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CASE STUDY

Air France

Air France injects agility into software testing with Coverity® Test Advisor – QA Edition

AIRFRANCE

"Our B2C online booking website is one of our most important products, which generates the bulk of our revenue. Due to its complexity, each functional or regulatory development requires a great deal of regression testing in order to maintain the quality of service our customers expect, which means rerunning existing tests to verify that the changes do not interfere with what worked before."

PHILIPPE BORDAS
METHODS AND TESTING MANAGER
AIR FRANCE-KLM

Business Overview and Challenge

Air France has been one of the largest air carriers since it was formed in 1933. As a result of a 2003 merger with KLM, the company operates the fifth-largest airline in the world, carrying more than 77 million passengers from hubs at Charles de Gaulle Airport and Schipol Airport. Revenue in 2013 was in excess of €25 Billion.

As part of an on-going commitment to improving their products, Air France has embarked on a plan called *Transform 2015*. The aim of this plan is to regain competitiveness and ensure its products and customer services are in a leading position worldwide. One aspect of this plan is to move software development teams from an iterative development process to Agile.

The AirFrance.com and AirFrance.fr websites are the primary consumer portals for planning, reserving and purchasing eTickets for Air France flights. According to benchmark results from Alexa, these sites ranked 11,603rd and 6,512th for web traffic worldwide – with each rising more than 900 places in the last three months (June 2014).

When Air France deploys an updated web site for their customers, they cannot afford any down time. Any disruption in the user experience could result in lost revenue. As a result, they demand a defect-free experience before they go to production.

BUSINESS BENEFITS

- Identify Testing Gaps: Reduce regression risks by uncovering testing gaps in recently-changed code.
- Test Coverage Scoring: Score tests based on how they are impacted by code changes, allowing QA teams to focus their tests where bugs and regression risks can hide.
- Visualize Test Coverage: Aggregate results of tests executed through the course of the development lifecycle to reduce redundant tests and focus manual tests where they add value.
- Model Future Test Coverage: Eliminate redundant tests that distract team members while maintaining a high level of test coverage.

Coverity Deployment and Benefits Realized

In 2013, Air France chose Coverity Test Advisor – QA Edition to improve the quality of their software delivery. The goal in making the purchase was to improve their delivery results in a tight time to market and assist in their transition to Agile. The first deployment of the Coverity solution was the AirFrance.fr portal.

The regression tests for AirFrance.fr would previously have taken three weeks to complete for each three month development cycle. The goal was to reduce the development cycle to one month, requiring the QA team to focus their activities on the tests that mattered the most. Coverity Test Advisor – QA Edition was deployed to help Air France study the scope of their test plan. "Today, we work in a context where timeliness is the key word. Reducing the time and costs of tests is crucial for Air France," explains Jean-Louis Sanchez, Testing Expert at the Methods and Tests Competence Center. "Our goal was to better target the tests to rerun and reach software delivery within 15 days."

> *"Faced with the rise of B2C customers and the decrease in production cycle time, Coverity Test Advisor – QA Edition was the only solution which could allow us to identify with infinite precision the holes in tests by combining different test layers (integration, unit and system), and therefore highlighting potential failures on the portal."*
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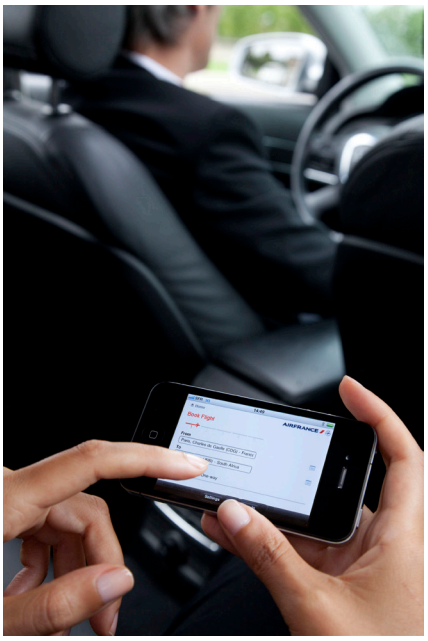
> PHILIPPE BORDAS
> METHODS AND TESTING MANAGER
> AIR FRANCE-KLM

Philippe Bordas, Methods and Testing Manager with Air France-KLM adds: "We are really engaged in a philosophy which seeks to avoid waste, not lose any time and yet immediately identify any risks – indeed, strive for greater agility – which perfectly falls within Air France's transformation plan: to reposition the product and the customer service at the highest international level."

The move to Agile is a cornerstone of the Air France *Transform 2015* plan and Coverity is a part of that transformation. Automating and understanding the test environment became a primary requirement. Now, as new software is prepared for release, Coverity Test Advisor – QA Edition analyzes the code changes and reports any holes in the test plan that would allow defects to impact the performance of AirFrance.fr.

Air France has implemented a continuous integration (CI) system, which runs automated tests every night. This process allows the Development team to identify issues before they can cause problems.



The integration of Coverity Test Advisor – QA Edition results in more effective testing from development to deployment with the aggregated view of all tests performed, and the elimination of risk before going live. Jean-Louis Sanchez emphasizes the benefit of this integration: "Coverity Test Advisor – QA Edition is truly a breakthrough innovation that reconciles business lines, application developers and testers."

Conclusions

The move from iterative/waterfall development to Agile presents many challenges to development teams. While the shorter time to market is seen as a benefit, the burden of producing defect-free code becomes the responsibility of every team member. As test cycles become shorter, teams must implement sound test strategies with modern tools.

Coverity Test Advisor – QA Edition enables testers to isolate the most effective tests. More importantly, testers can identify where testing holes occur and create new tests to cover the holes. As a result, the product goes to market with fewer defects, allowing Air France to keep turbulence under control.

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