

Automated Testing: How To Accelerate Mobile App Transformation

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Foreword

Since the dawn of enterprise mobility, the expanse of mobile app development has widened drastically. Despite continued innovation and technological advancements, the number of apps that have been abandoned, under-utilized, or discontinued is equally as large. While a lot of that has to do with poor user experience or heightened complexity, much of it comes from a lack of quality assurance in the DevOps phase.

So why aren't enterprise mobile app developers putting in the time and resources to test their apps before going to market? With the pace of digital and mobile transformation speeding up daily, validating the app development process with automated testing ensures quality performance and eliminates process blocks for increased business value and return on investment. This survey-based report will dive into the mobile app development and testing space to better understand the challenges, successes, and best practices to follow for automated testing.

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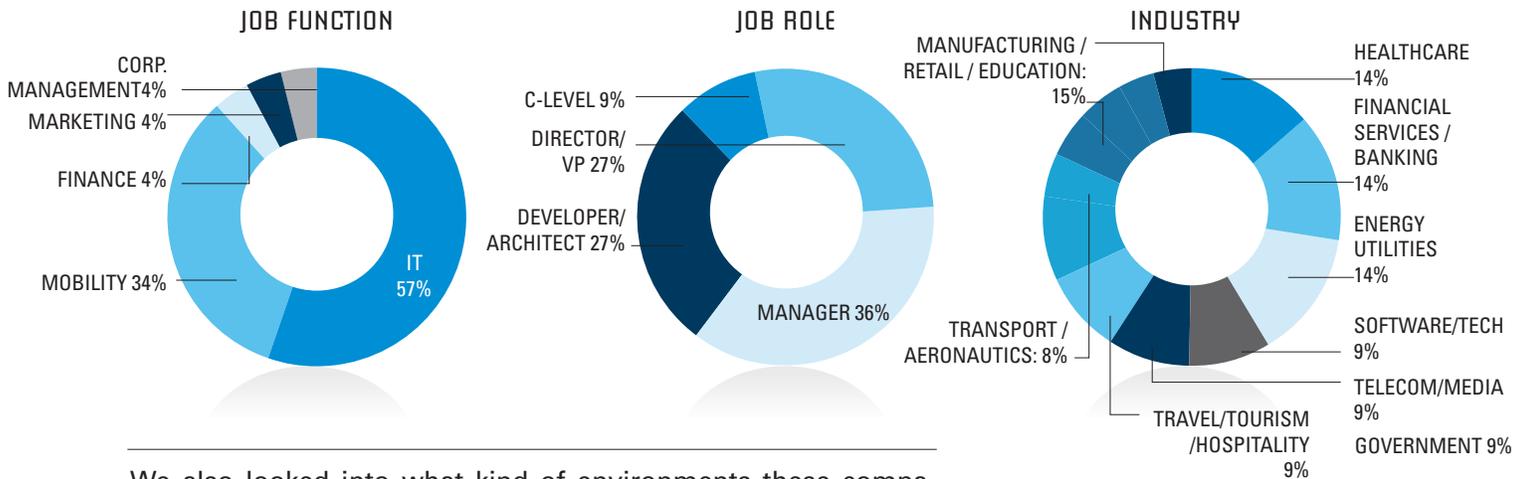
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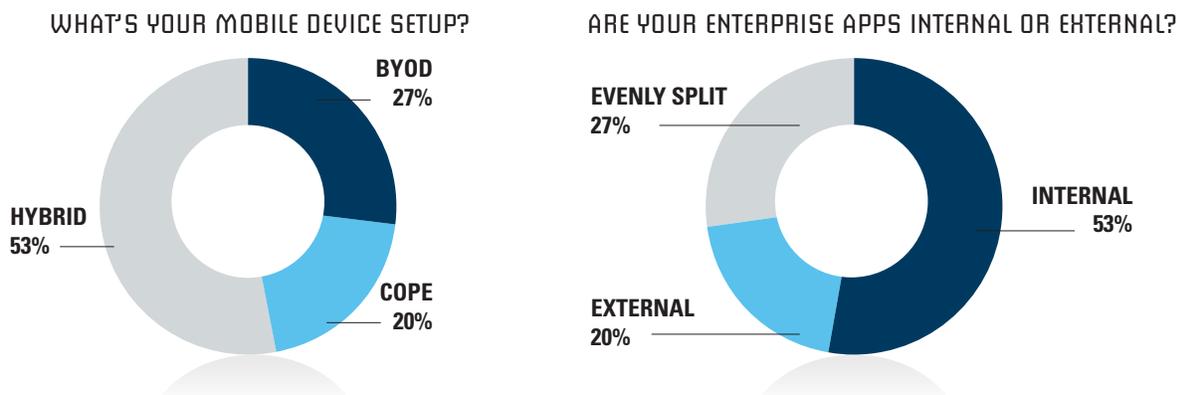
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Inside The Numbers

Enterprise Mobility Exchange fielded a five-week survey asking respondents a variety of questions about enterprise mobile applications and how they are being tested. The results were eye-opening and sheds light on a larger issue: the lack of automated testing initiatives despite the rise of mobile application development.



We also looked into what kind of environments these companies are using in terms of enterprise mobility, to get a broader look at the importance of automated app testing. Here's what we found.



So where is the future of mobile application testing headed, and why is it so important? How are the proper tools, innovative technologies, and culture around mobile transformation being used to create the next generation of enterprise software capabilities that will enhance everyday workflows?

The answer may be simpler than most IT teams and decision makers understand.

Application Testing: A Fork In The Road

There are two ways to test a mobile application for quality assurance: manual or automated.

In the beginning, development and testing teams had to rely on manual testing only. Manual testing for mobile apps and mobile web goes back to the website days and how pages were created and built for the masses. In doing so, this arduous task was commonplace as no other methods were yet created for testing. But as technology evolved, so did the processes and systems in which they were put into practice for testing and quality assurance.

Manual testing

- Requires human interaction
- No single app function can be overlooked
- Different testing procedures needed for separate OSs
- Time to complete usually takes more than a month
- Testing errors must be reexamined by initial source
- More time involved leads to less return on investment

Automated testing

- Can be worked on around the clock
- Multiple scripts can be written for different operating systems
- Testing complete within one week
- Several mobile apps can be tested simultaneously
- Testing engineers can recall scripts to run on new mobile apps at a later date
- Less time equals quicker realization of return on investment

The fork in the road comes down to what worked then versus what works now, and what makes more sense for mobile application teams to take advantage of when trying to assimilate the needs of digital transformation. Time to market is key across the board in any industry. Half of the survey's respondents claimed it's taking a month or more to complete the testing of a single mobile application, not to mention the design and development that may have taken months beforehand. (FIGURE 1)

Where automated testing separates itself is in the daily tasks of enterprise mobility teams, and the transformation of applications being created today, whether from scratch or from being reconstructed from a legacy environment. Add to that constant updates and patches being deployed by the two most utilized operating systems on the market – iOS and Android – and keeping track of how each individual application is performing across an enterprise's devices is a full-time job in itself. (FIGURE 2)

FIGURE 1
HOW LONG DOES YOUR MOBILE APP TESTING TAKE?

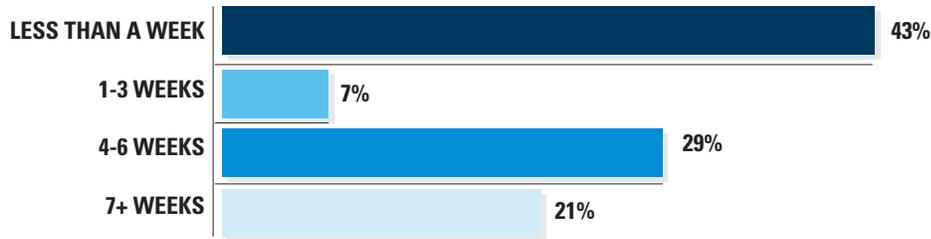
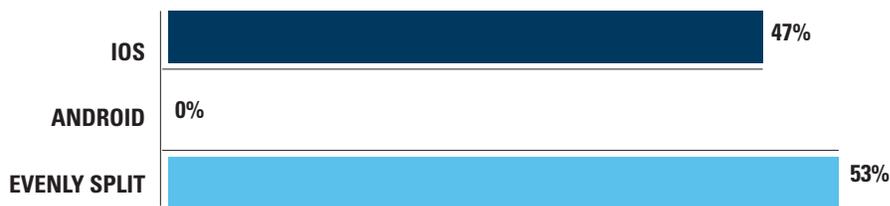


FIGURE 2
WHICH MOBILE OS IS YOUR TEAM BUILDING APPS FOR SPECIFICALLY?



In 2017, 71% of malware-infected mobile devices across the globe ran either Android or iOS. When an operating system requires an update, so do many of the apps running through it, which then requires a retesting of individual features and further quality assurance. The mobile application testing process is cyclical and never-ending. Manually assuring each and every bit of functionality within a single mobile app for a company that may have dozens, or hundreds, of them deployed is an exercise in futility.



Exploring The Future Of Automation

There's one constant in technology, and that's change. As the enterprise mobility landscape continues to evolve, there are two sectors that have no end in sight as far as progression is concerned, and that includes the growth of mobile applications and the use of automation and machine learning.

Pairing the two is a win-win for mobile administrators, testers, and engineers alike. It's not just about return on investment, as so much of tech has become, rather consistency and quality to ensure seamless workflows. An error in the testing sequence of an app could cause a bottleneck of time and resources twice that of the initial project. And it turns out most enterprises are still behind the times.

More importantly, the reasons enterprises need automated testing are not singular, and have different importance depending on that company's focus. (FIGURE 3)

Different tools have different capabilities, and teams making the decision of moving toward the future with automated app testing are best suited with an all-encompassing set of capabilities. By bringing testing capabilities to one device cloud that enables scripts to kickoff and run with ease, half the job is done before the quality is even considered.

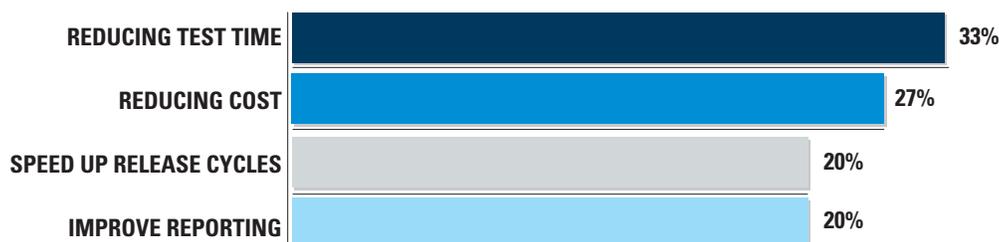
Open-source products like Appium and commercial solutions from IBM, Tricentis, and SOASTA, among others, stand alone as individual testing tools, but finding a way to collaborate and enhance the testing experience with one entry point and baseline location puts the power back in the hands of the engineers.

Everyone wants a return on investment, but success is also defined by enhanced productivity and growth. Automating mobile application testing won't change how quality is created in the enterprise mobility landscape, but will bring a different workflow to the team by enabling engineers to refocus efforts to other mission-critical duties. As mobile applications proliferate the enterprise, the time to successfully test those tools and quickly is now.

86%

of enterprises are not using an automated mobile application testing system.

FIGURE 3
WHAT'S THE TOP TESTING CHALLENGE YOU'RE LOOKING TO SOLVE?



Sponsor Spotlight



Mobile Labs provides enterprise-grade mobile device clouds that improve efficiency and raise quality for agile-based, cross-platform mobile app and mobile web deployments and testing. The organization's patented device cloud solution, deviceConnect™ provides affordable, highly-secure access to a large inventory of mobile devices across major mobile platforms providing mobile developers, testers and quality assurance professionals increased agility and flexibility to boost mobile DevOps initiatives.

deviceConnect enables enterprise mobility teams to control the chaos of mobile testing and device sharing among enterprise mobility teams. The solution supports the entire mobile app lifecycle and brings new levels of speed and quality to the enterprise digital transformation in a cost-effective, secure environment.

As the heart of a mobile app delivery infrastructure, deviceConnect improves both team speed and app quality for enterprises implementing digital transformation. deviceConnect provides secure, comprehensive management of mobile devices, users, and apps from one central console and enables 24x7 remote access to devices from any geographical location, connecting teams no matter where they reside.

Benefits of deviceConnect:

- **Test on real devices** – manual and automated testing on real mobile devices
- **DevOps support for continuous integration and continuous testing** – automatically verify the mobile experience with each new version release
- **Appium support** – deviceConnect has a built-in Appium server and powerful scripting tools to help teams create, manage, and run Appium tests
- **Tool-agnostic** – deviceConnect easily integrates with most open-source and commercial testing solutions

- **Choose the cloud that best fits the need** – deviceConnect can be deployed on-premises as part of a secured LAN or can be hosted by Mobile Labs in our secure data center

- **Agile support** – deviceConnect supports developers using Xcode and Android Studio, continuous integration, team collaboration from design through customer support, and the market's largest set of automated testing tools.

- **Cuts the cord** — deviceBridge™, a component of deviceConnect, brings instant access to real mobile devices in the device cloud to users who are otherwise limited to the device(s) they have in hand by tools like Xcode (and many other commercial and open source tools)

deviceConnect is offered as both an on-premises and as a hosted solution. When installed on-premises, deviceConnect manages up to 48 devices in a compact mobile enclosure that can be placed in ordinary office space. deviceConnect is often installed on-premises by enterprises that want flexibility in adapting a device cloud to their digital transformation strategies, have high performance requirements, or require complete isolation of their testing labs.

For customers who want Mobile Labs' experts to manage their device cloud or who need short-term, incremental capacity, the deviceConnect hosted cloud is available. Housed in a highly-secure, redundantly powered data center, this implementation offers customers dedicated, private servers and devices, with the Mobile Labs team available 24x7 for customer support and to obtain, install, maintain, and upgrade devices and the deviceConnect servers.

Founded in 2011 with offices in Atlanta, GA and Noida, India, Mobile Labs is a global organization with clients across the U.S., Europe and Australia. For more information, please visit www.mobilelabsinc.com.

About Enterprise Mobility Exchange

Enterprise Mobility Exchange is an online community for global mobility professionals and business leaders who are leveraging mobile technology and services to improve operational efficiency, increase customer acquisition and loyalty, and drive increased profits across the entire enterprise.

At Enterprise Mobility Exchange we're dedicated to providing members with an exclusive learning environment where you can share ideas, best practices and solutions for your greatest mobility challenges.

You will receive expert commentary, tools and resources developed by experienced mobility professionals and industry insiders. With a growing membership and global portfolio of invitation-only meetings, Enterprise Mobility Exchange ensures you keep your finger on the pulse by delivering practical and strategic advice to help you achieve your business goals.

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