EVERFI

EVERFI is leading education's evolution and redefining the way learns approach the world.

> " I love Applitools for a couple of reasons, but I think the most important piece of it is it actually provides this inventory of your system, the source of truth of what it will look like out in the wild, and it really brings other players in the organization into the actual testing results. Having that tool that allows us to expand our communication beyond the QA team to the whole entire team is really beneficial. "
>
> **Greg Sypolt**
> **VP of Quality Engineering at EVERFI**

Statistics

150+ online courses

7 million active users

2000+ customer accounts

$1 million annual testing ROI

Highlights

- EVERFI, a leader in e-learning technology, has to test each of its **over 150 courses across mobile devices and browsers** to ensure they function and look correct.
- Applitools Ultrafast Grid allowed EVERFI to scale out its courses across different devices, browsers, and resolutions **within minutes and in some cases even seconds**.
- With 26 sprints per year, 10 courses per sprint, and an average 75 pages per course, EVERFI has **around $1 million return on investment per year** by using Applitools over manual testing.

About EVERFI

EVERFI is leading education's evolution and redefining the way learners approach the world. The company empowers teachers, citizens, and students to improve their lives and make an impact in their communities. Their e-learning solutions activate today's most sought-after skills in dynamic, incentive-driven online environments. EVERFI's critical skills courses are catalyzing comprehension, retention, and behavior change while fulfilling the need for scalable education in an ever-changing world.

To succeed, EVERFI combines a deep knowledge of educational curricula, proven ability to induce knowledge and behavior change through online courseware, and the ability to develop web-based training products that meet the needs of corporate, professional, community, and K-12 educators. EVERFI specializes in evidence-based online learning products for a range of core topics. These topics include financial literacy, social and emotional learning, STEM and career readiness, conduct and culture, and health and wellness.

EVERFI's Approach to Quality

EVERFI has developed a range of products since its founding in 2008. Each product has its own software development history, customizability, and state of quality. Over time, EVERFI began to standardize courseware development, but courses retained their own unique code that required maintenance and updates. Top management realized that this collection of individual courses blocked their ability to scale. In response, EVERFI invested in creating a new common product platform to help standardize course development and maintenance.

In developing this platform, EVERFI leaders realized that they would have to rethink their approach to software quality. In their legacy course-by-course development process, they tested with a combination of automated and manual end-to-end tests. By moving to a common platform, EVERFI needed automated tests throughout development to validate behavior and uncover bugs before they rippled through the entire platform.

To guide their approach to quality, EVERFI hired Greg Sypolt as Vice President of Quality Assurance. Greg brought extensive experience in software quality from his prior work. In addition, Greg wrote extensively on software quality and quality maturity. EVERFI realized that Greg could bring the wealth of quality experience needed to drive this platform development process to a successful outcome.

The Challenge of Scaling Manual Testing

Greg saw the scale of his quality challenge immediately and realized that a single development change could ripple across a range of courses with unintended consequences, affecting tens of thousands of web pages. Manual testing would never scale in this situation. So, Greg brought in Applitools. From his experience, Greg knew that Applitools would help capture visual behavior of the finished product, but also the behavior of code at check-in.

Powered by Visual AI, Applitools allows EVERFI to compare rendered pages quickly and efficiently. By abstracting pixels into visual elements, Applitools identifies visually distinct changes in layout, color, and content elements, while ignoring pixel-based rendering differences that plague non-AI based visual test systems. Now, with the ability to focus comparisons on areas of expected difference and expected similarity, Applitools provides huge benefits during application development in exposing unintended changes for both new behavior and untouched code.

With Greg's direction, the courseware platform team implemented a model-based testing methodology using TestModeller.io combined with Cypress and Applitools. Instead of waiting for finished code, the developers validate their code check-ins. Applitools ensures that new behaviors get captured and validated across web and mobile web viewports, but also that existing elements that should remain untouched have no unexpected changes.

Designing a Consistently Perfect Experience

It's not only the EVERFI engineering team benefiting from Applitools, but also their UX team.

To aid in developing a common platform, EVERFI invested in user experience, onboarding Marianne Epstein as Director of UX Design. Marianne is tasked with a mission to collaborate with engineering to deliver an unparalleled user experience. Early on, it became obvious that the biggest challenge was the opaqueness of the platform – not knowing what users are seeing because of all the ways and places screens can be dynamically generated.

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> How can we improve the user experience, if we don't actually know exactly what our users are seeing? The number of permutations is overwhelming and was impossible for the UX team to navigate. Applitools provides instant access and validation to the massive inventory of screens and the peace of mind knowing that every regression is immediately spotted across all screen variations ensuring the user experience is exactly as it was intended to be. I feel like it is a transformative tool for our UX team and how we partner with development to drive user experience."
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> **Marianne Epstein**
> **Director of UX Design at EVERFI**

EVERFI's Teams Using Applitools

Over 45 EVERFI engineers use Applitools in their work on the new courseware platform. The platform development has proceeded smoothly, in large part, because the component teams and the platform teams find visual problems at code check-in time. The engineering teams haven't been surprised with visual errors during their integration tests because they have exposed these issues during development.

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> I find so much value using Applitools in this process. As the applications get built, I have automation to capture the construction of each page. I know when page behaviors match my expectations, and I can immediately uncover unexpected differences. I cannot imagine clicking through all the pages and modals to uncover behavior repeatedly any other way."
>
> **Marianne Epstein**
> **Director of UX Design at EVERFI**

Applitools provides visibility to the broad customizations built into the new platform. EVERFI can test coursework migration from legacy systems and validate behavior before courses go live. The automation infrastructure lets course testing across the platform run in parallel, and Applitools provides all the visual captures to validate the platform user experience.

EVERFI's ROI with Applitools

Prior to using Applitools, everything at EVERFI was manually tested, resulting in many hours of testing. With courses averaging around 75 pages each, it would take hours to get through manually testing a single course, and even then, you can easily miss those issues. In coming up with solutions to speed up the actual development process, Greg chose Applitools from his experience using it in the past in a previous role.

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> Today, we're using a tool called CircleCI, which we actually leverage also as our testing grid. It really simplified in the sense of kind of pushing everything up through CircleCI. I need to deploy a node, I need to run this on Chrome, but after I run that particular test in Chrome, then I'm able to actually push out the Applitools to all the different configurations if I want to run against. Different browsers or different resolutions."
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> **Greg Sypolt**
> **VP of Quality Engineering at EVERFI**

EVERFI was able to onboard a proof of concept using Applitools Eyes in less than a week to prove the return of investment bringing Applitools into the fold of things. One of the advantages of this onboarding of Applitools was the Ultrafast Grid, which allowed EVERFI

to scale out its courses across different devices, browsers, and resolutions within minutes and in some cases even seconds. This provided a more robust coverage to test how learners are actually using the courses, as well as sped up the testing process and saved money on manual testing.

EVERFI deploys releases 26 times per year with an average of around 10 courses every release, which is usually around 75 pages total.

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> You're looking at, you know, between $25 to 50 thousand probably every sprint itself so you're looking at over a million dollars for the whole entire year from a return investment moving from a manual side of testing over courses to actually running continuous automation using visual testing."
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> **Greg Sypolt**
> **VP of Quality Engineering at EVERFI**

What's Next for EVERFI

With their new Visual AI powered framework in place, improved 'test early' workflow, fully informed UX team, hiring on overdrive, and reduced testing overhead, EVERFI's engineering team is well positioned to continue on its rapid growth trajectory helping to redefine education.

About Applitools

Applitools delivers a next-generation test automation platform through Visual AI and the Ultrafast Test Cloud. We enable engineering teams to release high quality web and mobile apps at incredible speed and at a reduced cost. Applitools Visual AI modernizes important test automation use cases to transform the way organizations deliver innovation at the speed of CI/CD at a significantly lower Total Cost of Ownership (TCO):

- Functional Testing
- Visual Testing
- Web and Mobile UI/UX Testing
- Cross-Browser Testing
- Responsive Web Design Testing
- Cross-Device Testing
- PDF Testing
- Accessibility Testing and Compliance Testing

For more information, visit **applitools.com**.