FrontlineSMS

Free software for text-based information collection and dissemination.

AT A GLANCE

Function: Open data collection and distribution
Website: www.frontlinesms.com
Tools: Mobile phone and PC; Internet not needed
License: Free; open source
Experience required: Basic to advanced computer literacy
Similar applications: EpiSurveyor, RapidSMS
Languages supported: English, Arabic, Azerbaijani, Bengali, German, Spanish, French, Indonesian, Khmer, Portuguese, Russian, Swahili, Chinese

FrontlineSMS is a two-way texting system that enables large numbers of users to send texts to a central database and reciprocal messages from a central database to groups of people based on specific criteria.

The innovation: FrontlineSMS turns a computer and mobile phone (or a modem) into a two-way messaging hub. As a mobile system application, users do *not* need an Internet connection to send/receive messages. The system gives users a powerful tool in both the collection and distribution of large amounts of data, while eliminating the need to collect and store information manually. Central hub administrators can sort mobile numbers into groups based on different criteria for targeted communication.

How it works: Remote field workers or community members send SMS messages to a telephone number or shortcode, which is linked to a computer loaded with FrontlineSMS software. These texts are automatically stored

CASE STUDY: MEDIC MOBILE AND MOBILES IN MALAWI

In 2007 medical workers in Malawi needed a faster way to deliver health updates to HIV and tuberculosis patients living up to 40 miles away. Mobiles in Malawi, now known as Medic Mobile, donated 100 inexpensive mobile phones and a laptop to the hospital in order to improve this cumbersome system.

After training briefly with the FrontlineSMS platform, the health workers returned to their villages to begin the pilot program. Instead of submitting written reports, they would text updates directly to their hospital. If workers were not present, villagers could SMS symptoms to the hospital, which would in turn dispatch the nearest medic via SMS.

In six months, health workers saved 1,200 hours of travel time and over $3,000 in costs. Antiretroviral monitors reduced their follow-up time by 900 hours by eliminating the need for hand-submitted paperwork. Built on FrontlineSMS, Medic Mobile has now grown from 75 to over 1,500 end-users in clinics in ten countries serving over 3.5 million patients.

and organized on the host computer, alleviating the need for manual research and data aggregation. The central system can display data graphically through Web-based interfaces or exported as spreadsheets for further analysis. All data is stored locally, and users pay standard messaging fees to their SIM card operator.

Adoption and impact:
FrontlineSMS can dramatically cut operation and time costs, both within an organization and with its constituents. In 2011 over 100 NGOs had deployed FrontlineSMS in a variety of projects, ranging from personal financial education in Bolivia to agricultural training in Senegale and disease awareness and prevention in Pakistan.

Costs and logistical details:
As a free and open-source platform, FrontlineSMS' main costs are hardware (phones and a central computer, equipped with either a USB cord or a GSM modem) and SMS services fees from the local provider. End users must have access to basic mobile phones (roughly $10-$20). No additional internal staff are needed, but external technical consultants may be required for more complex applications of FrontlineSMS. Basic computer literacy is sufficient to set up a normal FrontlineSMS operation, and training staff to adopt this system is not time-consuming; in the case of Mobiles in Malawi, health workers received one day of training before being considered well-versed enough to teach others.

Sustainability and limitations:
A successful FrontlineSMS deployment requires perpetual feedback loops between all stakeholders. Field workers and community members need a steady flow of information, and the ability to respond to it—in order to firmly stake out FrontlineSMS as the primary or sole means of communication for a project. Bandwidth limitations restrict outgoing texts to 8-10 per minute. This restriction may affect programs designed to distribute mass health or emergency warnings. ■

ODTA contact:
odta@worldbank.org

Additional resources:
Article: *Look Ma, No Internet!* (http://bit.ly/ji4S1y)
Article: *How Mobiles are Saving Lives* (http://mashable.com/2011/06/08/sms-medical-startups/)
Case studies (http://bit.ly/AvUgVC)
Interview with MedicMobile founder (http://www.youtube.com/watch?v=XwZlkN61rQY)
Extending FrontlineSMS (http://www.youtube.com/watch?v=-r6LBZtEC6M)