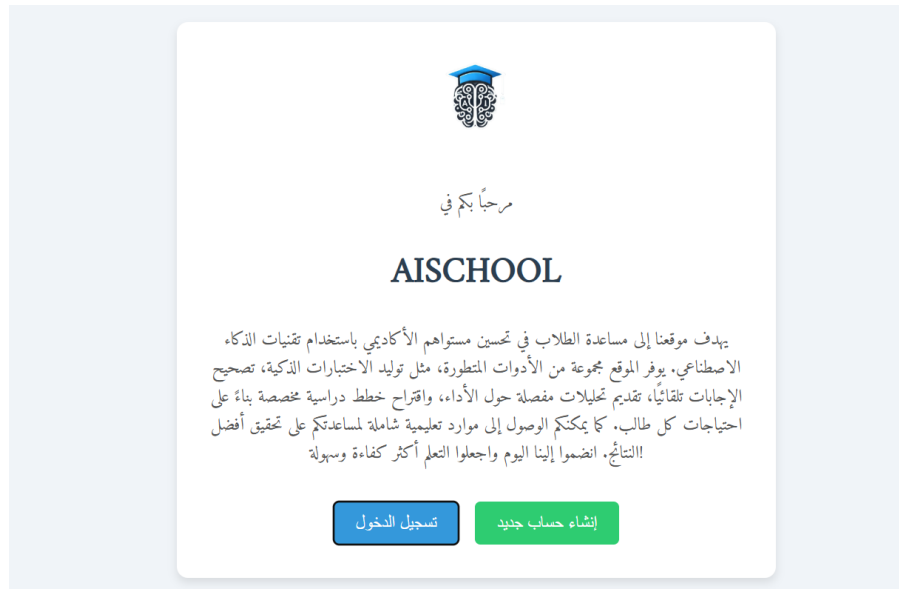


AI School Website Project Report

By : Farouk BENKHELIFA & Mohamed El Amine BRACHEMI MEFTAH

- 1. Introduction** The AI School website is a web-based educational platform developed to support Algerian students from primary to secondary school. The aim of this project is to enhance the learning experience through artificial intelligence by offering dynamic resources, personalized content, and interactive educational tools. The platform is designed to operate in Arabic, tailored to the national curriculum, and accessible across different devices.



2. Technical Overview

- **Backend:** PHP
- **Frontend:** HTML, CSS, JavaScript
- **Database:** SQL
- **Architecture:** MVC (Model-View-Controller) to ensure separation of concerns and maintainability

The platform's design prioritizes a clean, mobile-responsive interface with intuitive navigation and real-time interaction capabilities.

3. Platform Features

- **Email Notifications:** Users receive confirmation emails upon registration.
- **Personalized Dashboard:** Each user is provided with a dashboard based on their education level, displaying relevant subjects and tools.
- **Arabic Navigation Bar:**
 - **مصادر (Masadir - Resources):** A search-based interface to access curriculum-aligned educational content.

- **تدرب (Antarrab - Train):** AI-generated exercises that vary in difficulty and adapt to the user's grade level.
- **اختبرني (Iqtabirani - Test Me):** Quiz generation tool that evaluates student answers and provides feedback.
- **الدرشة (Addardasha - Chatbot):** An AI-powered chatbot that assists users with questions about any topic.

4. AI Integration The platform uses Together AI's Llama 4 model via API to:

- Generate tailored exercises and quizzes
- Provide interactive chatbot responses
- Deliver content in Arabic that adheres to Algerian curriculum standards

This integration allows for real-time educational support and content generation that aligns with student needs.

5. Langflow AI Agent Development Advanced educational flows were developed using Langflow:

- **Masadir:** AI search tool for resources
- **Iqtabirani:** Smart quiz generator
- **Antarrab:** Dynamic exercise builder
- **Addardasha:** Curriculum-aware chatbot

Using embedding different tools using api for example groq , youtube

DS cameraayaassine... Astra DB Docs Settings

Keyspace default_keyspace

Collections aischool

Create collection +

aischool NV-Embed-QA model 1024 dimensions Cosine similarity 11544 records Load data

Search

Search for an embedding, or type in a text query

+ Add filter

Cosine similar... Limit of 100

@1 —

@3 —

@10 —

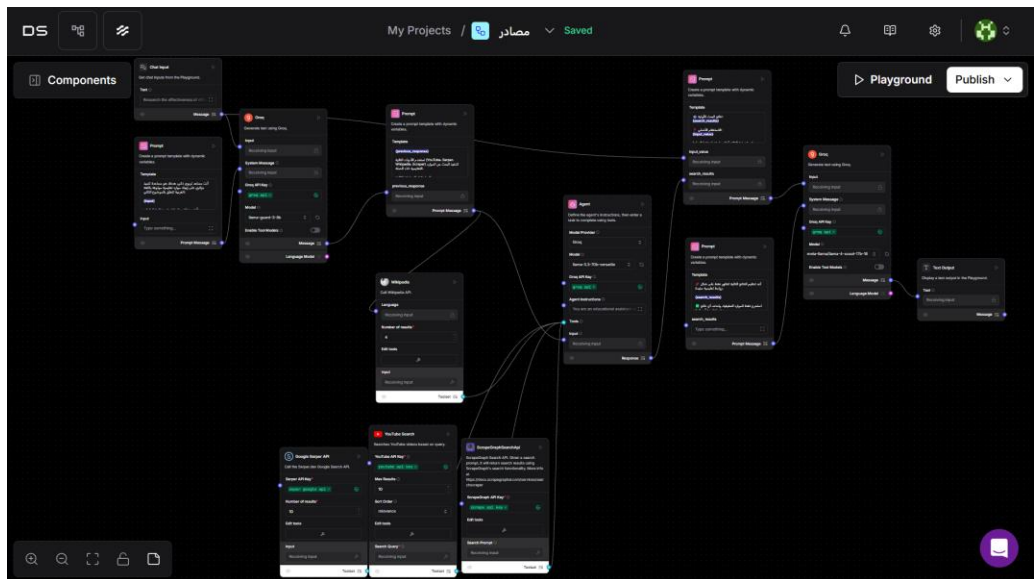
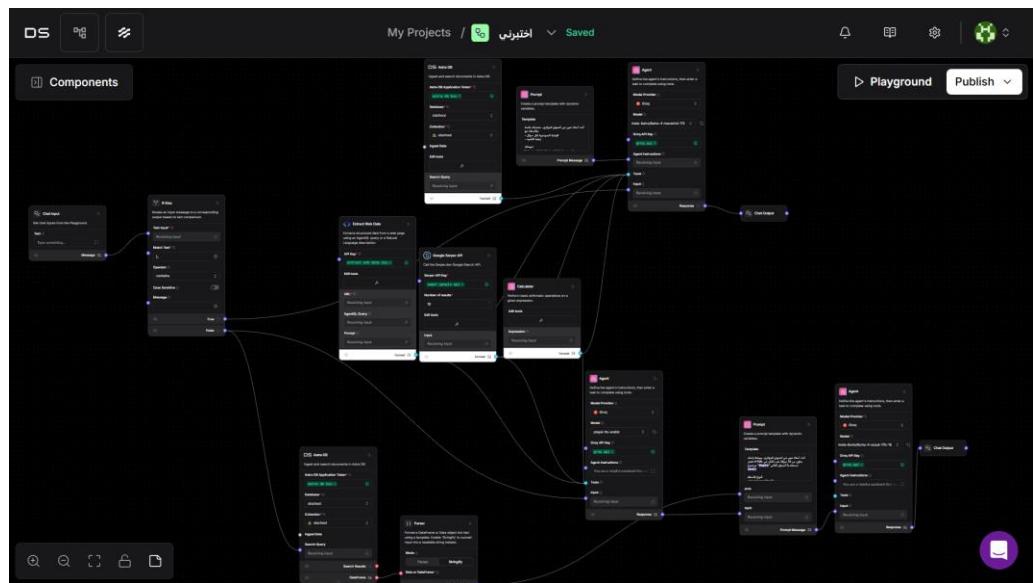
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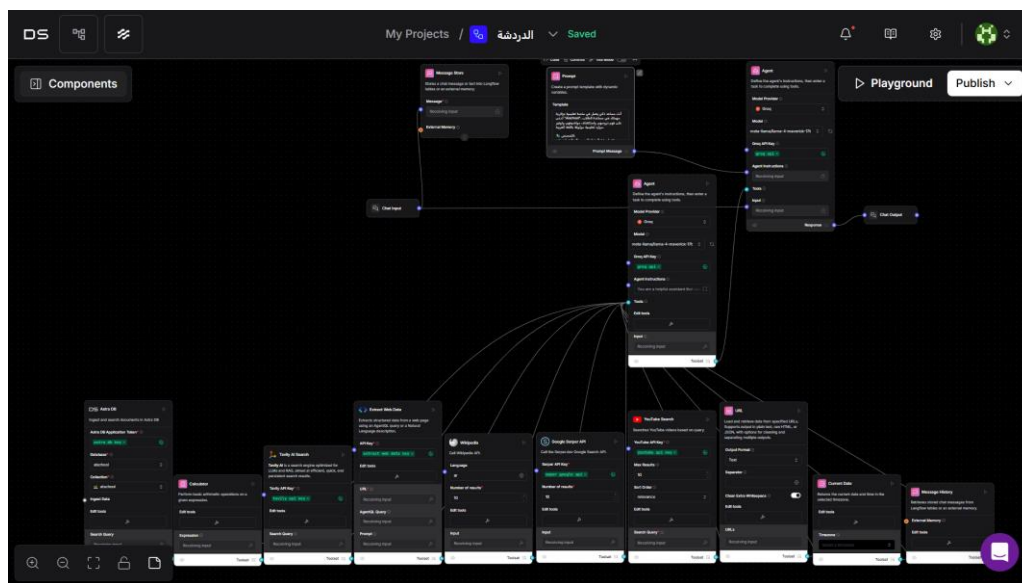
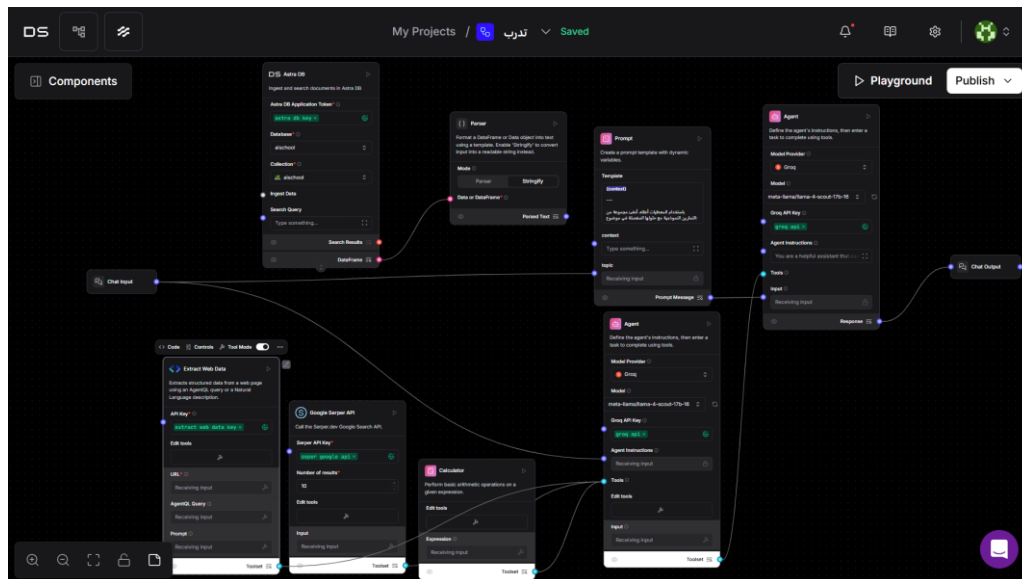
Records

Table JSON

Similarity score	Vector search	\$vector	_id	type
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	Search	[-0.009384155,0.015655...	c83e9070-6915-4b59-be90-7069155b594a	Composit
	Search	[-0.039733887,-0.05117...	6bb91adc-0e9c-45ab-b91a-dc0e9c95ab0c	Composit

Public Preview





While these multi-agent flows showed strong potential, they were too complex to deploy locally due to hardware limitations. As a result, a more lightweight implementation using Together AI's LLM was chosen to maintain accessibility and functionality.

6. Use of AI During Development

- **ChatGPT:** Assisted with code generation, bug fixing, design decisions, and content formulation.
- **GitHub Copilot:** Enhanced coding speed and accuracy through intelligent code suggestions.

These tools significantly boosted productivity and quality during the development process.

7. Screenshots (to be included in the PDF version)

- Homepage interface
- User dashboard by education level
- Exercise generator (Antarrab)

- Quiz interface (Iqtabirani)
- Chatbot conversation (Addardasha)
- Resource search interface (Masadir)

8. Challenges and Solutions

- **Hardware Limitations:** Unable to deploy full Langflow flows locally due to memory and CPU constraints.
 - **Solution:** Simplified integration using Together AI's hosted LLM
- **Arabic Content Adaptation:** Ensuring that AI-generated content matched the national curriculum
 - **Solution:** Curated prompts and testing to ensure quality and accuracy

9. Conclusion and Future Enhancements The AI School website successfully delivers intelligent, curriculum-aligned learning tools to Algerian students. Future improvements may include:

- Voice input and audio-based content
- Gamification of learning modules
- Real-time feedback mechanisms
- Expansion of trusted resource databases

This project demonstrates the power of combining AI with education to provide accessible, scalable, and personalized learning experiences.