

DevifyX Assignment: Speech Transcript Analyzer

Assignment Deadline: 7 Days

Assignment Submission Form: <https://forms.gle/X1WcGHn3Jr25tzF26>

Objective

Develop a Language Model (LLM)-powered application that processes speech transcripts to automatically summarize content, highlight action items, and extract key insights. The tool should streamline meeting analysis and provide actionable outputs for users.

Core Features

1. **Transcript Ingestion:** Accept transcript files in common formats (e.g., .txt, .docx, .pdf).
2. **Automatic Summarization:** Generate concise summaries of the transcript content.
3. **Action Item Extraction:** Identify and list action items, including responsible parties and deadlines if mentioned.
4. **Insight Extraction:** Highlight key insights, decisions, and important discussion points.
5. **Speaker Attribution:** Attribute statements and action items to individual speakers where possible.
6. **Interactive UI:** Provide a simple web-based interface for uploading transcripts and viewing results.
7. **Export Results:** Allow users to export summaries, action items, and insights in formats such as PDF or CSV.

Bonus Features

- **Multilingual Support:** Process transcripts in multiple languages.
- **Real-time Processing:** Support live transcription analysis (e.g., via streaming API).
- **Integration:** Integrate with calendar or task management tools (e.g., Google Calendar, Trello).
- **Sentiment Analysis:** Analyze and display sentiment trends throughout the transcript.
- **Customizable Summaries:** Allow users to select summary length or focus (e.g., decisions only, action items only).

Technical Requirements

- Use a modern LLM (e.g., OpenAI GPT-3.5/4, Llama, or similar) for NLP tasks.
- Implement the backend in Python (FastAPI, Flask, or Django preferred).
- Frontend can use React, Vue, or a simple HTML/CSS/JS stack.
- Ensure modular, well-documented code and clear separation of concerns.
- Provide clear instructions for setup and running the application locally.
- Use version control (git) and host the codebase on GitHub.

Deliverables

- Source code hosted on a public GitHub repository.
- A README.md with setup instructions, feature overview, and usage examples.
- Sample input transcripts and corresponding output files.
- (Optional) Short demo video or screenshots of the application in use.

Use of AI Tools

You are **permitted and encouraged** to use AI-based coding tools such as **GitHub Copilot**, **ChatGPT**, or similar platforms to assist with code generation, debugging, and documentation. However, the final submission should reflect your own understanding and structure.

Submission

- Submit your GitHub repository link via the assignment submission form: <https://forms.gle/X1Wc>

Evaluation Criteria

- **Feature Completeness:** Implementation of all core features and any bonus features.
- **Code Quality:** Readability, modularity, documentation, and adherence to best practices.
- **User Experience:** Intuitive and functional UI/UX.
- **Technical Soundness:** Proper use of LLMs and NLP techniques; efficient and scalable architecture.
- **Documentation:** Clarity and completeness of the README and code comments.
- **Creativity:** Innovative approaches, thoughtful bonus features, and overall polish.

We look forward to seeing your innovative solutions!
— **DevifyX Recruitment Team**