

Case Study

eggPlant Functional increases service assurance for the University of Michigan Health System



Profile

Located in Ann Arbor Michigan, the University of Michigan consistently ranks as one of the top public universities in the United States, and is home to one of the largest healthcare complexes in the world.



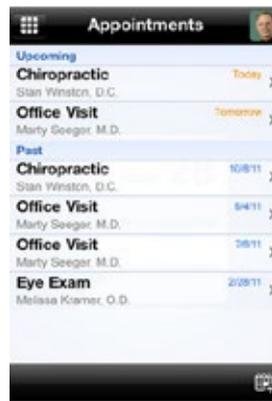
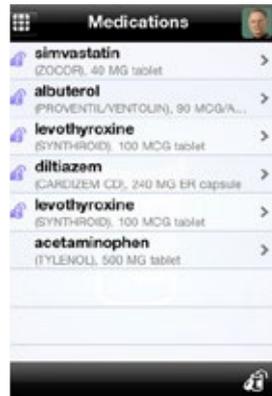
The University of Michigan Health System (UMHS), is one of the largest health systems in Michigan and a premier academic medical center.

Medical Center Information Technology (MCIT) provides information technology services for UMHS, predominantly using an electronic medical records (EMR) system called Epic. Epic is an all-inclusive, HIPAA-compliant package that is fully integrated with third-party systems used by various departments from billing to patient scheduling. The system is vital to the running of the organization and any changes, updates or new workflows must be rigorously tested before being implemented.

Dorothy Kenwell is a senior QA Engineer at MCIT and has been responsible for test automation at UMHS for over 10 years. She has overseen the company's shift from using another leading test automation tool to eggPlant Functional.

“When I first joined the organization, we implemented one of the industry leading GUI automation tools to test our EMR platform at the time,” said Kenwell. “Then we started planning the shift to Epic, which runs on a Citrix server, and the automation tool that we were using could not test the product. So we selected eggPlant Functional, which met all of our requirements, and because of its universal approach we have confidence for testing future requirements.”

With its patented image-based approach to GUI testing that allows it to interact with any device or application in the same way a user does – by looking at the screen – eggPlant Functional is completely technology agnostic and uses sophisticated image and text search algorithms to locate objects on the screen and then drive the device.



“We began using eggPlant to populate the various test environments with the patient data needed to initially execute the manual functional testing on the Epic applications – we later expanded the automation development to include more complex scripting, such as patient scheduling, admits, and bulk order entry to test CPOE.”

“We are now ramping up our efforts to use eggPlant to grow our automation repository to include extensive regression testing of each part of the system before it is fully rolled out,” said Kenwell. “The EMR system is at the heart of any modern hospital, and is integral to the day-to-day operation of the organization – it’s crucial that the testing identifies any issue so that we are certain that each function works as planned.”

“I was already familiar with automation, so I was comfortable working with eggPlant from day one,” said Kenwell. “It was easy to learn how to use, and with just a few pointers, other Automation Engineers were able to start creating scripts themselves.”

The first phase of the rollout of the Epic system took place throughout 2012 and 2013, and saw UMHS complete the implementation of vital components including Ambulatory Care, Emergency Department, revenue cycle, patient registration and clinical scheduling systems. As Kenwell describes,

Subsequent phases included the implementation of the Epic Inpatient modules as well as the integration of departmental systems such as Pharmacy, Surgery and Oncology.

“eggPlant helped ease the workload associated with developing automated scripts for test preparation activities including automating the process of creating thousands of test patients with different sets of test patient data” said Kenwell.



“For example, when manually populating the various test environments with test patients, it could take up to 10 minutes to create a single new patient registration, but with eggPlant the same task is completed in just 1.5 minutes. We also used eggPlant to automate the repetitive steps of placing orders which helped to fulfil the CPOE bulk testing requirements. This type of automation development has freed up considerable time for our testing staff to focus on higher-value testing activities, such as additional functional and regression testing.”

Due to the tight integration of the EMR system and the respective systems used by each department, effective regression testing is a primary concern for MCIT and eggPlant Functional is to be increasingly used in this area.

“Regression testing currently consumes significant manual testing hours, which will only increase as we move into the next phases of the EMR system deployment.

Using eggPlant Functional to support our regression testing requirements will ensure that we save time and resources and provide service assurance for critical parts of the hospital’s business,” said Kenwell. “For example, it is important to ensure there is a seamless handover between inpatient systems and billing systems, and effective testing is needed to provide the assurance that this happens as expected”

While currently being used to test at the desktop level, MCIT also expects to leverage the cross-platform testing capabilities of eggPlant in the future, as the shift to a mobile-centric healthcare environment increases.

About TestPlant

TestPlant is an international software business based in London. It has development centers in the USA and the UK with sales and support centers in the USA, the UK and Asia as well as an extensive network of business partners. TestPlant’s products are used in over 30 countries by well over 300 enterprise customers in sectors which include Financial Services, Automotive, Healthcare and Life Sciences, Media and Entertainment, Retail and Defense and Aerospace. The eggPlant range is a set of tools which supports the design, development, test and management of software applications for mainframe, desktop and mobile use in any technology platform environment. The tools are relevant in agile, mobile, web and DevOps deployments. eggPlant use improves and reports on the quality and responsiveness of software systems, reduces time to market and lowers costs by introducing process automation. The eggPlant tools have been granted patents with several applications pending. The company’s achievements have been recognised within the software industry and by the venture capital community. TestPlant is also a Red Herring Global Top 100 company, a Deloitte UK Technology Fast 50 and a EMEA 500 business and is a recipient of a Queen’s Award for Enterprise.

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