



77% faster clickstream testing for a global QSR leader – Accelerating shift-left in SDLC for Clickstream data

Brillio built an agentic test platform for clickstream data that reduced a five-day manual regression cycle to 2 days for one of the world's largest quick-service restaurant chains.



A background image of a man with a beard and mustache, wearing a denim shirt, smiling and eating at a restaurant. He is holding a fork with food. In the foreground, there is a burger on a tray, a glass of beer, and a bowl of chips. The lighting is warm and the atmosphere is casual.

At a glance

- The client is the world's largest quick-service restaurant chain by system-wide sales and restaurant count, with over 45,000 restaurants across more than 100 countries
- The organization struggled with manual, timebound clickstream regression testing that could only be scaled by adding people
- Brillio implemented an agentic test platform validating clickstream events end to end across real devices, builds and markets
- The client achieved a 77% productivity gain on the regression cycle
- Regression testing reduced from 5 days to 9 hours, with automated logging and reporting in place of human documentation

Clickstream data driving personalization and demand planning for 100 million app users

This organization, the world's largest QSR chain, tracks customer interactions across its mobile app and self-order kiosks to understand preferences, recommend menu items, offer personalized deals at runtime and anticipate busy periods so kitchens can prepare accordingly. With more than 100 million active app users across its top 50 markets, clickstream data sits at the center of the company's personalization strategy, its loyalty program and its operational planning.

Data quality therefore carries direct commercial weight. Recommendations, personalized offers and demand forecasting all depend on beacons firing correctly and carrying the expected attributes, which puts a premium on validating clickstream data ahead of each release.

Manual regression testing hinders coverage to priority beacons and does not scale to the demands of regression releases, thereby, slowing release cycles

Testing across the clickstream pipeline was manual and timebound. For much of each release cycle, the clickstream QA team had to stretch to meet release imperatives, and when parallel runs were required across markets, the available response was to add more people to regression work.

Coverage was rationed as a result, with testing limited to P0 and P1 beacons. Audit trails relied on human documentation, and unlocking value through insights was not feasible, leaving trend analysis and the identification of recurring failure patterns out of reach.

An agentic test platform designed around the client's approved ingestion patterns

Brillio built an agentic test platform for clickstream data. The platform uses agents to run tests against the client's mobile analytics layer, enabling faster validation and greater confidence in the resulting data.

Brillio leveraged the client's approved ingestion patterns to design and define the architecture, so the platform aligned with the existing landscape approved by the architecture review board. A well-defined RBAC is in place to ensure effective authorization of users to the platform.

The platform asserts at two points. The first assertion runs against the output of the mobile analytics layer, captured through a proxy. The second runs against the customer data platform. Testing the data at both points in the pipe is what allows Brillio to confirm that assertions are accurate and bonafide, covering both the firing of an event and the integrity of the payload that reaches the downstream platform.

A six-stage lifecycle carrying each test from script to validated result

Each stage hands off to the next, so a run that starts as Python code finishes as a report confirming whether every expected event reached the customer data platform with the attributes it should carry. The stages are:

Test script - Python with Appium client

Appium server - version compatibility management

Device farm - iOS and Android, real devices and simulators

Client app - production, staging and build under test

Event capture - proxy interception, inbound and outbound

Result validation and reporting - reports and screenshots for failures

Three engineering pillars: test authoring, execution at scale and event validation

These three areas sit beneath the flow described above, and together they are what allows the same suite to run unattended across the full device and build matrix.

Test authoring. Page Object Model architecture with data-driven JSON test fixtures and support for dynamic variables. App locators use accessibility identifiers across iOS and Android, with XPath fallback for dynamic content.

Execution pipeline. A regression test suite covering the full flow set, validating events from both the app and the customer data platform, with inbound and outbound validation of MixPanel and Kochava, across the streaming and CDP layers.

Clickstream event validation. The data is captured from the mobile app and the customer data platform that provides congruence of the assertions for clickstream data. Reporting captures screenshots of test flows that fail during test runs.

Workshops, consulting and co-innovation shaped the delivery model

Brillio ran workshops to define the foundations of the platform, followed by further sessions to identify and prioritize the agents that needed to be developed.

Together, we identified the approved tech stack, mapped it to the solution at hand, and then designed and worked with the client's architecture review board to adhere to approved patterns. That alignment proved central to the outcome.

Agent development within the client organization was still emerging when the engagement kicked off. Brillio worked across a series of PoCs, refining the approach as customer objectives took shape.

Regression testing time reduced from 5 days to 2 days

- **77% productivity gains** across the clickstream regression cycle
- **Cycle-time reduced** from high to low, supporting faster time-to-market and shorter regression cycles
- **Process shifted** from manual to automated and agent-driven, enabling parallel runs at scale and removing human error from execution
- **Beacon span expanded** from P0 and P1 to all events and all attributes, inbound and outbound, increasing testing scope and giving the insights team a substantially richer signal
- **Audit trace automated**, replacing human documentation with automated logging and reporting, and providing a single view for QA and development teams to compare test runs
- **Insight unlocked**, with regression run data capture supporting trend analysis, pattern identification and post-mortem assessment of flows



ABOUT BRILLIO

Brillio is The Enterprise AI Accelerator helping Fortune 1000 companies move from AI ambition to scaled impact, faster. Powered by our AI accelerator platform – Agentic Data and Application Management (ADAM), Brillio is one of the fastest-growing digital technology service providers, delivering transformation across five core workstreams: business-led transformation, customer experience transformation, AI and data engineering, digital engineering, and infrastructure engineering.

With 14 delivery locations across North America, Europe, and Asia and a team of over 6,000 customer-obsessed professionals, Brillio combines deep industry expertise, modern engineering, and accelerators to deliver measurable outcomes. Headquartered in Dallas, Texas, Brillio serves clients globally with a commitment to speed, scale, and measurable impact.



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