Rewriting the mobile development industry with React Native

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Developing a mobile application today is time-consuming and requires learning a new set of techniques for every operating system. A new development framework has recently been released, named React Native, creating the possibility to develop for multiple mobile platforms simultaneously. This thesis revolves around an evaluation of React Native in comparison to development for Android and iOS.

The app-industry today is ruled by two major operating systems, namely Android and iOS, covering an astonishing 97% of the global market shares. For companies and developers, it is essential to deliver their product to the majority of users, and therein lies the problem; each individual operating system requires its own techniques for developing applications. And with only a faint resemblance to one another, this pushes companies to hire two teams for the development of one application. The question then arises, "Why can't we develop one application that will function for all mobile operating systems?"

Cross-Platform mobile development tools that could fulfill this need have come and gone, not succeeding in creating applications with the same visual or functional standard that directly developed applications for Android and iOS delivers. Facebook announced a new development framework named React Native that promises to deliver this experience with the use of only one code base. With the ability of React Native, developers are capable of creating an application for both Android and iOS simultaneously, that both look and feel like they were developed directly for the specific operating system, cutting the time consumption almost in half. This thesis revolves around an evaluation of this framework, focusing on the development side, system performance and the user experience.

To analyze React Native, we developed an application in the three aforementioned mobile platforms: Android, iOS and React Native. During the development phase, we analyzed the time and performance the systems incorporated.

With the applications completed, we conducted interviews to evaluate the user experience and perceived performance. We found that the majority of users, when testing the applications separately, did not notice any differences. However, when the applications were placed side by side, all participants correctly identified which application was developed in React Native.

This demonstrates React Native's cross-platform capabilities of reducing the existing gap to application developed specifically for Android and iOS. Since this development framework is improving continuously, by both Facebook and the open source community, we believe that the way of mobile development might change in the near future.