CASE STUDY: ICEV

AI-Powered Reporting Assistant for Education Platforms

AT A GLANCE

Challenges

- Natural language reporting access
- Dynamic report discovery
- Secure permission-aware AI
- Evaluating AI data limits

Methods

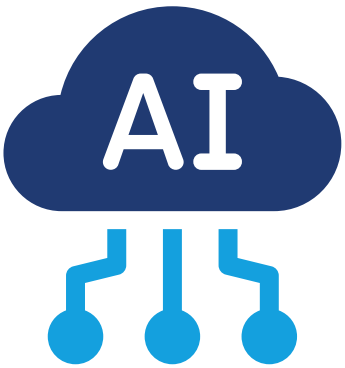
- Agentic AI architecture
- Semantic Kernel orchestration
- Azure OpenAI integration
- AI-graded integration testing

OBJECTIVES

iCEV wanted to explore how conversational AI could improve the way educators and administrators interact with reporting data in its Career and Technical Education platform. The goal was to determine whether natural language could serve as a practical entry point for navigating complex reports, filters, and analytics.

To answer this question, iCEV partnered with IntelliTect to design an AI assistant capable of discovering reports dynamically and guiding users to relevant information. The initiative focused on validating architectural patterns that would allow AI to integrate securely with the platform while respecting user permissions and existing reporting structures.

SOLUTIONS



IntelliTect designed and implemented a C# chatbot prototype that demonstrated how an AI assistant could integrate into iCEV's Azure ecosystem. Using Semantic Kernel and Azure OpenAI, the assistant was able to discover available reports, apply filters dynamically, and respond to natural language questions while respecting Entra ID-based access controls.

The team also explored advanced AI capabilities such as cloud-based code execution for complex data analysis scenarios and implemented AI-graded integration tests to validate system behavior. The resulting architecture provided iCEV with practical patterns for secure, permission-aware AI integration within their existing platform.

BENEFITS

Natural Language Reporting

Educators can interact with complex reporting systems using conversational questions rather than navigating multiple reports and filters.

Secure AI Integration

The architecture demonstrated how AI assistants can operate within existing identity and permission systems.

Path for Future AI Features

The project produced a working reference architecture that helps guide future AI capabilities within the iCEV platform.