



# Achieving visual perfection

**Flawless app design using automated visual testing AI in the cloud**



# The cost of visual bugs

In the mobile age, consumers expect much more from every brand interaction. The trouble is, they don't feel like they're getting it yet—and that's costing businesses.

A recent study by Loudhouse found that 87% of consumers feel that brands need to put more effort into providing a consistent experience.<sup>1</sup> And according to the Temkin Group, 86% of customers who have great experiences will repurchase, versus 13% who won't.<sup>2</sup>

Even with these consumer demands, the average app release to production still has 22 visual bugs, costing some companies more than \$143,000 per release to fix. Not only are the fixes expensive, the bugs themselves cause substantial consequences to business performance.

Visual bugs within apps and websites impact a brand's perception in the mind of the consumer. Companies who lead in consumer experience have seen a cumulative gain of 43% in performance over a six-year period.

On the other hand, consumer experience laggards saw a 34% decrease.<sup>3</sup>

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<sup>1</sup> *The Omnichannel Customer Service Gap*, Loudhouse, 2013

<sup>2</sup> Temkin Group, *The ROI of Customer Experience*, 2018

<sup>3</sup> *The Business Impact of Customer Experience, Key insights from the Forrester report "Why Customer Experience, Why Now?"*; Kerry Bodine & Moira Dorsey, Forrester Research

Employee expectations of everything from internal productivity tools to HR interactions have risen as well. With each visual imperfection in any app, the user relationship takes a hit.

But without an army of testers or automated visual testing, it's very expensive to review and correct every permutation of design or code change on Internet Explorer, Edge, Chrome, Firefox, and other browsers as well as the host of devices on which they run. And few companies have the resources to conduct rote, error-prone visual regression testing, then retest whenever code changes.

**Until now.** The age of automated visual testing has arrived.

In this e-book we'll show you a new AI-powered, automated visual testing and monitoring platform from AppliTools that enables 99.9999% accuracy in visual testing across any device and browser.

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# The ultimate eye: AI

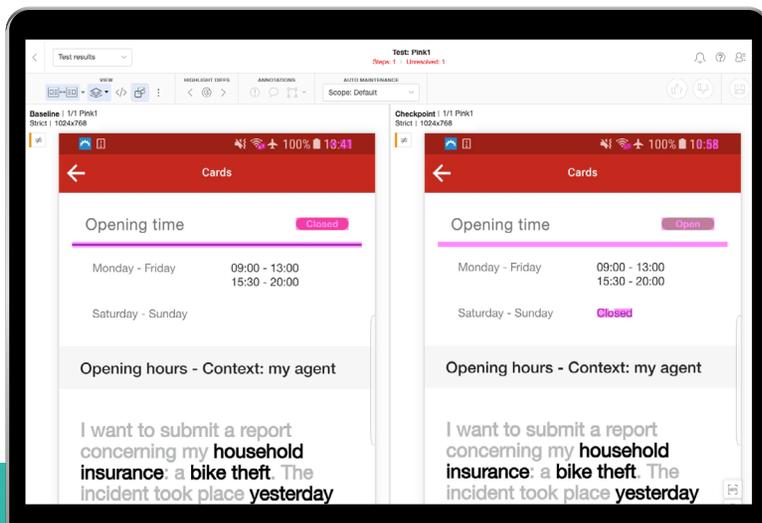
## So what does Automated Visual Testing with AI do?

To start with, it reinvents the idea of visual testing and monitoring by delivering fast, amazingly accurate app and website deployment.

Because it's built in the cloud, it offers a better feedback loop between Dev and QA via fast, easy-to-understand full-page screenshots and custom-built visual testing reports for visual understanding at a glance.

## And the speed?

New methods from Appliteols can resolve tens of thousands of visual differences in minutes by analyzing the differences detected across all your tests then generate a concise report showing only distinct visual bugs, not bugs no one's going to see.



## Appliteols automated visual testing solutions use AI-powered, enterprise-grade performance and scalability to bring visual QA into the mobile future.

Its functional testing emulates the human eye and brain with visual AI-powered cognitive vision. Using AI to power image comparison technology, it only reports differences that are perceptible to users and reliably ignores invisible rendering, size and position differences.

Its advanced algorithms instantly validate entire application pages, detect layout issues, and process even the most complex and dynamic pages. No calibration, training, tweaking or thresholding is required on your part.

It just works perfectly.

Rather than running visual UI tests serially, Appliteols Visual Grid uses parallelization, snapshots, containerization, and snapshot caching to save serious time. This allows users to quickly approve or reject a change and automatically apply the same decision to all similar changes across all your tests and all your screens.

It all adds up to getting visual tests done up to 70 times faster.

*Highlight all visual differences seen by the human eye, nothing more.*

## Cross-device and -browser automated visual and functional testing can run a single baseline of your app on a reference device or browser.

It can reliably detect missing or overlapping elements and elements that moved or changed size in even the most complex, dynamic, and numerous apps. Then it points out the elements that are allowed to move or be ignored across all screens in all your tests.

## Applictools integrates with the tools you already use so you can add visual assertions to your existing tests in any automation framework and programming language.

Using it, you can view build-specific visual UI test results and manage baselines directly from Azure DevOps, Jenkins, TeamCity and other

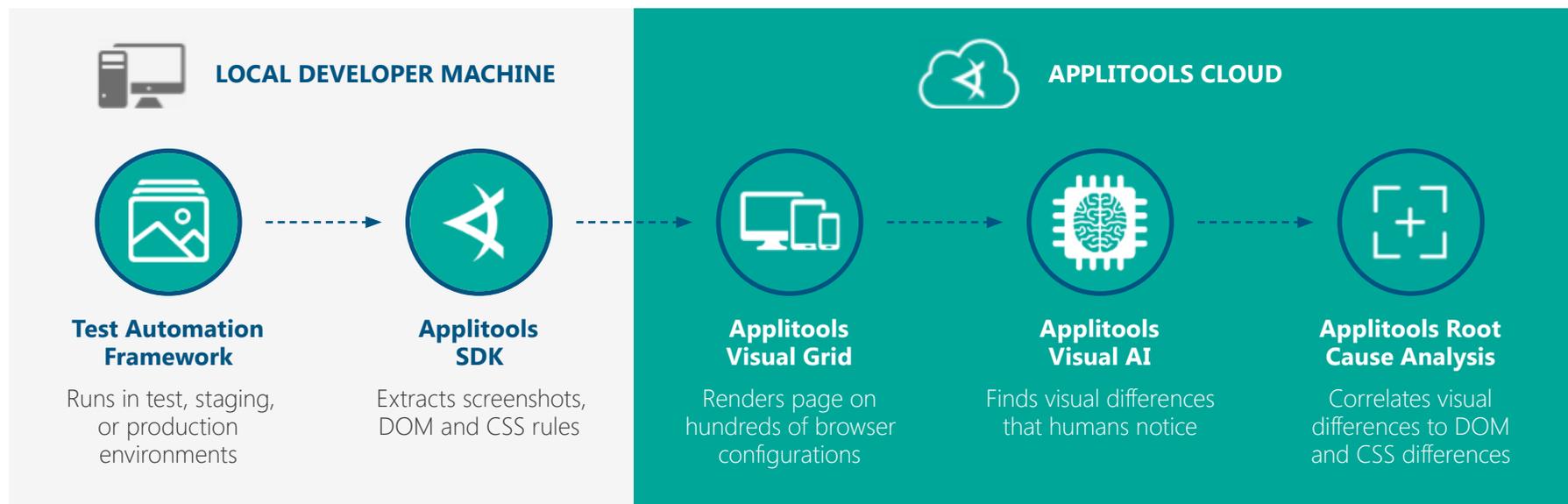
CI systems. You can programmatically access the test results, build your own reports, or upload them to your favorite test manager.

## Applictools Root Cause Analysis gets you to the source of errors fast.

You simply click on a visual difference and see its corresponding DOM and CSS rule differences for multiple screen sizes, browsers, devices, and operating systems that your app has to work on.

This allows front-end developers to get to the source of front-end bugs without sifting through line after line of DOM and CSS rules to find the cause, keeping up the speed of weekly, daily, and even hourly releases.

## How it works



## Faster, smarter, better looking. The numbers prove it.

Applitools automated visual testing results in measurable improvements over traditional QA. It's proven to:

Improve coverage  
by up to

65%

Increase release  
velocity by

2x

Boost visual  
quality by

3x

Raise team  
satisfaction by

4x

Consider how many releases you have per month. This is a force multiplier for productivity.

And with only 12% of companies regularly using these techniques, it's a powerful competitive advantage.

## How it works in the cloud

Because Applitools is built on the Microsoft Azure cloud, it gives you the benefits of the cloud, allowing you to:

- ✓ Scale across any data center, any region
- ✓ Increase reliability and repeatability
- ✓ Rely on a familiar, trusted and secure platform with high availability & disaster recovery
- ✓ Simplify, accelerate, and improve cloud development
- ✓ Safeguard your business assets and data in Microsoft Azure with its team of more than 3,500 global cybersecurity experts

# TransUnion

The impossible made possible: 93% faster and 99.999% accurate.

## Company: Credit where credit is due

TransUnion, one of the Big Three credit bureaus, markets credit reports directly to consumers through an online subscription credit monitoring service. Its business is consumer trust, and a big part of that trust is the online experience. Visual bugs can quickly erode that trust.

## Challenges: Falling behind every week

TransUnion used manual visual QA testing that limited releases to just once in a week, but they were writing hundreds of assertions a week. Clearly, the rate of releases had to take a quantum leap—into automation. In addition to the raw speed of releases, they also needed to improve how they:

- **Managed** the complexity of the information they aggregated and reported
- **Accounted** for the myriad viewing permutations they had to consider
- **Dealt with** a huge volume of business and traffic
- **Operated** in their new publicly traded status
- **Recovered** confidence from recent news of security issues with credit reporters

## Solution: Free up high-value team expertise

TransUnion chose Applitools in part because the team was already using Python and Selenium Testing, making it a natural fit. Applitools could save them from having to write and maintain hundreds of individual assertion tests. It freed teams to focus on the user experience as a whole and helped them:

- **Expand** their coverage
- **Accelerate** release velocity
- **Improve** the visual quality of their work
- **Boost** team satisfaction

## Results: A quantum leap in quality and speed

The implementation of Applitools instantly gave TransUnion a faster and more reliable alternative to performing hundreds of tedious and fallible assertions for each new release. It reduced functional testing and manual regression testing **from 30 hours per release, to just 2 hours, a 93 percent reduction.**

Now with a responsive website, testing is even simpler since there is only one set of pages to test. This would never have been impossible with the old way of testing. It allows the QA team to spend most of their time on deployments and other automation rather than repetitive testing.

# Visual QA—reinvented

Hundreds of the world's most recognized brands rely on AppliTools automated visual testing solutions including Intuit, Sony, SAP, Dow Jones, Salesforce, and Adidas. And it's no surprise.

Operating in the Microsoft Azure cloud provides the environment and infrastructure to reliably handle a virtually infinite number of flawless QA tests with 99.9999% accuracy, unbelievable speed, and turn on-a-dime agility.

**It's the future of consumer experience perfection—take a look.**

[Explore more](#)

