test.ai

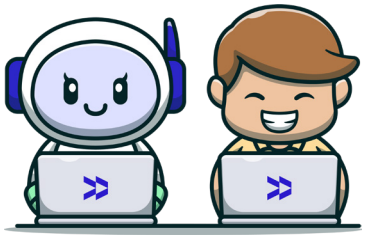
Test.ai Platform

Enable AI-based Innovations For Software Test Automation

The Test.ai Platform helps QA testers, developers, and other teams meet their goals to release apps faster and with higher quality. This increase in speed to develop and deploy complete tests provides compelling benefits for quality assurance teams, software development teams, and business stakeholders. The test.ai platform enables quality assurance teams to match pace with the speed of development operations. Quality assurance can now run at DevOps speed.

AI Transforms Testing

Test.ai is highly transformative–the gap between the capabilities of legacy test automation tools and Agile development practices typical of modern DevOps is now eliminated. Applications and new features can be brought into production confidently, knowing that all new capabilities have been tested before shipment. Teams can now scale to testing and supporting thousands of apps continuously across dozens of platforms. Customer satisfaction, time to market, and revenue can all improve as a result.



Test.ai Benefits

- Quality Assurance–build tests faster and with higher quality so your team can outperform
- Software Development–testing at DevOps speed provides full test feature coverage
- Business Stakeholders–reduce quality problems that impact revenue, expense, and customer satisfaction
- Return on investment

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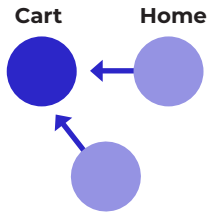
AI-Bots Build Tests Automatically

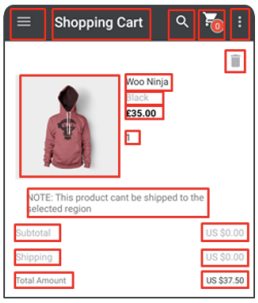
Model

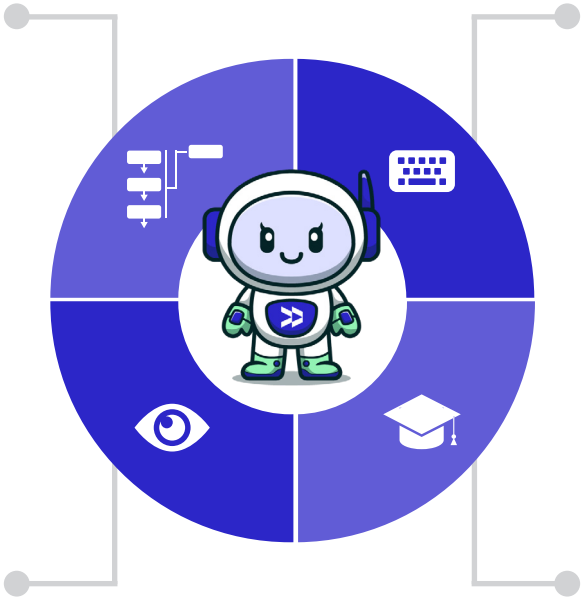
Keep track of the application and environment state to help deal with uncertainty and partial observability.



Perceive

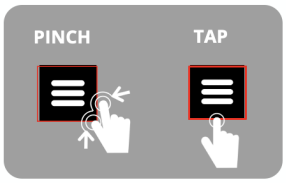
Perceive the environment including the application UI structure, behavior and any differences over builds.





Test

Generate actions to navigate the application UI, input data, and verify observable outcomes.



Learning

Direct feedback in the quality of an agents actions to help improve future actions.

Punish Reward

Rewrite Reinforce

What AI-Bots Do

- Build tests without coding or scripting
- Accelerate testing to the speed of DevOps
- Scale testing to any platform, any app
- Maintain tests automatically... improve quality everywhere

Test.ai's AI-Bots explore the application, automatically interact with the application, extract screens, elements, and paths taken along the way.

- The labeling features enhance labeling of the extracted screens and elements in the test.ai UI.
- Test.ai generates AI-based models for classification and recognition of screens and elements and automatic navigation of the application under test.
- Test.ai performs a final check of all labels and test steps, generation of AI-based models to factor in the created and edited tests, and any final label changes.
- Test.ai re-crawls the application under test to explore new areas of the system based on test cases or regression test execution.
- View test.ai test results and other collected data.

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Test.ai Key Features

Test Case Creation

No coding is required at all. Test.ai provides a simple drag and drop codeless user interface for labeling items and creating test cases. Machine Learning-based element detection and classification eliminates the need for CSS, XPath, and IDs to find elements. Test.ai detects elements visually - just like a human. Our bots are trained with reinforcement learning so they can intelligently navigate without specifically defined steps. The test creator also supports code-less, behavioral-driven, test case definitions.

In rare instances where it is required, test.ai also allows custom Python scripts for additional control over logic in test case steps. The Abstract Intent Test Syntax is a publicly defined test case format that allows for the import and export of test cases. Pre-configured Smart Automated Tests provide a base set of tests from which additional AI-based exploratory or cross-app and platform tests can be run.

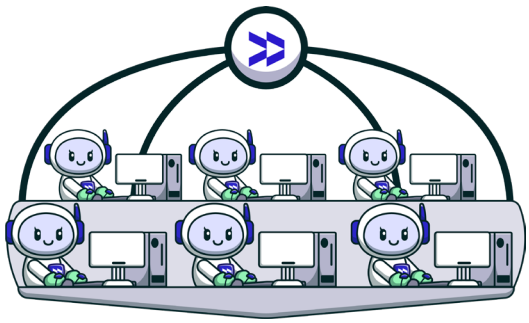
Visual Reporting

Screenshots are taken at each step, and each interaction is highlighted on the screenshot giving a visual user flow result for each test case run. Test.ai provides test flow results for each test case run. This includes performance and device metrics, including screen load times, CPU, and memory usage. Test.ai also includes an API for integrating custom reporting.

Test.ai's video game ML object diffing allows you to test thousands of assets automatically. Video games have thousands of assets, and validating each one is impossible manually, but thanks to our ML Object Diffing, we can test video game assets to make sure they appear as desired based on the original creations.

Scaled Test Execution

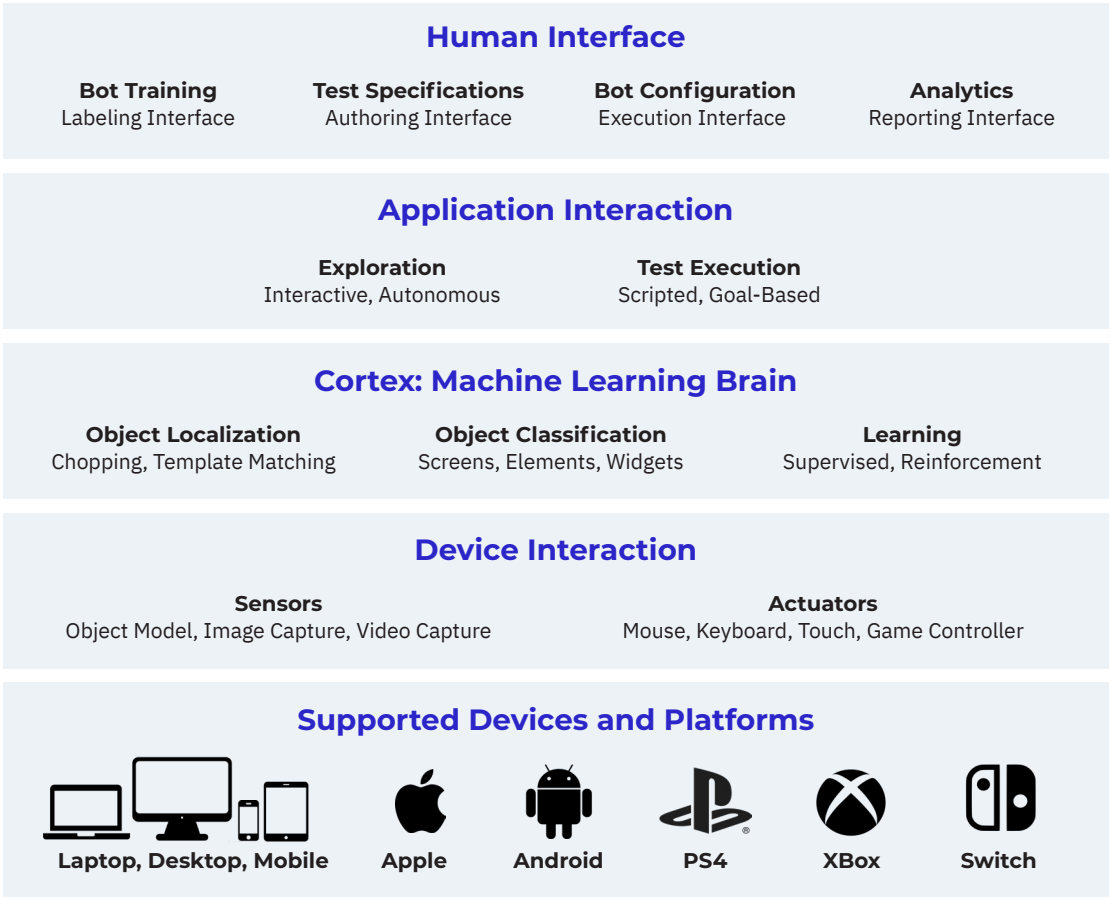
Test.ai supports massive scale to support thousands of VMs, and thousands of applications in a single run. Full analytics and reporting are provided on each app, device, and test case.

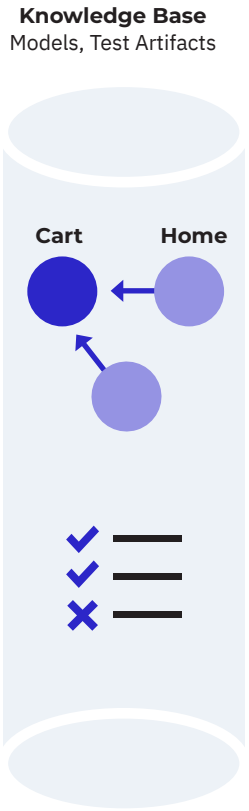


Legacy Testing Tool Problems

- Software testing is broken–global leaders cannot keep up with testing requirements
- Fragmented mix of legacy tools do not work
- Performance is slow and getting slower–they don't fit into the modern DevOps process–testing finishes after products ship
- Complexity and difficulty in use requires expert testers and developers

Test.ai Architecture





Human Interface

The Human Interface provides a unified GUI that allows engineers to design and develop automated tests for a software application. It includes sub-components for training the bots via labeled data, authoring and executing test cases, and viewing and analyzing the results. This layer provides a view of all unique screens and elements discovered by the bots and allows users to define their own data labels for UI elements or apply bot-generated label suggestions. Test specifications utilize these labels for ML-based, UI element selection during test execution. The execution interface provides settings for configuring the bot's test suite, environment, and execution mode.

Application Interaction

Application Interaction is responsible for coordinating autonomous bot exploration and test execution. Test.ai supports two exploration modes for the application under test: fully autonomous and human-interactive.

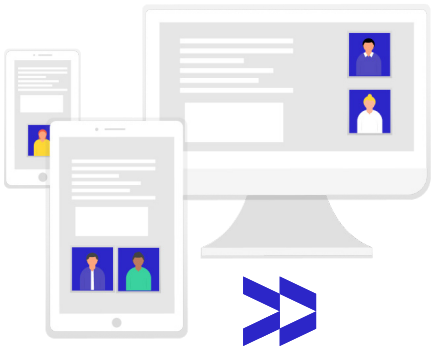
- Autonomous exploration involves one or more bots automatically crawling the application under test and collecting screen and element information for future labeling.
- Interactive exploration keeps a human user in the loop, allowing the user to decide which parts of the application under test will be explored and in what order.

Cortex: Machine Learning Brain

The test.ai Cortex powers the application interaction capabilities.

- Object localization models that automatically draw the bounding boxes of UI elements during detection.
- Object classification models that assign categories (classes) to UI screens or widgets.
- Supervised and reinforcement learning algorithms to support iterative classifier training and autonomous bot exploration.

Cortex is highly extensible and configurable, allowing for additional ML models and algorithms to be integrated into the platform.



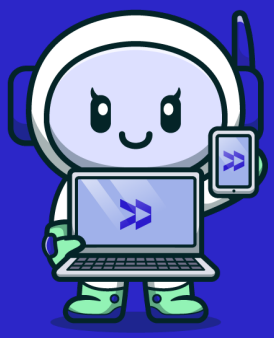
Device Interaction

The device interaction layer handles low-level interaction with a variety of supported physical devices, equivalent emulators, and simulators. A set of device sensors and actuators monitors and modifies the application as it executes in its native environment.

- Sensors capture any available environment-specific object models, e.g., the document object model for web applications or the application hierarchy for mobile.
- Sensors facilitate image and video capture.
- Actuators allow device-specific input via hardware such as keyboards, mice, touchscreens, and game controllers.

Knowledge Base Stores

- Application graphs created during bot exploration.
- Labeled screen and UI element information.
- Trained ML models.
- Test artifacts such as test cases, scripts, and reports.



Supported Devices and Platforms

Test.ai can support goal-based or scripted execution on virtually any device where an image or video capture is available. We have developed and formalized support for automated testing of an industry-standard list of platforms and software:

Device Category	Device Type
Mobile	Android®, iOS®
Simulated and Real Device Support	Android® Emulators and iOS simulators and any real devices, Apple® TV, Apple Watch, also integration with Cloud Device Labs
Gaming Platforms	XBOX®, Playstation®, Nintendo® Switch
Browsers	Chrome®, Safari®, Firefox®, Windows Edge®

Deployment is Fast

- Fast to deploy–faster to use.
- On-premise, behind your firewall, or in the test.ai cloud.
- Multi-platform support.
- Start testing hundreds of apps.

About test.ai

Test.ai is a leader in building AI-powered software test automation tools that help testers, developers, and business stakeholders accelerate the release of high-quality applications. Test.ai replaces legacy test automation tools that don't work well, fail often, and are hard to use. Our AI-powered bots build the tests, scale them from one platform to many, and maintain them as your applications change. Artificial Intelligence enables our bots to do all of the work - no scripting or coding is required. Our customers include some of the world's largest technology companies, major APP developers, APP stores, and some of the world's largest APP platforms manufacturers.

Customer Success

- Test.ai customer support is there when you need it.
- We onboard you fast so you can start to leverage the power of Test.ai.