

Device Event Based Test Automation Module for Smartphone

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Abstract—Many mobile companies have adopted Linux to their products. The Linux-based mobile platform is a very complex software stack consisting of three layers: the kernel, the middleware, and the application. The complexity of Linux-based software makes integration testing more difficult. Legacy testing has focused on testing APIs and GUI-based applications by manual input. There is no automatic way to achieve the integration test because of applications driven by sensors such as GPS, accelerometer, and so on. This paper defines the event types generated from each layer in a Linux-based mobile software stack, and proposes an event-based test automation system which is able to capture and playback events generated from hardware sensors as well as user input. The proposed system handles all events with a uniform interface at the kernel device level, which enables developers to achieve an easy and efficient integration testing in some automatic way.

Mobile Platform; integration testing; test automation; device event