Cross-Platform Mobile Application Development Methodologies and Tools

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Abstract:
Various mobile platforms have emerged in recent years, such as iOS, Android, and Windows Phone. Mobile application development for these platforms require a different set of languages and tools if developing native applications that take full advantage of the device capabilities. If an application must be deployed to multiple platforms, it requires knowledge of the languages and development tools for that specific platform, which drives up development costs, time, and effort. Thus, cross-platform development approaches have emerged with the purpose of developing for multiple platforms without having to develop for each language specific to a platform. While it is important to develop mobile applications for multiple platforms with as few development costs as possible, it is also important to produce satisfactory applications for the end user that have a native app feel for their platform. This review will describe the existing approaches for developing cross-platform mobile applications such as cross-compilation, the modeling approach, and the component approach. The latest methodologies for cross-platform development will also be discussed, along with a comparison of the various tools used to develop cross-platform applications such as PhoneGap, Titanium, and RhoMobile. No perfect solutions exist for cross-platform development, so the review will also discuss the disadvantages and limitations of the various approaches.

References: