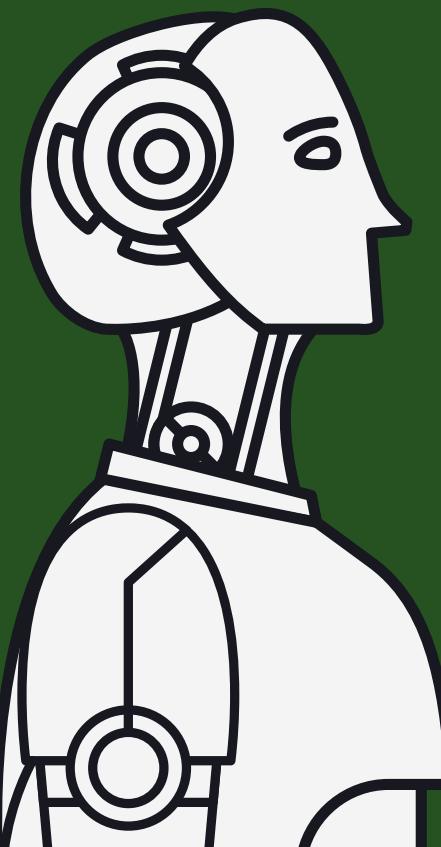
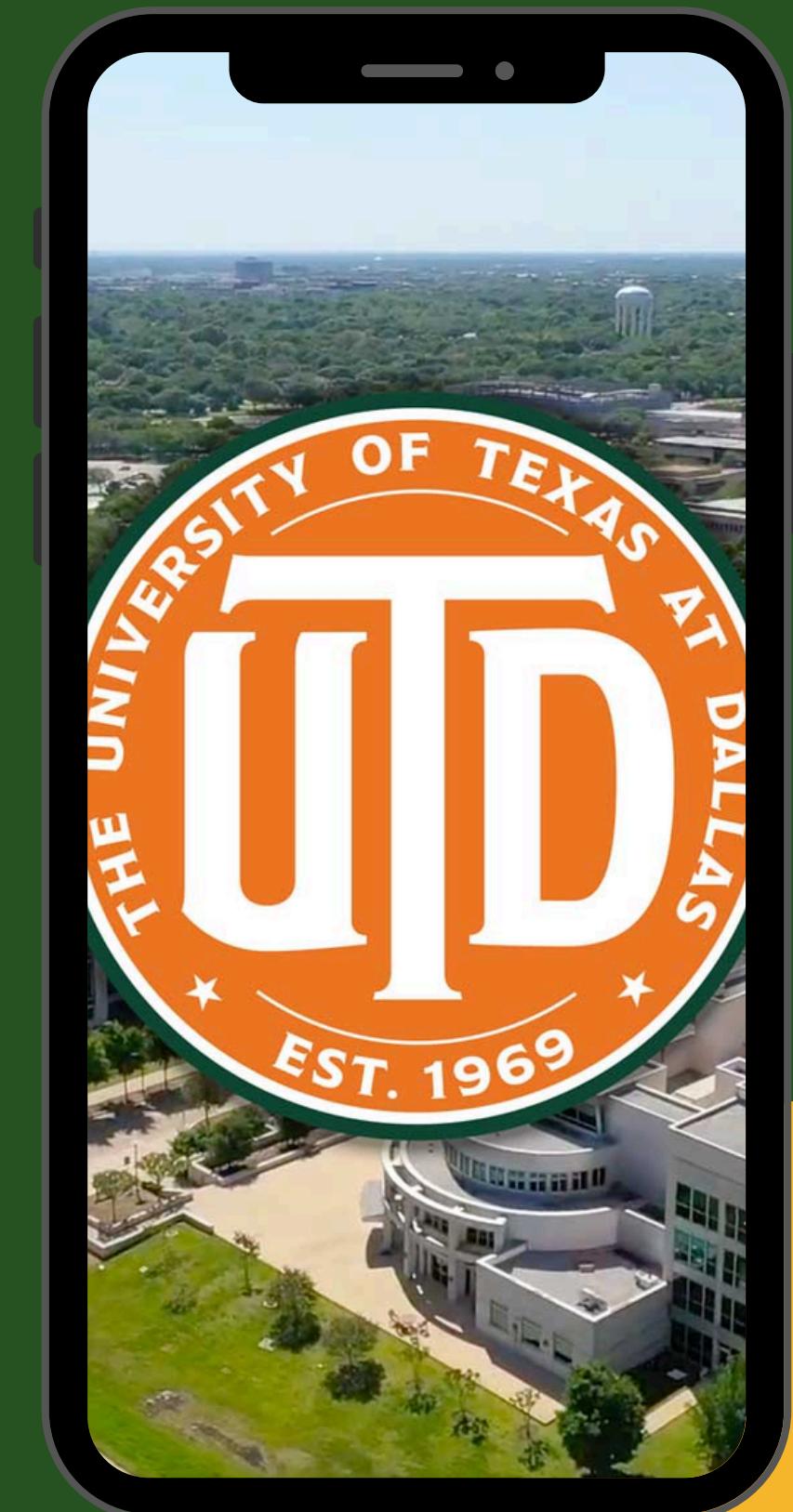


CometVerse

Redefining Campus Support at UTD

Empowering the UTD Community
with Smart, AI-Driven Support

Cohort : Wednesday BUAN 6390.002
Group 4



Business Scope and Context

Objective

Deploy CometVerse, an LLM-powered chatbot at UT Dallas to enhance support with NLP and transformer-based Generative AI.

Current Scope

Provide accurate JSOM program, admissions, and academic info while reducing staff workload during peak enrollment.

Future Scope

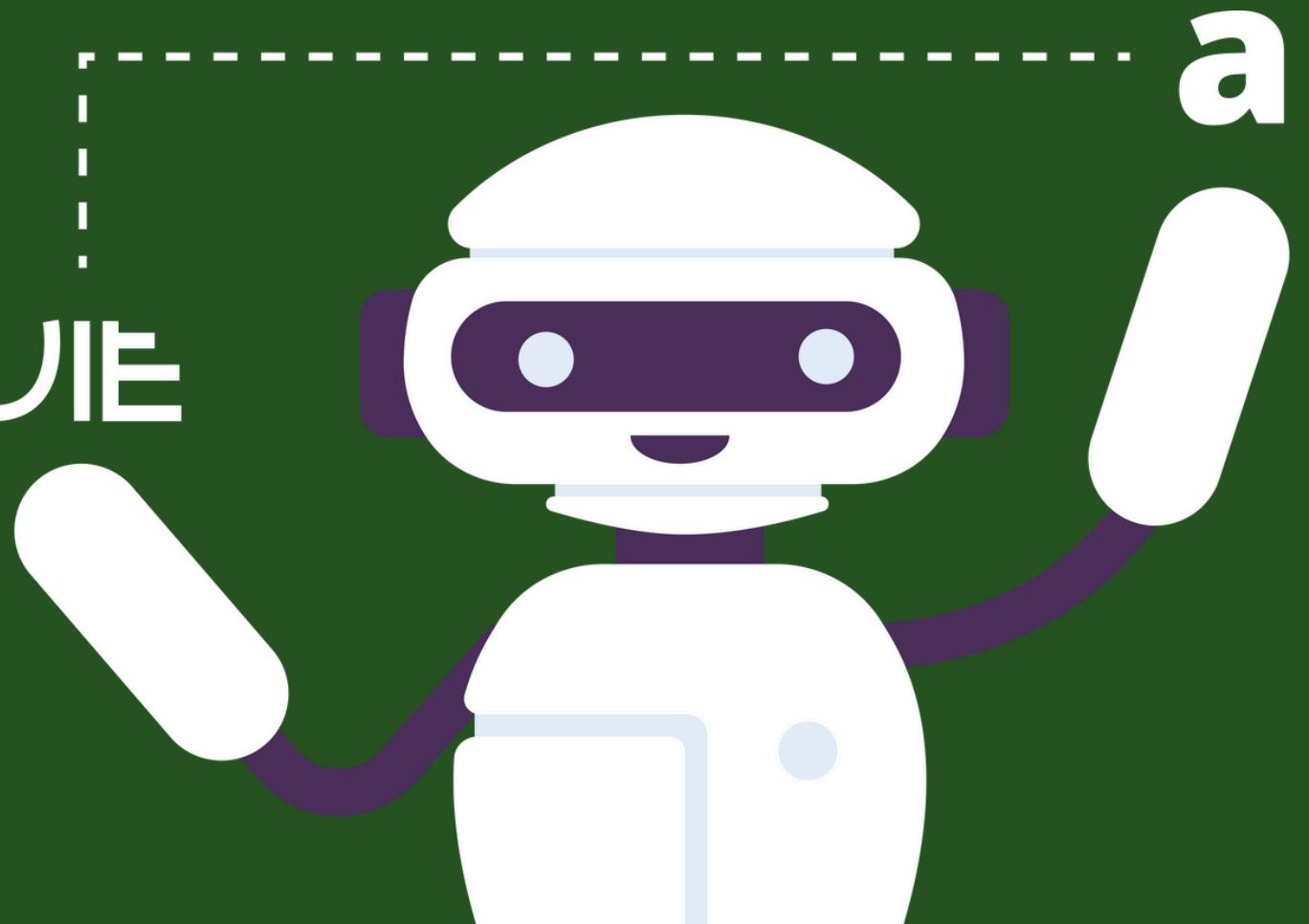
Provide support for queries from all UTD sites.

Timeline

~10 weeks

Target Audience

Current & Prospective Students, respective Parents/Guardians, Current & Prospective Staff, Employers



Current Business Overview

1

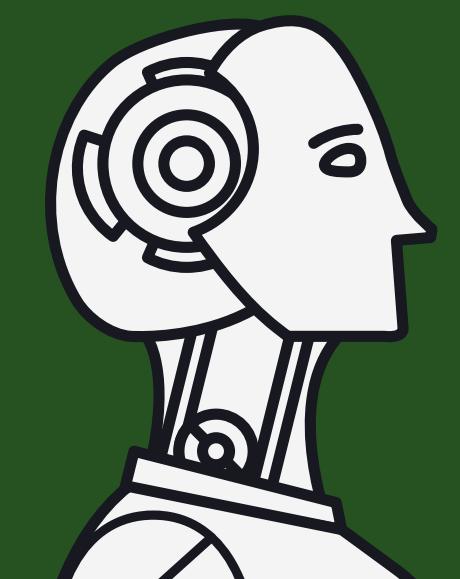
Human-led support (email, phone,
in-person help desks)

2

Limited availability
Inconsistent response times
High staff workload.

3

Automate FAQs and enhance real-
time engagement via an AI-
powered chatbot.



Executive Summary

Strategic Expansion

Deploying a UTD-aligned AI chatbot, starting with JSOM and scaling to other departments.

Growth Potential

With growing enrollments and digital demands, the chatbot ensures long-term scalability—future phases include voice support, research tools, multilingual features, app compatible with Android & iOS.

Resource Allocation

Leverages open-source tools and LLM APIs (e.g., LangChain, GPT-3.5/Gemini) with team roles in NLP, UX, scraping, and QA for streamlined development.

Global Reach

Sets a benchmark for AI in higher education, positioning UTD as a leader and enabling adoption by other universities.



Organic traffic of https://www.utdallas.edu/

Domain including subdomains

Organic traffic i

152.1K

Traffic value i

\$96K



Top countries i

		Top keywords <small>i</small>	United States	Position <small>i</small>	Volume <small>i</small>
🇺🇸 United States	86%	utd galaxy		1	31K
🇮🇳 India	8%	utd		1	27K
🇺🇬 Uganda	1%	ut dallas		1	19K
🇳🇬 Nigeria	1%	utd orion		1	7.7K
🇧🇩 Bangladesh	1%	galaxy utd		1	7.5K

Top pages i United States

		Traffic <small>i</small>	
https://www.utdallas.edu/galaxy/		64.7K	51%
https://www.utdallas.edu/		44.7K	35%
https://www.utdallas.edu/academics/calendar/		2.3K	2%
https://www.utdallas.edu/directory/		1.8K	1%
https://www.utdallas.edu/parking/		1.7K	1%

Organic traffic of https://jindal.utdallas.edu/

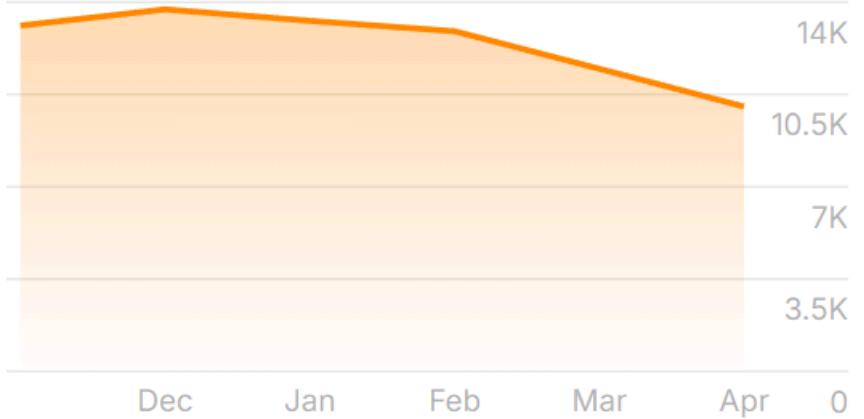
Domain including subdomains

Organic traffic i

10.1K

Traffic value i

\$8.8K



Top countries i

		Top keywords <small>i</small>	United States	Position <small>i</small>	Volume <small>i</small>
🇺🇸 United States	73%	how to stay awake in class		1	4.9K
🇮🇳 India	18%	how to not fall asleep in class		1	2.5K
🇵🇭 Philippines	2%	jsom		1	350
🇨🇦 Canada	2%	utd jsom		1	200
🇬🇧 United Kingdom	1%	how to stop falling asleep in class		1	450

Top pages i United States

		Traffic <small>i</small>	
https://jindal.utdallas.edu/blog/sleeping-in-class-dos-donts/		3K	41%
https://jindal.utdallas.edu/		612	8%
https://jindal.utdallas.edu/blog/business-analytics-vs-data-science/		351	5%
https://jindal.utdallas.edu/blog/tax-vs-audit-a-qa-with-bs-in-accounting-program-...		301	4%
https://jindal.utdallas.edu/blog/management-information-systems-mis-degree-gro...		287	4%

Market Analysis

Target Users

- Current & Prospective Students
- Admin Staff
- Parents and Guardians
- Alumni and Donor

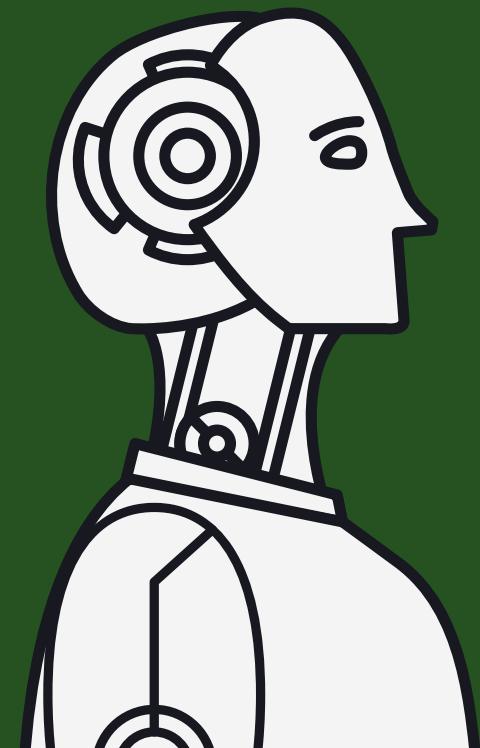
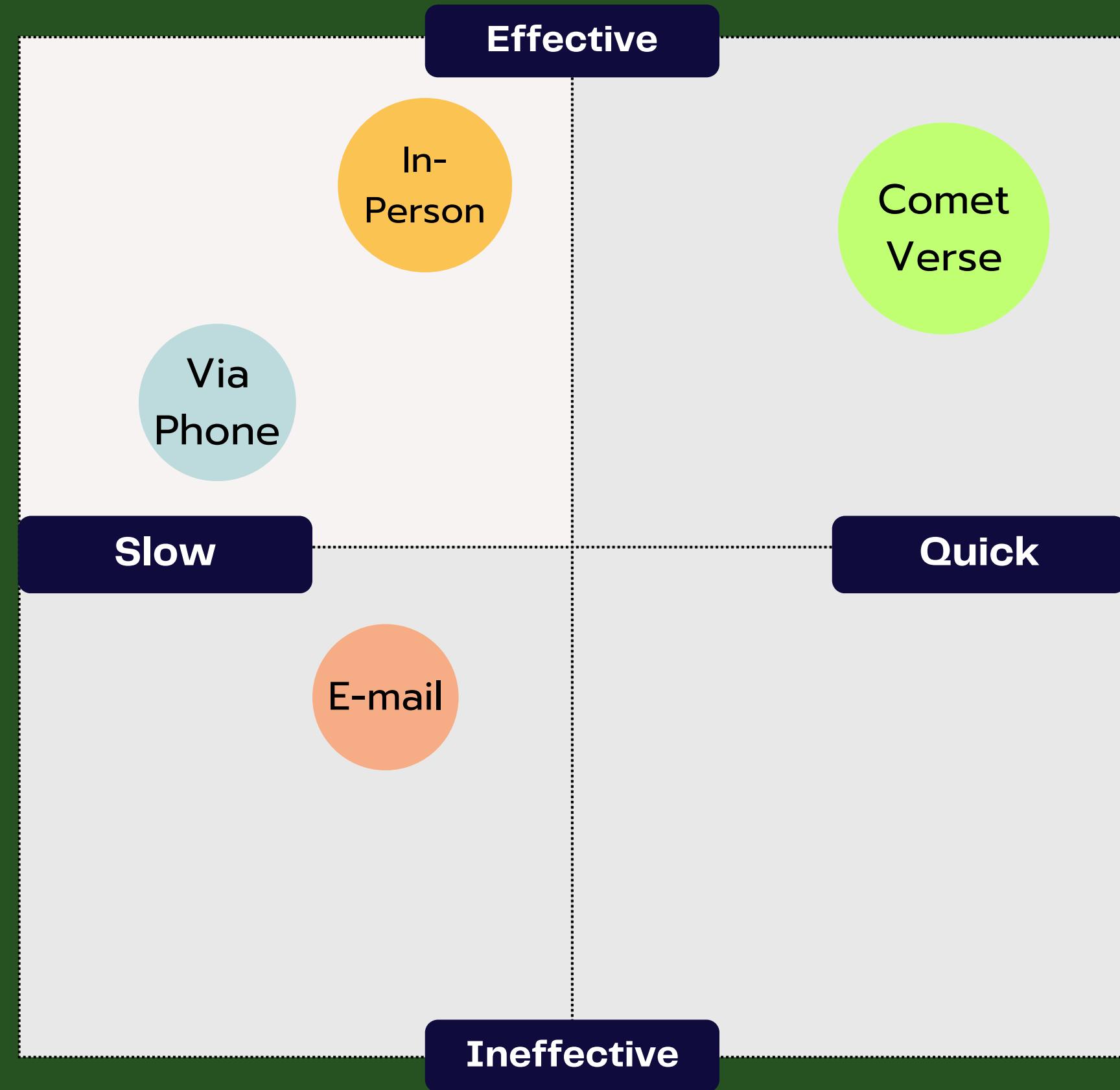


Behavior Insights

- Users prefer quick and efficient responses for basic information.
- There's a growing comfort with AI tools, especially for simple tasks.



Positioning Map



Project Milestone & Schedule

Teams	12 th Feb	22 th Feb	4 th March	14 th March	24 th March	3 rd April	13 th April	23 rd April	3 rd May
MS 1	Project Intiation								
MS 2		Requirement finalized							
MS 3			Web Scraping completed						
MS 4			Creating Embeddings						
MS 5			NLU model creation & tuning						
MS 6				NLG Model training					
MS 7				Integration with Vector DB					
MS 8					ChatBot UI Creation				
MS 9						Testing			
MS 10							Model deployment		

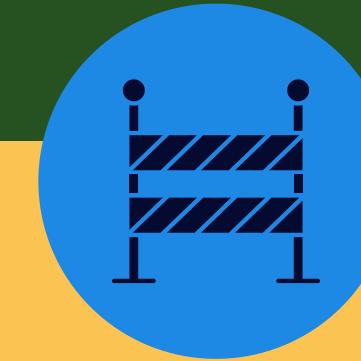


Project Assumptions, Constraints & Risks



ASSUMPTIONS

- The extracted data will be accurate and up-to-date, with continuous website accessibility.
- Users will communicate in English and have basic chatbot experience. University IT support will handle necessary integrations.



CONSTRAINTS

- In-Scope: Data from the website only, no human agent or multi-language support.
- Dependencies: GroqAPI stability and access to UTD data for accuracy.
- Known Limitations: Handling complex or ambiguous queries.
- Unknown Limitations: LLM accuracy for complex queries, and scalability limits.

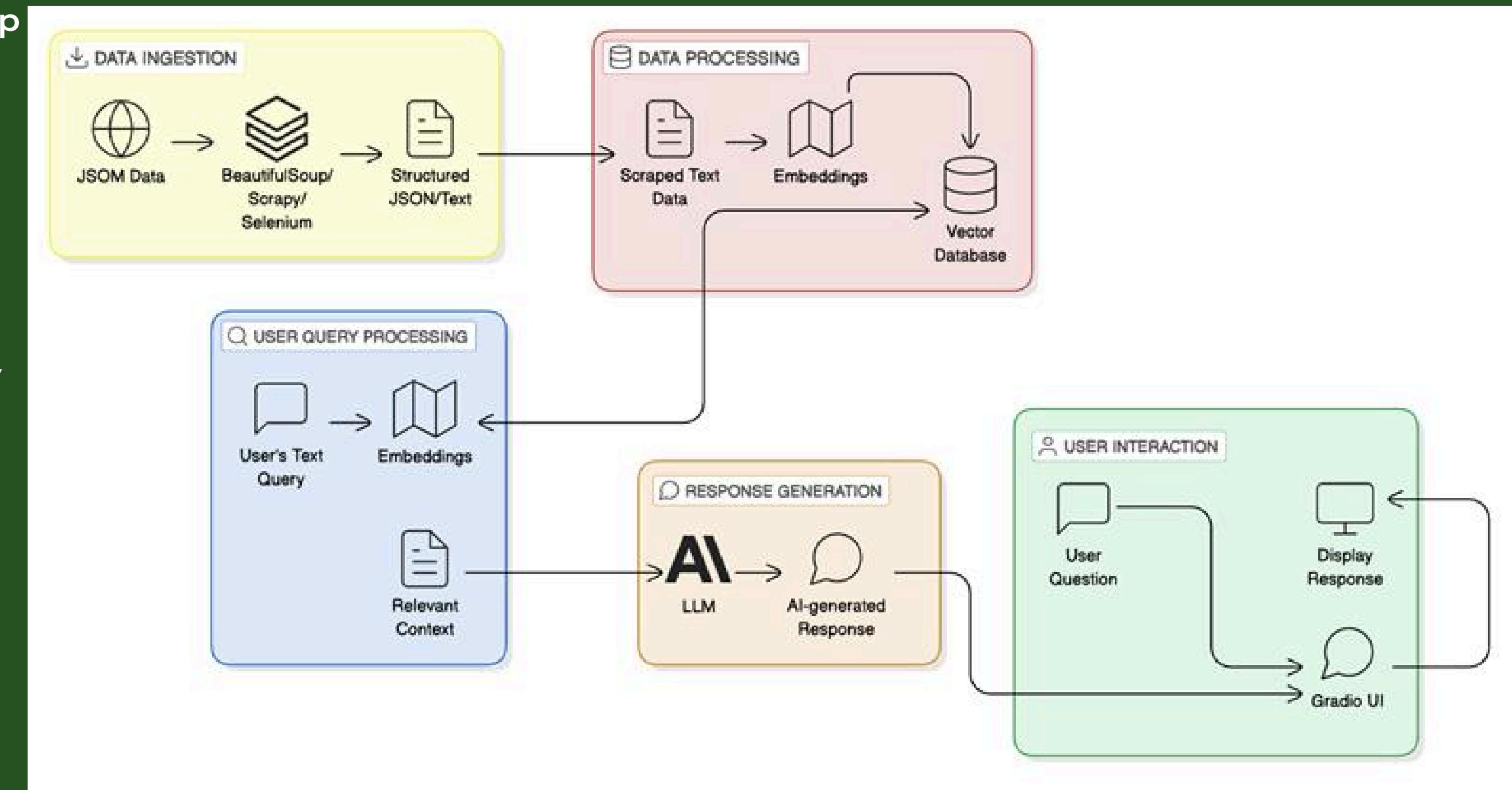
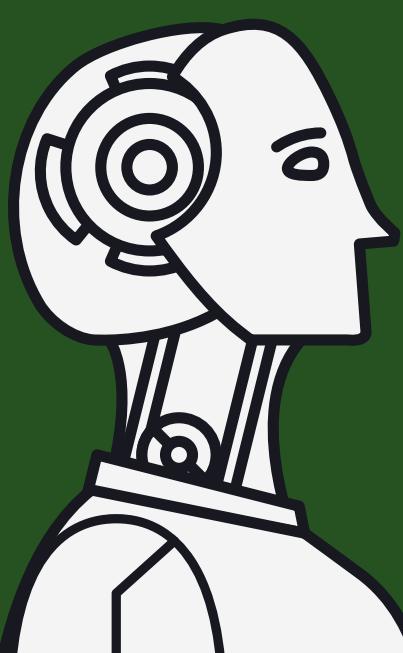


RISKS

- LLM Accuracy: Inaccurate responses may reduce trust; improve with human feedback.
- API Downtime: GroqAPI disruptions may halt responses; local NLP model as a solution.
- Voice Input Variability: Diverse accents may limit accessibility; opportunity to enhance inclusivity.

Technical Architecture

- Web Scraping: Selenium, BeautifulSoup
- Embedding Model: text-embedding-ada-002
- Vector Database: ChromaDB
- LLM Integration: OpenAI GPT 3.5
- NLP (Transformers): Used for query understanding and semantic analysis
- Backend: Python (Flask) – RESTful API
- Frontend: Gradio interface with HTML, CSS, JavaScript
- Architecture: RAG (Retrieval-Augmented Generation)



Product Demo



Thank You.

