

Web Application Testing Beyond Tactics

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Abstract

After a decade in the Internet economy, Web testing is no new topic. Web testing is complex, but so is software testing on a mainframe, client server, PC or a game console.

The key challenge in the practice of Web testing lies in adoption of a Web testing strategy and the allocation of resources behind it to support execution.

I say this on the basis of 20 years of quality engineering experience, including consulting experience with several dozens of organizations from start-ups to Fortune 500 companies, with testing teams of all sizes (from three to several hundred staff). The common theme of these groups is that their Web testing is driven by specific tools, practices, or metrics or by a chaotic focus on deadlines, rather than by an understanding of their core objectives. There are several different possible objectives for testing, such as identifying threats to customer satisfaction, certifying the product's behavior against a standard, minimizing technical support costs, or helping the project manager understand the risks of putting the software under test into production. A strategy-focused company chooses a compatible set of processes (the ways the group gets things done), practices (test techniques and tools) and people who can use the techniques within the processes in order to achieve the objective.

One of the key strategic challenges of Web testing is the dominance of change. The technology is ever-changing; the platform and configuration are ever-changing; the business model is ever-changing; the customer base and their expectations are ever-changing; the quality standard is ever-changing; the corporate human resource is ever-changing; and the development and testing budgets are ever-shrinking.

Another key challenge is interdependence. Web applications are fundamentally dependent on cooperating tools and processes. The testing field is seeing a renaissance of test-related methods, but these focus on unit-level testing and sub-system testing. They do not yet provide much help for the multi-system testing needed for applications on the Web.

Many of the practices, tools, and standards in use by groups that do Web testing were developed with simpler and less dynamic situations in mind. Used by skilled and thoughtful people, in the context of a clear strategy, these can add value. But if we allow them to drive practice, they can easily yield less good than harm.

In this talk, I present results from analyzing Web testing strategies at several Fortune 500 companies, and some of the changes made to improve the return from Web testing efforts. The talk places this work in the context of the evolving technical challenges of Web testing, and considers advantages and risks of several types of change to testing processes, practices and staffing.