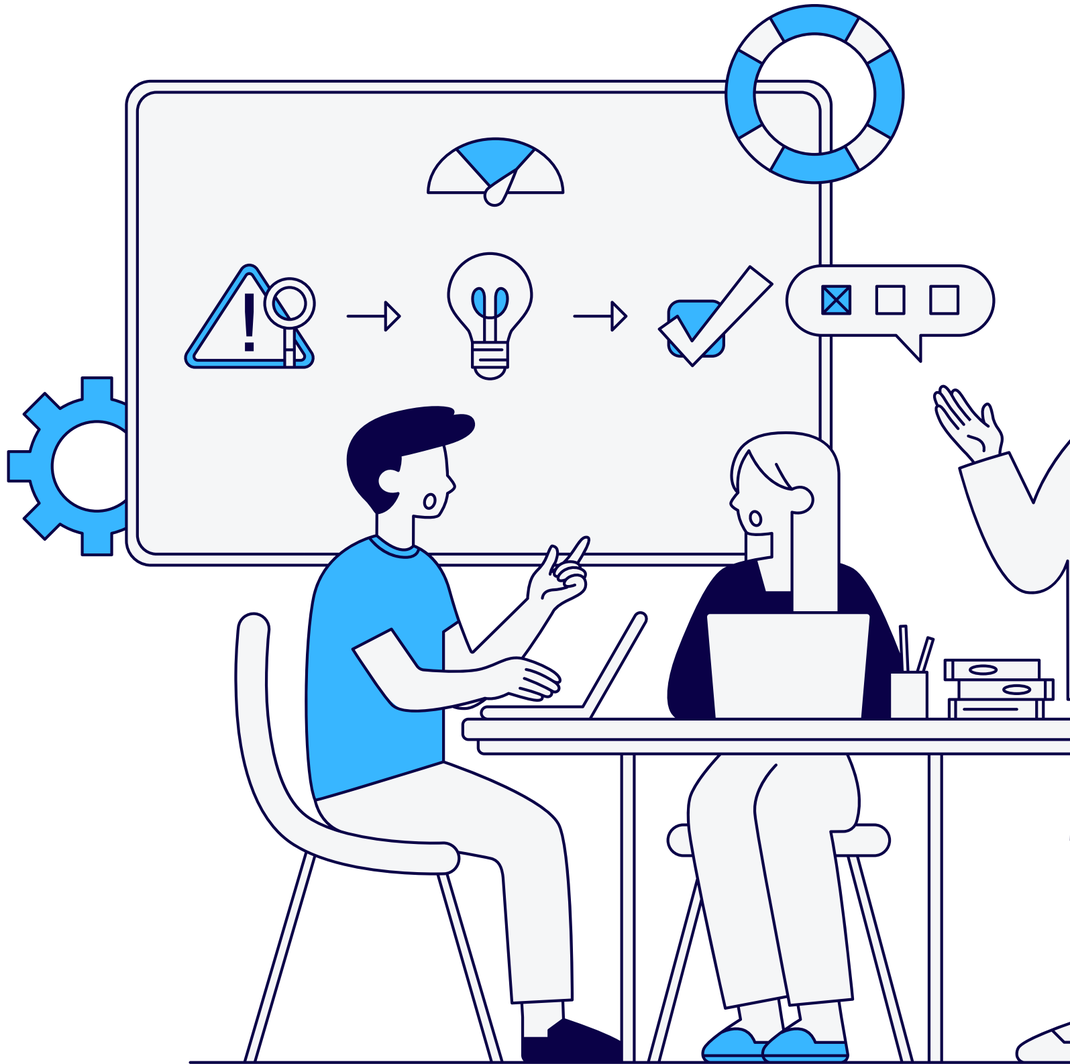
Supervisor : Dr / Salwa Osama

Helwan University

STUDGO

Your Gateway to University Engagement and Career Growth



ID	Name
20211057	Youssef Ahmed Abdulraouf Ahmed
20211050	Yassin Mohamed Yassin Nasr
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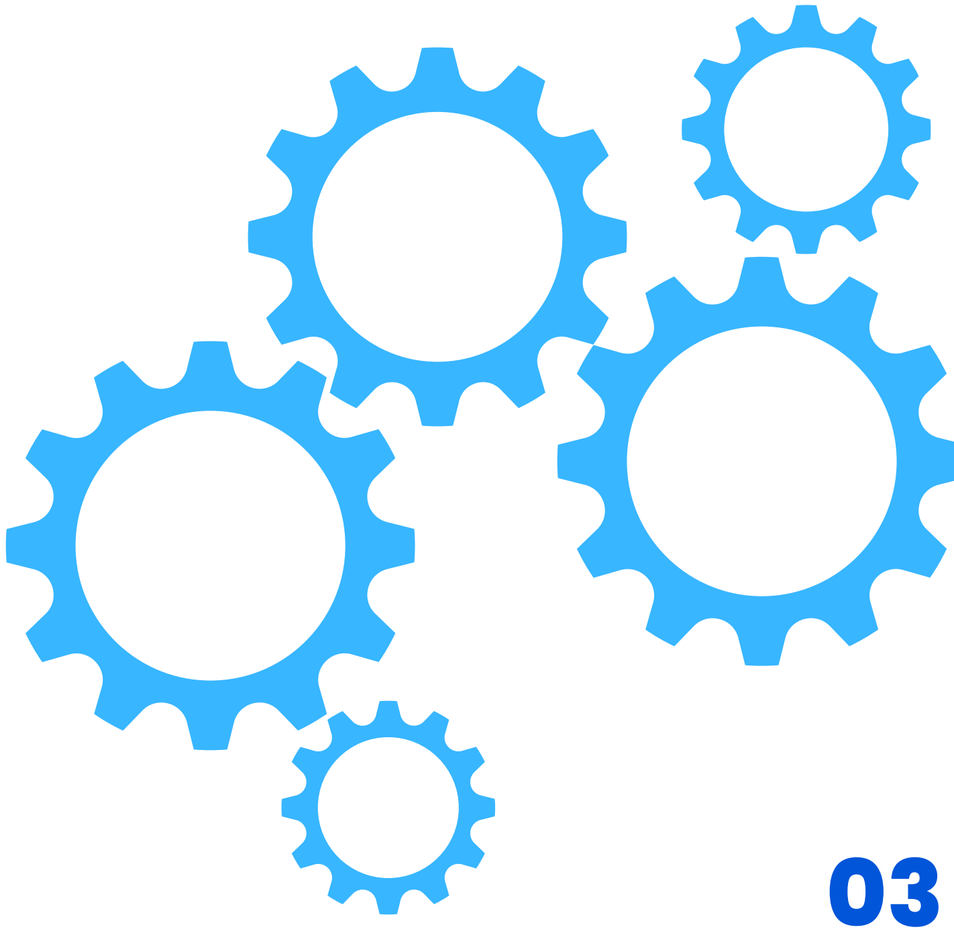
OUTLINE



INTRODUCTION

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1 Students struggle to find and track the right activities, internships, and events.

2 There’s no unified platform that connects student opportunities across different organizations.

3 New students often lack guidance and miss chances to explore their interests and careers early.

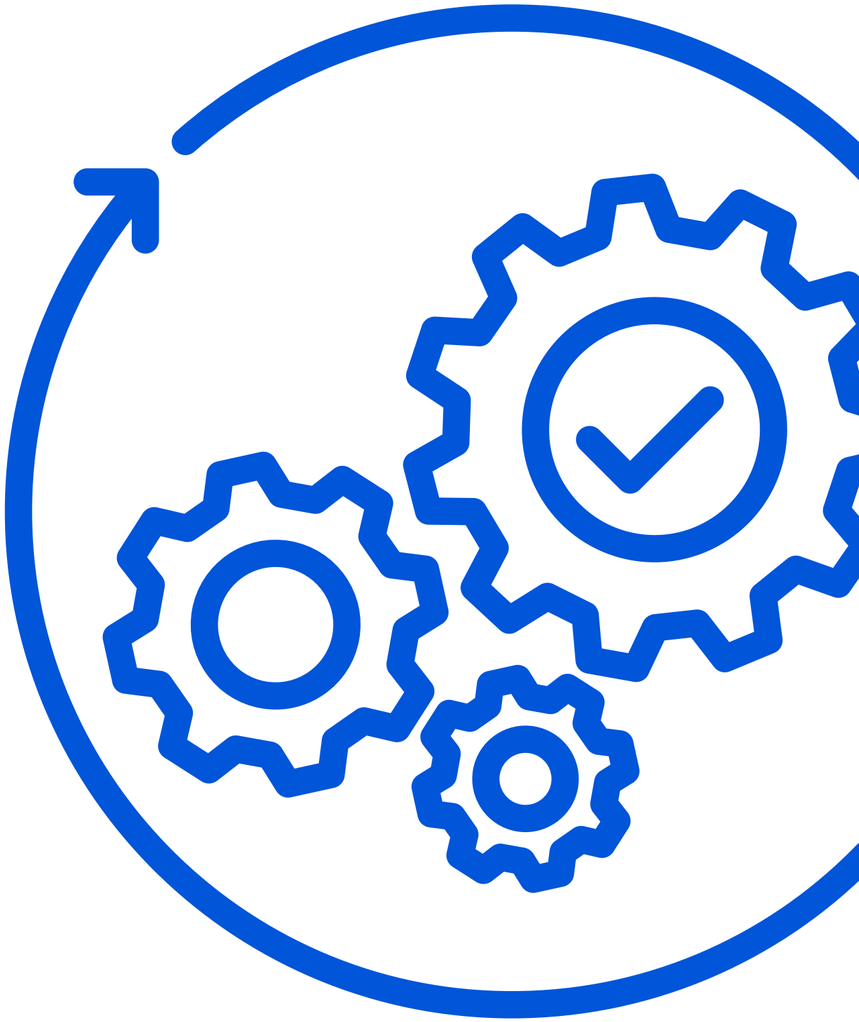
INTRODUCTION

StudGo solves this by providing an all-in-one platform for discovering, managing, and engaging with student opportunities.

Why the Name “StudGo”?

StudGo — Where Students Go to Grow.

RELATED WORK



RELATED WORK

WUZZUF

https://wuzzuf.net/jobs/egypt

indeed®

https://eg.indeed.com

Meetup

https://www.meetup.com

luma

https://lu.ma

Platform	Primary Focus / Domain	Key Features (Relevant to Project)	Strengths	Limitations / Specific Focus
StudGO (our System)	Students & Student activities & internships	- Centralized student events, workshops, and internships - Student org tools - Activity tracking & smart recommendations	Tailored for students with a chatbout tailored to ask related questions	For Students
Wuzzuf	Job & internship platform	- Internship listings - Career fairs - Career advice articles	Well-established in Egypt Strong employer database	Focused on job market No student orgs/events integration
Indeed	Global job board	- Internship/job search - Company reviews	Global reach Extensive listing variety	Not focused on students or events No workshops integration
Meetup	Events & networking	Find/join events - Create interest-based groups	Strong social/community aspect Local discovery	Not student-specific No internship or org tools
Luma Events	Event management	- RSVP tools - Email invites - Event analytics	Streamlined event creation Organizer analytics	Not educationally focused Lacks internship tracking

RELATED WORK...

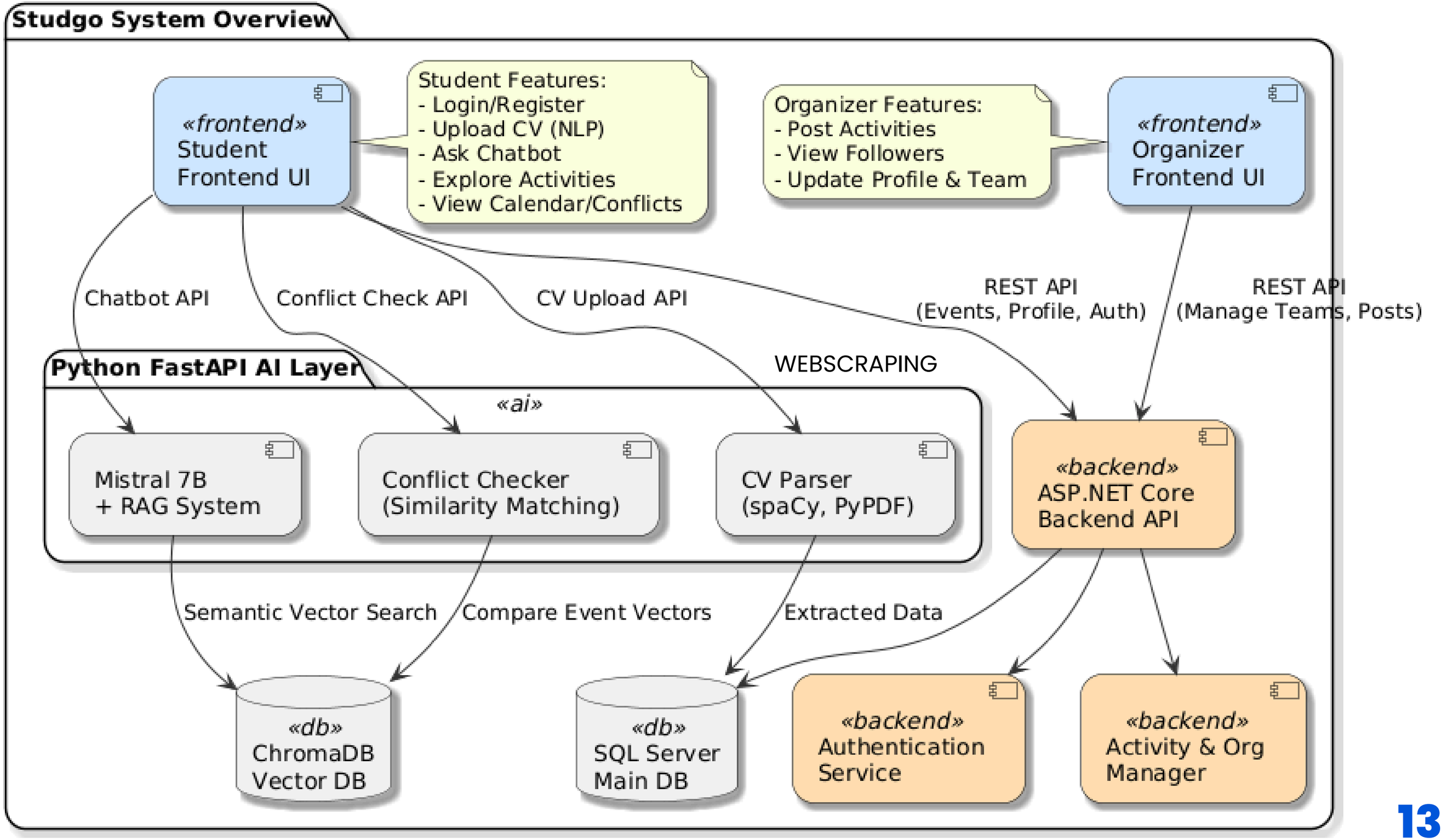
- RAG (Retrieval-Augmented Generation) enhances generative models by incorporating real-time retrieved knowledge.
- Proposed by P. Lewis et al. (2020) to address challenges in open-domain question answering and factual accuracy.
- Demonstrated significant improvements in answer relevance, coherence, and factual grounding compared to traditional language models.

RELATED WORK...

- A follow-up survey by Y. Gao et al. (2023) highlights RAG's effectiveness in reducing hallucinations and improving domain-specific responses.

In Studgo, RAG enables our chatbot to generate reliable and context-aware answers by leveraging internal information on student activities.

SYSTEM OVERVIEW


Studgo System Overview
«frontend»
Student
Frontend UI
Student Features:
- Login/Register
- Upload CV (NLP)
- Ask Chatbot
- Explore Activities
- View Calendar/Conflicts
Organizer Features:
- Post Activities
- View Followers
- Update Profile & Team
«frontend»
Organizer
Frontend UI
Chatbot API
Conflict Check API
CV Upload API
REST API
(Events, Profile, Auth)
REST API
(Manage Teams, Posts)
WEBSCRAPING
Python FastAPI AI Layer
«ai»
Mistral 7B
+ RAG System
Conflict Checker
(Similarity Matching)
CV Parser
(spaCy, PyPDF)
«backend»
ASP.NET Core
Backend API
Semantic Vector Search
Compare Event Vectors
Extracted Data
«db»
ChromaDB
Vector DB
«db»
SQL Server
Main DB
«backend»
Authentication
Service
«backend»
Activity & Org
Manager

Frontend Architecture

Our frontend is built using React and follows a modular, **feature-based architecture**. This structure enhances maintainability, scalability, and team collaboration by separating core functionalities into isolated modules.

Feature-Based Modules

Each module represents a core feature of the system:

- **Auth Module**
  - Manages login, registration, and JWT-based authentication.
  - Ensures secure access to the application.
- **SA (Student Activities) Module**
  - Handles functionalities related to student activities.
  - Manages events, workshops, internships, and related data.
- **Student Module**
  - Manages student profiles and personal settings.
  - Includes a calendar feature for tracking registered activities and important dates.

Back-End Architecture

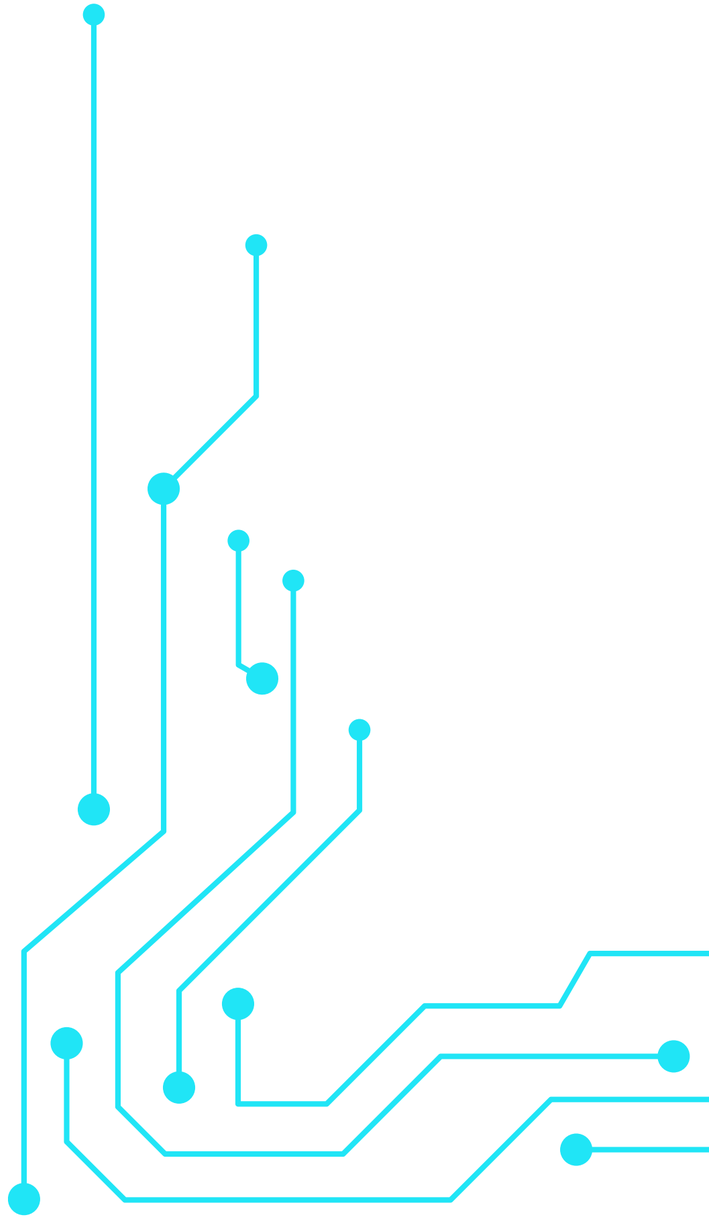
The backend is developed using ASP.NET Core and follows a layered architecture for clear separation of concerns between Controllers, Services, and Data Access.

Feature-Based Modules

Each module represents a core feature of the system:

- **Security**
  - Authentication (individual accounts, Google)
  - Authorization (Role-based, Policy-based)
  - Using JWT(JSON Web Token).
- **Activity Module**
  - Manage WorkShops ,Events ,Talks
  - Make Agenda For Each Activity(Using Razor Pages)
- **SA (Student Activities) Module**
  - Handles functionalities related to student activities.
  - Manages events, workshops, internships, and related data.
- **Student Module**
  - Manages student profiles and personal settings.
  - Includes a calendar feature for tracking registered activities and important dates.
  - Students receive and reminders about their upcoming activities via email(using MailKit&Mimekit)

EXPERIMENTS



EXPERIEMENTS 1 Fine-Tuning an LLM (Failed Attempt)

What Went Wrong:

- No existing dataset was available.
- it couldn’t reflect real-time updates like new events or internships.
- Updating the model meant retraining, which was inefficient and unrealistic for our use case.

Lesson Learned:

- Fine tuning is not suitable for that case

Realtime

Updated

EXPERIEMENTS 2

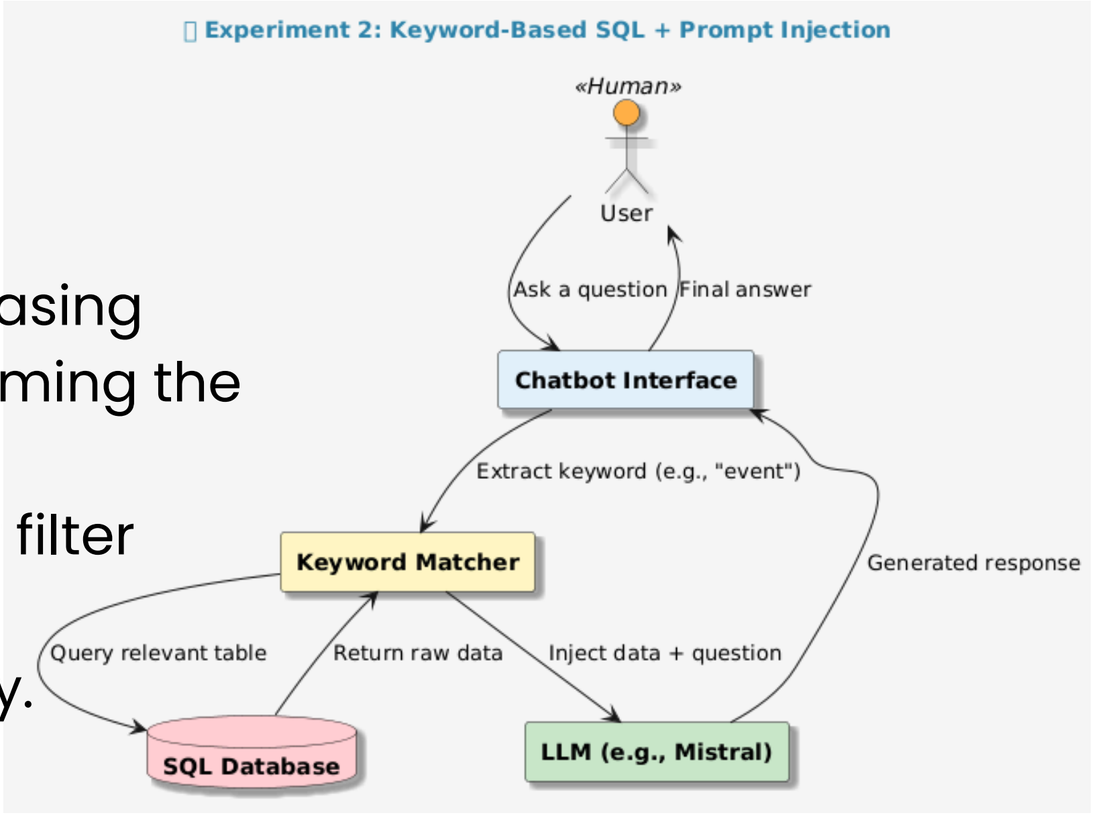
Keyword-Based SQL Lookup with Prompt Injection

What Worked:

- Enabled real-time responses based
- Didn’t require training or fine-tuning.

What Didn’t Work:

- Keyword matching was shallow - Different Phrasing
- Injected too much or irrelevant data, overwhelming the LLM with unfiltered content.
- No semantic understanding — couldn't rank or filter results by relevance.
- Prompt length issues affected response quality.



Semantic

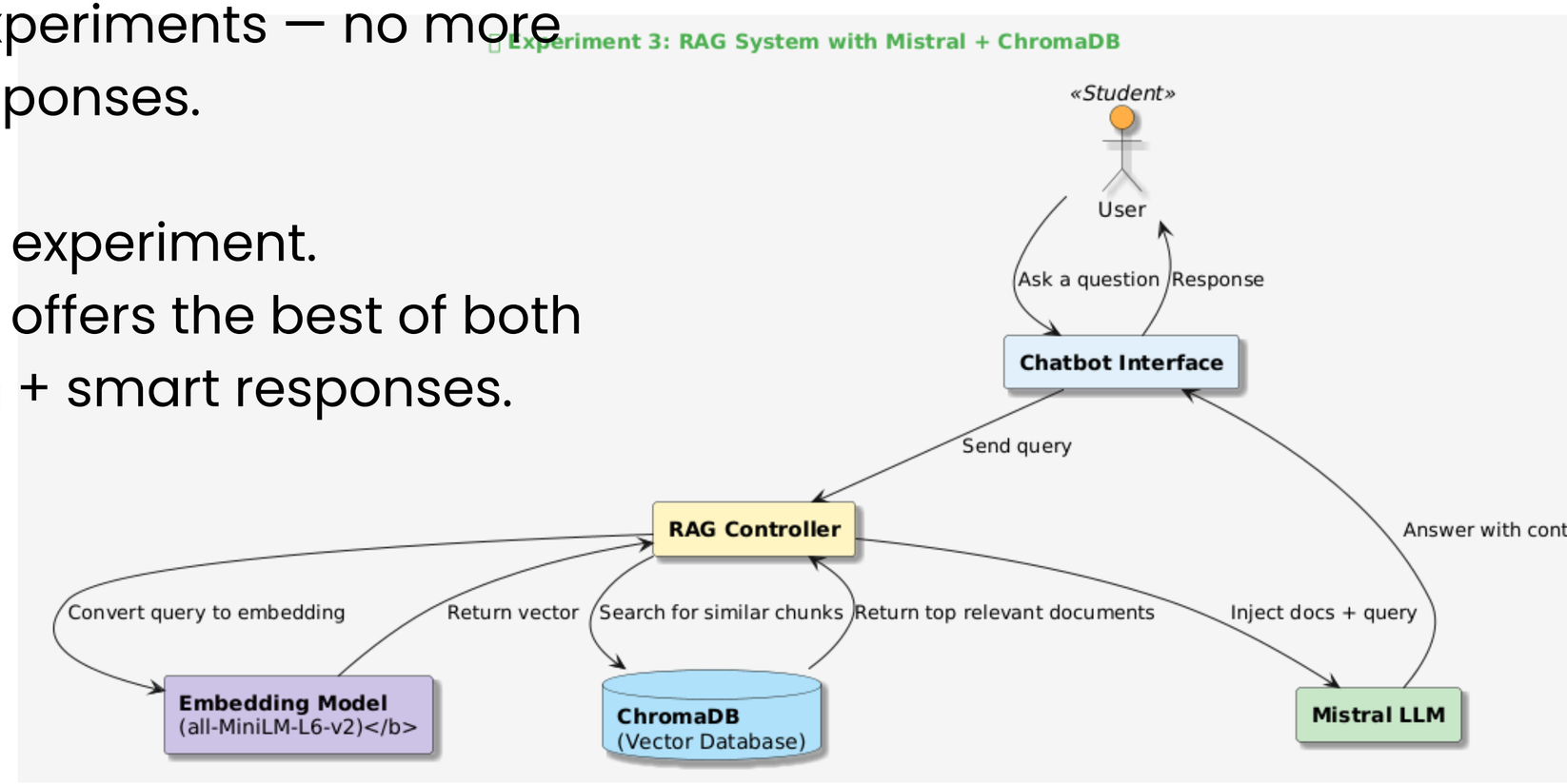
EXPERIEMENTS 3 Mistral with RAG and Vector Database

What Worked Well:

- Returned relevant, up-to-date answers based on real student data.
- Solved the issues of earlier experiments — no more hallucination or irrelevant responses.

Final Verdict:

- This was the most successful experiment.
- Showed how RAG + open LLM offers the best of both worlds: real-time information + smart responses.



EXPERIEMENTS 3 Mistral with RAG and Vector Database....

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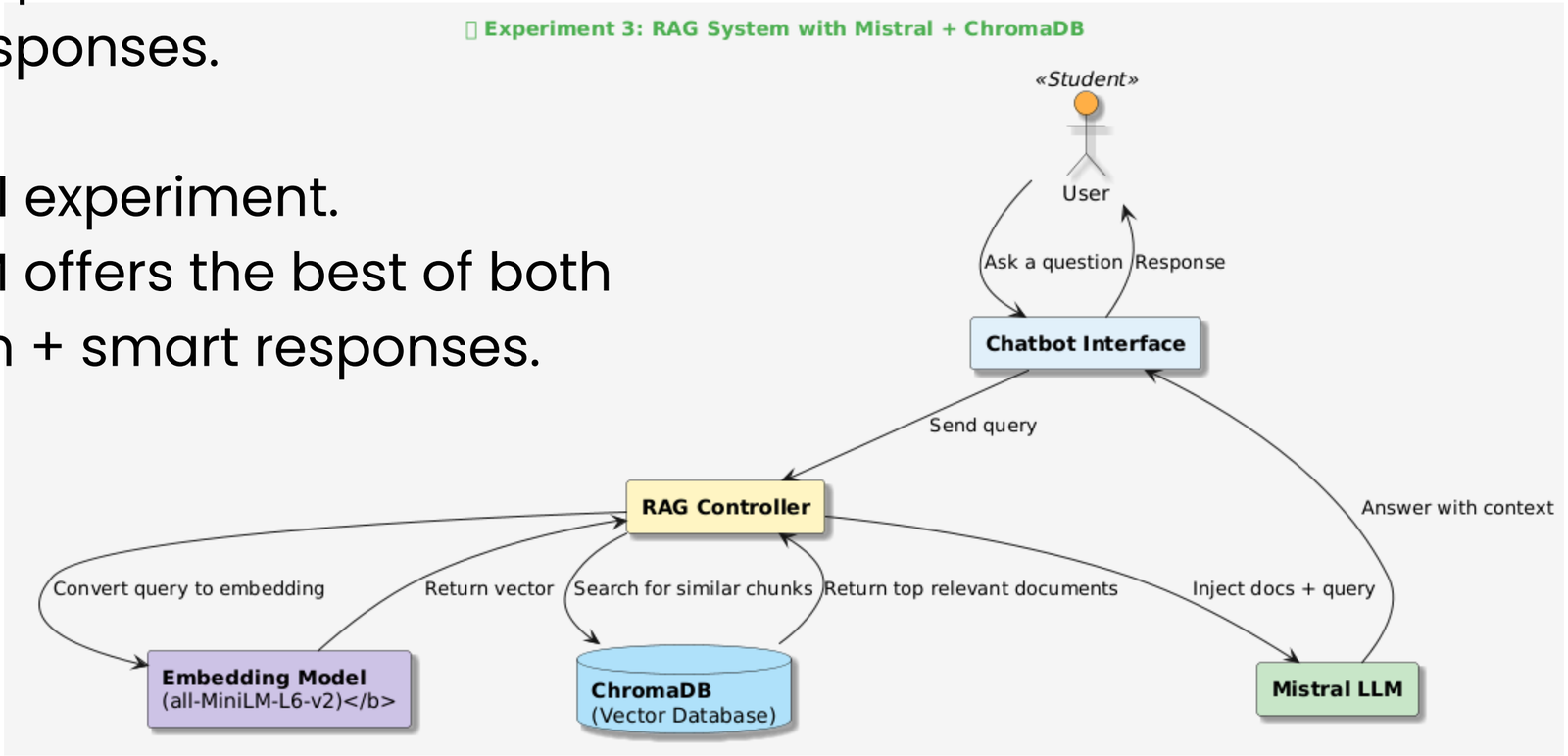
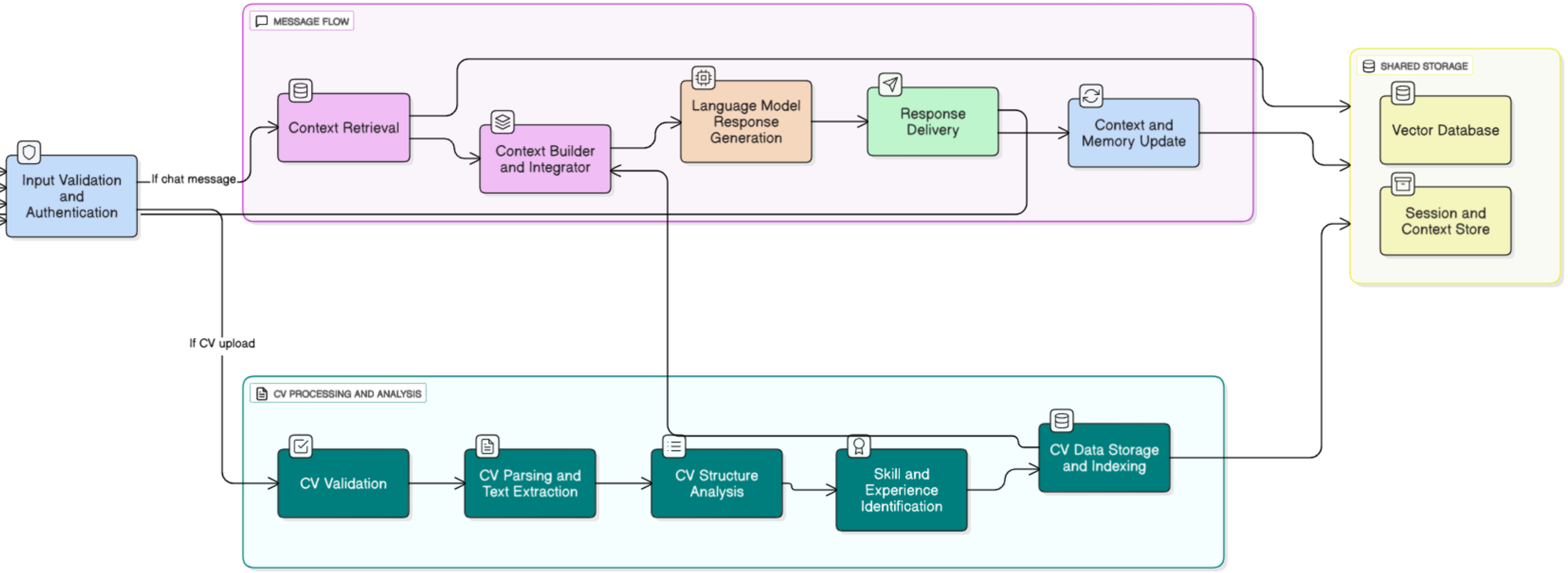


ORCHESTRATING THE FINAL CHATBOT FUNCTIONALITY



LIVE DEMO

https://studgooo.netlify.app

CONCLUSION

This project is a web platform that brings together student activities, internships, and workshops in one place. It helps students find and join opportunities easily, while avoiding schedule conflicts using a smart recommender system. An AI-powered chatbot answers student questions and gives helpful suggestions, and an internship scraper collects real opportunities from external websites. The system includes separate dashboards for students and organizers, and it can generate personalized calendars. Overall, the platform makes it easier for students to get involved, stay organized, and grow their careers.

FUTURE WORK

Mobile App

- Build a cross-platform app (React Native / Flutter) for easier access.

Real-Time Chatbot

- Add voice input and support for ongoing, threaded conversations.

Multi-language Support

- Include Arabic and other languages for wider accessibility.

Gamification

- Add badges or points to encourage student participation.

Smarter Recommendations

- Suggest internships, events, and career paths using AI-based personalization.

Feedback & Reviews

- Let students rate and review events and internships.

Admin Analytics

- Provide dashboards with insights and performance metrics for organizers and admins.

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THANK YOU