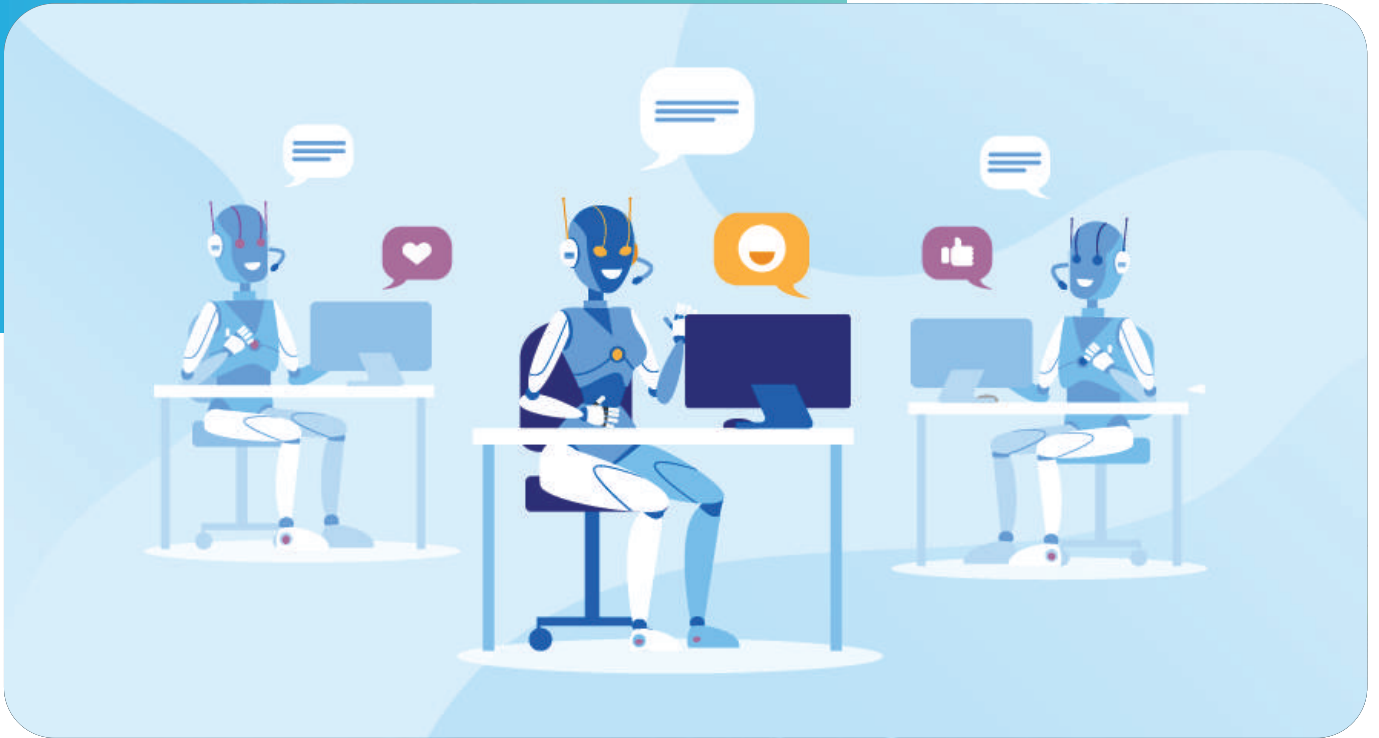# INDIUM'S INTEGRATED QA MODEL FOR MODERN AI BASED CUSTOMER SERVICE APPLICATION

BUSINESS

Test Automation

DOMAIN

Customer Experience Solutions

TOOLS

Java / Angular, Protractor and UphoriX Automation Platform

KEY HIGHLIGHTS

- Supported continuous QA for the iterative requirements of AI based functions and monthly / quarterly releases
- Flexible test design to accommodate the ongoing feature changes; maintenance of up-to-date test case and artefact repository
- Custom Automation Solution using uphoriX integrated with CI/CD with demonstrated results of 80% automation efficiency

INDIUM'S INTEGRATED QA MODEL FOR MODERN AI BASED CUSTOMER SERVICE APPLICATION

CLIENT STATUS QUO

Our client is a leader in Conversational Service Automation, a digital customer experience platform. The client provides flagship solutions using AI including Speech Analytics, Virtual Assistant and Voice Biometrics. The solutions automate customer service agent interactions, provide real time conversation analytics, automate after call work, and power the processes involved in customer response management. The solution suite can be deployed on-prem/cloud, resulting in an ambitious reach of customer requirements.

The app integrates voice & data solutions (speech recognition and voice biometrics) that hosts enterprise automation solutions for customer service delivery. The application is built on Angular and Java and solution is available on cloud.

BUSINESS CHALLENGES

The superior features of AI-based customer service required an effective quality assurance strategy, a QA partner to validate and capture the full functional integrity and response to usability.

- Manual Testing / Smoke Testing was conducted by in-house QA team to report high level checks in line with the development.
- Scheduled monthly releases/patches and quarterly releases of the application suite requiring the team to support continuous QA The in-house QA employed a rigid java - selenium based framework which is not flexible to automate UI based testing
- No Automation expertise and test cycle optimization was not accounted
- Address the test case volume and traceability for testing the comprehensive suite of products
- Minimal/no project documentation

OUR SOLUTIONS

Indium structured a multi-dimensional testing approach to test the application portfolio during development and maintenance stages. The solution was developed for achieving the continuous testing requirements of conversational AI application and wide test coverage of associated workflows and conversation triggers.

- Ongoing testing set-up, with scheduled iterations to update test cases and expand test coverage along with the AI training pace.
- Detailed test strategy covering test cases for potential response flows and testing for usability parameters.
- Performed Unit Testing to establish standards in code and accelerate dev cycle. Unit Testing solutions were powered by DevOps code feedback and Adaptive Shift Left Testing.
- Hyper Iterative Test Design: Custom test design for the AI-based application portfolio that demands an ongoing learning and updating features, the QA knowledge and test cases were developed in the same intensity of the development process.
- Test Design to execute various input-output combinations for the business requirements and validations of the applications resilience to error handling.
- Test Coverage: Multichannel and cross channel user experience, Domain validations, Contextual Test Cases (based on conversational use cases).
- Test Automation Solution - UphoriX Automation Platform built on open-source frameworks and custom libraries and integrated with CI / CD (Azure). Custom Automation framework developed on
- Protractor for supporting the Angular based app QA requirements.
- Automated 1700+ regression cases contributing to 80% test execution efficiency.
- Reports and alerts are configured for email and SMS updates for stakeholders.

BUSINESS IMPACT

- Faster feedback cycles with overall 75-80% Automation, with minimal intervention towards monitoring the test process.
- Unit Testing introduced in the Dev Cycle demonstrated standards in Code Maintenance and reducing regression effort of QA engineers by about 10-15%
- Test Engineers focus on in-depth Test Cases for complex AI-based functionality while regression was completely taken over by Automation. An approx. 10 hours (upto 85%) of manual QA effort was saved for every 500 Test Cases executed.
- Up-to-date test cases and execution to keep up with the continuous need to validate business requirements. To ensure dynamic testing process and execution cycles, Indium proposed and delivered best in class test governance including scheduled test design review and updates, integrated testing requirements in dev cycle and proactive communication with the product owner.

About Indium

Indium is a Digital Engineering Services leader and Full Spectrum Integrator that helps customers embrace and navigate the Cloud-native world with Certainty. With deep expertise across Applications, Data & Analytics, AI, DevOps, Security and Digital Assurance we "Make technology work" and accelerate business value, while adding scale and velocity to customer's digital journey on AWS.

indium
Make Technology Work

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