



CRS + InnovGreen

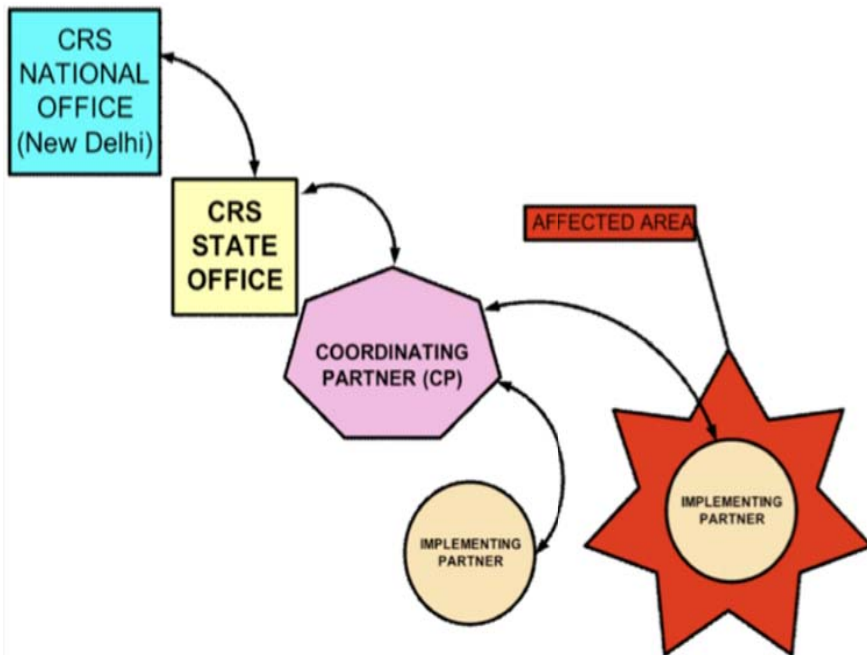
Mobile Data Collection for Disaster Relief and Conservation

Need for rapid mobile communication & data collection platform

Currently paper-based communication takes 1 month for information to reach central office, and deploy response

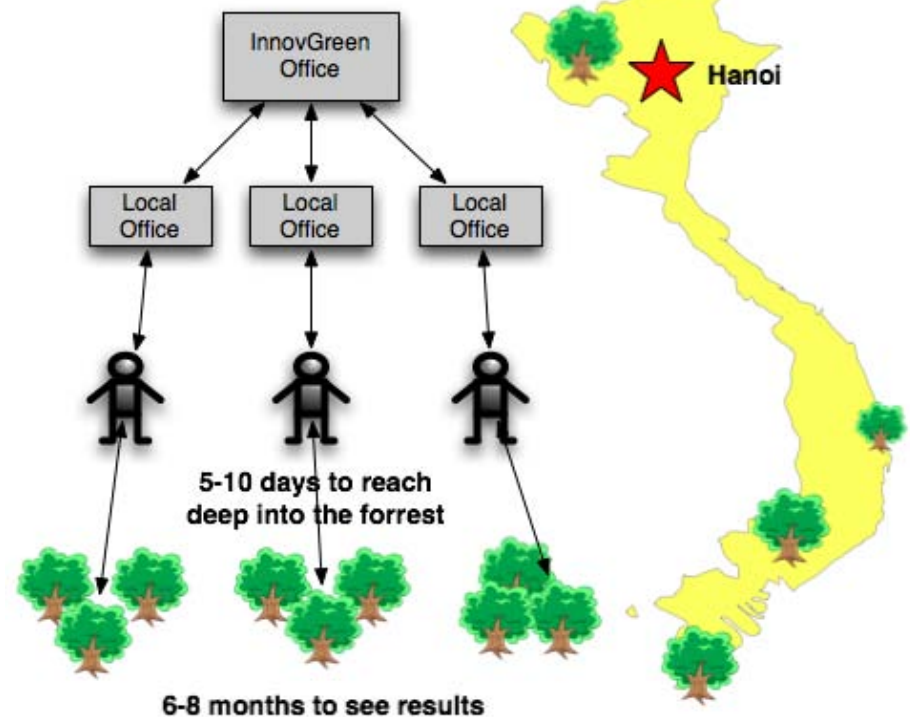
No reliable way for farmers to send data - text, GPS location and images - from remote deforested areas back to InnovGreen main office

Courtesy of Young Yang. Used with permission.



Courtesy of Catholic Relief Services. Used with permission.

Disaster Management in India



Restore Agent-Orange deforested land in Vietnam

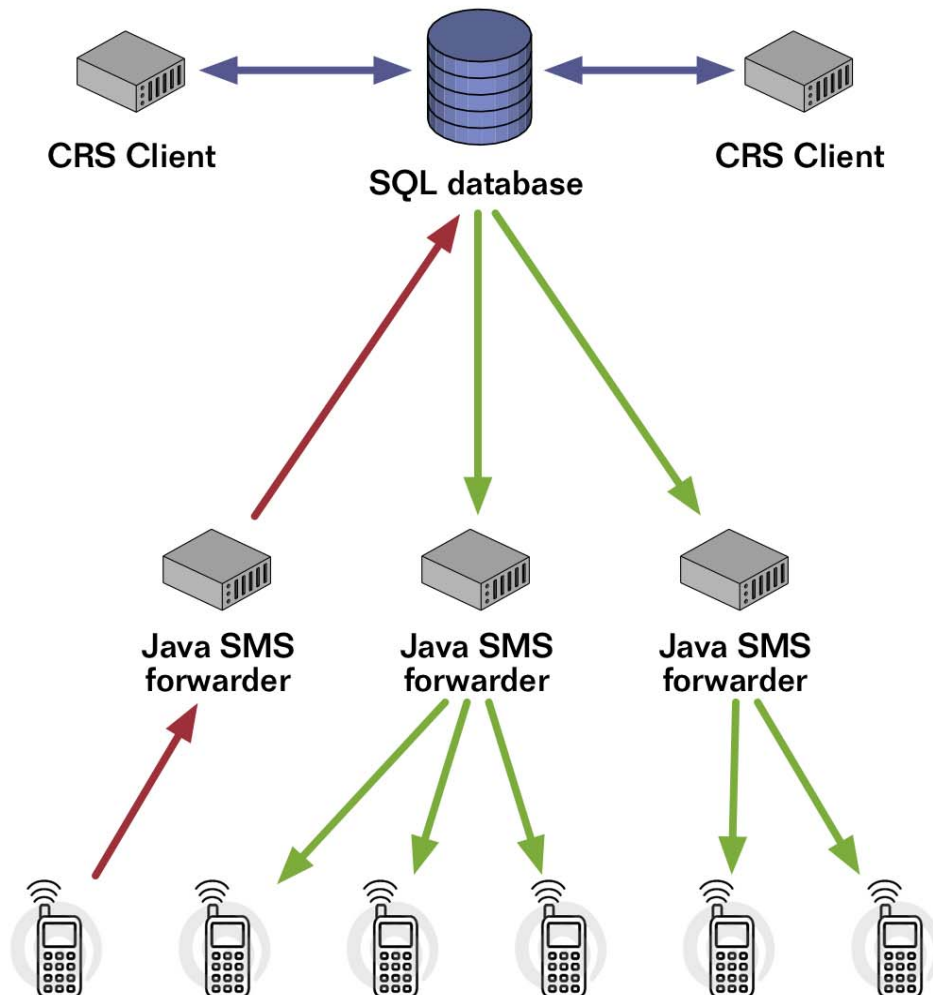
What are the characteristics of current solutions?

- Designed for a very specific application, such as law enforcement, and are targeted for governments and large-scale organizations. (e.g. Intergraph's emergency management solutions)
- Proprietary
- Require "smart," sophisticated (and expensive) hardware
- One-way (e.g. Harvard's university-wide emergency notification system using SMS)

Solution: construct versatile toolkit for mobile data communication

NextLab 08

Distributed input for SMS to avoid bottlenecks



Key Toolkit Features

- Bi-Directional SMS
- Serialized Messages
- Trust-Based Networks

Key challenges

- Create versatile, platform agnostic toolkit for mobile data collection, processing, and dissemination
- Continue searching for existing mobile messaging ' technology that can be repurposed'
- Generic SMS web services API
- Support for additional data formats: GPS location, image'

Sample interfaces

“trust 777-777-7777”

“broadcast [message]”

“broadcast 1km north [message]”

"locate me [location string]"

"request update"

"request update 3km south"

Team Breakdown

- **Operations - Anonymous MIT student**
- **Sustainability - Sreya Sengupta**
- **Systems Architecture - Jeffrey Warren**
- **Software Development - Oliver Wilder-Smith & Vijay Umapathy**

MIT OpenCourseWare
<http://ocw.mit.edu>

MAS.965 / 6.976 / ES.S06 NextLab I: Designing Mobile Technologies for the Next Billion Users
Fall 2008

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.