. *(Lead: Siva Kumar Naik Bukke)*
    - **Functional Testing**: To verify that all features work as expected, including minute generation from various input formats. *(Lead: Siva Kumar Naik Bukke)*

Implementation Plan:

1. **Research and Tool Selection**:
    - Identify suitable Python libraries for video downloading and audio extraction. *(Jaafar Bin Farooq)*
    - Choose AI tools for transcriptions and minutes generation. *(Mazhar Uddin Mohammed)*
2. **Development**:
    - Develop the front-end using modern web frameworks. *(Muhammad Irham Rahim)*
    - Build the back-end with FastAPI, integrating the generative AI model. *(Jaafar Bin Farooq)*
3. **Testing**:
    - Perform extensive testing on individual modules and the entire system to ensure reliability. *(Siva Kumar Naik Bukke)*
4. **Deployment(Tentative)**:
    - Deploy the web application on a cloud platform for easy access and scalability. *(Team effort)*

Conclusion: The Meeting Minutes Generator will revolutionize how meeting documentation is handled, leveraging generative AI to create accurate minutes from various input formats. With a focus on usability, efficiency, and reliability, this system will provide a significant productivity boost for organizations managing frequently.