



Accelerating Clinical Research

Enhancing Test Case Generation with AI-Powered Automation

Minimizing Tester Efforts with the Integration of Generative AI & VS Code Extension



Summary

A global leader in cloud-based technology solutions for clinical research faced challenges in test case creation and coverage. With Sonata's solution, they significantly improved their testing process by integrating user stories from Jira with Gen AI, resulting in a 40% faster test case generation.

Client Overview

A global leader in cloud-based technology solutions for clinical research in the life sciences industry. With an annual revenue of over a few billion dollars, the client provides software platforms for managing clinical trials and research data.

Pressure Points

Long duration for the creation of test cases by Business Analysts, Product Owners & Testers	Suboptimal test coverage due to occasional oversight of relevant test cases.
Absence of a streamlined solution for generating unit and functional test cases and code comments.	Need support across multiple programming languages and integration with third-party tools like Jira

Solutions

Sonata's solution includes implementation of client specific GenAI Framework & a few agreed upon use cases on the AWS landscape. Some of the implemented GenAI Framework modules include:

Responsible AI Module	Context Initialization/Session Management	Prompt Validation	Orchestration/Execution Manager/Agent
Prompt Builder	Skill Registry	LLM Registry	LLM Services
App configuration	Authorization Module		

Below AWS services were extensively used to implement both framework & use cases:

- Bedrock service for Gen AI response
- Lambda service for creating framework components.
- RDS PostgreSQL is used as Database
- Amazon Comprehend for RAI purposes.
- AWS Gateway for managing the endpoints.
- IAM roles and policies
- AWS Cloud Formation for infrastructure automation
- AWS Cloud Watch for observability

Results that Speak Volumes

Test Case Generation Use case.

40% Faster Test Case Generation	50% Reduction in Tester Efforts	Improved Test Case Accuracy & Test Coverage	End-to-end Process Automation from User-Story to Generation of Test Scripts
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