HEXAWARE

Autonomous Testing Powered by Next- Generation Generative AI Technologies

It is Time to Go Beyond Traditional Automation

Organizations must be agile and efficient in today's fast-paced and ever-changing technological landscape. To achieve this, they should optimize software delivery timeframes.

Many organizations automate their test execution process. However, these solutions tend to automate only limited execution activities in the entire testing process. In order to optimize software test delivery timeframes without compromising test coverage, an autonomous solution is required that handles all aspects of quality assurance that self-heals when changes occur.

An Autonomous Platform for Software Testing

Hexaware envisions an autonomous quality assurance solution that learns from human testing actions and minimizes human intervention. We have identified potential use cases that we believe to be white spaces not addressed by today's regular test automation. We have developed an artificial intelligence-driven unified testing platform to implement autonomous testing across these white spaces.

Our versatile **Autonomous Test Orchestration platform** has plug-and-play capabilities and facilitates all testing needs, such as UI, API, Data, Security, Usability, Resilience, and Performance, ensuring high quality and minimal human involvement.

Besides inbuilt ML and NLP models, the robust platform leverages Generative AI engines to perform various autonomous testing activities. The platform uses the ChatGPT engine for Autonomous Feature File Generation to enhance

the test coverage and Autonomous Test Failure Analysis for better accuracy. It can leverage any Generative AI model, such as Bard from Google or other open-source Large Language Models (LLM).

Benefits of our Autonomous Testing Solution

Reduce QA effort by 40-70% by eliminating or reducing human intervention in testing

4X faster QA cycle time with 100% automation coverage

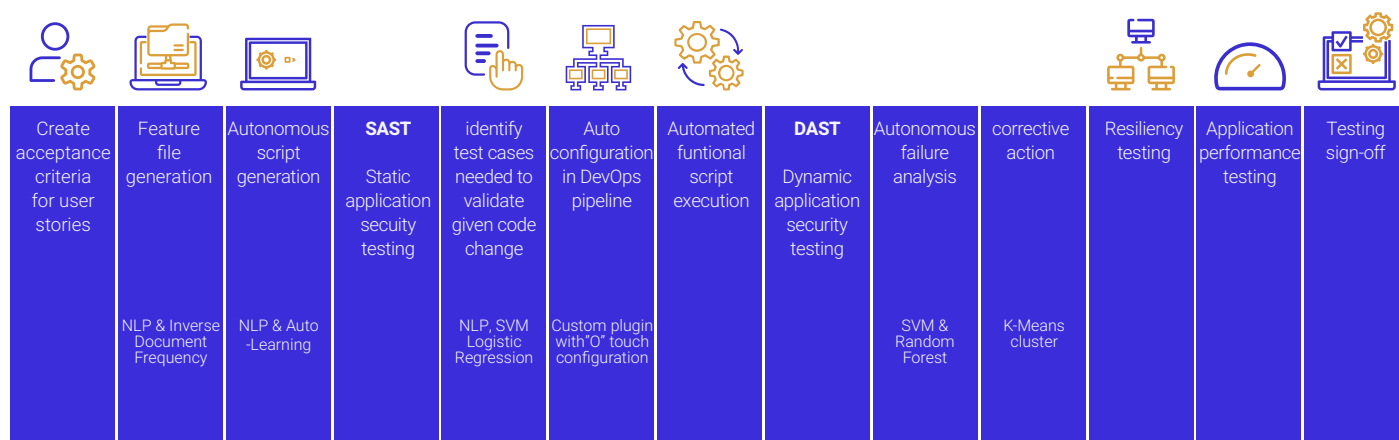Zero critical defect slippage into production and improved release confidence

Predictable and high-quality testing leveraging an AI & ML-based testing platform

"Unlocking Efficiencies" beyond Text Automation using the Autonomous Test Orchestration Platform

Numerous marquee customers use this test platform to enable faster Quality Assurance, even in highly advanced Agile and DevOps-enabled projects and applications, by going beyond traditional DevOps Quality Assurance practices.

Day-in-a-Life Scenario for Text Design & Execution in DevOps Environment with Autonomous Testing

Create acceptance criteria for user stories	Feature file generation	Autonomous script generation	**SAST** Static application secuity testing	identify test cases needed to validate given code change	Auto configuration in DevOps pipeline	Automated funtional script execution	**DAST** Dynamic application security testing	Autonomous failure analysis	corrective action	Resiliency testing	Application performance testing	Testing sign-off
	NLP & Inverse Document Frequency	NLP & Auto -Learning		NLP, SVM Logistic Regression	Custom plugin with"O" touch configuration			SVM & Random Forest	K-Means cluster			

Automation beyond DevOps Pipeline

Several use cases can be implemented through ATOP, including:

- Script Generation
- Non-functional Testing
- Smart Selection of Test Scripts
- Failure Analysis & Corrective Action
- Root Cause Analysis
- Performance Modeling
- User Experience

About Hexaware

Hexaware is a global technology and business process services company. Our 27,000 Hexawarians wake up every day with a singular purpose; to create smiles through great people and technology. With this purpose gaining momentum, we are well on our way to realizing our vision of being the most loved digital transformation partner in the world. We also seek to protect the planet and build a better tomorrow for our customers, employees, partners, investors, and the communities in which we operate.

With 40+ offices in 19 countries, we empower enterprises worldwide to realize digital transformation at scale and speed by partnering with them to build, transform, run, and optimize their technology and business processes.

Learn more about Hexaware at www.hexaware.com