Internal Quality Assurance Cell (IQAC)

SMART INDIA HACKATHON 2025 – STUDENT REGISTRATION FORM

Problem Statement ID: 25231

Department: AIML
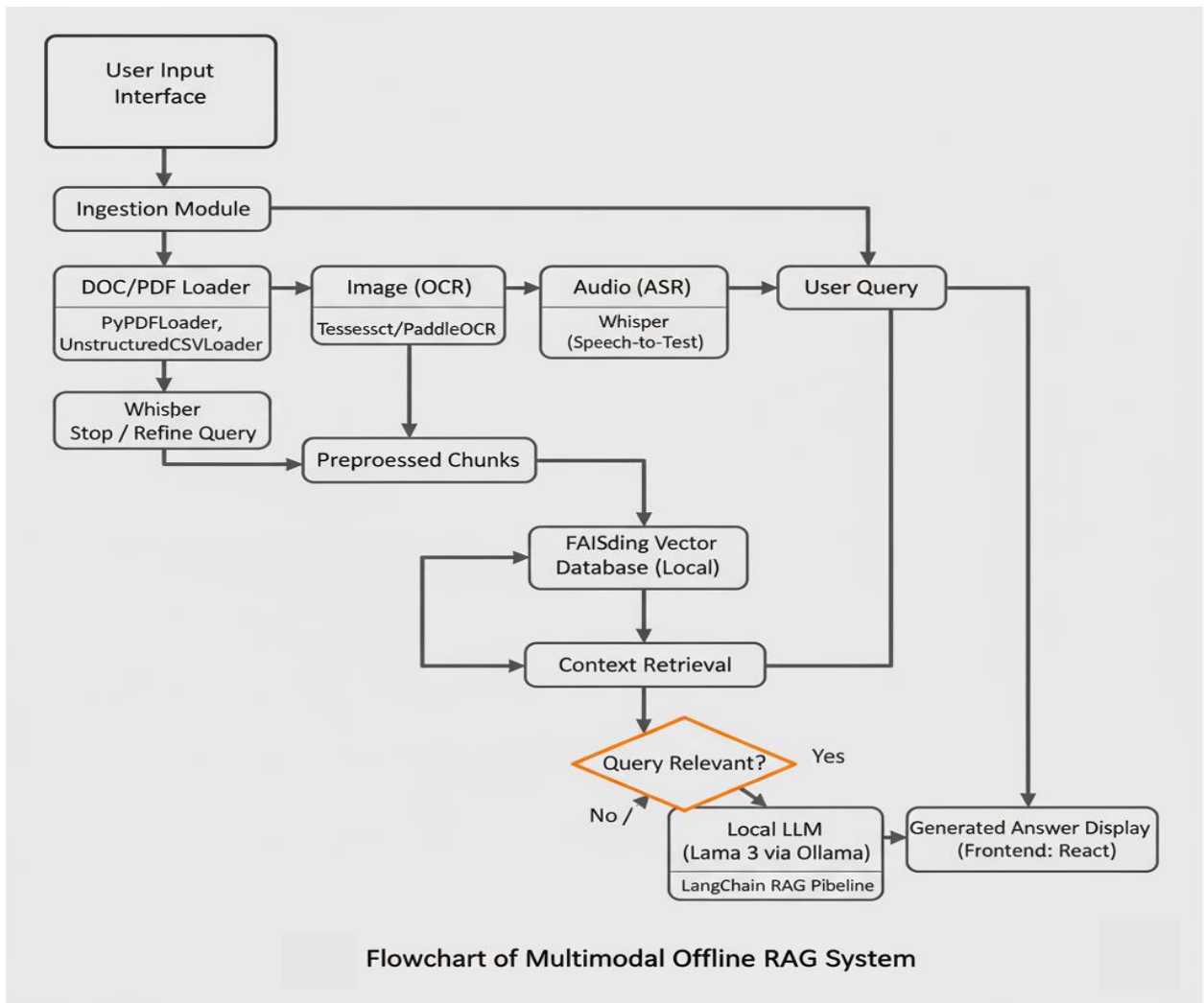
Year/Semester: 7th

Team Details

- **Team Name:** Digital Dynamo
- **Number of Members:** 6

Team Member Details

Sr. No	Name	Email Id	Mobile Number	Gender	Specialization/ Branch
1	Sahil Aman Singh	amnsahil123@gmail.com	7058459412	M	AIML
2	Tejas S Gayake	tgayake3142@gmail.com	7083833142	M	AIML
3	Vipin V Chaudhari	vipinchaudhari2692@gmail.com	8767720863	M	AIML
4	Shubhangi R Avhad	avhadshubhangi2611@gmail.com	9405231098	F	AIML
5	Lalit J Aher	aherlalit41@gmail.com	9322176465	M	AIML
6	Hitesh J Jadhav	mrhitesh020@gmail.com	8482981847	M	COMP.

Project Details:-

- **Problem Statement/Area of Interest:** Design and build a multimodel Retrieval-Augmented Generation (RAG) system leveraging a Large Language Model (LLM) for OFFLINE mode that can ingest, index, and query diverse data formats such as DOC, PDF, Images and voice recordings within a unified semantic retrieval framework

- **Brief Description of Proposed Idea:** Our proposed solution is a Multimodal Retrieval-Augmented Generation (RAG) System designed to function entirely in offline mode, ensuring security, privacy, and accessibility without reliance on the internet. The system can ingest, index, and query multiple data formats including DOC, PDF, Images, and Voice Recordings, unifying them under a single semantic retrieval framework.

Flowchart of Multimodal Offline RAG System

- At its core, the system leverages LangChain to orchestrate the RAG pipeline. Documents are parsed using specialized loaders such as PyPDFLoader for PDFs and UnstructuredCSVLoader for CSVs. Extracted content is embedded into semantic vectors using Sentence Transformers (all-MiniLM-L6-v2) and indexed locally with FAISS, enabling efficient and context-aware search. For multimodal inputs like images and voice, integrated parsing modules extract textual content through OCR and speech-to-text.

- The local Large Language Model (LLM) is powered by Ollama running Llama 3, ensuring all query responses are generated securely on-device. This offline-first design makes the solution highly suitable for environments where internet access is limited or sensitive data must remain private.

- The user interface is built using React, styled with Tailwind CSS, and enriched with Lucide React icons for a modern, intuitive experience. Overall, the system combines AI-driven search, multimodal understanding, and offline accessibility into a smart automation tool for knowledge retrieval.
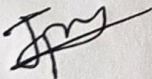

- This solution is highly scalable and adaptable, making it useful for educational institutions, government offices, and enterprises that need secure offline knowledge access. It reduces dependency on cloud services while maintaining advanced AI-driven capabilities.

Declaration

We hereby declare that the information provided above is true and correct to the best of our knowledge. We agree to abide by the rules and guidelines of Smart India Hackathon 2025.
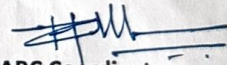
Team Leader Signature: _____

Date: 27 - 9 - 2025

Project Coordinator

Prof.J. S. Pawar

Head of Department

Dr. Vishal Patil

ARC Coordinator

Prof.H. R. Kulkarni