

SHORT NOTES ON TESTING TOOLS

Monkeyrunner: The legacy monkeyrunner tool provides an API (API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other) for writing programs that control an Android device or emulator from outside of Android code. With monkeyrunner, you can write a Python program that installs an Android application or test package, runs it, sends keystrokes to it, takes screenshots of its user interface, and stores screenshots on the workstation. The monkeyrunner tool is primarily designed to test applications and devices at the functional/framework level and for running unit test suites, but you are free to use it for other purposes.

UI Automator: UI Automator is a UI testing framework suitable for cross-app functional UI testing across system and installed apps. The UI Automator APIs let you interact with visible elements on a device, regardless of which **Activity** is in focus, so it allows you to perform operations such as opening the Settings menu or the app launcher in a test device. Your test can look up a UI component by using convenient descriptors such as the text displayed in that component or its content description.

MonkeyTalk: MonkeyTalk is an open source mobile app automation testing tool for Android and iOS. MonkeyTalk is a simple-to-use tool which automates real, functional interactive tests for iOS, Android, Web/HTML5, Hybrid and Flex apps. This open source tool can be used for simple 'smoke tests' or for 'data-driven test' suites on native and hybrid apps, real devices or simulators. Moreover, automation saves time, it is reusable and repeatable. MonkeyTalk is an open source automation tool. It supports both Android and iOS platforms. It is very easy to learn and it's a powerful functional testing tool.

Appium: Appium is an open-source tool for automating native, mobile web, and hybrid applications on iOS mobile, Android mobile, and Windows desktop

platforms. **Native apps** are those written using the iOS, Android, or Windows SDKs. **Mobile web apps** are web apps accessed using a mobile browser (Appium supports Safari on iOS and Chrome or the built-in 'Browser' app on android). **Hybrid apps** have a wrapper around a "webview" -- a native control that enables interaction with web content. Projects like **Apache Cordova** make it easy to build apps using web technologies that are then bundled into a native wrapper, creating a hybrid app. Importantly, Appium is "cross-platform": it allows you to write tests against multiple platforms (iOS, Android, Windows), using the same API. This enables code reuse between iOS, Android, and Windows test suites.