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CASE STUDY

TEST AUTOMATION

INDUSTRY

FINANCE

TECHNOLOGIES

SELENIUM

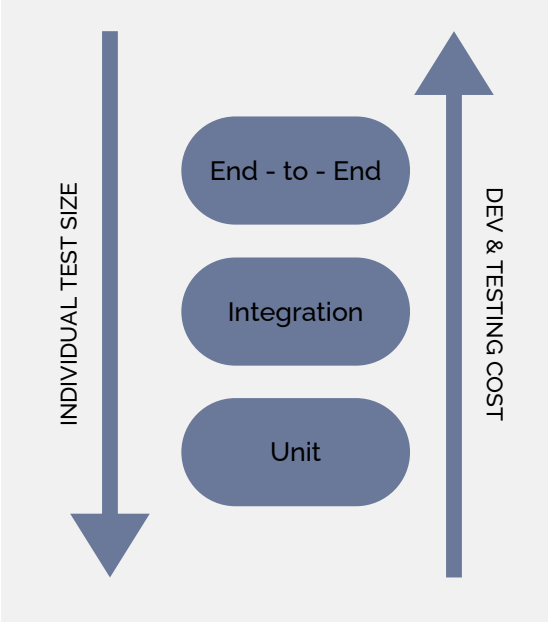
CHALLENGE

In this case study, the customer faced several pressing business challenges. These challenges included the need to enhance efficiency and productivity by automating time-consuming manual testing tasks, which were not only repetitive, but also highly prone to human error. As the application expanded in complexity and scope, the Business Analysis (BA) team found themselves increasingly dedicated to user interface testing, diverting them from their core responsibilities.

SOLUTIONS

To address these challenges, we adopted a two-pronged approach to test automation. Firstly, we concentrated on automating application logic testing through Continuous Integration (CI) pipelines, incorporating unit and integration tests. Unit tests validated the accuracy of isolated code components, such as functions or methods, while integration tests ensured seamless interactions among various parts of the software application.

These tests were designed to validate the integrity of the application's logic by testing individual components and their interplay. By prioritizing these tests, we gained greater confidence that any changes introduced to the application would not disrupt its core functionality.



"For more than 30 years, we've been providing business and technology consulting services for enterprises of all sizes.

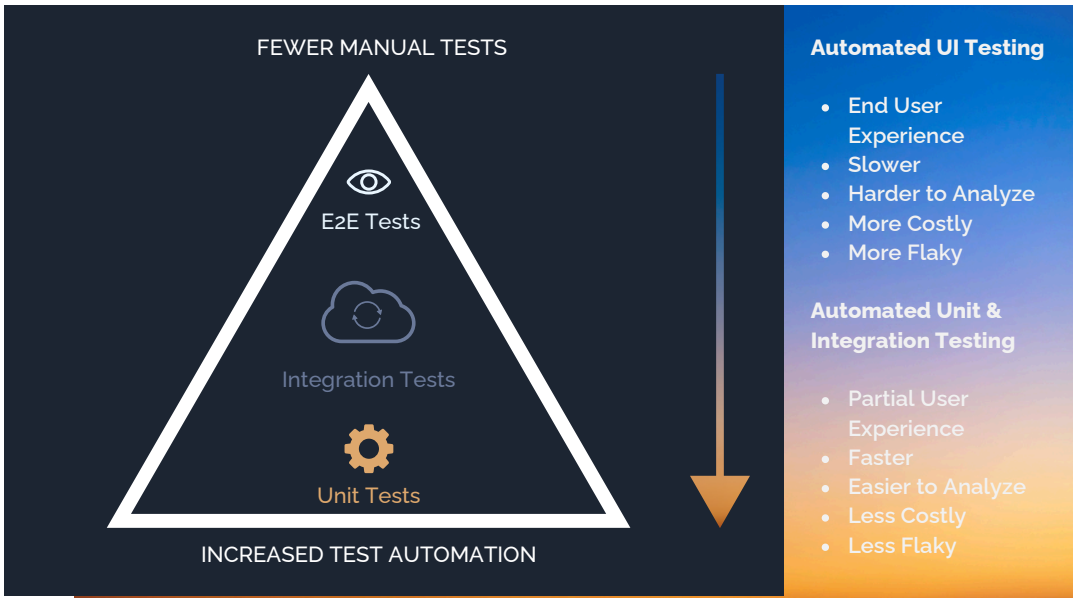
Our mission is "improvement through technology" and we want to provide companies with technology and services that enable employees to work better and smarter. "

Mark Grosskopf
Owner & CEO
New Resources Consulting

AUTOMATING UI TESTING

The second approach focused on areas where traditional test automation fell short, specifically in end-to-end user interface testing. This type of testing typically necessitates individuals to log in to the application and perform repetitive tasks culminating in specific outcomes within the user interface.

To automate this process, we implemented a headless web driver (Selenium) to simulate user interactions with a deployed test instance of the application. The value of a headless web driver in test automation lies in its ability to simulate web browsing without a graphical user interface (GUI). This technology can perform browser actions and interact with web pages silently in the background.



RESULTS

Through the implementation of these tools, we successfully developed a comprehensive suite of tests capable of efficiently managing all the repetitive tasks associated with testing system changes. Tasks such as form entry and submission could be executed within mere seconds and repeated multiple times within minutes, thereby simulating a wide array of necessary permutations to ensure the continued functionality of the system. Most notably, these tests were executed automatically, instilling a high level of confidence in their precision and consistency.

- **Efficiency and Speed**: The implemented tools allowed for the development of UI tests that could efficiently handle repetitive tasks, enabling tasks like form entry and submission to be completed within seconds and repeated multiple times within minutes.
- **Comprehensive Testing**: These tests simulated a wide range of necessary permutations, ensuring thorough testing and continued system functionality.
- **Less Issues in Production**: The tests were executed automatically, instilling confidence in their precision and consistency, reducing the likelihood of human error.
- **Enhanced Productivity**: With increased efficiency, Business Analysts could redirect their time and efforts towards their core business analysis responsibilities, contributing to higher productivity and better utilization of their skills.