Maya 1.0 - Feature Document

Overview

Maya 1.0 is an advanced virtual assistant designed to enhance user experience through voice commands and intelligent conversation. The primary features of Maya include video playback on YouTube, real-time information retrieval, system control, and conversational capabilities.

Features

1. Play YouTube Videos

- **Description:** Maya can play videos on YouTube based on voice commands.
- **Implementation:**
    - **Voice Command Integration:** Utilizes a speech-to-text service to convert voice commands into text.
    - **YouTube API:** Integrates with the YouTube Data API to search and play videos according to user commands.
- **Commands:**
    - “Play [video name] on YouTube”
    - “Search for [video topic] on YouTube”

2. Weather and Real-Time Queries

- **Description:** Maya provides current weather updates for cities and answers real-time queries such as commodity prices.
- **Implementation:**
    - **Weather Updates:** Fetches weather information using a weather API like OpenWeatherMap or Weatherstack.
    - **Real-time Queries:** Retrieves information from APIs or web scraping for real-time data like gold prices.
- **Commands:**
    - “What’s the weather in [city]?”
    - “What is the price of gold today?”

3. System Control

- **Description:** Maya can control various aspects of the system, including power management and volume control.
- **Implementation:**
    - **System Commands:** Uses libraries like os or subprocess for system commands (shutdown, restart).
    - **Volume Control:** Utilizes pycaw (for Windows) or equivalent libraries.
    - **File System Management:** Manages directories and files using Python’s os module.
- **Commands:**
    - “Turn off the system”
    - “Restart the system”
    - “Set volume to [level]”
    - “Create a directory named [directory name]”
    - “Delete directory [directory name]”

4. Conversational Capability

- **Description:** Maya engages in natural language conversations using an LLM (Large Language Model).
- **Implementation:**
    - LLM Integration: Integrates with an LLM like GPT-4 to process and generate natural language responses.
    - Context Management: Maintains conversation context to provide relevant and coherent responses.
- **Commands:**
    - “Tell me a joke”
    - “Hey maya, how are you doing ?”

Technical Requirements

1. **Programming Language:** Python
2. **APIs:** YouTube Data API, Weather API, Real-time Query APIs
3. **Libraries:** Speech-to-Text service, os, subprocess, pycaw, Python LLM integration

Future Enhancements

1. Integration with additional APIs for expanded functionality
2. Improved natural language understanding and response accuracy
3. Support for additional languages and regional settings