QUALITYKIOSK TECHNOLOGIES

QualityKiosk's AI-Powered Defect Predictors Reduces Testing Life Cycle by 60% for a Leading APAC Insurance Company

Overview

This is the success story of QualityKiosk Technologies which helped a large insurance company in APAC reduce their testing lifecycle by 60%. The cornerstone of our software testing efficiency lies in our AI-based defect prediction model. This sophisticated AI-powered predictor meticulously analyzes past project data during its training phase. It skillfully pinpoints error-prone modules and hotspots, allowing us to anticipate a remarkable 70% of defects even before a project begins.

Our success story stands as a testament to the transformative power of this model. By seamlessly integrating it into our quality assurance (QA) process, we proactively identify potential defects and high-risk areas in upcoming projects. This proactive approach not only significantly reduces costs but also elevates the overall quality of our projects. The model accumulates valuable learning data, making our expertise transferable across multiple clients in the industry. It's not just a tool; it's a strategic asset that ensures our clients receive top-notch quality and efficiency in every project we undertake.

Business Challenges

In the fast-paced world of digital transformation, our client embarked on an ambitious journey—a multicounty rollout with a goal to revolutionize the digital onboarding experience in just 10 weeks to production.

However, this undertaking posed a dual challenge. First, there was a need to achieve lower defect rates, ensuring the utmost quality for the end-users. Second, it was imperative to reduce time to market and costs in the dynamic and agile landscape, all while staying within budget constraints. The challenge was clear: maintaining high-quality standards amid rapid changes and innovation.

Our Key Strategies

Our approach relies on an advanced AI learning-based defect predictor. This machine learning marvel undergoes a meticulous training phase, absorbing insights from the data of previous projects. During the testing phase, it accurately anticipates potential defect-free and defective modules within the new project. This predictive power ensures a proactive stance in addressing issues before they arise.

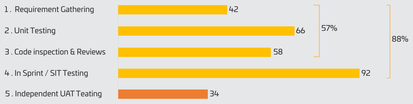
We've harnessed the potential of AI-based data analytics to revolutionize risk-based testing. By employing sophisticated algorithms, we identify and thoroughly examine the most critical areas, creating a comprehensive heat map of business and application hotspots. This strategic insight guides our testing efforts, ensuring a laser-focused approach to quality assurance. This early detection empowers us to proactively mitigate risks, ensuring a robust and flawless project execution.

Business Results

Months to Days Savings: The implementation of AI-driven analytics dramatically reduced the time required to resolve defects. What once took months was now accomplished in a matter of days.

Our results show that defect predictors can be used as a supportive co-pilot model during a new process implementation, predicting 60% of defects and decreasing the testing time compared to more labor-intensive traditional requirement-driven test strategies. This approach facilitates the creation of a risk-based testing strategy, enabling the refinement of Lean QA practices and accelerating rollouts, ensuring faster and more efficient project deployments. The company has managed to decrease the overall effort in person-hours from 3.25 to 1.10 (a decrease of 34%) with the help of our defect prediction model.

Number of Defects Predicted and Fixed in Early Phases



Lessons Learned

Our experience and research have shown that defect predictors are invaluable tools during new project implementations. They not only save time and money but also accelerate the achievement of business goals, surpassing competitors in terms of efficiency and effectiveness.

The model has been in use at the company for twelve months now, and the prediction results given above were so satisfactory that the quality assurance team at the client decided to integrate the model into their configuration management system. They planned to use the prediction model before the testing phase so that the defect-prone files would be investigated by the developer before transferring the project to the test team.

We suggest that such predictors should be used before the testing phase to guide the testers through defect-prone modules in the software system. QA teams can continuously refine their methods. This iterative improvement process aligns with Lean QA principles, where the focus is on eliminating waste and optimizing efficiency in the QA process.

Maintenance

Similar to many AI-based models, our model also requires calibration. The company decided to train the model with new data regular interval and make predictions on new releases. Since the model has been successfully integrated with the company's software system, the quality assurance team is selected to form a new training set every month and update the model with new parameters. The company also motivates the teams to make such tools part of their routine during the development and testing stages. This way, it will be easier to apply the model in collaboration with the development and test teams to analyze the code quality and predict the critical parts of the software

Are you looking to streamline your software development process and achieve similar outcomes?

Contact QualityKiosk today at

letsconnect@qualitykiosk.com

to explore how our tailored solutions can help your organization thrive in an agile SDLC environment.