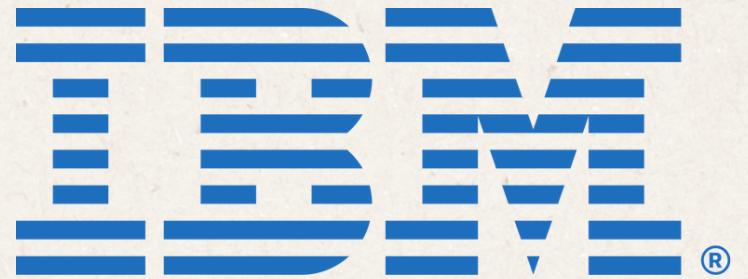


Equipe 22

HACKATON BI PIPELINE

05 - 06 - 07 Nov. 2025 - ESILV - IBM



NAME OF TRACK:

Education/Automation

PRESENTED BY:

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Agenda

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Context

Current solution

Manual search over more than 400 Q&As
→ Inefficient, slow and lacks of context

Goal

Creating an intelligent assistant to improve user support.
→ Faster, personalised

Project Objectives



User Interface

Clone Help Center and integrate an intelligent conversational agent



Self-learn Dataset

If the information is not found, create a new line in the db with the question and the answer an admin will add.



Intelligent Help Center

Use a RAG to enhance answers : understand context to propose the most relevant answer.



Improve what exists

Rather than replacing a functioning tool, focus on improving it.

Key Features

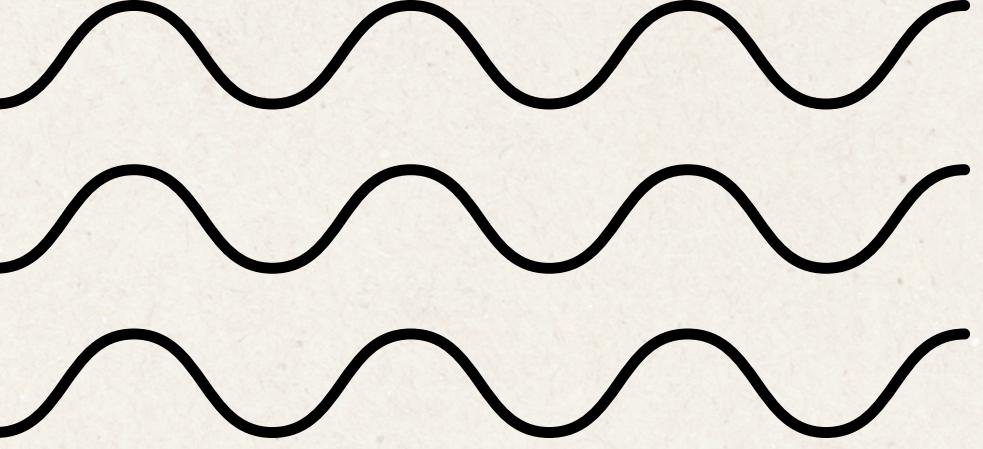
Contextual understanding of student questions.

AI-generated responses enhanced with retrieved data.

Seamless human validation when AI has no answer.

Continuous improvement through new entries.

Integrated into existing PLV Help Center database



Dataset Overview

Continuously enriched as
human-validated
answers are added to the
database

Dataset containing 491
rows with columns title,
questions, answers,
topics...

Structured and cleaned
for efficient retrieval
within RAG pipeline

System Architecture

Frontend Next.js

Chat interface in the student portal + admin page.

Retriever

Fetches relevant entries from database, using cosinus similarity.

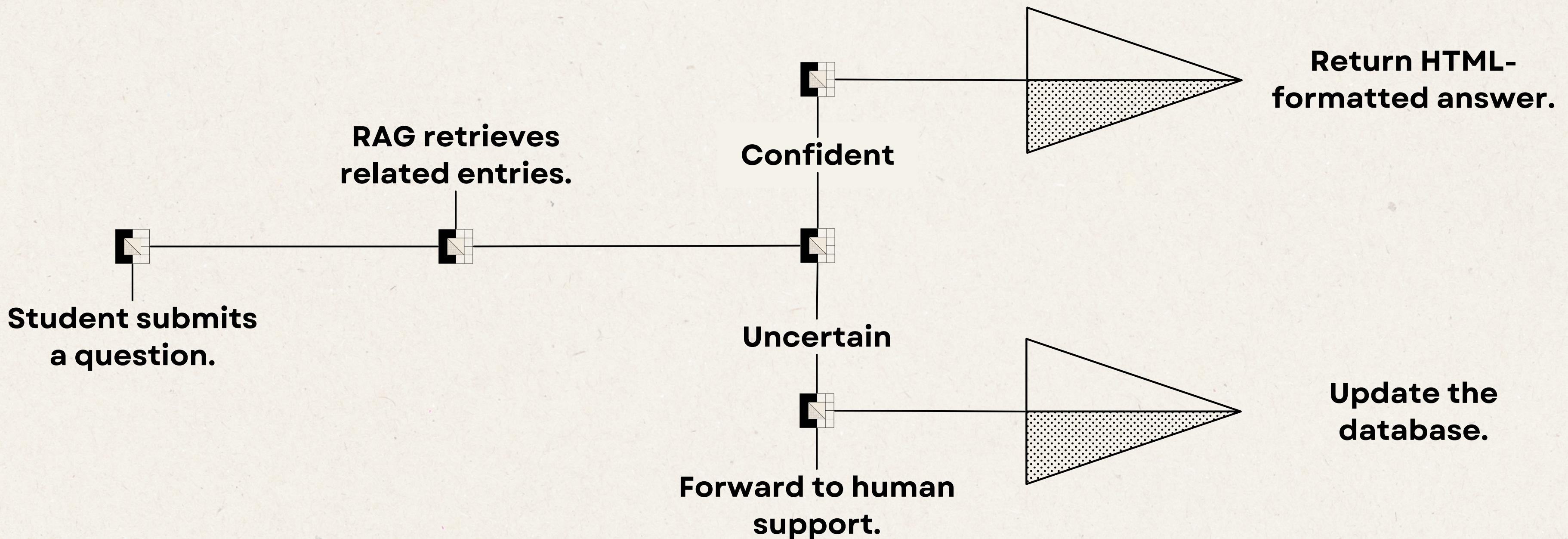
Generator (LLM)

Produces or enriches answers using retrieved data.

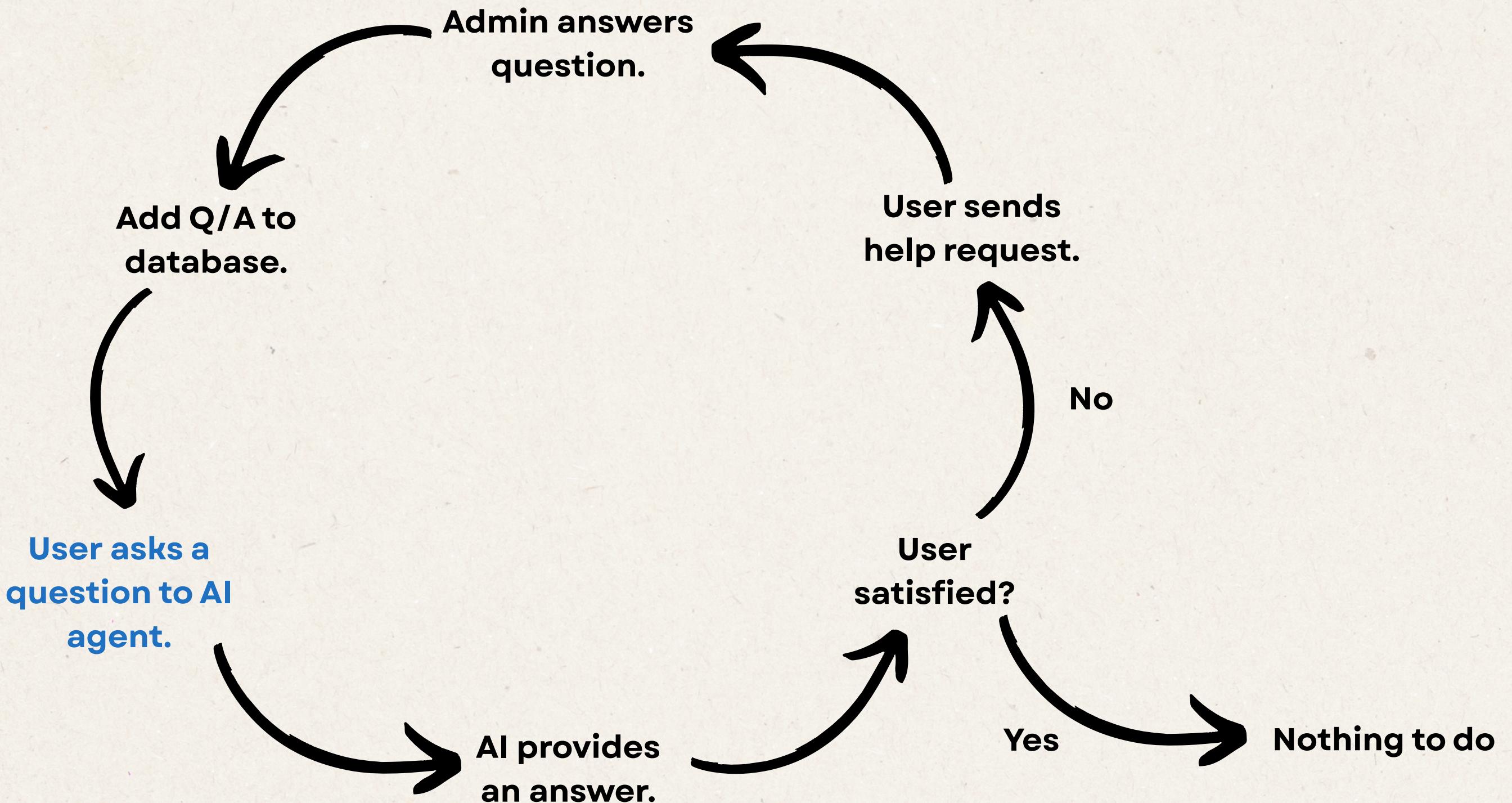
Database ChromaDB

Stores Q&A and new verified answers.

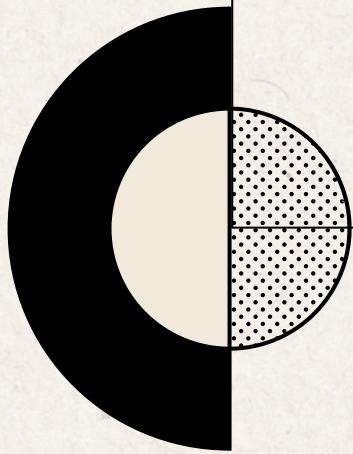
Data Flow



Human-in-the-Loop Training



Technologies Used



AI Core : Retrieval-Augmented Generation (RAG)

Version Control : GitHub for Collaboration and documentation

Frontend : Nextjs

Backend : Python-based API (watsonx) logic for RAG pipeline

Database : ChromaDB

Security : Token authentication

Collaboration on GitHub

WatsonX's Problems	Rename creation_error.png to creation_error.png
certification	Add files via upload
source	Connect frontend and backend
.gitignore	update gitignore
README.md	Add files via upload
README_backend.md	Add files via upload
README_frontend.md	Add files via upload
demo_video.mp4	Add demo_video.mp4
pitchdeck.pdf	Add initial pitch deck PDF

```
hackathon_IBM_DIA_E22/
├── source/
│   ├── backend/
│   │   ├── app/
│   │   │   ├── tools/
│   │   │   │   ├── document_loader.py
│   │   │   │   ├── rag_system.py
│   │   │   └── IBMWatsonxChat.py
│   │   └── process.py
│   └── main.py
└── frontend/
    └── help-center/
        └── database/
            ├── samples/
            │   └── clean-json-file.json
            └── prod/
                └── .env
# JSON to LangChain Document converter
# Chroma vector DB & retrieval
# IBM watsonx.ai API wrapper
# RAG chain assembly
# Entry point & orchestration
# React frontend
# Source FAQ data
# Persisted Chroma database
# Environment variables (not in repo)
```

[Link to the repository](#)

Final Product

The screenshots illustrate the final product of the DEVINCI Help Center, featuring:

- Search Function:** A search bar at the top left allows users to type their question.
- Thematic Categories:** A sidebar on the right lists categories such as RH et DAF, Outils numériques, Scolaire, Vie étudiante, De Vinci Learning, Internationnal, Stages, Alternance, Langues, App Mobile, and Soft Skills.
- AI Integration:** A "Demander à HelpAI" button is visible in the search results, suggesting AI-generated answers.
- Administrative Interaction:** A screenshot shows a modal for "Demande d'aide administrateur" where a user is prompted to confirm opening a ticket.
- Response Management:** A screenshot of the "Répondre à une demande d'aide" page shows a conversation history and a text input field for detailed responses.

Thank you !

Any question ?