News Summarization & Hindi Text-to-Speech Application

Overview:

This project extracts the latest news articles related to a given company, performs sentiment analysis, and

the summarized content into Hindi speech using text-to-speech (TTS). The web-based application allows u

to input a company name and receive a structured sentiment report with an audio output.

Features:

- News Extraction: Fetches at least 10 unique articles related to the given company.

- Sentiment Analysis: Categorizes each article as Positive, Negative, or Neutral.

- Comparative Analysis: Provides insights on how news coverage varies.

- Hindi Text-to-Speech (TTS): Converts the sentiment summary into Hindi audio.

- User-Friendly Interface: Uses Streamlit for a simple and interactive UI.

- REST API Integration: Uses Flask to fetch news, analyze sentiment, and generate TTS.

- Deployment on Hugging Face Spaces: The application is hosted for easy access.

Installation & Setup:

1. Clone the Repository:

   git clone <your-repo-link>

   cd <your-repo-folder>

2. Install Dependencies:

   pip install -r requirements.txt

3. Run the Backend API:

   python api.py

4. Start the Web Application:

   streamlit run app.py

API Endpoints:

```
Endpoint   | Method | Description                          | Example

-----------|--------|--------------------------------------|--------------------------------

/news      | GET    | Fetches news articles for a company  | /news?company=Tesla

/tts       | GET    | Generates Hindi TTS audio for summary| /tts?company=Tesla
```

Example Output:

Input:

{ "Company": "Tesla" }

Output:

{ "Company": "Tesla", "Articles": [...], "Final Sentiment Analysis": "Teslas latest news coverage is mostly p

Deployment:

The application is hosted on Hugging Face Spaces.

Live Application: https://huggingface.co/spaces/your-app-link

Assumptions & Limitations:

- Uses BeautifulSoup for web scraping, which may not work on JavaScript-heavy websites.

- Sentiment analysis is performed using TextBlob, which may have limitations in accuracy.

- The Hindi TTS is generated using gTTS, which requires an internet connection.

Contributors:

- Premalatha - Developer

License:

This project is released under the MIT License.

Next Steps:

- Test the API using Postman before integrating it into the UI.

- Ensure Hugging Face Spaces deployment is working.

- Submit GitHub link + Deployment link + Video demo before March 24, 2025.