

Keysight's Eggplant Helps Antwerp University Hospital to Streamline EMR Testing

Overview

Antwerp University Hospital (UZA) is an academic hospital located in Belgium. It is affiliated with the University of Antwerp, an important teaching hospital in the entire region, and serves as an essential tertiary referral center for patients from across the country.

The hospital has a wide range of medical and surgical specialties, including cardiology, oncology, neurology, paediatrics, orthopedics, and many more. In addition to providing high-quality medical care and conducting research, UZA also has a strong commitment to education and training. It has a number of programs for medical students, residents, and fellows, and is known for its innovative teaching methods and emphasis on interprofessional collaboration.

At the heart of UZA's operations is its electronic medical records (EMR) system, which is supported by a team of about 20 application experts. The team's main focus is to ensure that the EMR system runs seamlessly on a day-to-day basis, troubleshooting, configuring, and adapting as needed.



Challenges

Before Eggplant, the hospital was in the project phase of implementing its EMR system and its testing process was old school, relying heavily on manual testing using Excel sheets and directories on a shared drive. While this process worked to a degree, it was incredibly time-consuming and limited in its scope. Their team of testers was brilliant, but they needed to be trained from scratch, and each step of the testing process took a long time.

The impact of relying on smaller test runs and less frequent testing was challenging for the hospital. It meant that not everything could be thoroughly tested, leading to a constant exercise of balancing safety and the need for comprehensive testing. Determining what constituted "enough" testing was a constant risk assessment for each phase and step of the project.

Clinical validation was also a significant challenge for UZA. While testing and automation were important, the ultimate goal was to ensure the program's clinical correctness, which required validation from end-users such as clinicians, physicians, and nurses.

The Eggplant Experience

By providing a robust and reliable test automation solution, Eggplant helped UZA's EMR team to ensure that the system is functioning as it should be, minimizing the risk of errors, and ultimately ensuring that patients receive the best possible care.

With the implementation of Eggplant and the inclusion of clinical data, the hospital experienced a big improvement in the testing process, although it was recognized that thorough testing can never truly be considered "enough" in a system involving clinical data. Automating the validation process proved to be difficult, as it involved verifying the accuracy and reliability of the generated results, which couldn't be fully automated.

When the EMR system went live, the importance of regression testing became apparent, and the volume of testing required increased significantly. With regular update cycles for their application, Eggplant made it possible for the hospital to automate parts of its testing processes, allowing them to test larger volumes of items quickly and easily.

One notable achievement for the hospital was the ability to test 1,700 medications overnight and repeatedly since then. This breakthrough saved the hospital invaluable time and resources, freeing up their team to focus on other crucial tasks.

Since implementing Eggplant, the hospital has successfully reduced the number of tests conducted per week/month. However, the volume of individual items tested has substantially increased. This shift in testing strategy is due to Eggplant empowering the hospital to concentrate on thoroughly and efficiently testing the most critical items, rather than relying solely on manual testing.

Key Outcomes

In conclusion, Eggplant is proud to have played a role in helping Antwerp University Hospital streamline its testing process and save valuable time and resources. By automating its testing process, the hospital has been able to focus on what matters most – providing quality care to its patients.

Using Eggplant to develop this test data generation capability, Antwerp University Hospital was able to:

- Ensure reliable EMR system functioning.
- Testing process significantly improved with clinical data inclusion.
- Efficient regression testing of large item volumes.
- Testing 1,700 medications overnight saved time and resources.
- Reduced overall test count while increasing individual item testing.
- Focus shifted to thorough testing of critical items.
- Result: High-quality patient care assured.



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