



How QualiZeal Elevated GenAI Quality Engineering for a Leading Insurance Company.



80%

Test automation coverage, up from 40–50%



40–60%

Reduction in SME manual validation effort.



LLM/Agent

Testing depth expanded from UI-only to full LLM behavior and agent lifecycle validation.

Our client, a leading insurance company (name withheld for confidentiality), has been pioneering internal and external chatbot development initiatives leveraging Generative AI (GenAI). **Their GenAI-powered chatbots were designed to support user queries, workflows, and task automation at scale.** However, traditional QA methods fell short in ensuring the reliability, safety, and compliance of **LLM-driven systems.**



Challenges

● Superficial Testing / Limited Scope

Testing was restricted to UI or functional validations only, with no coverage of prompt logic, LLM internals, or agent interactions.



● High Manual Effort & SME Overload

Subject-matter experts were overloaded with creating test cases, executing tests, evaluating responses, and spotting failures.



● Hallucinations, Bias & Safety Risks

Generative AI outputs risk hallucination, biased content, policy violations, or exposure of sensitive data (PII).



● No Lifecycle & Contextual Testing

Lack of tests for context-switching, multi-turn conversations, agent chaining, or evolving state across sessions.



● No Feedback Loop from Production

Failures or anomalies in production (real user interactions) weren't fed back for refinement of test scenarios.



● Lack of Traceability & Version Control

Test assets (prompts, guardrails, test cases) evolved without versioning, making it hard to audit or roll back.



Solutions

Introduce multi-layer testing — validate not just UI and API, but also LLM behavior, chain-of-thought reasoning, prompt variants, and agent orchestration.

Deploy TestGen AI to auto-generate domain-specific prompts and test cases that reduce manual creation. Use reusable prompt/test libraries and templates to streamline SME effort.

Embed guardrails and safety checks — auto-validation for PII exposure, offensive content filters, bias/fairness screening, compliance rules (e.g. GDPR). Also run adversarial and negative prompt tests.

Build agent orchestration & lifecycle frameworks (e.g., based on Strands Agent) to simulate multi-agent flows, conversation drift, context jumps, fallback logic, and session continuity.

Implement logging & monitoring (via MongoDB / AEM / production logs) to capture real user prompts and responses, and integrate them into the test corpus continuously.

Introduce version control, traceability frameworks, and audit trails for all test artifacts. Maintain lineage from prompt → test case → result → model version.

About



QualiZeal is North America's fastest-growing independent digital quality engineering services company. With a diverse portfolio of digital transformation services encompassing Quality Engineering, Digital Engineering, Advisory and Transformation, and Emerging Technology Testing, QualiZeal empowers organizations of all sizes globally to achieve quality excellence and sustainable market leadership. With a headcount of 850+ elite software quality engineers and trusted by 70+ global enterprises over 200+ projects across 12+ industries, QualiZeal is widely recognized for its pioneering innovation and industry-leading client and employee Net Promoter Scores (NPS).

QualiZeal has been acknowledged as Gold Stevie® Award winner for 2025 in the Fastest Growing Tech Company of the Year category. Additionally, QualiZeal has also been named the winner of the Bronze Stevie® Award for 2024 Tech Startup of the Year (Services) category in the 22nd Annual American Business Awards®. We also have been recognized as a Major Contender in Everest Group's Specialist and Next-Generation QE Services PEAK® Matrix 2023 reports and as a notable provider in Forrester's Continuous Automation and Testing (CAT) Services Landscape Report (Q4 2023).



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