AI-infused offerings by Tx

Tx innovative and comprehensive testing services empower organizations to achieve unparalleled quality assurance and expedite their digital transformation journey. Tx AI-powered Quality Engineering services are designed to automate quality assurance, save time and costs while enhancing productivity. AI-powered automation is a key enabler to optimize efficiency, accuracy, and agility, revolutionizing software testing. Our innovative and comprehensive testing services empower organizations to achieve unparalleled quality assurance and expedite their digital transformation journey.

Tx-GPT

Tx-GPT is an AI model developed by TestingXperts, based on Meta's LLaMa architecture. It employs advanced neural network architecture known as Transformers. It's been trained on extensive text data sourced from the local knowledge bases, enabling it to understand and generate human-like text across various topics.

How it works

Tx-GPT utilizes a multifaceted approach to enhance its capabilities.

- It begins by scraping a local knowledge base, extracting valuable insights from documents like User Stories and Design Documents.
- Employing Query Embedding and Semantic Search, it meticulously combs through this repository to provide highly relevant results.
- A user-friendly interface enables easy access to the ranked outcomes, facilitating seamless communication with Llama Cpp LLM.
- The responses generated by the model are interpreted and displayed within the Tx-GPT environment, ensuring efficient information exchange and decision-making.

Advantages

- Efficient Knowledge Retrieval
- Improved Relevance and Accuracy
- Centralized Knowledge Repository
- Facilitated Decision-Making
- Continuous Improvement

Tx-SmarTest - MockAPInData

While testing an application for a new system without pre-existing data, data masking isn't applicable. This accelerator allows you to define the type of data you need, including columns and tables, and populate them with realistic, representative data.

This component helps to generate synthetic data and masked data combination using the given parameters in the test scenarios.

How it works

- The accelerator is built using an open-source java script library for accessing large AI/ML driven open data sets.
- The logic is written to utilize Faker.js with relevant Kaggle data set covering a wide range of scenarios to create the synthetic data.
- Data masking techniques are applied, and manageable subset of masked data is then merged with synthetic data to generate a more meaningful dataset for validation of an application under test.

Advantages

- Data availability for experimentation and validation purposes
- Privacy protection and confidentiality of sensitive information
- Availability of mix of production and synthetic data

Tx-SmarTest, Tx-Predictor

This framework uses a machine learning model to predict defects by analyzing historical data collected through various sources including version control systems, issue tracking systems, code repositories, and historical defect databases. This data typically includes information about code changes, test results logs, defect reports, and project metrics.

How it works

- Relevant data is collected from various sources, including version control systems, issue tracking systems, code repositories, result logs, and historical defect databases.
- The data then undergoes feature extraction that involves transforming raw data into meaningful metrics.
- Model selection and model training start during which the model learns patterns and relationships between the input features and the occurrence of defects.
- The model is then evaluated, and finally predictive models are used to predict the likelihood of defects in specific modules or components of the software.

Advantages

- Improved software quality
- Enhance decision making
- Optimized resources
- Bug detection and identification of specific area of codebase

Ng-Tx-Automate

Next Generation Tx-Automate is a powerful, orchestrator-level framework designed to streamline and accelerate test automation by leveraging open-source libraries such as Selenium, RestAssured, and Appium. It supports multiple programming languages, including JavaScript, Java, and C#, making it a versatile and flexible choice for teams working with diverse tech stacks.

How it works

- Ng-TxAutomate connects to the AI service, providing necessary details such as provider, key, user credentials, and AI key to facilitate AI-driven script generation.
- The Tx-Automate client plugin reads feature files written in Gherkin language, and the AI service processes them to generate corresponding step definitions.
- Utilizes open-source libraries to automatically generate test scripts in the desired language (JavaScript, Java, C#) based on the parsed feature files and AI analysis.
- Incorporates reusable components like utility classes and page object models to streamline the test development process and promote best practices.
- Executes tests either locally or in a cloud environment, with support for continuous integration tools such as Azure DevOps, ensuring seamless integration into existing development pipelines.
- Provides real-time reporting and notifications via email, along with comprehensive test results displayed in Extent Reports, enabling teams to quickly identify and resolve issues.

Advantages

- Reduced Manual Effort
- Versatile and Scalable
- Cost-Effective
- Enhanced Reusability
- Real-Time Feedback

EmotIQ

This multi-agent AI utility enhances customer-centric quality engineering by automating and accelerating test design early in the software testing life cycle (STLC). It operates as a collaborative AI crew to transform raw user feedback into actionable insights, user stories, and automated tests. This makes EmotIQ beneficial for QA engineers, SDETs, and business analysts.

How it works

- Agents use inputs like Product Name, App Identifiers, and URLs to collect user reviews from app stores, social media, and online forums.
- Specialized agents extract and unify feedback into a single cross-platform view, ensuring high coverage and accuracy.
- AI agents analyze reviews for positive, negative, and neutral sentiment and categorize them into functional and non-functional insights to reveal key trends and recurring issues.
- EmotIQ converts insights into structured user stories and passes them to UiPath Test Manager. Then, automated test cases are generated, aligning testing with real user needs.

Advantages

- Launch Testing Early Using User Feedback
- Put Users at the center of Quality Engineering
- Capture Feedback from All Digital Channels
- Scale Testing Fast with Smart Automation

A11y Agent

Built using the CrewAI framework, this AI-powered auditing agent streamlines the detection, analysis, and reporting of accessibility issues across webpages. It combines intelligent page crawling, contextual remediation advice, and real-time issue detection to enable developers to build inclusive digital experiences.

How it works

- Users provide the website URL and the page scan limit. The A11y Agent crawls the homepage and subpages accordingly.
- Axe-core is injected on each page to audit accessibility and flag violations (If they exist).
- The A11y Recommendation Agent analyzes issues and offers actionable, contextual fixes.
- The reporting agent compiles findings into an interactive HTML report, summarizing all issues and recommended actions.

Advantages

- Audit Accessibility Across Pages Automatically
- Detect & Categorize Issues with Axe-Core
- Get Actionable Fixes for Each Violation
- Built-in Intelligence for Responsible AI