Andrew Zurn

CSCI 373 – Dr. Heroux

Survey Paper

10/29/13

**Survey of the Mobile App Development Industry**

**Abstract**

**Introduction**

Mobile application development has been a large issue across the industry, and comes in many forms and facets. Mobile development has seen various approaches since it’s forthcomings, which date back all the way to the late 1990s. Many early entities in the development environment built closed systems like PalmOS and Windows Mobile (Dediu), but it was in 1998 that Java Micro Edition (J2ME) was introduced. Although J2ME was originally meant to bring new options for developers to target multiple devices, it wasn’t long before the major entities in the mobile arena, like Google, Apple, BlackBerry, and Microsoft, introduced their own software development kits (SDKs), all greatly varying in platform development tools and methodologies, and all were meant to target their own particular devices. (Corral)

However, there is a new trend in the mobile development spectrum, where developers are beginning to develop their applications with the goal of cross-platform support in mind. A large effort has gone into developing what many call mobile web applications, which leveraged web technologies like HTML5 and CSS that would be run inside a mobile device’s web browser. (Leroux) However, any even newer adaptation for mobile development has emerged in the last few years, that is the “hybrid” approach that connects the best of the native development paradigm to the web based solution, where developers build out applications that mainly use HTML5, CSS, and JavaScript, but are usually wrapped into a native-like application environment. (Xanthopoulos) In this paper, we’ll be looking at and analyzing this new development spectrum and the work of those currently researching the area.

**Survey**

The driving force in this proliferation away from native SDKs, is in main part, driven by the cost, time, and immense code base associated building each application for their respective platforms.

This web-based and hybrid development solution, although gaining popularity in the last year or two, actually isn’t an entirely new concept. Steve Jobs, in his original announcement of the iPhone in 2007, was only going to let developers create third-party application for the phone’s web browse (although shortly after that they joined the rest of leaders in mobile development by releasing their SDK for iPhone development.) (Markoff) Although developing mobile web applications has long since been an option for developing application targeted towards web applications, it does have its limits in providing a viable alternative to native applications. In their article, Viktor Kolokolov and Paul Baumann, researchers at the Wireless Sensor Network (WSN) Lab at the Technische Universität Darmstadt, provides critical insight into the advantages and also the limits of this technology, stating that

The key advantage of Web applications over natively build mobile applications is their cross-platform compatibility…. Yet, Web application are often hampered by the limited capabilities of mobile browsers and cannot access low-level hardware and software resource of the hosting devices.

Introduction

Body

History of Mobile Development

History before modern development (with SDKs)

Initial mobile operation system

The need for mobile technology

The shift toward modern native development

BlackBerry

iPhone

Android

The problem in native development

A new shift towards cross-compatiable platforms

Technologies used

Strengths and advantages

Conclusion