Developing appropriate mobile solutions for grassroots non-profits in the developing world

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Founder
kiwanja.net
22 years IT experience within the private, public, non-profit and corporate sectors in the UK and overseas

15 years grassroots experience in international conservation and development

Lived and worked in numerous countries - Mozambique, South Africa, Nigeria, Cameroon, Zimbabwe, Uganda, Zambia

Degree in Social Anthropology with Development Studies from Sussex University, UK

Currently funded by the MacArthur Foundation developing the next release of FrontlineSMS at Stanford University
A core belief in appropriate technologies which are primarily needs- or people-driven rather than technology-driven.

That we constantly challenge ourselves and ask why we're doing what we're doing and who we're doing it for.

Not just ask whether or not a particular technology is appropriate but whether technology itself is appropriate.

To work together, stop re-inventing wheels and stop competing against each other.
Mobiles can save and improve lives
In South Africa a local doctor has developed a pill bottle that uses SMS technology to remind patients to take their medicines and warns them, and their doctor, if they are about to take an extra dose by mistake.
Text messaging is being successfully used in countries such as Nigeria and South Africa to provide health information on disease and illnesses such as HIV/AIDS and tuberculosis.
SMS technology in Uganda and Aceh is helping farmers find out the real price of their crops – and avoid being cheated by unscrupulous middlemen...
Kenya

One World in Kenya provide a job information service aimed at blue-collar workers and employers offering details of jobs in more than 40 categories from carpenters to secretaries
At least five countries have begun developing an alert system using cell phone text messages, a response to the catastrophic Asian tsunami that exposed flaws in present-day early warning schemes.
United Kingdom

“British mobile phone users have donated over £1m to the Disasters Emergency Committee tsunami appeal fund using text messages”

Computing Magazine, Jan 2005
“The impact that mobile phones have on the developing world is as revolutionary as roads, railways and ports, increasing social cohesion and releasing the entrepreneurial spirit that stimulates trade and creates jobs”

Professor Leonard Waverman  
London Business School  
February 2007
Great!
So what was the problem again?
Community health centre, Kisumu, Western Kenya
Bill & Melinda Gates/Merck health centre, Botswana
Deforestation/firewood/stove projects throughout Africa
ICT projects are not immune!
SMS alert system for communities “lacked trust”
IVR information service in Uganda “tanked badly”
Unnecessary effort reducing the size of the wind-up radio
The “One Laptop Per Child” or “$100 laptop” project
Technology is a tool not a solution.
Technology is a tool not a solution

“Technology is not a panacea to all our problems, but it can help”

Clement Dzidonu, Presidential Advisor on Technology Policy, Ghana
“ICT is not for web access (per se), but for health, education, government, commerce – the real problems”

Eric A. Brewer, Director, Intel Research, UC Berkeley

“The Case for Technology for Developing Regions”
Technology solutions need to be ‘appropriate’:

“small scale, energy efficient, environmentally sound, labour-intensive and controlled by the local community”

“appropriate technology makes use of skills and technology that are available in the local community”
Consider all options!
✓ High penetration rate
✓ Portable, shareable
✓ Affordable (generally)
✓ Strong recycling market
✓ Direct and instant
✓ Information services via SMS
✓ Only means of communication

✗ Small screen
✗ Awkward text input
✗ Slow for data, data cost
✗ Literacy issues
✗ Many use to receive only
✗ Many handsets still legacy
✗ Inappropriate content?
Something **else** to consider  

**Focus!**

**SOCIAL MOBILE’S LONG TAIL**

- **HIGH** complexity and cost:
  - "Mega"-platforms and high investment one-off’s

- **LOW** complexity and cost:
  - Mid-complexity systems and custom solutions
  - Simple, low-cost implementations

**Chance of replicability**

- **HIGH**

[www.kiwanja.net](http://www.kiwanja.net)
Technical: Which system is best for me?

Knowledge: A reluctance to share experiences

Cost: The price to implement SMS services?

Suitability: Few systems developed for NGOs

Simplicity: Solutions need to be low maintenance

Infrastructure: Needs to work in remote areas
Share: A place to talk about NGOs and SMS use

Cost: A low cost, works out-of-the-box solution

Suitability: Developed with NGO community in mind

Simplicity: Simple, intuitive, low maintenance

Independence: Using widely available GSM networks

Implementation: ‘Top down’ and ‘Bottom up’
Manage contacts
Solicit opinions
Broadcast messages
Receive messages
Information services
ROOTS IN CONSERVATION NOT ACTIVISM

(although the problems are not too dissimilar)
COMMUNICATION!
Lebanon
Human rights through education

South Africa
Community radio stations

Albania
Fighting corruption in public services

Kenya
Information on sustainability to organic farmers

Liberia
Co-ordinating ICT training among youth

Aceh
Coffee prices to farmers
Uganda
Community-based healthcare

France / Lebanon / Belgium
Emergency alerts for embassy staff

Botswana
Co-ordinating blood donor services

Afghanistan
Security alerts to NGO staff / fieldworkers

India / Pakistan
Control Arms Campaign lobbying

Tanzania
Water sanitation advice and community training
FRONTLINESMS IS USED AROUND THE WORLD.
Texts monitor Nigerian elections

Anyone trying to rig or tamper with Saturday's presidential elections in Nigeria could be caught out by a team of volunteers armed with mobile phones.

The Network of Mobile Election Monitors (NMEM) will use SMS to feedback their observations to a central computer hub.

The collected text messages will then be passed on to other monitoring groups and authorities including the EU.

NMEM hopes the system will stop fraud, especially in areas considered too dangerous for other groups to enter.

"We want to set a precedent," said Emauwa Nelson of the Human Emancipation Lead Project, a Nigerian NGO that helped set up the project.

"We want people to know that if they are trying to rig the election, there could be someone behind them and that person may send a text message saying what happened."
Zimbabwe

Texting it in - what we want in a new Zimbabwe

In addition to inviting email contributions, we also asked our many SMS subscribers what a new Zimbabwe looks like to them. Read some of their ideas below, and text your dreams for a new Zimbabwe to +263912452201

- I desire everything to be in order - no corruption
- Want stable currency and return to real money - not bearer cheques
- First essential is freedom of expression and assembly so we can tell government what the people want and don’t want.
- To quickly remove POSA and AIPPA.
- Freedom of expression & association. Observation of human rights. Impartial judiciary, economic emancipation etc
- Transparency, health and education delivery, a new constitution, non-partisan police and army, accountable leadership and good economy
- We need fuel to be available in service stations, to access forex in the banks, free primary education, affordable health delivery system and cheap food for all
- Mainly I am concerned with return of the environment of happiness we used to have
- New Zimbabwe - new constitution by the people for the people.
- A new people driven constitution
- Good international relations then total globalization
- Well in free Zim fist we want e rule of law and availability of basic commodities inputs & jobs
- I wld want a new constitution that doesn’t give 2 much political power to an individual. There should be guaranteed freedoms 4 citizens.
- Changes(1)Re-currency(coins&notes)(2)Stop paying war vets(3)Reduce gvt ministries(4) promote industrial & agic investment
- Reduced tax
- Racial integration - equal opportunities 4 blacks and whites etc eg cricket team, sustainable labour laws, respect 4 property rights, free market, free media, just want more!
- We should never again leave power in the hands of one man.
- In a new zim we want freedom to exercise our rights and police brutality stop corruption ban all the fake police (neighbourhood police)
- Want affordable tertiary education and respect of the rights of students and all citizens. Accommodation of youth in decision making
Pakistan
Issues

Need to address the “social mobile long tail”
SOCIAL MOBILE’S LONG TAIL

Complexity and cost

HIGH

“Mega”-platforms and high investment one-off’s

Mid-complexity systems and custom solutions

Simple, low-cost implementations

LOW

Chance of replicability

HIGH

www.kiwanja.net
Issues

Need to address the “social mobile long tail”

We need to address issues of access to equipment
“nGOMobile is a text message-based competition aimed exclusively and unashamedly at grassroots non-profit organisations working for positive social and environmental change throughout the developing world”

www.ngomobile.org
“Participatory rapid response forest management system”
Kenya
“Ask NETWAS a water, sanitation and hygiene question”

Uganda
“SMS for healthy forests, families and empowerment of women”

Mexico
“Count to 5!”

Azerbaijan
Issues

Need to address the “social mobile long tail”

We need to address issues of access to equipment

NGOs need simple, replicable, shareable, affordable tools

ICT4D community needs to promote local, grassroots, bottom-up empowerment and not just “jobs for the boys”

Need to address the developer/practitioner divide

A need to educate, particularly around technology-use risks

“Consequences”
Since 2003, kiwanja.net has been helping local, national and international non-profit organisations make better use of information and communications technology in their work. Specialising in the application of mobile technology, it provides a wide range of ICT-related services drawing on over 22 years experience of its founder, Ken Banks. Non-profits in over forty countries have so far benefited from a range of kiwanja initiatives, including FrontlineSMS and nGOMobile