MULTI-MODAL RAG APPLICATION DEMO

Building Essence Towards Personalized Knowledge Model (PKM)

INTRODUCTION

🔍 **Discover the Future of Personalized Knowledge!**

- Unique, user-centric approach inspired by Microsoft's Recall initiative

- Uses advanced, on-device knowledge graph creation and updates based on user interests

- Ensures retrieval of information from browsing history, search items, and mobile interactions

🔧 What We're Building..

🔧 **Here's What We're Building:**

- Crafting a multi-modal RAG (Retrieval-Augmented Generation) using PDFs and YouTube videos

- Gateway to creating a Personal Knowledge Model (PKM)

- Leverages device's GPU to generate sophisticated knowledge graphs on the fly

🚀 Current Focus

- Multi-modal RAG applications using static data sources like PDFs and YouTube videos

- RAG retrieves relevant text, images, and video frames related to queries

👀 Future Vision

- Aligning with Microsoft's Graph RAG, supporting CSV and TXT formats

- Expanding capabilities to embrace PDF and video data for versatility

⚠️ Privacy Challenge

- Addressing the use of LLMs for creating the knowledge graph

- Concern: exposing data to LLMs during entity recognition and relational extraction

- Goal: develop methods to maintain privacy while creating accurate knowledge graphs
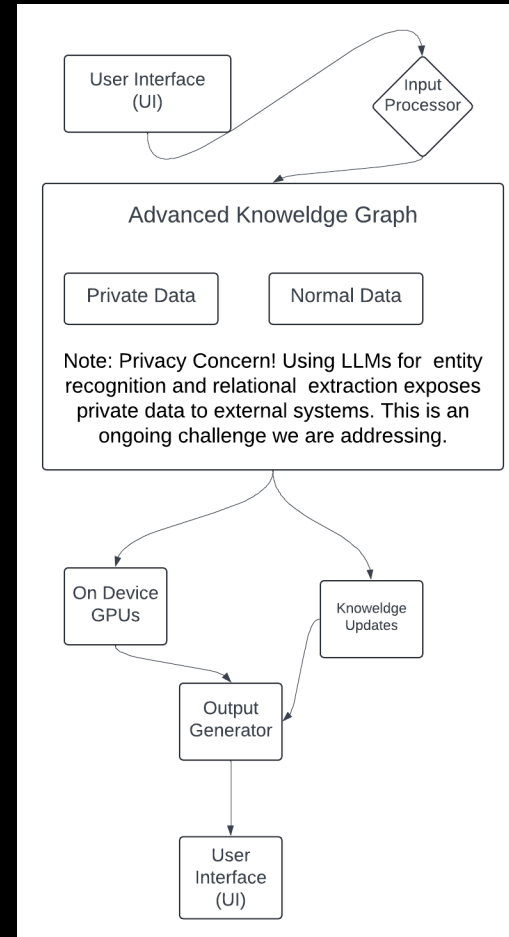
💻 Static Multi-Modal RAG Application

- Interact with a system that understands and retrieves information across multiple media types

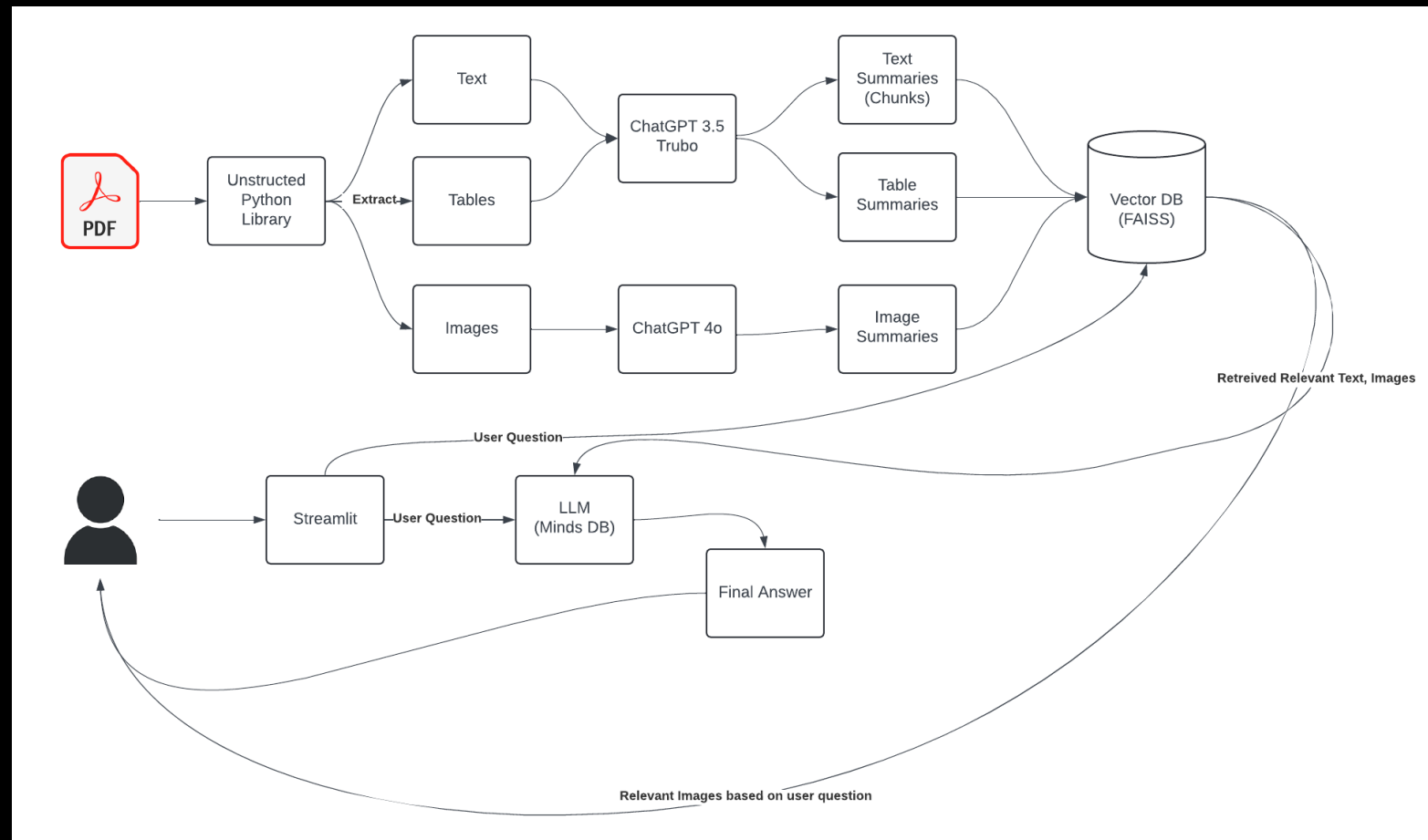- Practical, accessible, and ground-breaking approach without needing heavy computational power

Basic Architectures for PKM, MMR-PDF & MMR-Video
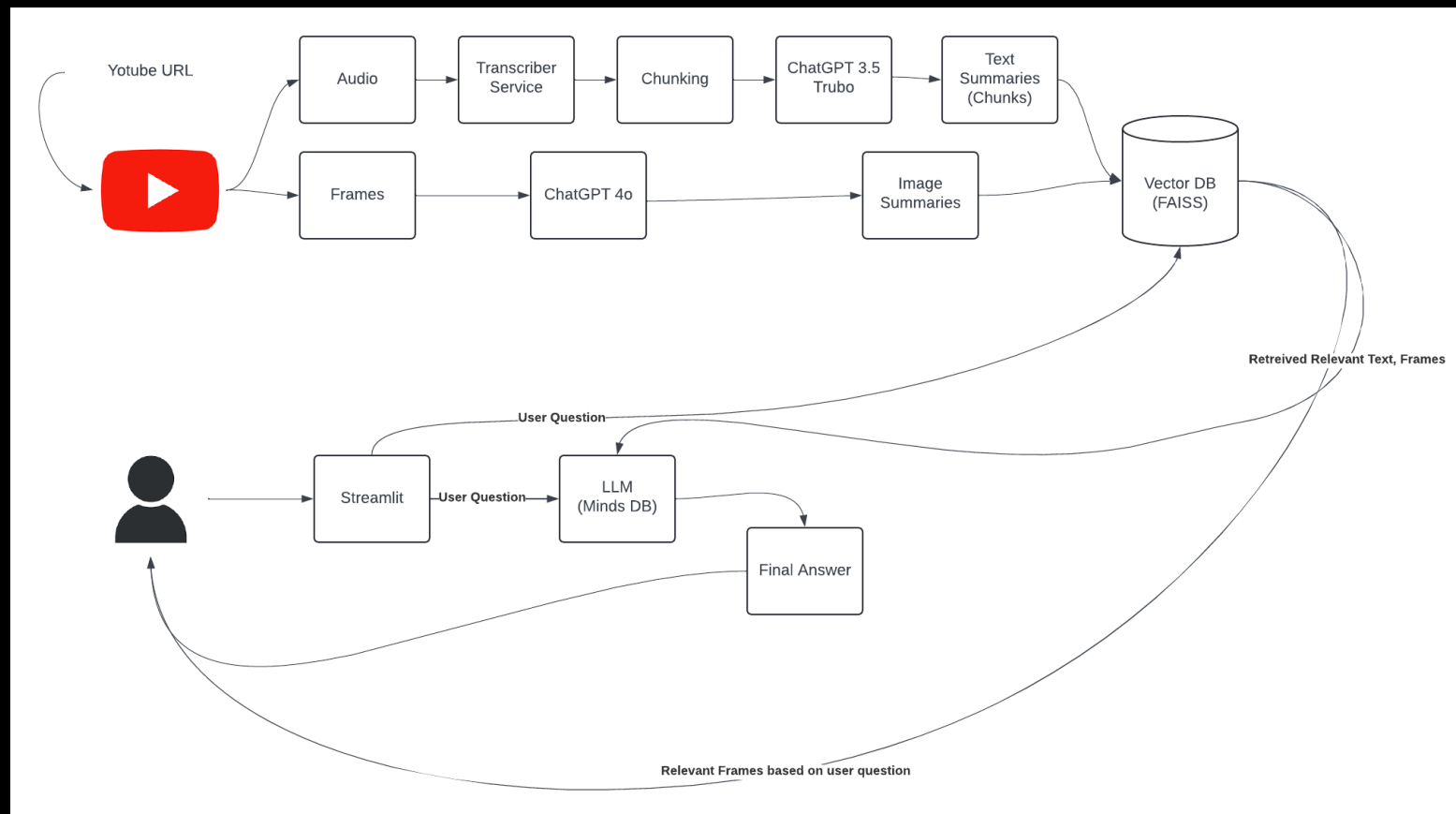
Basic PKM Architecture

Basic Architectures for PKM, MMR-PDF & MMR-Video

MMR-PDF (Multi-Modal RAG for PDF) Architecture (Static)

Basic Architectures for PKM, MMR-PDF & MMR-Video

MMR-Video (Multi-Modal RAG for Video) Architecture (Static)

Tech Stack

🧠 MindsDB Endpoints ([mdb.ai](mdb.ai))

🧩 Langchain

🖥️ Streamlit

🗂️ FAISS

Let us jump to the demo…

Live WebApp Prototype Link

THANK YOU