

First Technology Group Case Study



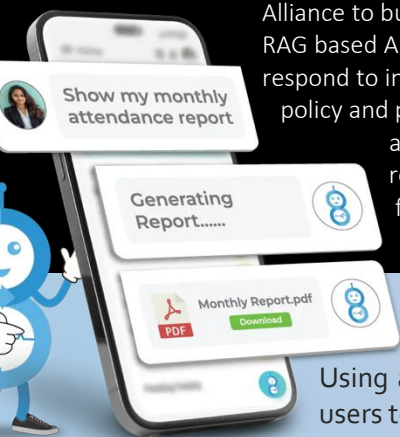
SOLUTION AREA: App Modernisation
SOLUTION PLAY: Modernising Apps with Azure
and Azure AI & IoT Devices
TECHNICAL: Azure AI Services, CosmosDB

INDUSTRY: ... Financial Services
REGION: South Africa
REACH: Global

Overview

By using emerging technology based on Artificial Intelligence, we identified alternatives to the typical data aggregation and reporting solutions.

First Technology assisted African Alliance to build a multi-model RAG based AI chatbot that can respond to internal company policy and procedure prompts, and also ingest Excel reports in different formats for reporting.



Excel In, Excel Out

Working closely with African Alliance's AI Centre of Excellence team, First Technology identified the need to deploy generative AI as an emerging technology. After investigating various use cases, we agreed a viable business case to augment employees with a company grounded generative AI chatbot. Using our template-based RAG framework, we configured and deployed the solution within 2 months, using an Azure AI Services.



Using a multi-model RAG based architecture, the classic *Excel In, Excel Out* problem allow users to use natural language to reconstruct existing data into valuable management reports.

As an early adopter of generative AI, African Alliance is driving efficiencies by deploying a dual function generative AI chatbot that has been trained on company policies and procedures.

Furthermore, the system has been given tools and system training on various company reports, which allows the user to provide up-to-date versions of these reports in Excel, and instruct the AI to generate consolidated accounts based on the group standard.

User the First Technology AI RAG framework, built on top of the Azure AI Services and Azure App and Web Services, data is kept secure in the client's Azure tenant. Integrated authentication with Entra ID allows only authenticated and authorised users to access the chatbot, and its various functions.

Security and cost efficiency was achieved following an AI-based workload landing configuration, including selecting the most cost-effective model from the Azure AI Foundry model catalogue, depending on the function of the bot. We implemented an intent routing architecture in a Azure hosted Web API, to execute the correct AI tool (hosted as Azure Functions) or invoke the correct LLM, configured in the Azure AI Foundry, after retrieving information from the customers knowledgebase using Azure AI Search Service.

Conversation history and sentiment analysis is stored in a Cosmos DB. Using Bicep Templates, issues can be addressed and propagated any of the non-production environments using automated CI/CD pipelines hosted in Azure DevOps.

Summary and Benefits

First Technology and African Alliance developed a generative AI knowledge system. The benefits of the solution:

- Gives users rapid and intelligent information from existing company knowledge
- Allow the user to provide existing Excel reports and instruct the AI to consolidate the data
- Lays the foundation for future projects, including being able to query real time market data, pricing and customer record data.



First Technology delivers expert IT solutions with deep industry experience, empowering businesses through advanced infrastructure, cloud, security, and managed services tailored to the evolving digital landscape. First Technology Digital is a specialist Innovation and generative AI division of the group.