

## Wind River UX Test Development Kit for Android

Comprehensive testing of devices before introduction into the marketplace is typically conducted in a manual fashion. Automating this process can significantly grow testing reliability while reducing costs and time-to-market. A profound weakness in automated testing frameworks is in replicating the real-life user experience while interacting with the device. Even if some of the real-world use cases can be automated using recording paradigms, analyzing a test failure is still done through a manual process.

Wind River UX Test Development Kit has been architected, designed, and built from the ground up to test devices by manipulating the target just like real users would while interacting with applications through their user interfaces. The authored tests replicate the user experience on the device. The automated execution of these tests provides a significant reduction (up to 70%) in time spent during the manual testing cycles of the complex Android software stacks.

The Wind River UX Test Development Kit authoring environment includes an innovative wizard mechanism to rapidly create new test scripts, and a built-in software agent that automatically detects and incorporates run-time support on the device under test. In addition, the kit includes out-of-the-box sample tests that can be adapted to cover new and customer-specific use cases. Using a runner mechanism, all the developed tests can be integrated into an automated test execution framework, such as Wind River Framework for Automated Software Testing (FAST).

### Challenges of Testing the Android User Experience

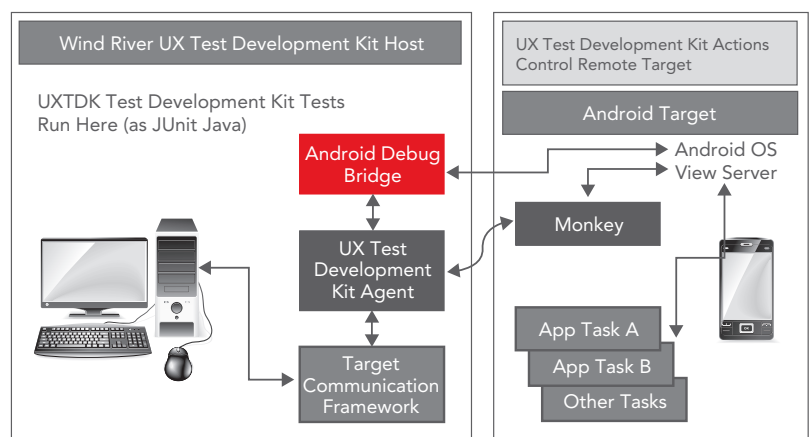
The UX Test Development Kit Agent utilizes the Android Monkey Tool to intelligently interact with the device by identifying the user interface elements from the Android Hierarchy Viewer. It also ensures the correct behavior and state for the applications running on the device under test, including the following:

- Verification of data handling (e.g., input/output data)
- Action sequence (e.g., entering data into a web page form)
- States (e.g., application loaded in background)
- Display of windows and dialogs (e.g., status bar notifications)

These capabilities offer a great range of flexibility in obtaining a wide variety of real-world test scenarios.

### Reusable Tests

Tests developed using Wind River UX Test Development Kit target ideal abstract applications on a layered approach.



Wind River UX Test Development Kit for Android overview

Abstraction provides a single interface to different implementations, making the test assets reusable among the following:

- Various versions of the same application
- Similar applications provided by a multitude of vendors
- Differing versions of the same platform

### Test Assets

Wind River UX Test Development Kit for Android offers abstract tests for standard Android applications:

- Alarm clock
- Browser
- Calculator
- Calendar
- Camera
- Clock
- Contacts
- Email
- Media player
- Messaging
- Notepad

It also references sample scripts for market applications such as Google Maps, Facebook, and Twitter.

### **Identifying and Tracking Issues**

Wind River UX Test Development Kit offers comprehensive information logging during test execution through the Test Log Analyzer and Navigator functionality. This feature offers the capability of analyzing the log and highlighting the actions or errors, specifying the exact line of source code inside the test script. Navigating in between lines and double-clicking an action or error makes the debugging process easier and more intuitive. This allows users to debug old logs or logs originating from various locations.

### **Automated Execution of Tests**

Test scripts authored using Wind River UX Test Development Kit are fully managed and automatically executed using Wind River FAST for Android.

Wind River FAST automates the complex software testing required for embedded devices. It is designed to accept the results of a build, execute tests from different sources, archive the relevant artifacts, and report the results, all in an automated way. To learn more about Wind River FAST, go to [www.windriver.com/products/mobile-linux/fast.html](http://www.windriver.com/products/mobile-linux/fast.html).

### **Professional Services**

As a CMMI Level 3–certified organization, Wind River Professional Services offers extensive experience in mobile systems integration. Wind River applies expertise in user interface design, multimedia support, power management, and fast boot to provide services tailored to the needs of mobile device development and testing, including subsystem optimization, services integration, and application migration.

To learn more or to request an evaluation version of Wind River UX Test Development Kit, visit [www.windriver.com/solutions/mobile-devices/](http://www.windriver.com/solutions/mobile-devices/). To have a representative contact you, call 800-545-9463 or write to [inquiries@windriver.com](mailto:inquiries@windriver.com).