

GenAI Use Cases for Testing Productivity Improvements

PLAN	BUILD	EXECUTE			DEPLOY	
Test Preparation	Test Creation	Unit Testing	Component Specific Tests	Non-Functional testing	Implementation support	
GenAI led Requirement Extraction	GenAI led Natural Language Test Cases Creation	Unit Test Automation	GenAI based Web portal / UI Tests	GenAI powered Performance Tests	GenAI Led Defect RCA Analysis	
GenAI led Test Suite Optimization and Modernization	GenAI led Synthetic Data Creation		GenAI based Mobile App Tests	GenAI powered Security Vulnerabilities Tests	GenAI Assisted Test Coverage Report	
GenAI led Defect Prediction	GenAI led Test Prioritization / Recommendation		GenAI driven API Tests		GenAI based Chatbot Assistants	
			GenAI Driven Data Quality Tests	GenAI Assisted Chaos Simulation		
			Test Script Migration	GenAI assisted Cloud Infra Tests		
			GenAI driven Test Data Management (Data provisioning , Mining)			
			GenAI led Defect logging and Tracking			

Persistent Solution /
PoC Available

Technically Feasible –
In Progress

Future Scope

Persistent GenAI Solutions for Testing Productivity Improvements

Unit Testing	Code Quality Checks / Security Testing	UI / Functional Testing	API Testing
<ul style="list-style-type: none"> ✓ Usage of GenAI Code Assist Tools ✓ Convert Code Functions / Blocks to Unit Test Cases leveraging GenAI 	<ul style="list-style-type: none"> ✓ Perform security scan on the currently active file in the IDE editor ✓ Scan performed within user's local project or workspace ✓ Java, Python and JavaScript supported ✓ Custom Code Quality Checks 	<ul style="list-style-type: none"> ✓ Usage of GenAI Code Assist Tools ✓ Create Functional Testing scripts within IDE 	<ul style="list-style-type: none"> ✓ GenAI based Generation of Automation Scripts ✓ Automated Reporting module ✓ Swagger Conversion to Test Cases ✓ CICD Compatible scripts ✓ API Orchestration
CoPilot, Amazon CodeWhisperer	CoPilot, Amazon CodeWhisperer, Wingmate	CoPilot, CodeWhisperer	GenAI API Test

Test Data Management	Cloud Infra Testing	ETL Testing	Chatbot Solutions
<ul style="list-style-type: none"> ✓ Create Synthetic Test Data for Scripts execution ✓ Agent based Test Data Creation ✓ GenAI based Test Data Mining / Subsetting ✓ GenAI based Data Masking 	<ul style="list-style-type: none"> ✓ Multi Cloud GenAI based Cloud Infra Script Generator and Validator ✓ Supports AWS, Azure Cloud ✓ Creates PowerShell + Pester framework scripts ✓ Automated Execution & Reporting ✓ CICD / DevOps pipeline compatible 	<ul style="list-style-type: none"> ✓ GenAI based ETL Checks for <ul style="list-style-type: none"> - Source and Target DB checks - Statistical Validations - Natural Language based Transformation rules validation 	<ul style="list-style-type: none"> ✓ Chat with your data ✓ Chat with your Infrastructure ✓ Chat with you documents / Application Artifacts
CoPilot, CodeWhisperer, GenAI TDM Solution	Persistent Cloud Infrastructure Validation Solution (PiCVS)	Persistent ETL Testing Solution	Wingmate QnA bot, NOVA, AURA