# **Plugin Use Case Document**

# **LUMO**

## **Overview**

This application is an **AI-powered, voice-enabled Q&A assistant** built with Gradio. It allows users to upload PDF documents, ask questions verbally, and receive contextual answers both in text and as speech. The solution integrates **speech recognition, retrieval-augmented generation (RAG), and text-to-speech (TTS)** into a seamless workflow.

## **Problem Statement**

Non-profits, businesses, and researchers often deal with lengthy reports, policies, and case studies. Extracting specific information quickly is time-consuming and often requires manual searching. Additionally, many users with accessibility needs (e.g., visually impaired individuals) struggle to navigate dense documents.

## **Proposed Solution**

This system addresses the problem by:

1. **Uploading and processing PDFs** into a FAISS vector database.
2. **Recording voice queries** and converting them into text.
3. **Retrieving context-aware answers** from the document using RAG.
4. **Delivering responses** in both text and natural speech via TTS.  
    The Gradio UI ensures an intuitive step-by-step flow: upload → process → ask → hear answers.

## **Benefits**

* **Time efficiency**: Instantly find answers in long reports.
* **Hands-free interaction**: Voice-based queries and audio responses.
* **Accessibility**: Supports visually impaired and non-technical users.
* **Reusability**: Once processed, the same document can be queried multiple times.
* **Transparency**: Logging captures every step for traceability.

## **Impact on Non-Profits**

For non-profits working with reports, donor documents, and compliance papers, this solution:

* **Reduces manual effort**, freeing staff to focus on mission-driven activities.
* **Improves inclusivity** by enabling staff and volunteers with visual impairments to access critical information.
* **Supports decision-making** by providing instant access to data hidden in long documents.

## **Competitive Advantage**

Unlike traditional search tools:

* It supports **voice input**, not just keyword typing.
* It retrieves **contextual, not keyword-only answers**, thanks to FAISS + RAG.
* It delivers results in **dual format (text + audio)** for maximum accessibility.
* The UI is **lightweight and easy to use**, requiring no technical expertise.

## **Conclusion**

This Audio RAG-based Q&A system is a **powerful knowledge assistant** that transforms static PDFs into interactive, conversational resources. With its blend of **AI-driven retrieval, speech recognition, and text-to-speech**, it enhances productivity, accessibility, and inclusivity—making it especially valuable for **non-profits, research organizations, and enterprises** that rely heavily on documentation.