Remote access and test automation for mobile devices

Access testing capabilities on real mobile devices, with real results

The meteoric rise in mobile communications worldwide is resulting in the growing need for organizations to test software applications on mobile devices across several carriers and platforms. The lack of automated testing capabilities for physical devices can leave companies vulnerable to the challenges associated with manual testing—lengthy time cycles, increased risk of errors and escalating costs. There is also the need to provide distributed teams and mobile workforces with access to mobile devices and secure applications, a significant challenge for any IT department.

DeviceAnywhere Test Automation enables the automation of mobile testing processes without a reduction in reliability or quality, resulting in faster deployments and reduced costs. Unlike alternative products that use emulators or simulators, testing using DeviceAnywhere Test Automation is 100% representative of what the end user will experience on a given operator network. Our solution combines the convenience of automation software with the accuracy of real mobile devices to generate reliable, repeatable and reportable results. Virtually any functionality that can be performed with a mobile device can be tested and automated through DeviceAnywhere Test Automation.

The integration of DeviceAnywhere and Rational Quality Manager (RQM) allows companies using to test their products on real mobile devices from within the Rational® environment. All results (script steps, test pass or fail results) are tracked by RQM and available through the RQM interface.

Highlights

- Helps simplify the testing of mobile applications with a comprehensive, robust test automation tool
- Enables improved control over testing processes with advanced, state-of-the-art features
- Uses IBM and DeviceAnywhere skills and expertise to provide a flexible tool that meets business needs
Facilitating easy, automated testing of mobile applications

The integrated DeviceAnywhere – Rational Quality Manager (RQM) solution provides a simple mechanism to perform test automation within a common mobile test environment. The solution is designed to help:

- **Test any device.** Because DeviceAnywhere utilizes a patented Direct-To-Device technology that connects every input and output of the live handset to a server, there are almost no limitations as to what can be tested. Whether testing handsets or mobile applications, using web or rich media, or targeting enterprise IT or consumers, DeviceAnywhere provides the tools to test—and perfect—virtually any mobile software. All complex device features, such as an accelerometer, swiping and pinching, are supported. DeviceAnywhere also supports set-top boxes, inventory tracking devices, etc.

- **Manage testing process from start to finish.** DeviceAnywhere provides a “one stop shop” for the quality assurance of mobile content. All testing steps and proofs (screenshots, videos) are stored conveniently within the suite and are readily accessible through the Rational Quality Manager integration.

- **Easily port scripts across multiple handset models.** DeviceAnywhere Test Automation structures scripts into high-level, device-independent test cases and low-level test steps (actions) that are implemented across the chosen devices. The system also includes a mixed manual and automated test mode, allowing tests to be conducted across all devices even if not all the steps are automated. All of these features are accessible through Rational Quality Manager (RQM).

- **Record, save and collaborate.** DeviceAnywhere incorporates various recording features that allow developers to save screenshots, enabling them to easily share bugs and errors with the rest of the team. Recorded screenshots can also be exported as movies and utilized to market products.

Enabling greater control over testing processes

This solution leverages DeviceAnywhere’s Java® application programming interface (API) to provide control over DeviceAnywhere test assets. DeviceAnywhere Test Automation is designed to:

- **Extend software testing to mobile devices.** Both the computer-based software testing and mobile device testing uses the same interface

- **Schedule tests to run or execute tests randomly through RQM.** From the RQM interface, users can control the execution of DeviceAnywhere test cases and choose the devices to execute the test on.

- **Consolidate all test results into one interface.** Results of executed tests are passed back to RQM, for tracking and reporting.
Solution Brief

IBM Software Group

Device API

Queue Management
Image / Text Comparison
Adaptive Network and Compression Layer
Audio / Video Streams (Outputs)
Button Presses / Touch (Inputs)

Direct-To-Device Technology

Rational Functional Tester

Storyboard Testing
Test Script Development
Keyword Testing
Remote Access

DeviceAnywhere Studio

Test Case Development
Action Implementation
State Definitions
Remote Access

Rational Quality Manager

Requirements Management
Test Planning
Test Execution
Defect Management
Test Reporting
Release & Cycle Management
Team Collaboration

Device API

USB 2.0

Direct-To-Device Technology

Direct-To-Device Technology

USB 2.0
Leveraging DeviceAnywhere and IBM expertise to provide a robust testing tool

DeviceAnywhere Test Automation uses a comprehensive toolset that allows the user to script any activity on a device via an easy-to-use, drag-and-drop scripting user interface. Tools such as navigation widgets, optimized text and image matching algorithms, and complex logic enable reliable automation of even the most complex applications on mobile devices. The solution allows users to interact with any type of mobile device over the Internet. Users can push buttons, tap touch screens, simulate open, close and flip activities, remove the battery, etc., and have the audio and video feedback from the device fed directly to their computer screen.

Why IBM?
The DeviceAnywhere Test Automation solution is the result of combining IBM’s extensive test management and automation expertise with DeviceAnywhere’s patented device interaction and control capabilities. A robust, innovative tool for the testing and automation of software products for mobile devices, DeviceAnywhere Test Automation is a direct outcome of the strategic partnership between IBM and DeviceAnywhere.

For more information
To learn more about DeviceAnywhere and IBM, please contact your business representative or visit the following websites:
ibm.com/partnerworld
deviceanywhere.com/da_ibm