



Infinity Assistant Chatbot

Field Session Project Proposal – Summer 2026

Company Background

Infinity Technology Systems is a software and managed IT company on a mission to bring modern technology to one of the most underserved industries in the world - construction and trades. While other sectors have been transformed by software, this industry still runs on spreadsheets, paper forms, and phone calls. That's the gap we're closing.

We build purpose-built software suites, AI-powered workflows, and full infrastructure solutions designed around how these businesses actually operate. The problems are real, the technology is cutting-edge, and the opportunity to make a meaningful impact is enormous.

We're growing fast and building in real time. The projects we bring to Field Session are genuine contributions to that roadmap, not classroom exercises. Students who work with us are building things that get used.

Project Background

Large construction businesses run on documentation, SOPs, HR policies, project histories, bid records, and process docs, and most of that knowledge is buried in SharePoint libraries, OneDrive folders, and internal servers. When someone on the team has a question, they either dig through folders or track down a coworker. ITS is building a better answer.

Infinity Assistant is a company-specific AI chatbot that lets employees ask questions in plain language and get real answers sourced directly from internal documentation, with a reference back to the exact source. Built for the way construction teams actually work, it runs on WhatsApp so field crews can access it from their phones, with a Microsoft Teams integration as a stretch goal for office staff.

The architecture powering this is RAG, Retrieval-Augmented Generation. Rather than training a model on proprietary data, which is expensive and goes stale quickly, RAG indexes documents into a vector search database and retrieves the most relevant chunks at query time, passing them to a language model to generate a grounded, citable answer. The result is a system that stays current as documents are updated and can always tell you exactly where its answer came from.

The student team will build the full stack: an ingestion pipeline that processes and indexes content from SharePoint, OneDrive, internal SOPs, project and bid history, HR documents, and operational data; the retrieval and generation layer on top of it; and the WhatsApp integration that connects users to the system. Infinity Commercial and Industrial is advising on the project, ensuring the system is built around the real information needs of a large construction operation.

This is a production system that real employees will use from day one. For students interested in applied AI, conversational systems, or building software that ships, this is a project with immediate real-world impact.

Recommended Stack

Our thinking on the architecture centers around RAG, and for the pieces that need to come together we've been looking at Python or Node.js on the backend, Azure AI Search or Pinecone for the vector database, and the OpenAI or Anthropic API for the language model. The WhatsApp Business API is the interface we have in mind for field crews, with Microsoft Teams as a stretch goal for office staff. A lightweight admin interface for managing the knowledge base and reviewing query logs is also on the table as a stretch goal.

These are informed suggestions, not a locked-in spec. The team will have a much closer view of the tradeoffs once they're in the problem, and if there's a better tooling choice or a different architectural approach that serves the use case well, we're open to it. The goal is a system that works reliably for real employees, how we get there is a conversation.

Desired Skillset

- Interest in applied AI, large language models, and conversational systems
- Backend development experience in Python or Node.js, or a strong willingness to learn
- Familiarity with APIs and webhook-based integrations
- Curiosity about vector databases and semantic search
- Adaptable and self-directed — this project requires independent research and the ability to pick up new tools on the fly

Preferred Team Size

We recommend a team of 3 to 5 students to ensure meaningful collaboration and a well-rounded skill set across the project.

Location

All work and collaboration for this project can be done remotely. The ITS team will provide consistent support and regular feedback throughout the engagement via virtual meetings and online communication tools. Infinity Commercial and Industrial will also be available in their advisory capacity for industry context and guidance as needed.