

# Technology Trends in Software Testing for 2018

Carl Johanson, QA Practise Director at Pyramid Consulting's solutions division spoke at length about the software testing trends for 2018.

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During the annual strategy meet Carl Johanson, QA Practise Director at Pyramid Consulting's solutions division spoke at length about the software testing trends for 2018. He said "to deliver a high-grade product that clients demand, it is necessary that you must test it first, fix it, and then test it again. Not a single software product should be released without its quality testing and bug fixing. The Software testing community had witnessed many trends taking shape in 2017. These changing trends included Applications of artificial intelligence (AI) and automation, continuing trend in adoption of DevOps, increasing test automation, shortening release schedules, and the lack of time for testing. We bring you the technology trends that will require software testing in 2018".

#### **Digital Testing**

Organizations these days have adopted the digital transformation to deliver products at a very shorter time. This exposure of organizations to digital technologies have made them to re-orient their processes, use tools and resources for digital testing to deliver a much better customer experience. 2018 is ready to witness a soar in digital testing.

Performance Engineering - Early and Often

Many organizations have not found a way to integrate sound performance testing into their Agile methodology, however this is the new normal. The success of a website or an app depends on how the design, functionalities, and entities are portrayed to the end user. The demand to provide best UX is what resulted in the preference of Performance Engineering over Performance testing to ensure that produced software meets the performance requirements on time. Therefore, QA testers will shift from Performance Testing to Performance Engineering.

#### Mobile Test Automation

The number of mobile devices is expected to grow tremendously in the nearest future. This is an underlying fact that there has been an increasing shift from desktop and web towards mobile applications. This shift has resulted in a demand for software organizations to increase the application of test automation for these mobile applications. Emerging mobile test platforms and tools such as Mobile Labs, Kobiton and Sauce Labs may offer advanced and right capabilities to make mobile test automation more executable and affordable.

#### Open-source tools are here to stay

Those who are the most adept at utilizing open-source tools, creating frameworks to make them more efficient, as well as creating custom frameworks that are purpose built for your applications. Open source tools are expected to win over the world. It's a known fact that more and more companies

these days accept Open Source services for the execution of test management and automation, Agile and DevOps tactics, and the defect management. This makes it obvious that there will be a further expansion of newest open source tools in the market and are expected to become more active.

## Adoption of DevSecOps

Security needs to be incorporated into each phase of the software development process. It can no longer be left to the end to see if there are vulnerabilities.

## Maturing DevOps

Need to continue to refine DevOps processes until everything from build, build validation, deployment, performance and security monitoring is completely automated and workflow drive. According to Google Trends, it was shown that DevOps has gained an overwhelming interest over the past five years. This trend is likely to continue in the next few years with more organizations employing DevOps practices. More practices and tools will be introduced to support automated testing and continuous integrations.

#### **High-speed Quality**

There will be an increased demand for quality at high speed. In order to deliver the best user experience within the shortest time possible or fastest time possible, businesses will be forced to raise their product standards. This will be mostly done by more advanced automation.

## Demand for SDETs

In the years to come, the Test Automation field is going to have a huge demand, due to which more testers will have to take up the role of SDETs. SDETs, whose role was different from that of traditional testing, will now end up developing. The agile approach enables faster turnaround, quicker feedback, and frequent releases. The teams in Agile will be broken up into smaller groups for sprints, where both testers and developers collaborate and ensure that the quality is intact.

#### The Internet of Things IoT

The extensive usage of smartphones, smartwatches, tablets, and other related products indicate that the need for IoT Testing will be more. Any IoT product needs to be tested for its functionality, reliability, and effectiveness, as they are vulnerable to security risks. According to a study by HP, 70% of devices in IoT are prone to security risks. It is, therefore, necessary to perform IoT testing on them. In 2018, need for IoT Testing will rise for sure.

#### **Cloud Testing**

The newly adopted specific approaches by the testers to test cloud-based services includes real web traffic to test the web-based apps. This approach verifies functions like redundancy and performance scalability. Don't forget about security, as well as those test specific to moving to the Cloud.

#### **Big Data Testing**

Testing big data cannot be processed using manual computing and it involves different tools, techniques, and frameworks etc. Hence, the QA teams need a strong strategy, high-grade analytical tools, and frameworks, along with superior techniques to perform one. This area is expected to grow big in the near future and testers should equip themselves and their testing skills accordingly to the

developments in Big Data.

AI and Machine Learning

These are emerging technologies and QA will need to figure out how to effectively and efficiently incorporate these into a standard QA process.

**BI and Analytics** 

These technologies have become pretty mainstream now a days, but little work is being done on the QA side to ensure that the quality of the output of these systems. QA needs to be able to go beyond the report and dashboard validations that are being performed, and shift left to ensure that everything that goes into the end products is validated as well.

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