As nearly everyone knows, the education sector has become increasingly technology-intensive in the last several years. Since the 2010 introduction of the Apple iPad, it seems every K-12 school is using the popular tablets (or at least has them on its wish list). Meanwhile, higher education has been revolutionized by mobile apps and e-textbooks. These innovations are huge boons for learners.

But for institutions they create the need not only to develop and support e-learning systems but also - crucially - to assure the quality of these applications and systems before rolling them out to learners. Without testing the soundness of their e-learning systems prior to implementation, institutions risk wasting money and, worse, alienating learners, teachers and parents.

Rapid changes in technology are indeed driving the way educational content is offered to learners. Education providers have a short window of time in which to make sense of new technologies, select the right ones for their community and then implement the tools and apps. With time ever short, many institutions are tempted to skip the step of testing the technology prior to its dissemination. Unfortunately, the cost of fixing a problem is high, as is the potential for creating frustration on the part of the learner.

The last thing a school wants to do is spend precious resources developing a student registration system to be used on mobile devices only to discover that students won’t use it due to initial quality problems. Engaging a Quality Engineering & Assurance (QE&A) partner to assure that a program or hardware platform works as expected in the learning environment goes a long way toward reducing the risk of technology failure.

Cognizant is a leader in providing business transformation services with our QE&A solutions for every aspect of the education value chain. We leverage extensive QE&A industry experience gained from our work with leading education services providers, universities and software vendors to create and deliver quality assurance solutions that span the education spectrum. Our solutions maximize enterprise value to our clients through the use of our repository of process libraries, reusable domain assets, model-driven testing tools and accelerators resulting in improved quality, reduced cost and quicker time to market for our clients.

For more than five years, we have served leading education services clients worldwide with a team of 350-plus dedicated professionals specializing in a multitude of specific education segments including public, private, for profit and online.
Why Cognizant?

Our deep competency and understanding of Learning Management Systems (LMS) caters to education institutions and organizations. Our expertise with other systems includes custom products and client-developed applications, back-end systems (for example, Oracle, SAP order management, sales), online editions (such as Java, CMS and portals), teacher portals, custom course management, test preparation, pre-college test prep and higher education programs. Our wide range of test services include functional, Integration, automation, performance, localization testing, compatibility testing and mobility services.

Process

- Experienced in agile/waterfall/iterative and other custom software development lifecycle methodologies.
- Model-driven test methodologies leveraging our in-house ADPART (Activity Diagram-based Path Analysis for Regression Testing).
- Metrics-driven test management.
- Use of knowledge management frameworks and Wikis to enable reusability.

EduShelf

Cognizant has created a reusable education domain scenario repository called EduShelf, which contains more than 300 test scenarios and 500 test cases, readily reusable for our education clients. EduShelf covers a wide spectrum of role-based functionality from publisher/administrator to student. Standard workflows include district management, school management and class management.

EduShelf was built based on our subject matter expertise and quality assurance knowledge gained through working with major education solution providers. We regularly update the EduShelf test scenarios and test cases to cover evolving features and technologies.

Key Features

- Modularized test artifacts covering all major business workflows.
- Can be deployed with minimal customization based on customer needs.
- Covers a wide spectrum of functionality from publisher/administrator to student.

Key Benefits

- Significant reduction in start-up time for creation of testing suites for new education projects.
- Imparts better understanding of the business workflows for the QA team in terms of test scenarios and test cases.
- Significant reduction in test scenario and test case design effort due to reusability.
- Maximum coverage of business processes owing to completeness of the repository.

Spotlight: Our Mobile Testing Approach

The advent of mobile devices, closely followed by educational apps, has made the testing challenge more complicated. The need to test connectivity with a host of mobile platforms, ensure usability for the mobile user and assure compliance with app store guidelines, among others, are different tasks from the typical QE&A exercise. Mobile performance engineering is critical. Mobile apps have to function quickly and efficiently while maintaining security. All of these elements add to the complexity of testing, making it even more important to use a trusted provider with experience in mobility like Cognizant.

Figure 1
Our Service Offerings for Education

Whether you sit in educational publishing, K-12/higher education, the assessment market or online education, we have education test service offerings that will accelerate your time to value, increase quality and reduce costs.

Our Clientele

Here are some of the key segments for which we have worked, and their associated subject areas:

- **North America-based education publisher**: LMS, back-end testing, SAP (Order Management, Sales), online editions and rights management, custom publishing.
- **K-12 online education**: LMS across multiple versions, teacher portals, custom course management.
- **Higher education and test prep**: Tests for college and graduate school admissions, programs for licensing and advanced designation exams, pre-college test prep for K-12 students, higher education programs for employment in fields like business, legal services and IT.
- **Online education for teacher/student community**: Online English education for teachers, online English education for students, community/social learning, e-commerce module (with discounts, multi-currency support and other features).
- **Language and career education**: Testing for divisions spanning career education, higher education and language education; working knowledge spectrum spanning across study management, admin/information, campus/classroom and sales.

Cognizant Success Story

Our client is a global leader in the education sector and is the world’s largest publisher of K-12 educational materials and Learning Management Solutions (LMS). The company required a strategic partner that could address its end-to-end software testing requirements for IT projects spread across Europe and the United States.

We established a testing Center of Excellence (TCoE) consisting of a 150-member QA group spread across onshore (U.S. and Ireland), offshore (India) and near-shore (Buenos Aires). We leveraged multiple technologies and domains.
QE&A Solutions to Protect Your Investment in Technology

As an education provider, you need to act quickly to furnish your learners with the tools and technologies they need to optimize their learning journey. With time in short supply, you face the risk of offering up systems or applications that are not ready for learners to use. It is not only expensive to get learners back to using the systems once a problem has surfaced. In this climate, testing and quality assurance for e-learning systems and apps is more crucial than ever.

Engaging a Quality Engineering & Assurance (QE&A) partner to assure that a program or hardware platform works as expected in the learning environment goes a long way toward reducing the risk to your institution of technology failure.

The company achieved these benefits:

- Cumulative test effectiveness (over three-plus years) of Cognizant QA at 97.4%.
- Cost savings through test automation valued at close to $1 million.
- Optimal numbers of cross-trained testers utilized to test more than 35-plus applications resulting in team utilization consistently being above 95%.

For more information go to: http://www.cognizant.com/education or contact us at EducationInquiry@cognizant.com.

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world’s leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 75 development and delivery centers worldwide and approximately 187,400 employees as of June 30, 2014, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world. Visit us online at www.cognizant.com or follow us on Twitter: Cognizant.