MUSINGS ON

kiwanja.net
Where technology meets
anthropology, conservation
& development
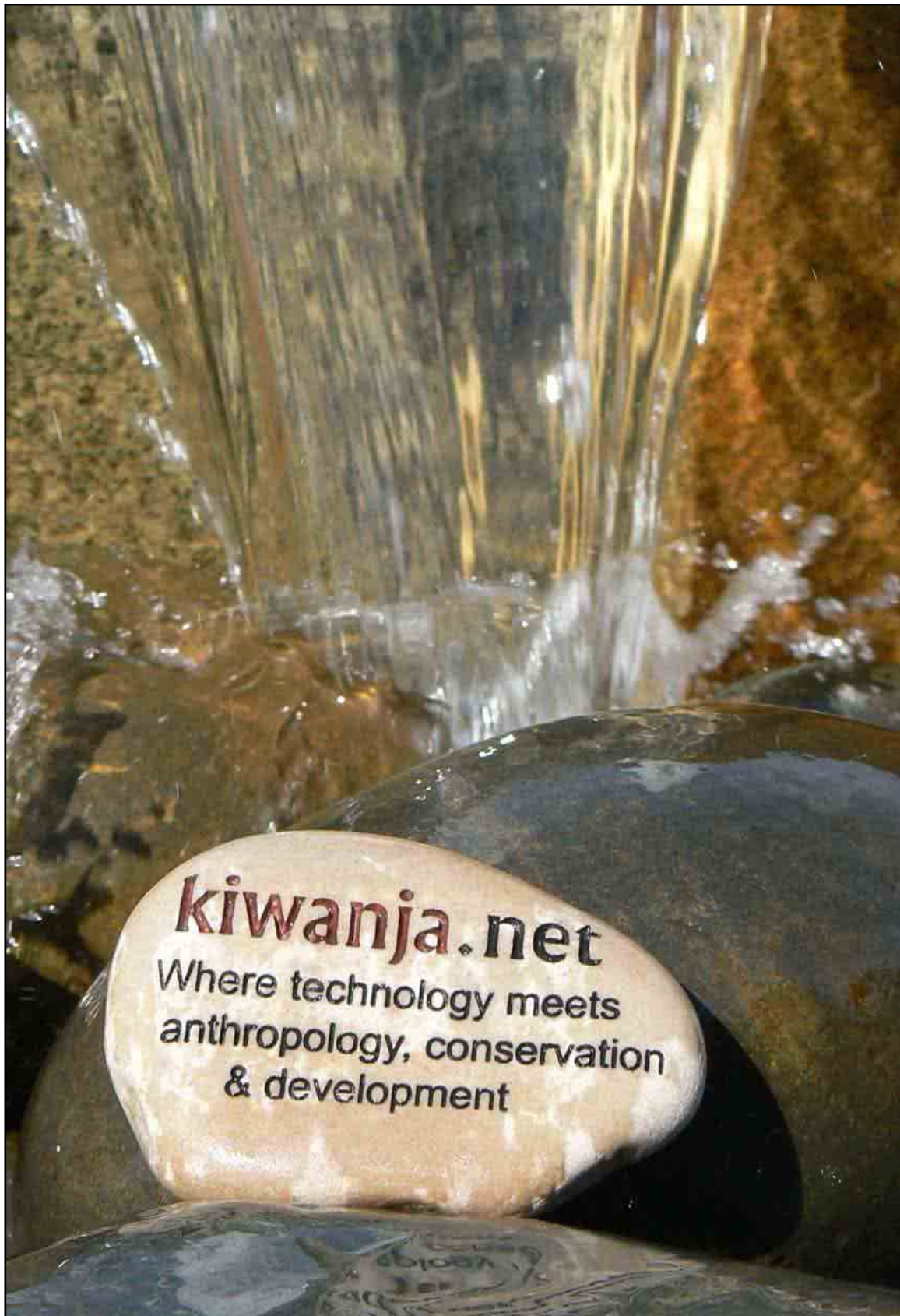
TECHNOLOGY ■ **ANTHROPOLOGY** ■ CONSERVATION ■ **DEVELOPMENT**

TEN FROM TWENTY-TEN

For as long as I can remember I've enjoyed writing. Not writing to the orders of a teacher, but writing on my own terms – as much as I like, when I like and about what I like. Most of my early efforts were poems, and I would regularly wake early in the morning pen in hand. According to my teachers I was quite good. They must have been right - I won a number of competitions. The acquisition of a very old and heavy Imperial typewriter – a gift from my mother from the "Under £5" section of our local newspaper – opened up a new world for me, and one of my early projects was an epic study on oil. I still have that masterpiece today, preserved in an A5 plastic folder bought from our local Boots the stationers. I still can't quite believe that I managed to produce something like that at such a young age. I must have been around 11. I was a strange child.

Despite my love of writing and a long career in IT, I was a little late combining the two and didn't start blogging until early 2006. The original idea was to write anonymously, the logic being that I could rant about anything that frustrated or annoyed me – and there seemed to be much – without somehow being accountable. The joys of the Internet. I even went as far as registering a URL, and was going to blog under "Gazundered.com", which was a play on the word gazumped, or 'let down, tricked, misled'. I never did do much with it. I'm generally quite impulsive, and after thinking it through a little more decided I'd be better off blogging on the kiwanja.net website.

Like most people, I have a wide variety of interests. Unlike most people, I've managed to create a job for myself where I can combine every single one. This is more down to luck than good planning, although I've stubbornly stuck on this path despite everything that's been thrown at me. So, in the context of my blog this means I can write about almost anything I like since it almost always falls into one of the four interest areas. These interests – which are really more like passions – are technology, anthropology, conservation and development – hence the kiwanja.net strap line. The technology comes from over 25 years in the IT industry, the anthropology from my degree at Sussex University, the conservation from the family gene and the development – and the conservation again, come to think of it – from numerous projects and numerous trips to the African continent over the past 17 years, including a one year spell working with primates in Nigeria. I could never have planned it better than this, so perhaps it's lucky that I didn't.

Fortuitously for me, these four interest areas turn out to be incredibly complimentary from a professional stand point, and if I wasn't so honest I would probably be telling people that it was all part of a big plan. In the mid-1990's, when I started to think how cool it would be to use my IT skills in developing countries, this whole ICT4D thing wasn't really around and there was nowhere obvious to go. I was already building my development experience by then, having been on a couple of school and hospital building projects to Zambia and Uganda before I decided to go to university and study development 'properly'. Sussex forces you to do development studies *with* something, so I settled for anthropology (mainly because it looked more interesting than history, French or Spanish). Although I didn't realise it for some time, this was a great decision.

This document is a collection of my favourite ten posts from 2010. Last year was a challenging and exciting one – on-going growth for FrontlineSMS, expansion of our team, recognition from the likes of National Geographic and new funding, among much more. It was also my 8th anniversary in mobile, and the final post in this collection takes a reflective look back over those eight years.

Thanks for reading, and thanks to everyone for their ongoing support. Here's to 2011!

**Costa Coffee, St. Ives, Cambridgeshire, UK**
January, 2011

Mobile design. Sans frontieres.

Although I find myself intrigued by the convergence of computer science, human computer interaction (HCI) design and international development, it's not often that I find myself in a room of experts. They're just not places I tend to mix, most likely because I have no professional IT qualifications, let alone a computer science degree, and I've done most of my own software design off-the-cuff, much to the dismay of people who hoped there was a robust process behind it.

Last August I got my first taste of the very real challenges that the computer science world faces when it comes up against the equally real challenges of international development. The meeting – convened at UC Berkeley – was an eye-opener for me to say the least, and as I left I blogged about how thankful I was that it wasn't me who had to come up with the answers. You can read that post here.

A little later in the year I was invited to speak at the First International Workshop on Expressive Interactions for Sustainability and Empowerment, held at one of Vodafone's London offices. The topic of conversation was similar, but here the focus was on how to build mobile tools that work in difficult, challenging, 'foreign' environments. Following my talk I was invited by the Editor of Interfaces, John Knight, to contribute an article to the next edition of their magazine.
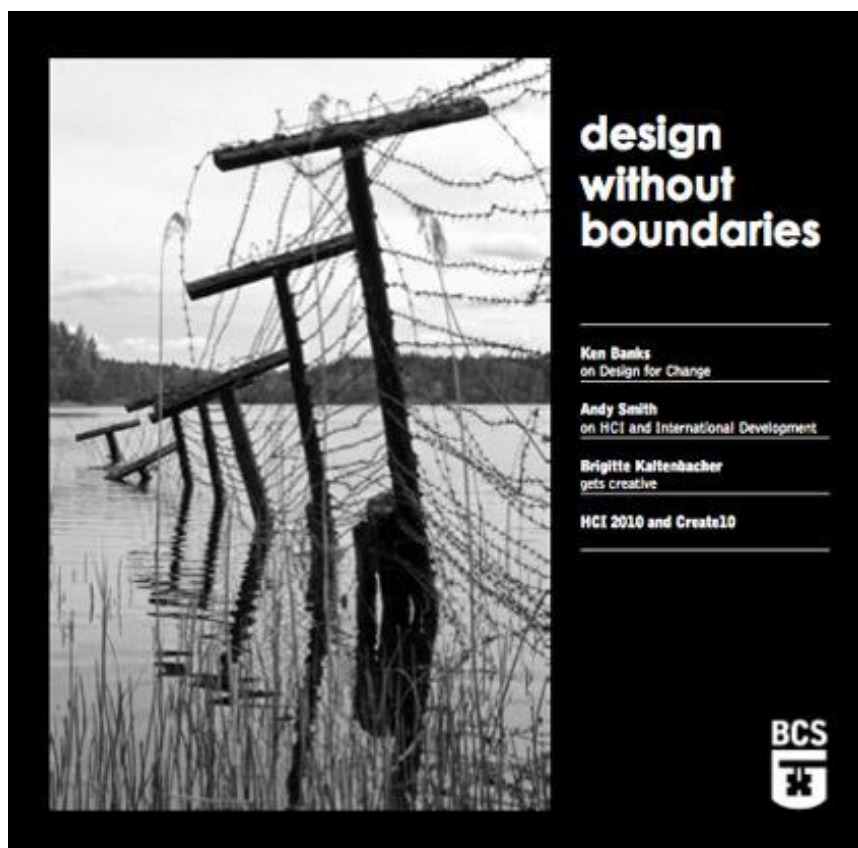
For the article I teamed up with Joel Selanikio, co-founder of DataDyne.org and creator of the EpiSurveyor mobile data collection tool. It made sense working with Joel for a number of reasons. Not only have I known and admired him and his work for some time, but Joel is first and foremost a paediatrician. For him – like me – understanding the problem takes priority over the technology, consideration of which should always come last.

FrontlineSMS and EpiSurveyor have both evolved from time spent in the field – **observing, experiencing and understanding before designing, developing and building**.

A copy of the Interfaces Magazine article – *"Ten things you might want to know before building for mobile"* – is available over the next few pages. It can also be downloaded from the kiwanja.net website as a standalone PDF *(2.5Mb)*.

For further posts on the subject see the "Mobile applications development" section of the kiwanja.net blog, which includes a 10 minute video on the topic.

interfaces

design without boundaries

Ken Banks
on Design for Change

Andy Smith
on HCI and International Development

Brigitte Kaltenbacher
gets creative

HCI 2010 and Create10

BCS

Ten things you might want to know before building for mobile

Ken Banks & Joel Selanikio

Progress in the social mobile field will come only when we think more about best design practices rather than obsessing over details on the ground. Social mobile tools are those built specifically for use by organisations working for positive social and environmental change, often in the developing world. Over years of creating some of the most widely used mobile applications in the public space, we've made a lot of mistakes, and we've learned a lot. We think that successful mobile projects – those aimed at developing countries in particular – have a better chance of succeeding if these points are considered from the outset:

1 You will never know what the end-user knows

All the best technologies – from fire to phones to cars to writing to email – all of them are general purpose solutions that solve one problem – transport, cooking, communications, etc. – in general but not in particular. That is because there are too many particular, on-the-ground situations – too many things to write about, too many things to talk about, too many places to drive to – for the technologies to ever anticipate them all.

So don't try: make it your goal to design the spreadsheet, the email, the general tools so that users – who know their own needs better than you ever could – can repurpose them to suit those needs. That approach lets users create their own solutions, using your tools, and creates a sense of local ownership, which is crucial for success and sustainability. It's always going to be easier to equip local NGOs,

or users, with tools to do the job than it will ever be for you to learn everything they know.

2 Aim for the technologies most widely available to your users

Ensure that your applications can work on the most readily available hardware and network infrastructure available to the user group you're aiming at. Text messaging solutions aren't big in the social mobile space for nothing: they're simple, and they're available to anyone with a phone. If your target audience is the rural public in Africa, a Web 2.0 application wouldn't make a lot of sense.

On the other hand, it also wouldn't make sense to restrict political workers in Eastern Europe from using a web-based application. So consider your users and if in doubt go for the simplest platform first.

3 Don't reinvent the wheel

Check to see if any similar tools to the one you want to build already exist and, if they do, consider adding to them rather than starting from scratch. People and institutions are incentivised to reinvent the wheel each time, but don't do it unless you really believe there's nothing out there you can use.

4 Simple and free scales better than complicated and expensive

Anything that needs a programmer or technologist to use is inherently less scalable

than something (like the car, like the phone, like email) that can be used by the average non-technical user. So from the outset try to build something that's easy enough to use without the need for user training or a complex manual (or any manual at all!) – so new users can easily and effortlessly replicate once news of your application begins to spread.

Be realistic about what your application can achieve, and wherever possible look for low-hanging fruit. Remember – big is not better, small is beautiful, and focus is king. A solid application that solves one element of a wider problem well is better than an average application that tries to solve everything (especially given point 1, above).

Another factor in keeping it simple is remembering that every third party the user needs to speak to in order to implement your solution increases the chances of failure by a considerable margin, particularly if one of those parties is a local mobile operator or a high-priced foreign consultant.

5 Focus first on the users, not the developers

Anyone who builds software inevitably spends more time with developers than with users – especially if your users are in some of the more hard to reach spots on earth. Don't let yourself get sidetracked by technical details that the user doesn't care about but that developers love to discuss; that's as silly and time-wasting as arguing about Windows vs. Mac. The user cares about cost, and the user cares about simplicity, and the user cares about whether the software gets the job done. That's what you should care about, too.

The best example of this developer-focus is the constant discussion about open-source. Open-source is great for some things and not great for other things, but that's an issue you can deal with after you have working software: the start of a project is not the time for "design by committee" anyway. Controlling your development process to start with also helps you understand better who is using the app – something that donors routinely want to know. Besides, if you can give your users something as elegant, simple, and free as Gmail (free but closed source, like most widely-scaled and popular web applications) they will be very happy users.

And encourage those users to share experiences, and to support each other. Don't be afraid to reach out for additional information, and work hard to keep it active, engaging and growing. Solicit feedback, and criticism. Communities are notoriously hard to build, but when they work they're worth it.

6 "Shipping is an important feature"

This dictum of the best programming shops reminds us that good software in the hands of the user is always better than perfect software that no one ever sees. Think about rapid prototyping. Don't spend too much time waiting to build the perfect solution, but instead get something out there quickly and let reality shape it. Get user feedback. Then get more user feedback.

7 Promote your solution like crazy

Reach out to people working in the same technology circles as you, post messages on relevant blogs, blog about it yourself, speak at user and developer conferences, build a project website, brand your solution, and make use of social networking tools such as Twitter and Facebook. Make your users aware, make your funders aware, make the developers aware, make the media aware.

8 9 &10 Don't let anything stop you

Not a lack of funding: if considerable amounts of funding are required to even get a prototype together, then that's telling you something – your solution is probably overly complex.

Not a lack of specialists: nowadays it is easier than ever to learn programming, or to communicate to a worldwide audience. Learn to do what you can't afford to pay other people to do. The more design, coding, building, testing and outreach you can do yourself, the better. Stay lean. These tasks can be outsourced later if your solution gains traction and attracts funding. The more you achieve with few resources the more commitment and initiative is shown, increasing the chances a donor will be attracted to what you're doing.

Not the naysayers: many people will stand on the sidelines and tell you all the reasons why it just won't work. Ignore them. Those people don't build, they prevent building. Ignore them. Remember these words from the writer Arthur C. Clarke, and forge ahead:

New ideas pass through three periods:
1 It can't be done.
2 It probably can be done, but it's not worth doing.
3 I knew it was a good idea all along!

Ken Banks is the founder of kiwanja.net and the creator of FrontlineSMS, a piece of free and open source software which turns a laptop and mobile phone into a two-way group messaging hub. Ken combines over 25 years in IT with 16 years' experience living and working in Africa, and has a degree in Social Anthropology with Development Studies. He has been working exclusively in mobile for the past seven years. Ken recently became a Tech Award Laureate for his work with FrontlineSMS.
www.kiwanja.net

Joel Selanikio is the co-founder of DataDyne.org and the creator of the widely used EpiSurveyor mobile data collection web/mobile app. A practising paediatrician, and winner of the Lemelson-MIT award for Sustainable Technology, Selanikio was named as one of the seven most powerful innovators by Forbes magazine – and he is daily amazed by the power of web and mobile to better our world.
www.DataDyne.org

Social mobile and the missing metrics

Scenario 1: Five hundred people gather together for three days. They talk, they discuss, they share and they learn. And then they leave. Some stay in touch, others have picked up enough to start a project of their own. Others just leave with a satisfied curiosity, others with the odd new blog post behind them

Scenario 2: A charitable foundation funds the creation of a new mobile tool. Over a one year period there is software development, a new website, user testing and roll-out

Scenario 3: A university professor embarks on a piece of field-based research to examine the impact of a mobile-based health initiative in Africa. He or she writes a paper, highlights what did and didn't work, gets it published and presents it at a conference

Question: What do these three scenarios have in common?

Answer: It's unlikely we'll ever know their full, or real, impact

Let's assume, for one moment, that everyone working in social mobile wants to see their work have real, tangible impact on the ground. That would equate to:

➢ *A patient receiving health information through their phone which can be directly attributed to improving their health, or their likelihood of staying alive*

➢ *A farmer receiving agricultural information which can be directly attributed to better family nutrition, or an increase in income or standard of living*

➢ *A team of human rights activist reporting violations which can be directly attributed to the fall of an evil regime, or the passing of new legislation, or the saving of a specific person's life*

➢ *And so on…*

Fine. But are things ever this clear cut? Ever this black or white?

The social mobile world is full of anecdotes. Qualitative data on how certain services in certain places have been used to apparent great effect by end-users. But what we so often lack is the *quantitive* data which donors and critics clamour for. You know – *real* numbers.

Take the 2007 Nigerian Presidential elections, an event close to my own heart because of the role of FrontlineSMS. This year – 2010 – will witness another election in Nigeria. What was the lasting impact of the 2007 mobile election monitoring project? Will things be done any differently this year because of it? Did it have any long-term impact on behaviour, or anti-corruption efforts?

Much of the data we have on FrontlineSMS falls into the anecdotal and qualitative categories. Like many – maybe most – mobile-based projects, we have a lot of work to do in determining the very real, on-the-ground impact of our technology on individuals. We regularly write and talk about these challenges. But it's not just about having the funding or the time to do it. It's figuring out <u>how</u> we measure it.

If a farmer increases his income through a FrontlineSMS-powered agriculture initiative, for example, but then spends that extra money on beer, that's hardly a positive outcome. But it is if he passes it to his wife who then uses it to send their third or fourth daughter to school. How on earth do we track this, make sense of it, monitor it, measure it, or even decide how we do all of these things? Do we even need bother at all?

"Empathy ensures that our goal of serving people doesn't get lost in the data". Great quote from IDEO at Change That Counts

9:44 PM Nov 20th from Echofon
Retweeted by 1 person

Delete

kiwanja
Ken Banks

Of course, as my recent Tweet suggests, we shouldn't get too obsessed with the data. But it's important that we don't forget it altogether, either. We need to recognise the scale of the challenge – not just us as software developers or innovators, but also the mobile conference or workshop organiser, and the professor, both of whom need to face up to exactly the same set of questions. The case of the missing metrics applies just as much to one as it does to the others, and we all need to be part of finding the answer.

MONDAY, **FEBRUARY 15, 2010**

The "emerging market" handset trap

Today at Mobile World Congress, Vodafone announced "the world's cheapest phone". At $15 it certainly scores low on the price tag – which is good – but it also scores low on functionality – not so good. Not only is this a problem for any end user who might need (or want) to use it for things beyond voice calling and SMS, but it's also perpetuating a long-standing problem in the social mobile world dating back over five years.

With the ICT4D community putting an increasing focus on "smarter phones" – ones which feature downloadable applications and allow for cloud-based solutions, for example – where do phones like today's Vodafone 150 fit in? Aimed specifically at emerging markets, these are the kinds of phones Vodafone are hoping will end up in the hands of the very patients or farmers the ICT4D world is itself working hard to reach.

Low-cost phones have certainly achieved one thing – low cost – and in price terms they've done exactly what they said on the tin. Over the past five years or so, prices have indeed steadily dropped, as we can see if we pick an early "emerging market handset" winner from 2005 (the Motorola C113), a ZTE phone widely available in East Africa in 2008, and today's Vodafone 150.

The prices may have changed, but functionality has largely stagnated. You couldn't browse the web on the Motorola in 2005, nor the ZTE in 2008, and today you'd have the same problem on the Vodafone 150. You can't download applications onto any of them, either. They all have monochrome screens and look pretty-much-the-same despite having a five year gap between them. Very little has changed other than price, it would seem. Voice and SMS remain king at the bottom of the pyramid, or so it would seem.

The real trick is to reduce the price of these phones whilst at the same time increasing (or at very least maintaining) functionality, a combination which no manufacturer has yet managed to crack. Nokia's announcement last week of their cheapest 3G-enabled phone for the Indian market shows prices are shifting downward for data enabled phones, but at $90 it's still some way off what most would consider affordable for the remaining 1.5 billion people in the world without a phone.

From today's announcement, a sub-$40 smart phone – which really would change the game – looks to be as far off as ever.

[**Related post**: "The Digital Divider"]

Rethinking Schumacher

Ever since I came across Fritz Schumacher's "Small is Beautiful" at University back in 1997, I've been a close follower of the appropriate technology movement. Although for many appropriate technology is associated with ploughs, stoves and farming implements, for some time I've been thinking about how it applies to the work we do with mobile. I tackled this in a PC World article a couple of years ago, and more recently in a blog post on how appropriate "cloud-based" mobile solutions are in a world where so many people are yet to be reliably connected to the web.

THINK MOBILE, ACT LOCAL

LEVERAGING THE RAPID RISE IN MOBILE PHONE USAGE FOR DEVELOPMENT

BY JOHN MULROW

Now the World Watch Institute have taken the discussion a step further in an excellent article in the May/June edition of their magazine. In it, John Mulrow argues that, if carried out appropriately, Schumacher's original concept of local initiatives, local ownership and local innovation can be applied to today's mobile world, despite mobile phones being a technology often designed, developed and controlled from the 'outside'. This is one of the best articles yet on mobile vs. appropriate technology, and is well worth a read.

The full article appears on the next few pages of this document. A PDF of *"Think Mobile, Act Local"* is also available from the kiwanja.net website here.

WORLD·WATCH

Courtesy of kiwanja.net

Mobile phone, mobile store—solar-powered in Kenya.

Front cover: photomontage and toilet paper dispenser by Lyle
Rosbotham; Austrian larch forest by Johann Jaritz/Wikimedia.

Jin Suk

COMING UP...

▶▶ BICYCLES' GROWING ADVANTAGES

▶▶ THE OCEANS' DEPLETION OF OXYGEN

▶▶ SUSTAINABLE ENTREPRENEURISM IN
DEVELOPING COUNTRIES

THINK MOBILE, ACT LOCAL

Leveraging the Rapid Rise in Mobile Phone Usage for Development

BY JOHN MULROW

Late in the afternoon of February 15 someone in Port-au-Prince, Haiti, sent the following SMS (a.k.a. text message) to an emergency response center:

NAN DELMA 33 NAN PAK T.OKAP LA NOU BEZWEN TANT, SI LAPLI TONBE NOU MELE!

The SMS went immediately via the Internet to a group of Haitian Creole speakers from around the world who had signed on to help with the relief effort. Someone translated: "At Delma 33, at the park we need tent. If it rains, we are in trouble." At the same time, someone else—also on the web—found Delmas 33 on a map and identified the roadside parks where the SMS could have come from. Finally the message, translated and located on a map, arrived in the hands of the Red Cross, U.S. Coast Guard, and other relief coordinators.

With post-earthquake rains threatening to cause landslides, building collapses, and miserable conditions outdoors, this SMS signaled the urgency of the need to get shelter to displaced people scattered in parks throughout Port-au-Prince. More broadly, this message and the thousands of other texts that came through this system combined to give the relief effort an unprecedented amount of precise, personal, and geographical data to act upon.

FOR A MOBILE WORLD, WHAT'S APPROPRIATE?

In the weeks and months following the 7.0-magnitude earthquake that rocked Port-au-Prince and devastated an entire nation, millions of Haitians were left without food, shelter, or sufficient access to clean water. Their greatest survival tools in the chaotic aftermath became their own strength, for pulling away rubble and carrying the wounded; their spirits, for consoling neighbors and friends; and their cell phones, for call-ing in help and directing the aid effort. While this last tool is certainly not as ubiquitous as strength and spirit in Haiti, it has played a vital role in the relief effort.

Such a quickly orchestrated and widespread emergency communications network could only have been possible in Haiti in very recent years. In 2002 roughly two in every one hundred Haitians had a mobile phone subscription. In 2007, more than a quarter of Haitians had subscriptions, and as basic SMS-enabled cell phones get cheaper (Vodafone just announced a US$15 phone it will bring to market this year) the growth is only expected to continue. Compare it to the creeping growth rate of any other communication technology in the developing world and it's clear that the world is going mobile…for everything.

What does this trend promise in terms of bringing greater economic and ecological security to more people on the planet? How can going mobile also mean, for example, going green? There is in fact a community of people and organizations dedicated to these questions. They fall under the term ICT4D: information and communication technologies for development. One of the mobile specialists in this community is Ken Banks, creator of FrontlineSMS, a free and

Courtesy of kiwanja.net

An all-purpose mobile phone kiosk in Uganda.

REUTERS/Eduardo Muñoz

Mobile phone chargers being rented out by the hour in Port-au-Prince, Haiti, six days after the earthquake there.

open-source software program that makes it easy to conduct mass SMS-based communications such as surveys or news alerts. It's now being used by small nonprofit organizations and rural communities in over 50 countries. Banks exudes a passion for using mobile as a platform for development innovations. He speaks at mobile tech conferences across the world about FrontlineSMS. However, he'll be the first to tell you that just getting phones in people's hands is hardly a solution in and of itself.

He says that development is in need of tools and programs that "genuinely inspire people on the ground—the users. This is the only way to ensure that development is sustainable." His talks often make it clear that Banks, among many other things, is a student of appropriate technology—a term made prominent by author E.F. Schumacher in his 1973 book *Small is Beautiful*. Schumacher's thesis is that the strongest and smartest way to pursue development is to maximize the use of locally available labor, resources, and ideas. It's a philosophy that is almost explicitly reflected in the FrontlineSMS architecture that Banks designed.

The program must be downloaded off the Internet, but once it is on a computer it requires no Internet connection, as all communications are performed by a mobile phone which is plugged into the computer. Messages can then be sent and received through this phone and managed in any way the user chooses. One basic use of FrontlineSMS is for mass messaging: A farmers' cooperative sends out updates on fair crop prices, or a church group sends reminders about prayer services. The program also has a ready-made survey manager and analyst as well as an address book where contacts can be sorted into groups—especially useful for organizations working with rural and widely spaced populations.

Does this setup truly fit Schumacher's definition? With the software developer worlds away from where the software is actually used, how could that possibly be considered local labor or ideas? But on his website Banks has written that his staff's remoteness from the projects is exactly what makes it appropriate:

There is no need for us to be involved at any stage, so no-one flies anywhere and no-one does any training…. The solution is designed to allow users to do everything themselves. No core FrontlineSMS implementations are driven by us, and none are our projects. Use is replicated by users sharing experiences, talking about their use of the tool to others, and growing numbers of

champions who are either building their own solutions around FrontlineSMS, or bloggers and researchers who write about its use and impact.

The spread of SMS technology, and its various uses, parallels the explosion of innovation that often follows the discovery of a new material or technology. FrontlineSMS moves the innovation process along by providing a wider range of SMS tools without requiring much added technology or technical know-how. This further builds on the tenets of appropriate technology. One of Schumacher's greatest criticisms of development aid was the stifling of entrepreneurship that occurred when high-tech solutions were introduced but could not be innovated upon by the target population. He called this the "*negative demonstration effect* of a sophisticated technology infiltrated into an unsophisticated environment…. The introduction of an appropriate, intermediate technology," on the other hand, "would not be likely to founder on any shortage of entrepreneurial ability."

MOBILE APPS IN CONTEXT

Grassroots mobile innovation in developing countries certainly did not begin with FrontlineSMS. In fact, the innovations got started over 10 years ago when mobile phone users in the Philippines began trading in pay-as-you-go airtime for cash and using SMS to send credit to friends and family. Cell phone credit transfer became so popular that cell phone companies jumped in to formalize the process. Though "mobile money" systems were developed by many networks, the concept gained international attention when Safaricom, a Kenya based mobile service provider, launched its M-PESA service in 2007. M-PESA ("Pesa" is the Swahili word for money) allows users to deposit money into a credit account, withdraw money, and send money to others.

Through services like M-PESA, many mobile users who were previously "unbanked" or lacked access to money storage can begin to build personal economic security. While current mobile money services are focused on single-user account management or person-to-person transfers, plans are on the horizon at FrontlineSMS:Credit (an offshoot of the main software) to develop more nuanced mobile banking services. There is especially strong interest in providing microloans through mobiles in areas where microfinance has been successful. Ben Lyon, director of FrontlineSMS:Credit, describes its mission simply: "to bring formal financial services to the entrepreneurial poor in 160 characters (the length of an SMS) or less." Small is beautiful after all.

But why is SMS so great for all the poor and "unbanked," while a good chunk of the world is already upgrading to the next generation of iPhones and Droids? Forget loan

repayments in 160 characters or less; the rich are shopping for all sorts of products on their handhelds, purchasing music, managing calendars and photos, and updating their status on multiple social-networking websites.

This is a classic appropriate-technology contrarian argument. Schumacher characterized the argument this way: "You are trying to withhold the best and make us put up with something inferior and outdated." But he refutes the complaint, saying that "it is not the voice of those with whom we are concerned… who have neither 'the best' nor 'second best.'" Those concerned desire the technologies that can reach the most people while still providing a technological upgrade and creating entrepreneurial opportunities. Mobile phones have done just that. The basic SMS-enabled phone has become cheap enough so that over half the world now possesses one and a great variety of enterprises has sprung up from their prevalence. FrontlineSMS alone has been downloaded by over 5,000 users looking to build SMS ventures.

In Argentina, where mobile usage has shot up from 17.5

Telephone Subscribers per 100 People, Africa, 1996–2006

Source: ICT Indicators Database
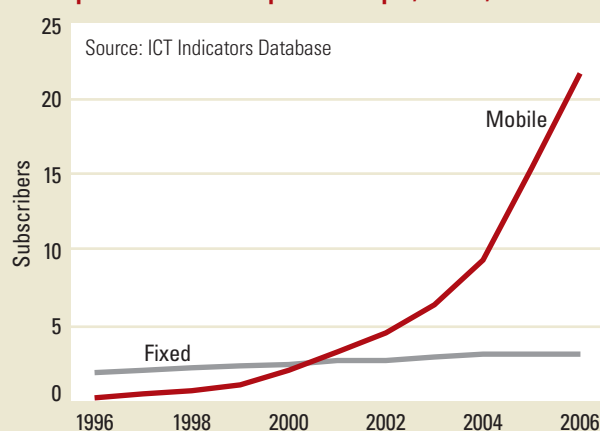
Mobile Telephone Subscribers per 100 People, 1997–2007

Source: ICT Indicators Database
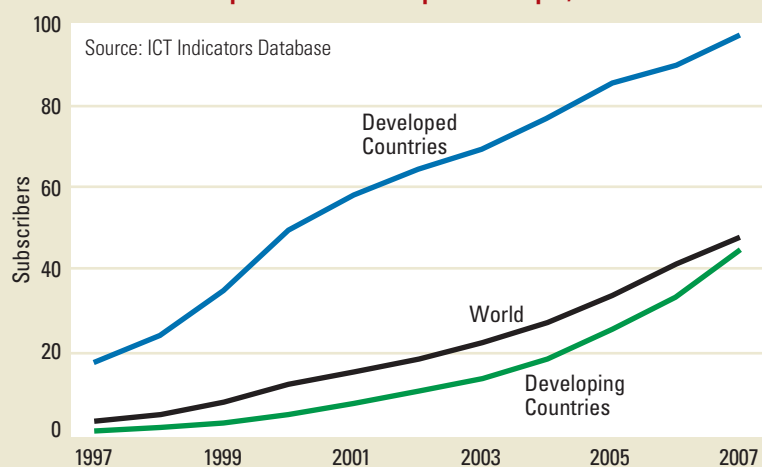
subscribers per 100 people in 2002 to 102.2 subscribers per 100 in 2007, Jorge Luis Alonso has designed a process for small farmers to communicate with agricultural development organizations that help to market their goods. With aggregated crop information from an entire region, small farmers stand less chance of being ripped off by big buyers and can be alerted to crop diseases or approaching bad weather. Mr. Alonso is even working to include indigenous groups in the information-sharing network.

Another landmark mobile application was launched in Kenya during the country's troubled 2007 elections. The website ushahidi.com set up an SMS code and encouraged people to text in any reports of election-related violence, and include their location. Add in Google maps and some translation work, and Ushahidi was able to post a near-real-time geographic record of violent skirmishes along with commentary from those involved. Though this simple synergy delivered information around the globe, Kenya itself benefited from greater media coverage and law enforcement. Most recently Ushahidi

has been applying similar techniques to aggregate, translate, and map SMS messages from Haitians following the January earthquake. The emergency response service carried out through mobiles after the quake was a striking display of how far and fast mobile-for-development has moved. Understanding how this service was orchestrated requires one final story about appropriate mobile technology.

FrontlineSMS:Medic

A light bulb went on in Josh Nesbit's head during his first summer working at St. Gabriel's Hospital, a major provincial hospital in Malawi. He saw the regular trips hospital workers made over long distances, on foot or by bike, to check up on patients, as well as the piles of patient records, and thought it looked like a job for SMS. It's now been a year and a half since Nesbit helped St. Gabriel's and other surrounding clinics get mobile-enhanced services up and running. Nesbit reports that after only a day of training, a clinic's staff can manage FrontlineSMS software on their own, owing to their existing familiarity with SMS. St. Gabriel's and health clinics in 10 different countries are now coordinating patient appointments and home visits via SMS.

FrontlineSMS is not the first group to bring SMS to the medical field. Many healthcare workers were already doing some coordination using their mobiles. Other aid groups had come in with mobile technology as well. "But most of them were just there for data collection, gathering health statistics on the community," says Nesbit. In his view, introducing any technology "is all about the end-user. If you're going to use cell phones in the field, then use them to coordinate patient care and collect data while you're at it." The reason FrontlineSMS:Medic software catches on so quickly is that its main motive is to serve the clinics' needs and provide customizable functions.

Nesbit has seen firsthand how local initiatives and technologies often build on each other to create all-new ways of doing things. Health awareness information is often communicated in rural areas with a heavy reliance on diagrams, drawings, and pictures rather than written words. In Malawi, for example, there may be very little information published in the native language of Chewa, and pictures provide an easy way of identifying health symptoms. At one clinic, the health workers have developed a "symptom wheel" with which patients and community members can describe their conditions. Each

All thumbs: SMS messaging in Uganda.

Zambikes recently delivered Zambulances to the Malaria Consortium in eastern Zambia and urban clinics in Lusaka.

symptom on the wheel is assigned a code that can be sent by SMS and read into the system for diagnosis. Nesbit says similar systems have cropped up independently of each other. "At one clinic we had a board with pictures of symptoms," he says. "The patient points at the ones they have and that code is entered. Not as cool as a wheel, though."

The use of SMS exchange in rural health clinics has found synergy with other appropriate technologies as well. The use of bike ambulances—bikes fitted with a stabilized stretcher trailing the back wheel—is becoming more widespread in Africa. Not only are they affordable, but because bikes are so widely used, they can be ridden and repaired by locals. Zambikes, a Zambia-based manufacturer of bike ambulances, reports that they have distributed more than 600 bike ambulances ("Zambulances," as they call them) since beginning to manufacture them in 2007. Their goal is to produce and distribute 100,000 Zambulances in total. However, rural clinics still treat bike ambulances as a precious resource, so with SMS diagnosis they can use the ambulances wisely. When health workers have a clearer idea of the symptoms they are going out to treat, they can decide whether or not they have to take the bike ambulance along.

EARTHQUAKE RESPONSE

As soon as news of the Haiti earthquake reverberated through the world, a fast-acting group of mobile-application organizations came together to set up a communication portal especially for earthquake victims. Nesbit was almost immediately in contact with Digicel, Haiti's main mobile service provider, to see about setting up an SMS code that could be texted free of charge. Digicel provided 4636 to use as the emergency SMS number. Because cell phone towers were among the first pieces of infrastructure repaired in Haiti, this emergency texting line was up and running within four days of the quake. Incoming texts were then processed in Ushahidi fashion—each one translated into English, marked with a location on the map, and categorized as "actionable" or not. While haiti.ushahidi.com kept track of everything on a publicly viewable map, the aggregated reports were sent on to the first responders on the scene. In the meantime, word of the 4636 code spread quickly through Port-au-Prince. A month after the quake, a total of 38,000 texts had been sent in and 17,000 deemed "useful" for search and rescue teams and aid groups.

Several other mobile organizations added to this impres-

Project 4636

1. A Haitian with a need sends an SMS to the 4636 shortcode.

2. The SMS is then routed through the Nuntium SMS gateway and onto the Emergency Information Service (EIS).

3. Once at EIS, the information in the SMS is analyzed, tracked, and then forwarded to the crowdflower.com website.

4. A Haitian volunteer or staff member logs onto the website and translates the SMS, adding meta and geospatial information.

5. After translation the information is turned into a report that goes out to multiple organizations involved in the crisis response and recovery effort.

Ushahidi Labs
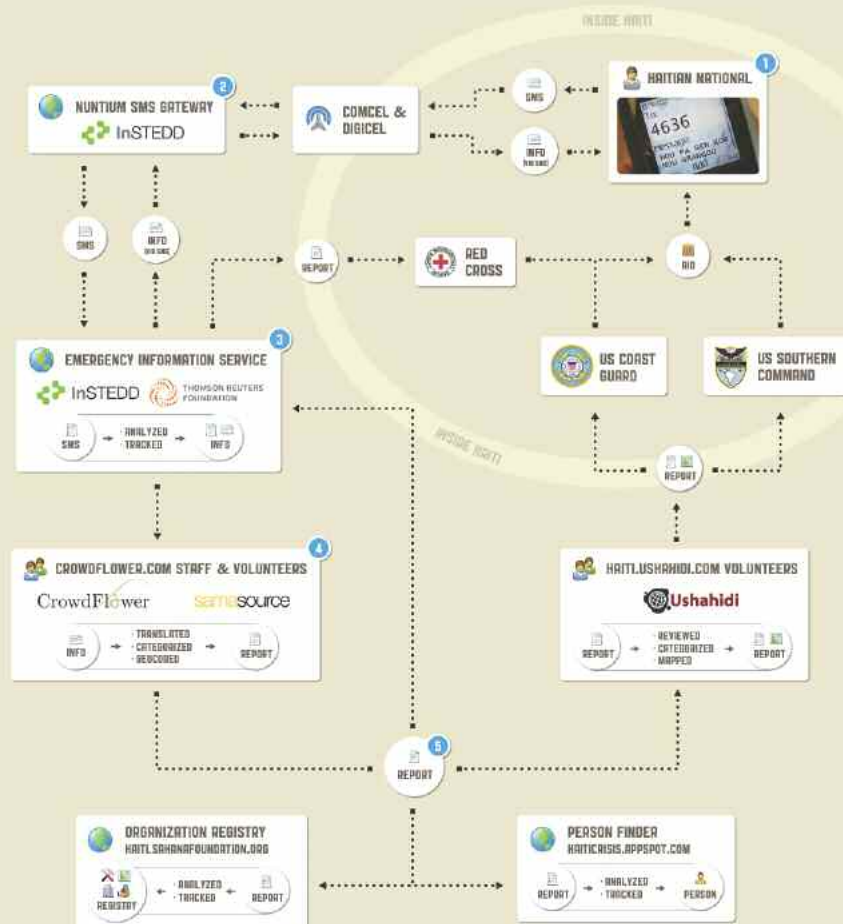
sive effort. InSTEDD (Innovative Support to Emergencies Diseases and Disasters), a group specializing in communications technology for disaster response, worked with Thomson-Reuters Foundation to set up an emergency information broadcasting system. Any phone number that sent an SMS to 4636 was immediately added to a database, so that organizations could then send out pertinent relief information to thousands of Haitians with operable mobile phones. This information included when and where supplies were delivered or transport out of Port-au-Prince was available. And a globe-spanning mass of volunteers mobilized on the Internet to translate incoming messages from Creole to English or to locate the origins of incoming messages on a map.

In the end, the mobile-phone earthquake response was largely orchestrated by U.S.-based organizations, and initially staffed by many a remote volunteer. So it can appear not to be the best fit for Schumacher's development prescription: maximize local labor, resources, and ideas. However, the folks at FrontlineSMS, Ushahidi, and other mobile-development leaders would argue that it was in fact each group's sense of appropriate technology that enabled the quick response. Their platforms encourage user creativity, as demonstrated by the thousands of applications that have cropped up around the world in banking, agriculture, health care, and disaster response. And just ask Josh Nesbit whether mobile phones are a *local* resource. "What has penetrated the market on its own?" he asks back. "It's not as helpful to think about why [mobile phones] are there, but to acknowledge their widespread use," and treat that as a resource. Ken Banks, possibly the world's leading voice in promoting mobile phones as an appropriate technology, puts it this way: "People that build and promote mobile technologies for developing regions just need to base their technology choice on what works—and what's available—in the places where those people live and work."

THE FUTURE OF MOBILE APPROPRIATE TECHNOLOGY

Mobile phones have certainly made it to the point of being a common resource worldwide. More than half of the world possesses or has access to a mobile phone with at least basic calling and SMS capabilities. Banks is now worried about the developing world being trapped in the basic-phone market with little attention given to bringing in broadband, Internet-connected phones in an appropriate and affordable way. Nokia recently announced the release of a $90 internet-enabled "smartphone" in its Indian markets, but Banks is not too impressed. He believes the devices can't really catch on until the price is down to $40 or so.

Were broadband mobile devices to become affordable in developing countries, those countries would surely do a technology leap-frog, skipping over the personal computer/stationary Internet phase and going straight to mobile. Such a leap could be a major equalizer of information opportunities across the world. Something like a FrontlineMMS (multimedia messaging service) could then be, yet again, developed to assist aid sectors such as health care, agriculture, and conservation.

Although *Small is Beautiful* was written over 30 years ago, the tenets of appropriate technology continue to guide many small-scale and mobile development projects. It's worth noting that E.F. Schumacher did deplore the spread of computers as a computational and educational tool. It bothered him that human intellectual capital could be replaced by machines. "The task of aid is to supply intellectual rather than material goods," he said. Yet with the span of mobile-based appropriate technologies before us today, we would have to ask Schumacher to reconsider his bias. Indeed, many of those technologies would not be around without experimentation and innovation from the developing world.

John Mulrow *is a MAP Sustainable Energy Fellow, conducting research for Worldwatch's Climate and Energy Program.*

A woodcarver in India pauses for a text message.

For more information about issues raised in this story, visit **www.worldwatch.org/ww/sms**.

The rise of "user-experienced" innovation

Around the time of two recent talks – Thinking Digital in Newcastle (UK) and National Geographic (Washington DC) – much of the world's tech media was focused on Apple. Both the iPad and iPhone 4 had hit the shelves in relatively quick succession, and many people were marvelling at the latest innovations from California.

To the everyday man and woman on the street, cutting-edge innovation has rarely been so tangible. Sure, the technology behind motor vehicles or aircraft has advanced rapidly in recent years, but often what makes these things clever is either hidden out of sight – a new fuel injection system in a car, or a new kind of braking system, for example – or they're not things many of us would ever get to interact with – such as the latest fly-by-wire controls of an aircraft cockpit.
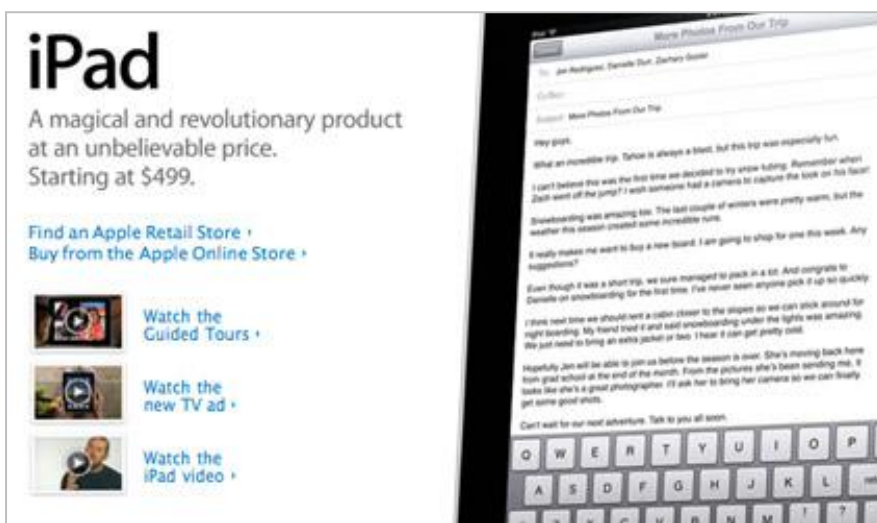
The staggering advance in the consumer electronics world has changed all that, and we're now holding mobile phones in the palm of our hand which are infinitely more powerful than the computers which took man all the way to the moon and back. These devices are changing the way we live, and the way we interact with each other and our environment. Consumer electronics are particularly relevant in interaction terms because their primary purpose is to allow us to interact with them. Thanks to advances in the technologies behind mobile phones, tablet computers, gaming consoles and television among many others, cutting edge technological innovation has come to every individual man and woman on the street. It's got personal.

That said, we're living in interesting times. The rate of innovation is unprecedented. What we've seen happen with mobile technology in the last five years alone is beyond incredible, and you sense the rate of innovation is only speeding up. This may be in part down to the fact that these devices have both a hardware – *device* – component, and a software – *usability* – component, meaning there are twice the number of opportunities to innovate.

What I've been sensing lately, however, is a growing 'backlash' – for want of a better word – and a desire to build what are seen as purer, more sustainable, locally sourced, culturally relevant technology-based solutions. Although you could argue a certain romanticism in the approach, the fact of the matter is that most technologies being pushed out by the electronics industry remain relevant to only a small percentage of the global population. It's not only down to cost either, although that's a large part of it. It's also down to the fact that many of these devices just don't work in places without high-speed data networks and/or a mains supply to charge them nightly. Many people just don't have that.

I'm writing this on a flight home from Washington DC, and have just watched a programme which featured a water-powered lift. The idea is brilliantly simple. The lift – which runs up a steep cliff – harnesses the power of the nearby river and uses gravity, one of the oldest and most sustainable of energy sources, to pull one of two carriages upwards while the other drops.

It's such a simple but effective piece of engineering that if it broke you'd likely be able to find someone locally who could figure out how to fix it. That's clearly been the case since it began operating 120 years ago.

The likes of IDEO, Catapult Design, IDE and D-REV are household names to anyone interested in designing and building *"for the other 90%"*, and I'm a big fan of the approach. I've been also been a big fan of the appropriate technology movement for some time, and am excited to be speaking at the "Small Is…" festival later this year. The irony is that despite all of this I work in a high-tech world which is about as far away from much of the appropriate technology work ethic as it could be. John Mulrow in World Watch Magazine recently wrote a great article about the relationship between mobile technology and appropriate technology, but for me many questions remain.

Our world is becoming increasingly dependent on information and communications technology and many local, indigenous, traditional ways of designing, building and doing are slowly being replaced, and in many cases lost, forever. I'm not entirely sure if that represents progress or not.

Dissecting "m4d": Back to basics

Do the majority of people working in "mobiles for development" work in mobile, or development? It may seem like an odd question, but how people approach "m4d" may have more of an impact on success or failure than we think.

The world of social mobile isn't short of anecdotes. "Put the user first", "Consider the technology only at the very end", "Don't re-invent the wheel" and "Build with scale in mind" are just a few. Ignore these and failure won't be far around the corner, we're told. But maybe we're missing something here. Sure, there's a growing number of 'best' practices, but one thing we rarely seem to question are the very credentials of the project origin itself.

Everyone from donors to project managers and technologists to journalists are keen to identify traits or patterns in 'failed' mobile projects. Many of their conclusions will point to poor planning, poor technology choice or lack of collaboration, but sometimes the biggest failure may have taken place long before anyone got near a mobile phone.

What I wonder is this. Do we know what ratio of "m4d" projects are initiated by development practitioners (or sectoral experts in health, agriculture, conservation and so on) as opposed to mobile technologists, and what impact does this have on the success or failure of the project? In other words, if the problem

solver is primarily a mobile technologist – the "m" part of "m4d" – then you might assume they have much less understanding of the on-the-ground problem than a development practitioner or sectoral expert might – the "d" part.
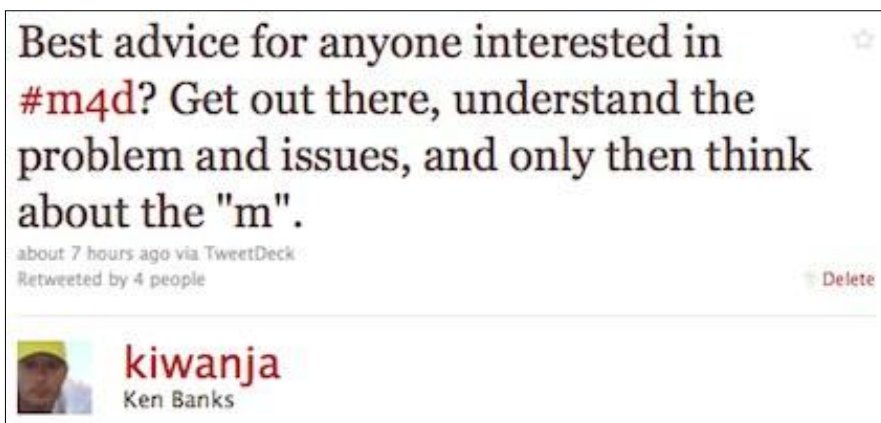
Does this bear out in reality? If failure does turn out to be higher among technologists then this is a relatively easy problem to fix, whereas many of the other perceived reasons for failure are not. It's all about getting back to basics.

I've always maintained that the people closest to the problem have the best chance of coming up with a solution, and this probably bears out in many cases, particularly in the ICT4D field. Ushahidi, started by Kenyans to solve a Kenyan crisis – and DataDyne, a health-based data collection solution designed by a paediatrician - immediately spring to mind. In these instances, being up-close and dirty with the problem came well in advance of any technology-based solution to it. The same goes for our very own FrontlineSMS initiative, borne out of a series of visits to South Africa and Mozambique back in 2003/2004.

In any discipline, the greater the rate of innovation the greater the problem of focus, and mobile is no exception. As Bill Easterly put it in a recent post in response to questions from students about how they might help "end world poverty":

"Don't be in such a hurry. Learn a little bit more about a specific country or culture, a specific sector, the complexities of global poverty and long run economic development. At the very least, make sure you are sound on just plain economics before deciding how you personally can contribute. Be willing to accept that your role will be specialized and small relative to the scope of the problem. Aside from all this, you probably already know better what you can do than I do"

This is great advice, and not just for economists. If mobile and health is your thing, focus on health and get very good at it. If it's mobile and agriculture, or mobile and election monitoring, do the same. Whatever your area of interest, get out and understand the issues where they matter – on the ground – and don't get totally sidetracked by the latest trends, technologies or disciplines. Whatever the reason for your interest in 'mobiles for development', make sure you don't forget the importance of understanding the 'development' bit.

Focus is highly underrated, and often debates around technology choice, open source, challenges of scale and "understanding your users" are distractions from a much-less discussed but equally vital question. And that's this.

*"Who's best placed to run a successful "**m4d**" project – the **m**'s or the **d**'s?".*

Mobile community: The holy grail of m4d?

Last week I wrote a post on the difficulties of running a "mobile for development" – or m4d – project. I tried to make it challenging, and was hoping to stir up some discussion around the merits of mobile-initiated development projects versus development-initiated mobile projects. You can read that post here.

Unless you're one of the bigger technology blogs – Mashable, TechCrunch and so on – it's hit-and-miss whether or not a post will get the traction you're looking for. Apart from a couple of dozen tweets and a dozen or so comments, the post didn't generate as much debate as I'd have liked. But it did get me thinking – if these kinds of discussion weren't taking place here, then where were they taking place?

I'm regularly asked at conferences for hints on the best sites for people to post questions and stimulate debate around mobile technology, and I always struggle to give an answer. It seems crazy that, for a discipline which began to fully emerge probably about seven or eight years ago, there still isn't a genuinely *active*, *engaging*, *open* online community for people to join and interact with each other.

In order to get a sense of which communities exist, I recently sent out a message to a number of ICT4D and mobile email lists I subscribe to, and posted the odd message on Twitter. Very few people could suggest anything. A few people mentioned email lists which dealt specifically with sectoral issues, such as health, but not specifically with mobile (although mobile was a regular thread in many discussions). Only MobileActive suggested MobileActive, which was a surprise considering its positioning as a global, mobile community with over 16,000 'active' members.

Finding nothing was only part of it – many people clearly had different ideas of what made up community, too (I'd put this down to a challenge of definition). When I pushed out my call for sites, I specifically asked for those which were *"open, active, collaborative and engaging"*, things that I thought would be pre-requisites for anything worth being a member of.

According to Maddie Grant, a Strategist at SocialFish, a consulting firm that helps associations build community on the social web:

What makes a community open is when there's "a lot more outside the login than inside", so most of a community's content must be at least viewable and shareable without logging in. To be active, most of a community's content must be member (user) generated, not owner-generated, and must have some degree of conversation which includes comments, discussions and reviews

Going by these criteria I don't believe we yet have a truly active, engaging, open mobile community. This seems a little strange when you consider the attention the technology has been getting over the past few years.

On the flip side though, it might not be so strange after all. As Jonathan Donner put it to me in a recent email, "Why should m4d have it's own groups and community sites? Can't we – or should we – just mainstream ourselves into ICT4D?".

This discussion clearly has a long way to go. I just wonder where that discussion will take place.

Taking the social mobile "taste test"

"After all is said and done, a lot more will be said than done" – **Unknown author**

Twitter has been abuzz lately with fascinating snippets of advice on how to succeed, how not to fail, what makes a good social venture, what makes a good mobile project or how to be a successful social entrepreneur. Of course, it's easy to say these things, and even easier to repeat mantras and slogans which fit a popular or emerging philosophy. Who could argue, for example, that "users should be put first"?

Sadly, when all is said and done, the reality is that it's still much easier to ignore the advice and go do your *own* thing your *own* way, rather than doing things the *right* way.

The best way to get a sense of the true philosophy – the DNA – of a project is to see if it passes a "taste test". This is particularly true in mobile, where almost all initiatives claim to have engaged or active communities, or to empower, to put users first, or to have been 'born' in the field. The question is: Does the rhetoric actually match the reality? In an age where more and more projects are coming under increasing scrutiny, ensuring they are properly positioned is crucial.

It's quite easy to determine whether or not a tool is going to be of any use to an end user (an NGO in this case), or whether you'd need a medium to high degree of technical literacy to make use of it (in which case you might argue that the tool was more developer-focused). For some time I've used the concept of the "social mobile long tail" to graphically represent this.
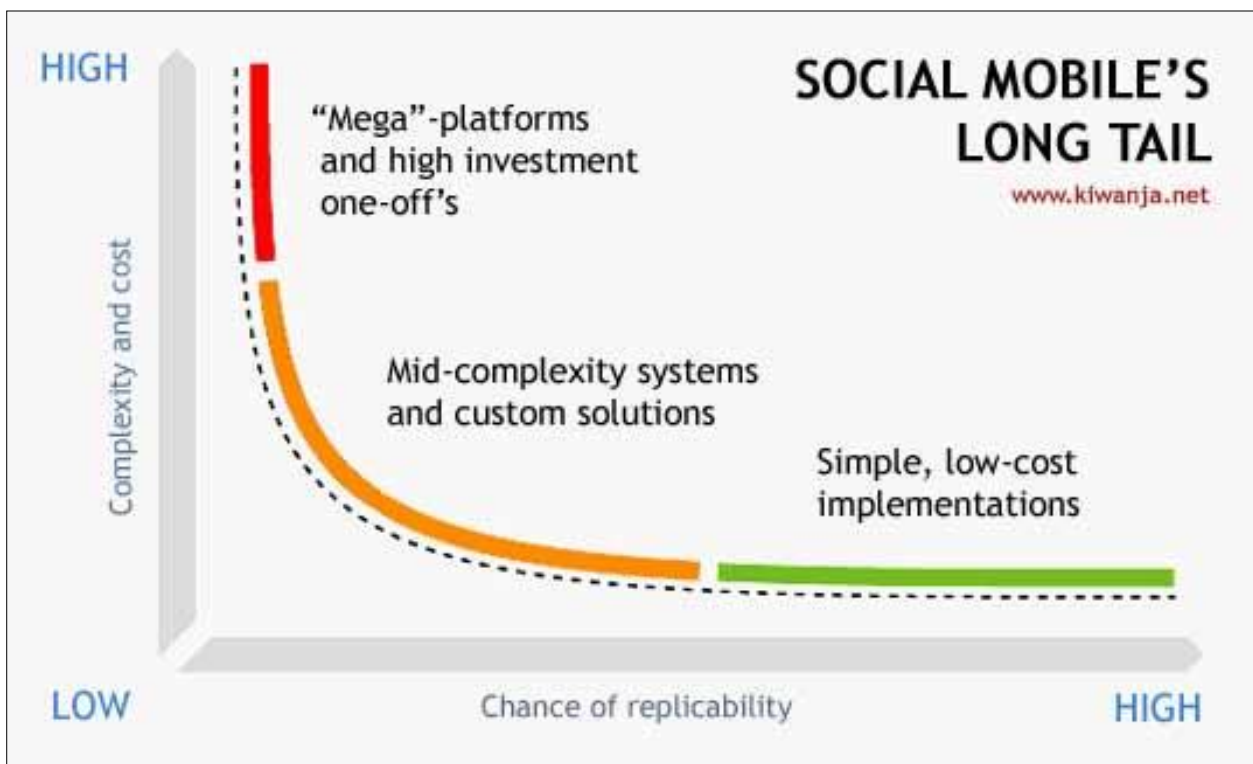
In short, tools in the **red** area are technically and financially out-of-reach of many grassroots NGOs, many of whom sit in the **green** space. Tools at the higher end of the graph are generally more complex, server-based systems which require a high degree of technical competence, and often the Internet, to set up and use. Tools in the lower end are simple, low-cost, need few technical skills, work on easily available

hardware, don't require the Internet, and are easy to install and run. Tools in the green space can be quickly adopted and replicated – within hours – whereas tools at the other end need much more planning, i.e. more people and more lead time, and most likely a degree of training.

So, how might we determine where a tool should be placed on the "social mobile long tail"? There are likely many measures and metrics, but I'd say these are a few of the more obvious ones the user would be principally concerned with:

➢ Does the project have a user-facing, NGO-friendly website?
➢ **How technical is the language on the site?**
➢ Is there an easily accessible, open, visible user community?
➢ **How easy is the software to find, download and install?**
➢ Will it work on widely available hardware and software in the places where it will be used?
➢ **Can the user independently deploy the tool if they want to?**

For some time I've wondered whether it would be worth scoping out the mobile landscape and plot available tools along the tail. Not only would it satisfy my general curiosity, but it could be immensely valuable to an NGO community which still largely struggles to understand the mobile technologies they believe – and hope – they should be using.

Wrong model. Wrong place.

If conventional wisdom were anything to go by, this is what might typically happen to a social entrepreneur with an idea:

Said entrepreneur comes up with an idea. Entrepreneur puts together a sample budget and an early-stage business model. Funding is sought for a pilot or prototype. Said pilot runs and impact/results are measured. If the signs are good, entrepreneur goes back to his or her donor, seeks increased funding, then scales. Said project becomes financially sustainable (or not) during the new funding period. Based on proven impact, sustainability and/or long term investor interest, said project either remains and grows or joins others in the giant "failed business ideas" graveyard in the sky.

Although this approach may be fine in the wider world of social entrepreneurship, it begins to struggle whenever there's a strong ICT4D component, or where the individuals with the ideas aren't social entrepreneurs at all but technologists or development workers out in the field. Despite making little sense

applying the same model to both scenarios, this is precisely what often happens. Welcome to the world of "one size fits all".

The realities of innovation in ICT4D are often very different to those elsewhere. For a start, the best ideas are not necessarily seeded in a lab, or a business school, or the global headquarters of a large international company. Workers on the front lines of conservation, human rights, disaster response or

agricultural development often have to adapt and innovate based on the realities of their experiences in the field. Ideas that end up "sticking" don't benefit from the process and order of the conventional "social entrepreneurship" approach. Business models and impact metrics all come a distant second to developing an appropriate solution to a very real problem, whatever and wherever that may be.

In reality, this may be a more sensible way of going about things. Only people who show initiative – and ideas which show promise – rise to the surface, and only then do others put time and money into figuring out how to best build on them. But as if there weren't enough to do, inflicting foreign entrepreneurship models on a technology innovation which is at best a bad fit simply adds to the confusion. It's time we recognised that adopting an approach based on "scale, sustainability and impact" doesn't always make sense. One size doesn't fit all, and ICT4D warrants a new approach.

I've spent a lot of time over the past few weeks thinking about this. Despite the promise, there are still far more mobile pilots than fully fledged, long term projects. Far more failed and lost projects than successful, ongoing ones. And too many people assessing success or failure based on potentially flawed, misleading or irrelevant metrics.

In short, we need to acknowledge three new (hard) realities in our field:

1. **Not all projects will have business models**
2. **Not all projects will be financially sustainable**
3. **Not all projects will be able to measure impact**

So, where does this leave us? Well, we can at least acknowledge that applying conventional entrepreneurship models to mobile-for-development might be decreasing rather than increasing our chances of success. That financial sustainability may or may not be possible. And that figuring out precise impact may or may not be realistic or achievable. "Failure" on these fronts does not make a bad project. If it did then there's a very large number of bad projects out there.

"My question is: Are we making an impact?"

For me, this "ongoing failure" more likely indicates a flawed model, and a bad way of measuring success. We need a new model, and one of our own. Because – as the advert reminds us – we're worth it…

Reflections on eight years in mobile

It was exactly eight years ago that I hesitantly took my first steps into the fledgling world of "mobiles for development". It was December 2002, and Vodafone live! was the platform I would develop on. I was filled with self doubt. Not only had I never done any technical development with mobiles before, I also had little idea how phones might be used to solve social and environmental problems around the world. To be honest, few people did, and that was probably the reason I got the job.

Sharp GX10, January 2003. My first "non-dumb" phone (Image: intomobile)

Much of the latter half of that December was spent meticulously studying the limited range of Vodafone live! handsets. The very idea of cameras, colour screens, music, video, web access and downloadable games on phones was still pretty new back then, and I'd never even owned a handset with that kind of functionality before, let alone tried to build a service on top of one.

Much has changed over the past eight years. Not only have mobiles got one heck of a lot smarter, but there are a couple of billion more out there, and they've become a useful tool in the fight against all manner of worldly ills. "Mobiles for development" (m4d) has also matured somewhat as a discipline, and if my original job back in 2002 was advertised today there would likely be hundreds – maybe thousands – of applicants.

All-in-all it's been a fascinating, action-packed eight years, and a journey I never expected to be on. As I look back and reflect, here are a few of the highlights.

2003

Most of my first year in mobile was spent trying to understand how they could be used to promote international conservation efforts. Eleven months working closely with the Vodafone team and many of the staff at Fauna & Flora International (FFI) culminated in the launch of wildlive! in December 2003 at FFI's centenary celebrations at the Natural History Museum in London. This innovative new service combined conservation news with live field diaries and downloadable ringtones, wallpapers and games, which we'd developed all from scratch. Over £100,000 was generated through wildlive! in the first year, and throughout 2004 it was localised and rolled out in several additional European countries. Sadly, due to management restructuring and a shift in focus the following year, the service was shut down. A painful lesson.

Click here to visit the original blog post to watch a short promotional video on the service.

(Interestingly, the "Silverback" game (which we later relaunched after a series of gorilla killings in the DRC in 2007) was designed and developed my Masabi, a UK-based company who, four years later, would re-write the early version of FrontlineSMS).

2004

Between work on wildlive!, a colleague and I were dispatched to South Africa and Mozambique to try and understand how mobile technology was being applied to conservation and development in the developing world. Over 2003 and 2004 we made several trips, working with numerous local FFI partners, and in the process made one of the earliest attempts to try and document the emerging "m4d" field. It's quite fascinating reading even today, not just because so much has changed but also because so much hasn't. The report – *"Mobile Phones: An Appropriate Tool for Conservation and Development?"* - can be downloaded in full from the kiwanja Mobile Database here.
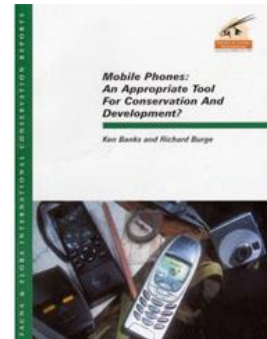
2005

This year began innocently enough, but was to prove pivotal because of the birth of FrontlineSMS. It was a few months after my final field trip to South Africa and Mozambique when I was sitting at home when the idea for the software first struck. I had already come across countless grassroots NGOs on my travels who were thinking about how they could use mobile phones in their work, yet there was no simple, out-of-the-box system they could easily deploy.
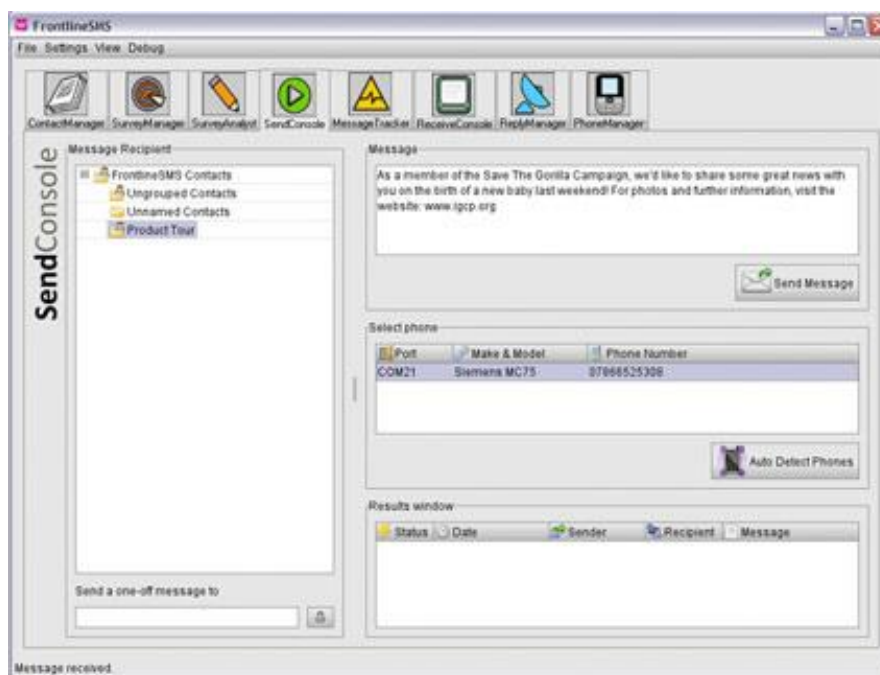
There were a number of reasons for this, but the idea behind FrontlineSMS seemed to solve all of them. Build a messaging system which could run without the need for the Internet, make it simple to use, design it so that NGOs could deploy it themselves with little or no technical skills, and make it free. Despite only a small amount of private funding, in October 2005 – after a five week software development cycle on a kitchen table in Finland - FrontlineSMS was released to the world.

2006, 2007

Shortly after the very low-key launch, I was contacted by someone at Stanford University who was himself beginning to experiment with SMS messaging hubs. Erik Sundelof and I became friends over the proceeding months, and he encouraged me to follow him and apply for a Fellowship at the Reuters Digital Vision Programme. It took a couple of tries, but I got in that year and headed out to Palo Alto in the late summer of 2006.

Stanford gave me the platform I needed to accelerate my work – and my thinking – around mobile technology and development. I was able to attend lectures, meet academics and give talks throughout campus, and use the Stanford connection to open doors which had previously been well-and-truly shut.

My time at Stanford University was also notable on a more personal level in that it gave me my first proper chance to own a VW Camper, something I'd dreamed of for years. It also doubled as my home, and my global HQ, and saved me a fortune in rent. Selling it was one of the hardest things I'd have to do. On a more positive note, my time at Stanford coincided with the first big break for FrontlineSMS when it was used to help citizens report on the Nigerian elections, and that lead to our first major grant – $200,000 – courtesy of the MacArthur Foundation. Later that summer I also randomly met Josh Nesbit for the first time, a young human biology major who was to help take FrontlineSMS off in a whole new direction.

2008, 2009

On June 25th, 2008, a new and improved version of FrontlineSMS was released, along with a new website and \o/ logo (courtesy of Wieden+Kennedy). By this time FrontlineSMS was becoming firmly established as a tool with potential (we were yet to fully understand what that potential was, mind you) and funding and media attention began to flow. In late 2008 we received a second significant grant, this time $400,000 from the Hewlett Foundation. The Open Society Institute (OSI) also stepped in with some valuable funds to help tide us over during a tricky few months.

Finally, as 2009 drew to a close, FrontlineSMS won a prestigious "Tech Award". Watch the video here.

2010

This year has seen no let-up, and from humble beginnings FrontlineSMS has become a full-time job. As the new year dawned we received a grant of $150,000 from the Rockefeller Foundation to help strengthen capacity, and the Omidyar Network came in over the summer with a $350,000 grant to help with organisational development. Our team now stands at eight strong over three continents, and FrontlineSMS has been downloaded over 12,500 times by NGOs in well over 60 countries.

This year draws to a close with an exciting new collaboration with National Geographic, who earlier in the year rewarded us for our work. The "Mobile Message" is a series of articles which will be published on the Nat Geo News Watch site, aimed at taking news of the 'mobile revolution' to a new audience.

It's hard to believe that eight years have passed, and that for the past five I've been focusing almost solely on the simple text message. No doubt 2011 will be the ninth year I hear a "death of SMS" prediction. If my experience is anything to go by, there's plenty of life left in the old dog yet.

To see what happens over the next eight years, watch this space.

"Development best practice for beginners" series

Collaboration, **not** competition

Opportunity, **not** dependency

kiwanja.net

Appropriate? Technology?

Less planes, **less** push. More **pull**

Custodians. **Never** owners

Original blog posts can be found at: