Creating a culture of testing excellence

"Testing is an accessible activity. Anyone can test. Even children. Especially children, because being a child is a process of relentless testing. But being able to test is not the same as being able to do it reliably, fully and in a manner that satisfies the needs of a given project.

"Testing is a marginal activity. Wherever you find testing, it certainly won't be on the center stage of life. Testing is on the margins for a good reason: it shatters the tranquility of the status quo, while making no promise to improve it. Testing is nevertheless essential in our enterprises because it reveals hidden trouble, thus giving our improvement efforts direction and focus.

"Testing has an abstract nature. It is ideas that lead to observations that lead to more ideas, filtered and powered by our faith in the existence of failure. If you want to learn how to evaluate testing, the intellectual tools you need for that belong to the world of philosophy (epistemology, axiology, and ontology). You can't just download them from the Internet."

The daily practice of testing

Putting these facts together, it shouldn't surprise us that people who specialize in testing are rare compared to people who specialize in building the things that get tested. The accessibility of testing means that everyone is an amateur tester, no matter what else they do for a living. The marginality of testing automatically consigns any testing specialist to a lower status. The abstract nature of testing prevents most people from recognizing bad testing, so they have little motivation to seek people who do it better.

"Meanwhile, there are attractive alternatives to testing. Excellent craftsmanship can reduce the need for testing. Incremental releases limit risk. Powerful software tools can automatically check thousands of observable facts about the status of a product (which doesn't necessarily help, but looks impressive to management). Meanwhile, many users simply accept products despite the presence of bugs.

"I think testing will remain a world divided into three groups: a large population of builders who do shallow testing as part of their development work, a much smaller group of young people who perform shallow testing full-time, called "testers' and a very small population of testing craftsman and consultants who dedicate themselves to honing their testing skills and who are capable

of testing deeply, reliably and giving compelling reports of their work. This third group consists of people who may be called by various names: coaches, consultants, but not often 'testers'. Some of them will be independent. Some will have staff-level roles in large companies. These testing craftsmen will always face pressure to justify their arcane existence. And that pressure only increases with their success, because when things go well, people begin to wonder why we need workers whose focus is failure."

The future of testing

"I live in that third group: the craftsmen. What is its future? How does it maintain itself and how does it grow? In the last ten years, social media has made it easier than ever to maintain distant professional relationships. Screen sharing, group file sharing, and group messaging is trivial now. That is key to creating an accessible culture of professional testing. But we still face a daunting obstacle: confidentiality agreements. Much of the specific tools, documents, and experiences which are needed to understand the daily experiences of testing are locked away. I once worked for Apple Computer, but I don't know anything specific about how Apple tests its products today, and if I did know they would not let me tell anybody. What this means is that embedded technical workers are practically cut off from the outside world. They show up at conferences and even speak at them, but they are unable to share deep details or raw data. That leaves the field to independent pundits, who are free to speak, but do not have regular access to large projects.

"As one of those independent guys, I deal with this by focusing on what I can do. I develop and spread systematic ways of teaching the abstract thinking skills that make a good tester. I ground that work in practical exercises. And I use my experiences consulting in software organizations to make those exercises as realistic as I can. When I work with companies, a lot of what I do is explain and demonstrate ways of creating a culture of testing excellence, but to make progress toward that requires specific, passionate, heroic leaders inside those companies. Excellence does not happen automatically."

"Excellent craftsmanship can reduce the need for testing"

What will be the daily practice of testers in future?

"The daily practice of dedicated testers depends on the kind of tester you are and how senior you are. For testing generalists, sometimes called functional testers, who are relatively junior, a lot of their work is writing test cases and performing test cases focused on trivial functional matters. They probably go from one Jira-based 'product story' to the next, doing this. Although I think that's a waste of time and treasure, this remains popular because counting test cases makes testing seem more tangible and less abstract. Senior testers who engage in deep testing don't focus on 'test cases'. They focus on risks and the design of experiments to assess that risk. Their daily practice involves studying the product, interviewing developers, developing test data and test tools, performing complex tests and reporting on those results. I also think that a lot of what testers will have to do in the future is to organize and administer testing events that involve amateur testers. Each tester will have to be a testing coach to some degree."

What would you advise testers to do to be prepared for that future?

As a tester you should learn to explain and defend testing. Therefore it is important to practice making excellent reports, both written and oral. Developing software in rapidly changing markets requires that testers have to adopt at least one specialty instead of being only a generalist tester. In the past it was not really necessary to be good at coding, but this will change. In future you have to learn about coding or at least learn how to read code. Learn everything you can about the design of experiments. And last but not least, practice teaching testing. □

James Bach, owner of Satisfice, is a consultant and trainer, known as the creator of Rapid Software Testing, Session-Based Test Management, and one of the progenitors and advocates of skilled exploratory software testing.