

CASE STUDY

Corporate AI Chatbot Development for a Consulting Firm

AI & ML WEB SOLUTIONS PYTHON

Background

A consulting firm was looking to build their own private AI chatbot for internal business workflows. To do this, they needed to customize large language models (LLMs) to meet their specific research and content generation requirements while also adding an extra layer of security.

They hired Apriorit to develop and design a secure AI chatbot and a web-based app for corporate needs. We also deployed the product in the client's infrastructure and conducted training for their team on code, deployment, and further improvements.



The client

Our client is an international consulting firm that offers various services including business research, data analytics, content services, and graphic design.



Client:
NDA-protected



Location:
UAE



Industry:
Consulting



Solution we delivered:
An AI-based chatbot and a web app for internal research needs



Services we provided:

- [AI chatbot development](#)
- [Generative AI development](#)
- [Web development](#)
- [Quality assurance](#)
- [DevOps assistance](#)

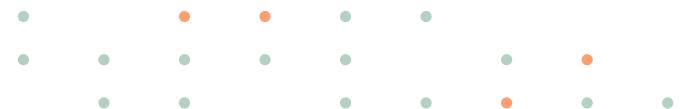
To streamline their research processes, our client wanted a custom AI chatbot for corporate needs that could work with uploaded files.

Since they deal with lots of sensitive data, the client was also looking to ensure proper data protection and enable their employees to use AI-based tools within secure corporate infrastructure. Additionally, they wanted to make sure that all search history and generated information remained private and was never shared with third-party LLM providers in order to safeguard their business advantage.

They entrusted Apriorit with the following tasks:

- Develop an AI chatbot that supports file uploading
- Establish data privacy and security measures for the chatbot
- Ensure the chatbot can flawlessly support up to 15 users simultaneously
- Create a simple but user-friendly web interface for the chatbot and admin dashboard
- Deploy the project in the client's Google Cloud Platform infrastructure

While our client had explicit requirements for project features and privacy options, they asked Apriorit to choose the technology stack.



Project details

Apriorit team

Project manager Business analyst

AI developer Backend/frontend developers

DevOps engineer QA specialist

Tech stack

Python

React.js

TypeScript

PostgreSQL

Gemini

Socket.io

LangFuse

LangChain

Chainlit

Kubernetes

Google Cloud

They [Apriorit]

delivered a working product and helped us deploy it in our infrastructure. Once we put the project live, it was working perfectly.

The result

Our client received a corporate AI chatbot that enhances employee performance during research activities. We delivered a stable, scalable, and secure solution, and smoothly integrated the project into the client's existing infrastructure.

Being able to share files with the chatbot allows the client's employees to improve the research process and achieve even more insightful summarizations. Yet all prompts, files, and generated information remain private and stay within the client's corporate environment.

How we did it

After discussing project details with stakeholders, Apriorit gathered a development team and outlined the work plan. We decided to go with Python, Gemini LLM, LangFuse, and other supplementary technologies that would be the best fit considering the client's requirements.

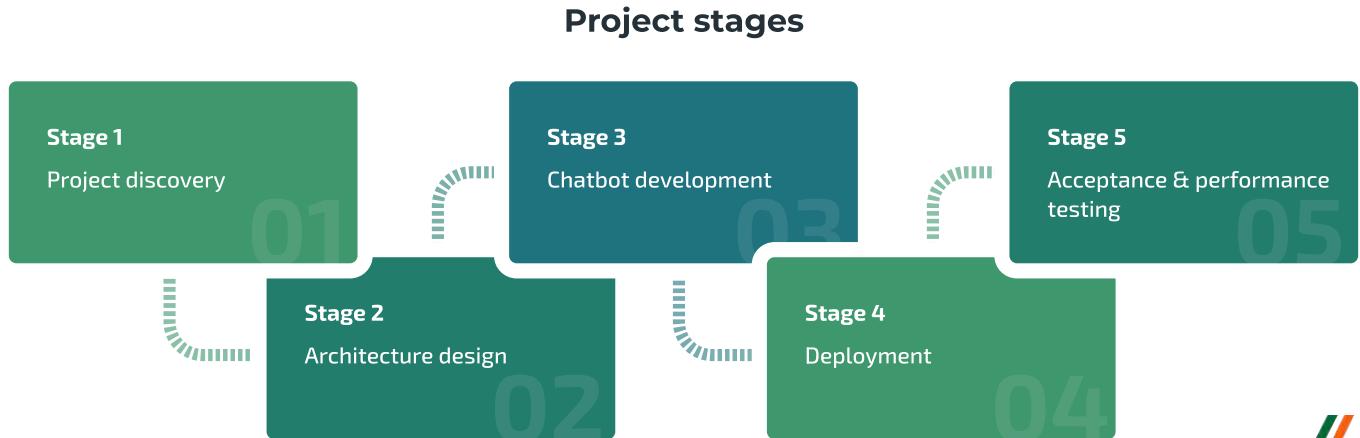
The client collaborated with us using the [fixed price model](#).

During this project, Apriorit performed several demo presentations to give a detailed overview of new features. We also conducted QA sessions while developing and fine-tuning the solution.

Ready to get the most out of AI for your business?

Automate processes and enhance efficiency without the risk of leaking corporate data to third parties. Let Apriorit build you a custom chatbot solution with scalability and privacy in mind.

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Stage 1. Project discovery

We started work with essential [project discovery activities](#):

- Conducted meetings with stakeholders to understand the project vision and [main requirements](#)
- Identified key use cases for the chatbot: research, summary generation, etc.
- Defined users' roles and pain points
- Outlined chatbot functionalities, workflows, and integrations in a [clear software requirements specification](#) and approved it with stakeholders

All information gathered during this stage helped us clearly understand how to align the corporate chatbot solution with customer expectations and business goals.

// Stage 2. Architecture design

The developed specification was crucial for reducing project risks. It helped us clarify all possible details before moving to development and prepared us for the following activities:

- Designing the system architecture, including the AI model, APIs, and cloud infrastructure
- Ensuring that all prompts provided to and information generated by the chatbot will remain private
- Planning a foundation for future project enhancements and additional capabilities

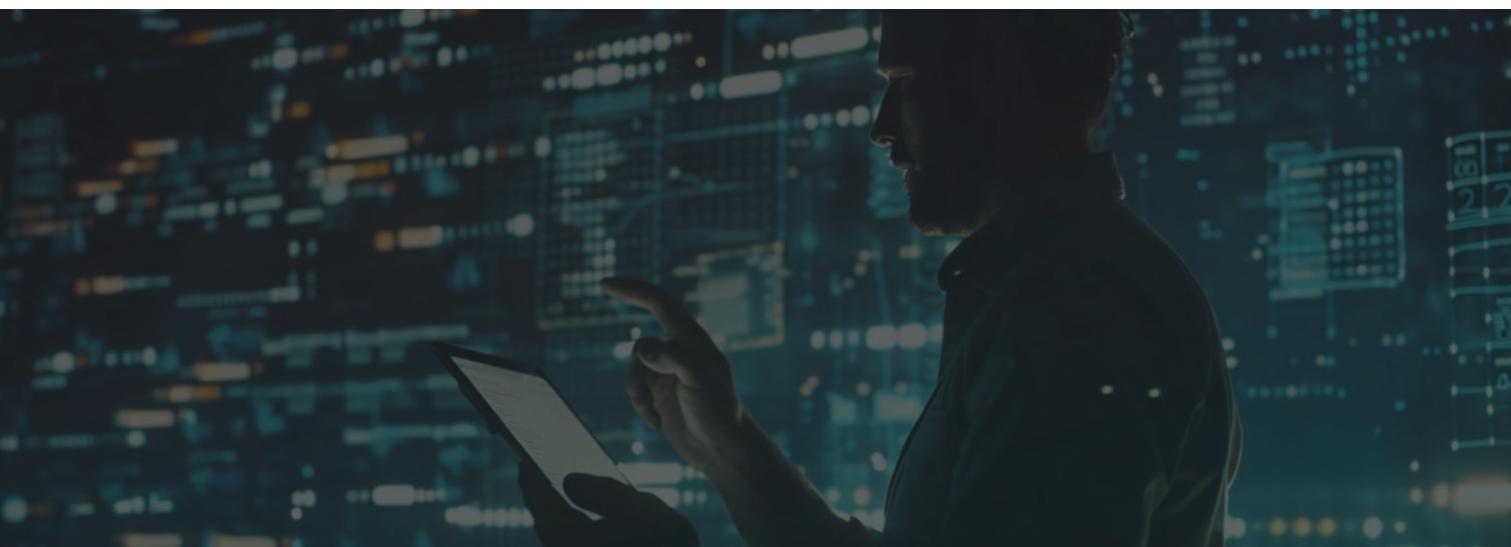
As a result of these activities, our team provided the client with a clear project roadmap. We also approved the architecture design with stakeholders, confirming its feasibility and alignment with business goals.

// Stage 3. Chatbot development

With all preparation done and documentation approved, the Apriorit team proceeded to project development:

- Built the first chatbot version with core conversational capabilities
- Implemented the file uploading feature
- Evaluated chatbot performance under different workloads (in the testing environment)
- Finalized a functional prototype to receive early feedback
- Presented a demo to stakeholders and answered their questions

When evaluating performance, we analyzed how the chatbot handled different numbers of simultaneous users and requests — and how much it cost to do so. This helped us ensure we met the client's performance requirements.



〃 Stage 4. Deployment

Once the Apriorit team had fine-tuned prompts and introduced other changes, according to the client's post-demo requests, it was time to implement the developed solution. Here's what we did:

- Deployed the chatbot in a live production environment
- Configured the LangFuse admin dashboard to track chatbot performance and user interactions
- Assisted the client's team with continuous support for project infrastructure, deployment, and code

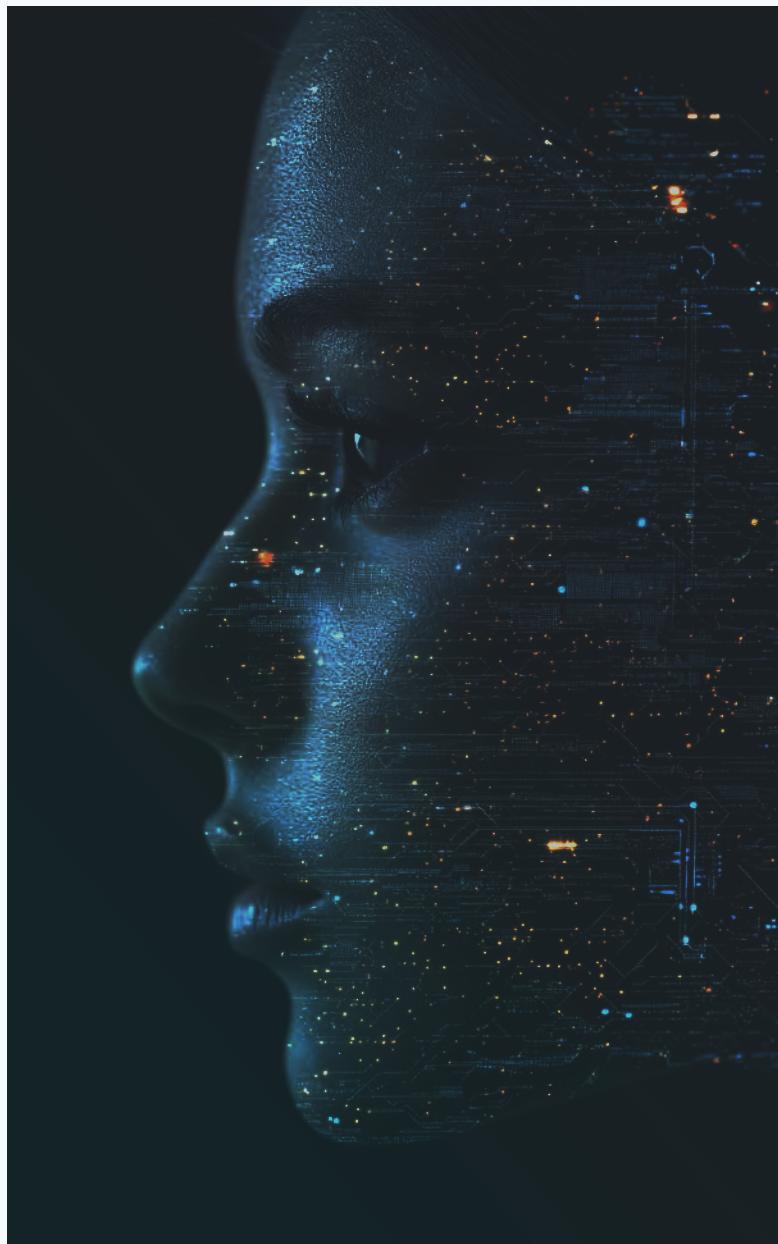
After that, the project was ready for the final touch — quality assurance acceptance.

〃 Stage 5. Acceptance & performance testing

To make sure the project performed as intended, our QA and development specialists:

- Conducted rigorous functionality, usability, and security testing
- Performed load testing to assess chatbot performance under high traffic volumes
- Ensured compliance with predefined acceptance criteria before the full rollout
- Addressed bugs and optimization opportunities based on test results

With robust QA testing and optimization, the final solution ensures reliable performance, efficiently handling peak loads and delivering a seamless user experience.



Impact

The chatbot and web application we delivered represent the first key steps in our client's journey to develop internal AI infrastructure within their business environments. This professionally built and smoothly deployed project has benefited our client in multiple ways by:

- Streamlining research while keeping information private
- Improving efficiency of content summarization and generation
- Offering a flawless user experience with up to 15 simultaneous users and support for up to 50 users
- Leaving room for potential product growth and expansion thanks to a well-thought-out project architecture



Apriorit's availability and commitment to making things work stood out. [...] If we need to work again and have the budget, Apriorit will definitely be one of our first companies to go to.

Looking for experts in generative AI and chatbot development?

Delegate your technical tasks to Apriorit and focus on your business goals. We'll build a reliable and well-protected AI solution that perfectly meets all your requirements.

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