

Tech
Mahindra

AI Based Testing
- MAGiX -

Connected World.
Connected Experiences.

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AI Based Testing

MAGiX

Testing spend takes up about 30% of overall project cost. In large testing projects costs can go even higher due to the complexity involved in right resource allocation and prioritizing the testing tasks.

With the advances in Machine Learning, availability of libraries and algorithms through popular scripting languages such as Python, and faster and cheaper computing power, we identified that the time was right to use all of this information to introduce Artificial Intelligence for testing projects – with the goal of improving business outcomes and accelerating our testing.

OVERVIEW OF THE TECH MAHINDRA'S AI BASED TESTING SOLUTIONS

eAnalytics | AI/ML Powered Predictive Analytics for Testing Projects



Outcome

Successfully implemented below use cases with > 80% accuracy

- Predict the likelihood of Success/Failure of new Test Requirements
- Predict the likely time taken to fix the defects
- Predict the likelihood of Success/Failure of Tests

Key Features

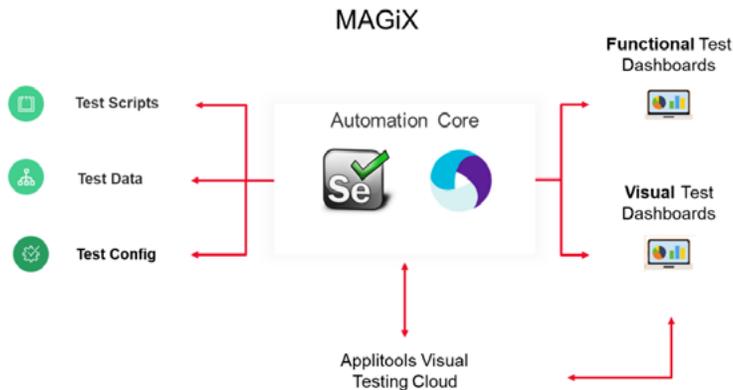
- Predict the outcome
- Using the hotspot analysis, provide automated Actionable Insights
- Using Explainable AI, detect the likely causes (Hotspots) of failure prediction

Benefits

- Better decision making resulting in better test risk mitigation
- Better test resource utilization
- Faster Go-To Market with reduced Risk of Failure

AI Based Visual Testing

Automated Visual Testing uses software to automate the process of comparing visual elements across various screen combinations to uncover visual defects.



Why It's Important?

- Visual bugs adversely affect the customer experience and the brand value
- Visual bugs can affect the revenue (even if application function as expected)
- Omni-channel digital apps make it difficult to catch visual bugs across all browsers, devices and platforms

TechM's AI Based Visual Testing - Key Features

- Visual Testing across all browsers and platforms
- Script-less approach for faster visual tests
- Integrated Functional Test And Visual Test Dashboard
- Single click visual bug reporting in JIRA
- Easily enable / disable visual testing during test execution
- Fine grained control over visual comparison of screens

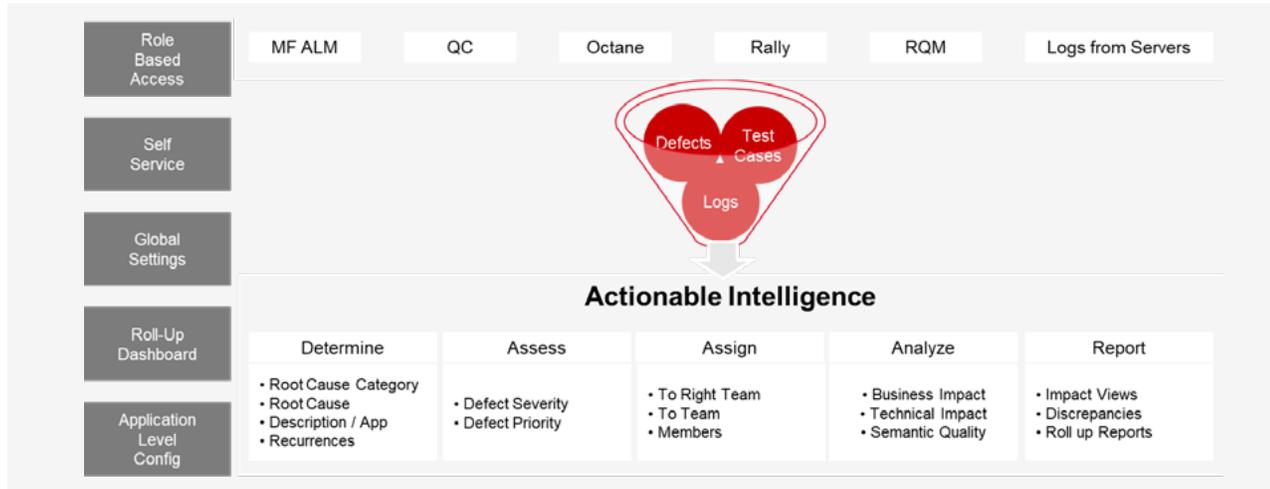
Key Benefits

- Existing functional tests can be reused for visual tests without extra efforts
- Faster learning curve (no programming skills needed)
- Faster visual test design (due to script-less approach)
- Detailed reporting for faster troubleshooting and defect creation

CHA.ai | Change Based on AI

For anomalies and failures IT engineers experience, Cha.AI can help predict - Root cause category; Exact failure point in logs; Originating application; Similar previous occurrences. It

can also open the defects and assign it to right teams. This results in sooner causal analysis, shorter triage, earlier resolution and faster time to market.



Challenges CHA.ai can overcome

- Delays in Defect Causal Analysis
- Incorrect and Delayed Assignments
- Untapped Potential of Historical Data
- Significant Time Spent in Log Analysis & Troubleshooting
- SME Dependencies
- Limited View of Trends and Impacts
- Limited view of PIDs across Apps
- Limited Connects across Teams
- Minimal Automation in Test Support

Benefits

- Reduced time for Casual analysis
- Less dependency on SMEs for RCA
- Single source of truth for all logs (Elastic Stack)
- Minimum test support organization required
- With eco system - QC, RQM, Rally, CTM, Bots, etc. - integration, Cha.AI is designed for Intuitive and Seamless User Experience. Built using reliable algorithms and TechM IP, matured with several pilots in E2E services and applications, Cha.AI has been delivering accuracy in the range of 70%+ with potential savings of additional ~10%

Dexter | Chatbot for testing projects

Dexter, "not just a Chatbot", let organizations improve the efficiency of their IT and Operation teams through simplified and intuitive access to functionalities for their regular dev, test, triage, support and social needs.

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Simplified and easy to use application services are rendered based on role and privilege of users. With notifications and crowd sourcing features, it optimizes knowledge management, reducing time required to communicate, collaborate and coordinate.

Powered by Cha.AI, voice enabled Dexter leverages NLP, AI, Cognitive capabilities to learn and improvise with user activities. With abilities to serve users using natural language & voice, it caters to both open and closed domains of information using retrieval and to an extent generative technologies.



- Future Rich usability and Coverage
- The Brain AIML and NLP
- Extension Adapters and Integrations
- User Experience Voice enabled actionable links

AIML | NLP | SENTIMENTAL ANALYSIS

Tech Mahindra

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