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ADM Market Insight:
Driving Digital Transformation
with Modern Mobile Testing



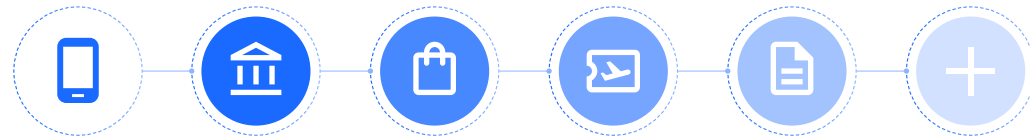
Key Takeaways

Proper testing ensures that mobile applications are high quality, user-friendly, and fully functional before deployment. However, accessing physical devices for mobile testing is impractical. There are more devices and environments to test than ever before, and many team members are working remotely.

This article discusses the shortcomings of traditional mobile testing environments. You'll also learn how a remote digital testing lab helps enterprise teams develop, debug, test, monitor, and optimize mobile applications.

Introduction

As we increasingly rely on our smartphones for day-to-day activities, the rise of mobile applications has accelerated digital transformation. Why wait to bank, shop, book flights, or file expense reports when we do it all from our phones?



Companies continue modernizing legacy applications to run on multiple devices as the connectivity demands rise and new technologies such as 5G enter the market. Apps must work consistently across desktops, smartphones, tablets, and other devices with various form factors, on different operating systems, and in different environments.

In 2020, the COVID-19 pandemic further accelerated digital transformation as remote work became commonplace globally. More than ever, users rely on mobile applications for work as well as personal needs.

Proper testing practices ensure that mobile applications are high-quality, user-friendly, and fully functional before deployment. Mobile testing generally involves examining applications' functionality, compatibility,

usability, and consistency across different devices. Such tests include factory testing, unit testing, memory leakage testing, usability testing, load testing, security testing, and so on.

Developers and testers initially performed mobile testing manually, accessing the supported devices for manual, exploratory, and automated testing. When most teams worked in the office, it was easier to borrow these devices for testing. However, as more teams work remotely, testing physical devices has become even more impractical.

Coding from home is one thing. But providing each geographically dispersed developer and tester with a complete development and testing environment is simply not feasible.



Shortcomings of a Traditional Mobile Testing Environment

In the past, companies purchased and stored a variety of devices for testing purposes, often shared among relevant teams.

Manual tests allowed for feedback on matters such as usability and user-friendliness. Getting this feedback and performing scriptless ad-hoc testing proved manual testing's usefulness. However, increased demand and modern mobile app complexity make physical testing impractical for several reasons.

Devices are expensive to buy and maintain. It's difficult to justify this cost considering the time devices spend sitting idle, bringing no value. If you work in a company with many teams, you likely experience the struggle of sharing devices. Conflict can arise from budget concerns, ego issues, or fear that devices will not be returned on time. If you are a tester, you may also feel frustrated finding devices uncharged when you need them for immediate testing.

Keep in mind that sometimes only one test can run at a time with physical devices. If unattended continuous testing or other employees are using all devices, testers sit idly on company time waiting to run tests.

Device availability is an even bigger obstacle with more teams working remotely. When developers do not have devices at home, they are unable to perform manual tests.

Additionally, devices widely vary. They run on different operating systems (OS) that are constantly updated and connect to varying mobile networks, such as WiFi, 2G, 3G, 5G, and so on.

To prepare for actual user experiences, tests must account for these variables. However, each manual test is only representative of the specific OS and network connection of the physical device used.

Also, password management for physical devices can be hectic and costly. Testers struggle to gain access if devices are registered to a team member's email or if passwords are not readily available.

Robust mobile application testing is critical. Teams must have testing resources they can rely on. When a physical, centralized lab is not practical, there are other options to explore.



Creating a Remote Digital Testing Lab

Remote developers and testers need an environment that allows them to manipulate devices and perform tests. This is where remote digital testing labs come into play. A digital testing lab is a virtual environment where teams conduct controlled experiments as if with their own hands.

In most cases, it's more reliable and cost-effective to access a readily available digital testing lab than to build your own. Using an existing lab provides access to a ready-made collection of test configurations. It also expands available resources and reduces time spent in the testing phase.



A typical device has gestures, sensors, and modes to simulate. For example, testers need to use GPS, device orientation (portrait or landscape), the camera, and so on as if they are physically holding the device. Even with time or budget constraints, foregoing testing these variables risks the overall application quality once deployed in the market. You wouldn't want consumers finding bugs where you didn't test.



The OpenText UFT Digital Lab Solution

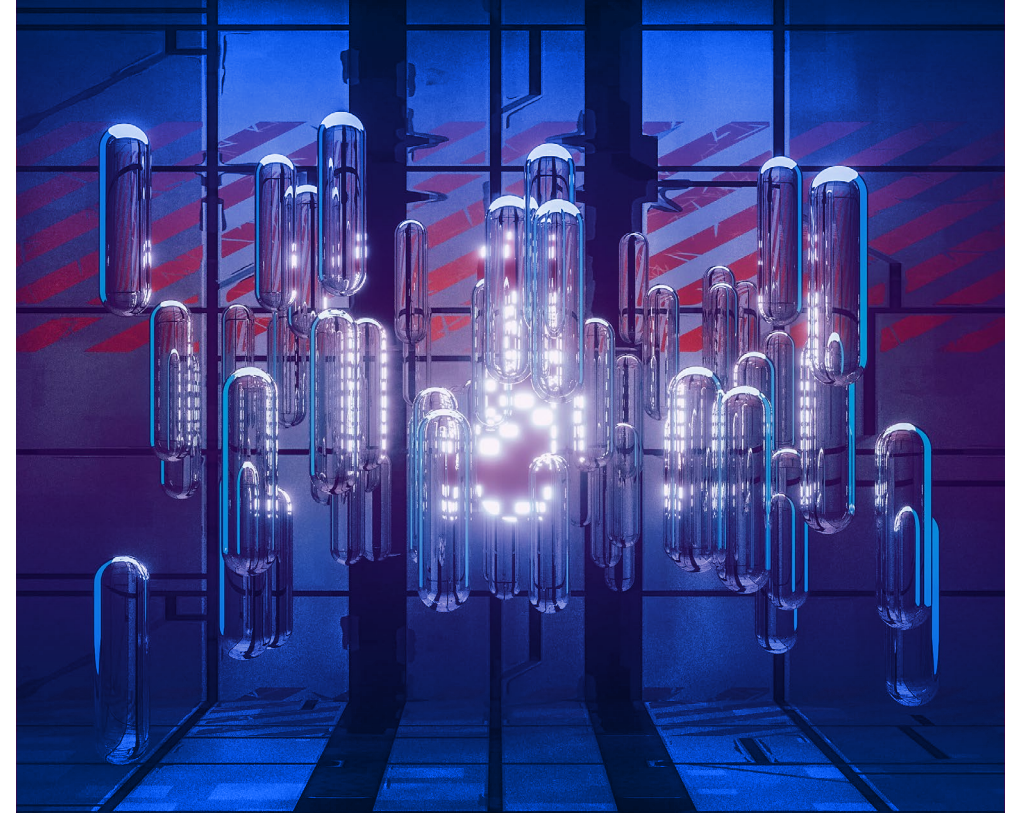
When it comes to remote digital testing environments, [OpenText UFT Digital Lab](#) is the best choice. It's a mobile device management and testing solution that integrates with OpenText functional testing tools ([UFT One](#), [UFT Developer](#), [Service Virtualization](#)) and performance engineering tools (the [LoadRunner Family](#)). UFT Digital Lab's digital environment is available for hosting on premises or consumable from the cloud as software as a service (SaaS). It provides centralized access to locally hosted or as-a-service physical devices (Android and iOS) and device emulators, such as Google SDK and Genymotion. UFT Digital Lab helps you develop and run tests with open-source software test-automation frameworks, such as Appium and Espresso.

The solution facilitates structured, manual exploratory testing. Testers evaluate applications using common user behaviors to detect flaws and give valuable feedback. UFT Digital Lab also features exceptional lab management, allowing testers to access many different devices, handle device groups, and prepare for device uncertainties.

The UFT Digital Lab environment enables efficient functional and performance testing on different devices with different versions of different OSs.

UFT Digital Lab acts as a centralized, omnipresent lab with enterprise-quality remote access to develop, debug, test, monitor, and optimize mobile apps.

Mobile applications often rely on service dependencies and APIs in the backend that internal service providers or third-party vendors supply. If those services are unavailable, teams can't develop and test against them, leading to wait time and extra cycles. UFT Digital Lab integrates with Service Virtualization to remove these dependencies. Teams can replace them with virtual services that are always available. Accurately simulating the component or service behavior means developers and



testers can perform functional or performance testing immediately and in parallel. Even if the real services are unavailable or restricted, simulations grant the ability to test them.

Load testing helps identify performance issues. When conducting physical tests internally, access to applications from mobile devices puts additional pressure on networks and overall system performance. However, simulating load from mobile devices by driving

the application through its APIs is not good enough for accurate testing. By allowing remote access to actual devices, UFT Digital Lab solves this issue. The remote testing lab provides results that account for user behavior, network carrier types, and network characteristics.

Testing load is critical for satisfying users who expect snappy performance. Otherwise, they will quickly abandon the application you worked so hard to build.





Improve Your Mobile Testing for a Better User Experience

The demand for mobile applications is increasing and so are user expectations. As a result, competition has spiked. For almost every application deployed, there is an alternative that customers can choose. Making your mobile application stand out in a crowded marketplace requires more than just a stunning user interface. It requires a seamless user experience. Good mobile testing solutions are crucial for gaining a competitive advantage.

UFT Digital Lab supports continuous testing. It drives ongoing improvement and optimization by analyzing mobile application availability and performance via production monitoring. Additionally, its centralized, remote mobile testing lab increases team productivity and accelerates production speed by reducing holdups. Plus, teams can work more flexibly and efficiently thanks to open-source automation. UFT Digital Lab eliminates the need for hands-on physical devices, which is important for working remotely. The remote testing lab has all the benefits of testing on local devices—without the costly limitations.

Want to improve your mobile testing for a better user experience without wasting money on physical devices? Ready to give your remote teams easy access to necessary testing resources? [Request a demo](#) of UFT Digital Lab to see how.

[Learn More about UFT Digital Lab](#)



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