SPU Admission Chatbot

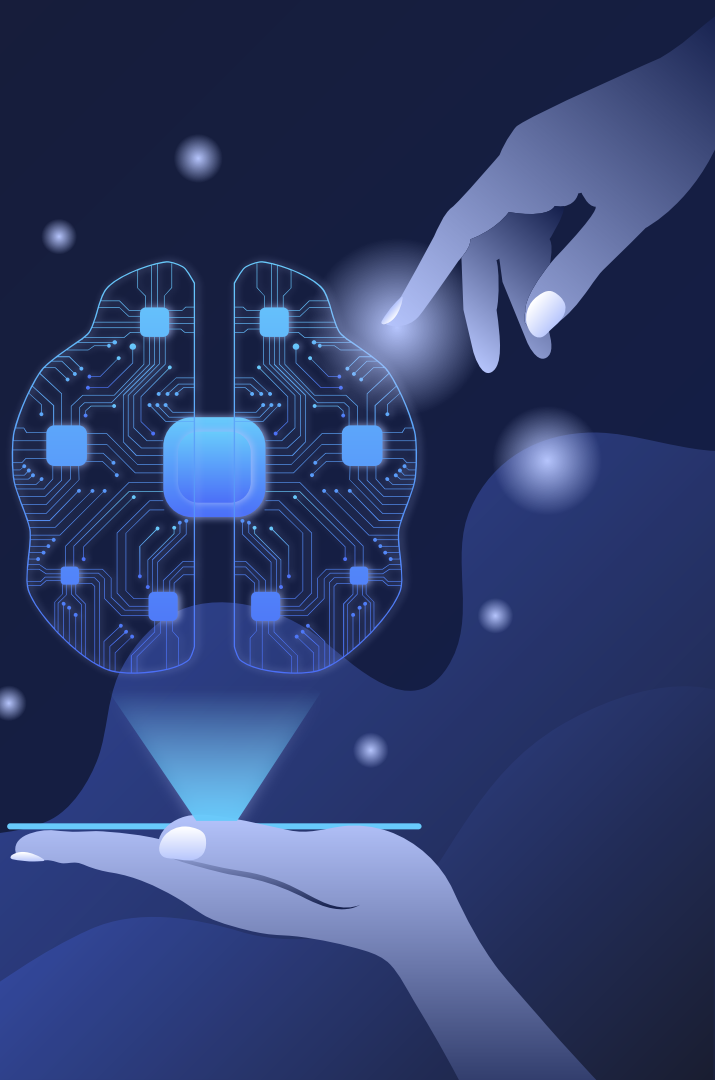

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Table of content

01

Project Goal

Primary Objectives

- Create an intelligent chatbot for Syrian Private University (SPU) students.
- Answer complex questions about courses, prerequisites, admission requirements, fees, and academic policies.
- Handle Arabic-English mixed content seamlessly.
- Provide instant, accurate responses based on official university documents.

Specific Goals

- Process complex university documents (course catalogs, study plans, regulations).
- Preserve course relationships (AIFC.3.04 + AIFC.3.05 → AIEC.5.02).
- Support multiple faculties (AI Engineering, Medicine, Pharmacy, Business Admin).
- Achieve fast response times for student queries.

02

Environment & Architecture

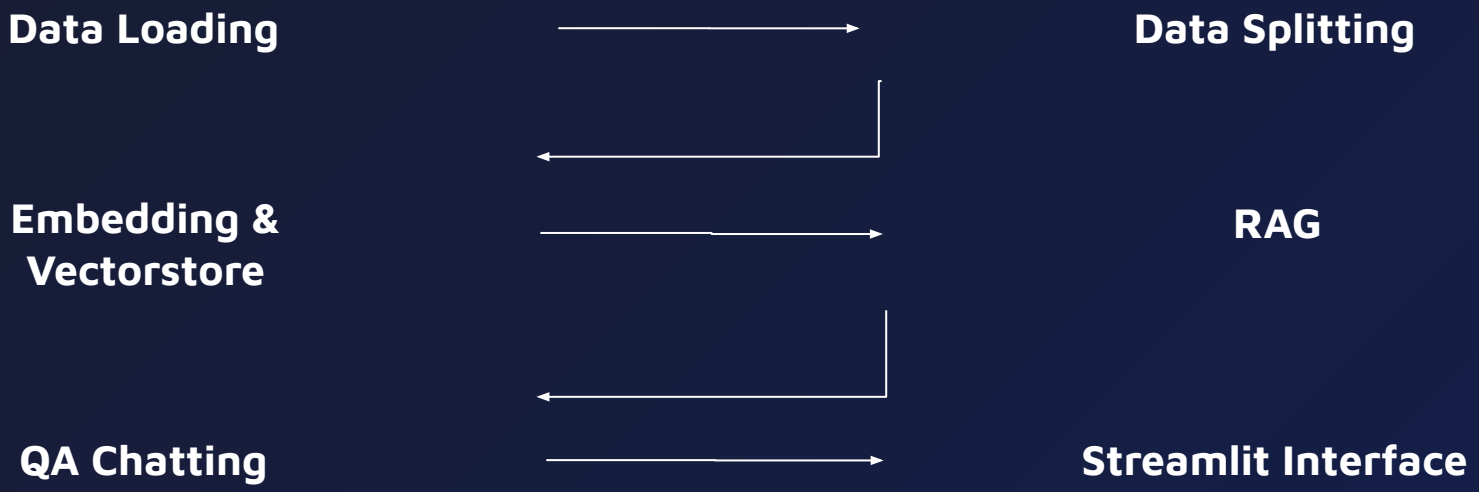
Environment Choice

- **Containerization**: Isolated services, easy deployment, consistent environment
- **Microservices**: Each component runs independently, scalable
- **Cross-platform**: Works on any system with Docker

Architecture Components

- **Data Loading Service**
- **Data Splitting Service**
- **Embedding & Vectorstore Service**
- **RAG Service**
- **QA Chatting Service**
- **Streamlit Interface**

Architecture Diagram



03

Solutions & Demo Results

Demo Results

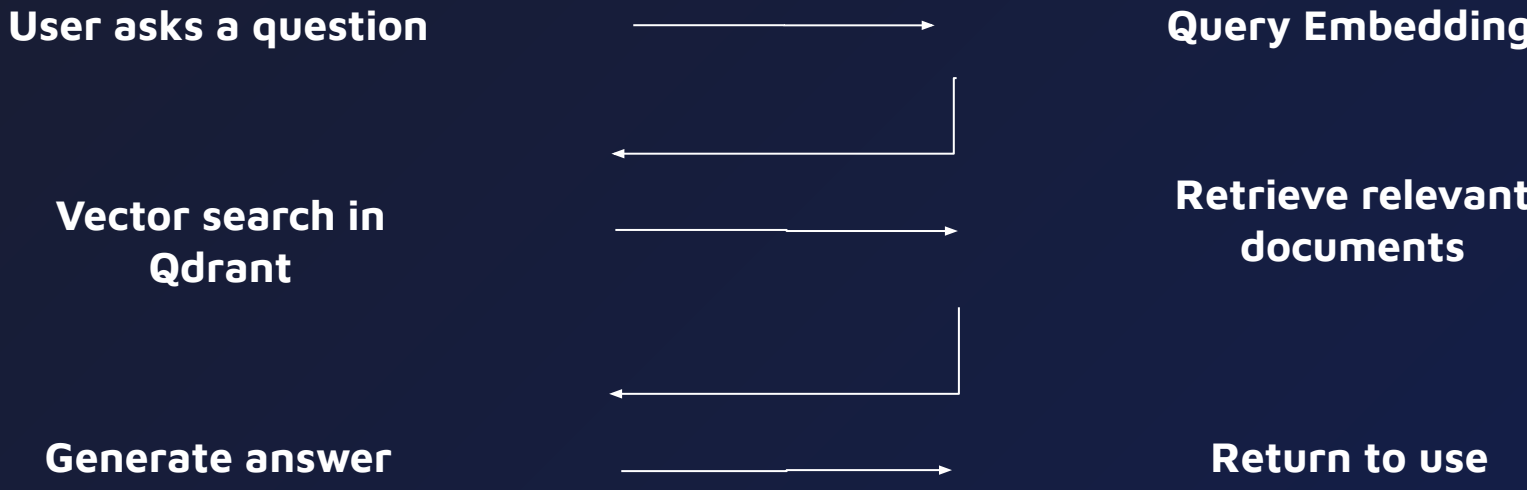
Successful Feature

- **Fast Response Times:** Queries answered in seconds
- **Arabic-English Support:** Mixed language queries handled correctly
- **Course Information:** Accurate answers about prerequisites, credits
- **University Policies:** Exam systems, admission requirements accessible
- **Multi-Faculty Support:** AI Engineering, Medicine, Pharmacy, Business Admin

Sample Queries Handled

- "What are prerequisites for AIFC.5.01?"
- "اشرح نظام الامتحانات في القرار 21"
- "What is the tuition fee for International students?"

Solution Flowchart



04

Performance Key Achievements

Technical Success

Fast RAG System

Optimized for university document queries

VLM Integration

Enhanced document processing capabilities

Arabic Support

Full Arabic-English mixed language handling

Scalable Architecture

Docker-based microservices

Practical Values

Student Assistant

Instant answers to complex university questions

Administrative Efficiency

Reduces manual query handling

Multi-Faculty Coverage

Serves all major university departments

05

Future Enhancement

Future Enhancement

Official University Integration	Deploy system directly on SPU's official website
Enhanced Speed	Further optimize response times and model loading
Advanced Arabic Data Processing	Implement more sophisticated Arabic NLP techniques
User Feedback Integration	Improve system based on user interactions

06

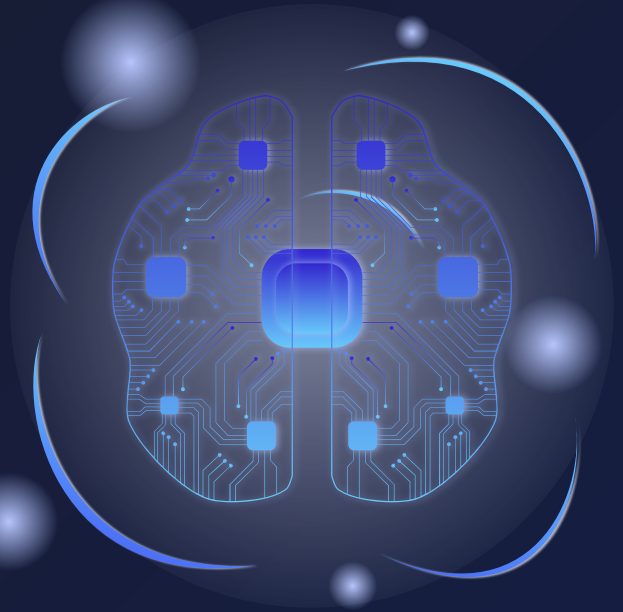
Conclusion

Project Summary

- Achieved fast, accurate university chatbot
- Handled complex Arabic-English documents
- Created scalable, containerized solution

Impact

- **Enhanced Student Experience**: Instant access to university information
- **Demonstrated RAG Effectiveness**: For Arabic academic content



THANK YOU!!