Projects on the Move

RapidSMS offers a flexible framework for developing SMS-based applications, and PhoneGap streamlines the art of cross-platform app development. *By Rikki Kite*

When you think of UNICEF, you probably don't think about innovation, which is actually one of the organization's core values [1]. UNICEF has helped develop everything from birthing kits to solar-powered cold storage units. In fact, in 2009, UNICEF was awarded the Gov 2.0 Summit Award [2] for RapidSMS, a free, open source framework for developing SMS-based applications [3].

RapidSMS isn't something you download and start using. Instead, RapidSMS is a Django and Python-based framework that can be customized for diverse data collection, workflow, and group coordination functionality. The software is designed to work on any phone that can send and receive text messages and is intended to be customized for governments and humanitarian organizations working in geographically remote areas with limited infrastructure, such as roads and electricity.

In October 2008, RapidSMS played an integral role in UNICEF's efforts to distribute high-protein food (Plumpy'nut) to 1,800 food centers in drought-crippled Ethiopia [4]. Before using RapidSMS, aid monitors collected data, such as the amount of food received and distributed, but there could be several weeks of delay between when the data was collected and analyzed and any follow-up actions, such as sending additional supplies. RapidSMS helped eliminate the delay, which is no small task when you are dealing with 193,130 cartons of Plumpy'nut from 1,852 distribution centers.

The RapidSMS Ethiopia deployment was designed to monitor reporting activity, analyze incoming reports immediately, send custom messages to field monitors (including broadcast announcements and updates), export data to Excel, generate reports, visualize data, and provide graphical summaries of activities. After a day of training, 33 monitors armed with RapidSMS-enabled mobile phones were sent out into the field. When the project concluded on December 4, 2008, UNICEF had 939 unique reports, which was similar to pre-RapidSMS results; however, 10 to 50 reports were received each day instead of every couple of weeks.

The RapidSMS team documented lessons learned during the Ethiopia deployment. In addition to recommending thorough training and trial tests, the team noted that pre-paid, postpaid, or toll-free numbers should be negotiated before deployment because arrangements with telecommunications providers can take some time. They also recommended that field-based staff members be on hand to help ensure the project's success and that a paper-based system still be required for backup purposes.

Tobias McNulty, Managing Member of the Caktus Consulting Group [5], says that RapidSMS is different from other solutions, such as Frontline SMS, because it can automate complex or redundant tasks and let users build a more customized solution. Also, RapidSMS is an open platform instead of a proprietary solution, so training new developers or finding existing developers to work on the project is easy. McNulty says that Caktus has helped build a few RapidSMS projects, including UNICEF Project Mwana, which cuts turnaround time (typically one to two months or more) on infant

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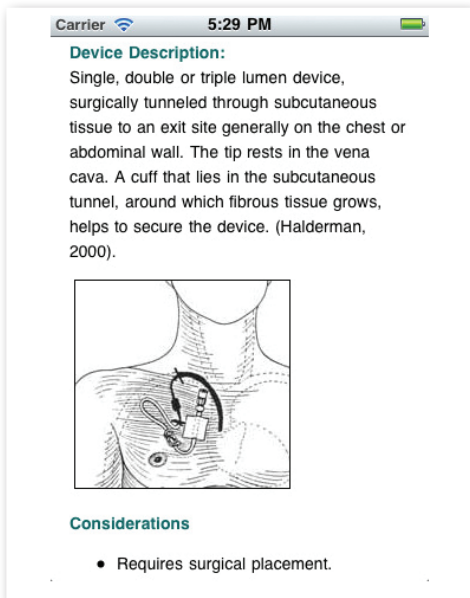
Figure 1: Nurses don't need to panic when there's a reference app nearby.

For example, the Registered Nurses' Association of Ontario's RNAO app [11] provides nurses with handy access to nursing best practice guidelines on their iPhone, iPod Touch, iPad, BlackBerry, or Android devices (Figure 1).

HyperWallet offers payment solutions to simplify international transactions [12], and in 2010, the company added a mobile app, Paylution, built on PhoneGap technology. Nitobi actually built the initial iPhone app and then hyperWallet took over maintenance and the process of deploying the app to other mobile platforms.

But PhoneGap isn't all business; this framework also likes to party. The Music Waste Festival app serves up the annual festival's schedule and artist information [13]. Or, if you've got a Squeezebox WiFi music player, you might like the Logitech Squeezebox Controller App that can turn your tablet or smartphone into a streaming audio player remote control [14].

And, if you want to get your hands dirty, check out the Vegetable Garden Guide app [15]. This practical app will give you the dirty details for planting everything from asparagus to scorzonera (Figure 2).

Whether you are on a humanitarian mission to end hunger or you just want to figure out when to plant your pumpkins, there's a framework project for that app. RapidSMS and PhoneGap are both exciting projects that are gaining momentum in the mobile app market. ∎∎∎
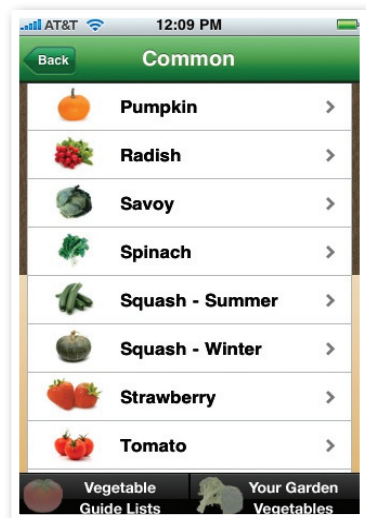
HIV test results delivery in rural Zambia and Malawi almost in half. The company also built a project for Teachers Without Borders [6] that was deployed in Nigeria, which let trainees submit responses to surveys about the training experience.

The Project Mwana [7] pilot ran from July 2010 until February 2011 at 21 health facilities in Zambia that were part of the national Early Infant Diagnosis (EID) program. The results of the study showed improved turnaround times for early infant diagnosis results (up to 46 percent time savings) and a 30 percent increased volume of SMS results compared with the use of hardcopy.

To learn more about RapidSMS in action, check out the case studies online [3]. Project contributors also hang out in IRC (*#rapidsms*) and have a Rapid SMS Google group.

PhoneGap

Based on HTML5, PhoneGap [8] is a free, open source solution for building cross-platform mobile apps using standards-based web technologies. PhoneGap supports iOS, Android, Microsoft, BlackBerry, webOS, Symbian, and Bada platforms. The first week of October 2011, Nitobi Software announced that the company was putting its PhoneGap project in the Apache Software Foundation [9]. The company also announced the launch of PhoneGap Build (in open beta), cloud tools and infrastructure built on top of Amazon Web Services.

Overall, PhoneGap apps are less humanitarian in nature than RapidSMS-based apps, but the list of apps is still impressive [10].

Figure 2: Are you thinking about planting your summer squash in October? Better check the garden guide for advice.

INFO

[1] UNICEF USA Values: *http://www.unicefusa.org/about/values/*

[2] Gov2.0 Summit Award for RapidSMS: *http://www.unicef.org/infobycountry/usa_51097.html*

[3] RapidSMS: *http://www.rapidsms.org/*

[4] RapidSMS in Ethiopia: *http://www.rapidsms.org/case-studies/supply-chain-management-during-food-crises/*

[5] Caktus Group: *http://www.caktusgroup.com/portfolio/project/unicef-project-mwana/*

[6] Teachers Without Borders: *http://www.teacherswithoutborders.org/programs/twb-labs/teacher-pulse-evaluation/teacherpulse*

[7] Project Mwana: *http://projectmwana.posterous.com/*

[8] PhoneGap: *http://www.phonegap.com*

[9] Nitobi PhoneGap Announcement: *http://blogs.nitobi.com/andre/index.php/2011/10/04/nitobi-and-phonegaps-new-home-at-adobe/*

[10] PhoneGap Apps: *http://www.phonegap.com/apps/?sort=all*

[11] RNAO App: *http://www.rnao.org/Page.asp?PageID=924&ContentID=3282*

[12] HyperWallet App: *http://www.phonegap.com/case_study/hyperwallet-adds-mobile-apps-to-the-mix-with-phonegap/*

[13] Music Waste App: *http://itunes.apple.com/ca/app/music-waste/id438114731?mt=8*

[14] Logitech Squeezebox Controller App: *http://www.phonegap.com/case_study/turn-on-tune-in-turn-up-logitechs-squeezebox-controller-app-turns-phones-and-tablets-into-remote-controls/*

[15] Vegetable Garden Guide: *http://www.vegetablegardenplanner.com/vegetable-garden-iphone-app.html*