

Interactive and Mobile Enabled Technology as an Agent of Development

By Mark Wells

I. Introduction

There are nearly one Billion men, women, and children suffering from extreme poverty today. It's nearly impossible for anyone to fathom this number and the amount of human suffering it represents. In the time it took me to construct and write the last two sentences, 30 more people have just died for want of simple nutrition, most of them children.

I believe it's safe to say that nearly everyone who grew up in the US has heard some variation of this emotional appeal before, unflinching just as we're about to drift off into the tryptophan-fueled abyss known as the post-thanksgiving football game.

At the time of this writing, the American people find themselves in the middle of a deep recession, possibly on the brink of a major depression if we are indeed approaching the “winter” of the current Kondratieff economic wave cycle. Historically, the US has been one of the largest, if not the largest contributor(nominally) to relief efforts for the poor around the world, but as more Americans begin to see themselves drift closer to poverty, charitable contributions to organizations such as UNICEF will undoubtedly diminish.

Therefore, it is more important than ever to put a “real face” on those who suffer – taking them from being a more or less abstract entity in the Western collective conscious, and delivering them to the status of “real people” in the minds of those in a position of economic and political power.

This is one of the many functions that interactive web and mobile communications technology have the potential to provide.

It could be argued that the TV commercials aired during the aforementioned sporting event fulfill this purpose to some degree, however due to the commercials being delivered in same medium commonly used for the purpose of entertaining a fantasy life, the impoverished subjects of these segments are often interpreted by viewers as “unreal” to some degree, owing largely to the viewing audience's lack of a frame of reference, likely due to their never having experienced extreme poverty in an “up close and personal” way. Currently, it appears that much of Western population is largely desensitized to such images and the events that go along with them, possibly due to their being relatively ubiquitous over the course of a given year of televised news broadcasts, leading to the oft observed “quick turn the channel” effect.

This is significant because it is also unlikely that elected governments will be able to bring about significant policy change with respect to developing nations without public interest and approval.

If the fact that more people voted during a single run of “American Idol” than voted for the winner of the 2004 presidential election¹ proves anything, it is this: The American media consumer craves drama, even to the exclusion of their political best interest. From this we can reasonably extrapolate that the people can be engaged if they feel a personal connection of some sort and have an interest in the drama of the outcome.

¹ “Why Not Dial-In Democracy Too?” Ethan J Leib, Washington Post, May 28, 2006, pp B02

At this point it is important to state in no uncertain terms that the world's extreme poor should never become the “dramatic subjects” of western consumers solely for their prurient interest. There is a fine line to be walked between providing content that garners public interest in someone's personal story, and in so doing raise awareness of poverty, and having the dramatic become the sole focus, rather than on positive actions to be taken.

How then might emerging interactive web and mobile technologies act to facilitate and support this?

To answer this, we must first briefly define what we mean by terms such as “Web 2.0” and “interactive mobile.”

II. Web 2.0, and Interactive Mobile Communications.

In the early days of the worldwide web, content was almost universally static – that is it was analogous to a billboard on a highway – you could read it, or continue on to another place or places it attempts to connect you with via hyperlinks, but for the most part, what you saw was what you got.

Then about the same time the dot com bubble burst(circa 2001), new web-based technologies, or more accurately - new applications withing the existing technical framework emerged which allowed for a greater range of interactions beyond reading and clicking links to new things to be read. At a conference brainstorming session between Tom O'Reilly and Dale Dougherty² of O'Reilly Publishing, the term “Web 2.0” was coined.

O'Reilly is arguably the worlds premier technical publisher, at least in the standards-based and open source world, but even they note in the above referenced article that the technical definition of this term is often unclear or the subject of ongoing debate because it is a more generalized term to describe a mode of interaction on the web rather than any particular technical standard.

Essentially, Web 2.0 represents the idea of technologies usually accessed via a common web browser, but that give the user the ability to actively contribute content, or interact in unique and personal ways with content and service providers.

Text based and mobile browsing devices have followed a similar path of development. For example, pagers began as one way mobile text delivery devices and have now been virtually abandoned in favor of SMS text messaging in which the user can both send and receive text and multimedia messages.

Due to their portable nature, mobile devices often have reduced capabilities compared to a “fully functional” web browser, but in fact for certain purposes, they can be just as effective.

A good example of progress in this area is Twitter, which allows(among other things) users to effectively “broadcast” text messages to “subscribers” who wish to receive them on their mobile devices.

It follows then that the next step would be a smooth integration of mobile and Web 2.0 technologies.

² “What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software” Tim O'Reilly, 2005, <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>

III. Problem: Poverty Unseen is Poverty Unaided

How then can this integration directly help the person in the unfortunate position of being only a day or so away from dying for want of a bowl of rice or a source of clean water?

The short answer: It doesn't.

At least not in and of itself. In the most dire circumstances, there is simply no substitute for adequate nutrition and clean water.

This is not to suggest that there is no potential for this technology to have a direct impact on extreme poverty; based on cell phone usage statistics in developing countries, it is entirely possible that someone in extreme poverty may have a friend or family member who has a modern mobile device and therefore the capability to relay the story of their plight to the world. The potential niche this technology can then fill, and that it is currently beginning to fill, is to nurture the early seeds of development for those perhaps not wanting for a bowl of rice, but who are still considered impoverished, or are in some way connected to the same by virtue of location, community, extended family, etc.

These “micro journalists” will play a pivotal role in bringing to light the plight of those who are severely or moderately impoverished, oppressed, and exploited.

As previously mentioned, people of Western society often (metaphorically and literally) “turn the channel” when exposed to content depicting extreme hardship thousands of miles away. Relief organizations undertake the herculean task of trying to mitigate this suffering, but based on the sheer numbers, the problem appears nearly insurmountable.

Many do not believe that the UN has enough power, authority, and resources to effect the required change. So widespread is this perception that it has become a popular culture cliché that atrocities or gross security violations committed by states will result in a “strongly worded letter” being written by the UN - nothing more.

There may some truth to this in that the UN does often lack support for its efforts, from the American people in particular. This effect then “trickles up” to elected representatives who display lackluster or nonexistent support for UN programs.

The problem now becomes how to create an urgent or immediate sense of interest in the plight of the impoverished, and channeling that interest to create a positive impact.

IV. Introducing Wphr.org

Wphr.org was created with this specific goal in mind, but also with a strict eye toward balancing the creation of interest in the human element and personal stories of contributors with the need for vigilance against the site devolving into a haven for prurient interest, that is to say - a proverbial or even

literal “freak show.”

From a development and human rights perspective, it could be argued that the charitable relief organizations using the “sponsorship and correspondence” model to involve contributors in ways that go beyond their monetary contribution are engaging in a primitive version of the same paradigm that Web 2.0 represents: That of feedback and participation by both parties involved. The main differences and clear disadvantages being speed(handwritten letters can take weeks to arrive), and (lack of)wide dissemination of the story.

Wphr.org solves this problem by providing the capability for both real-time feedback and worldwide dissemination of the results of both successes and failures of relief efforts, human rights violations or remedies, political issues, and much more. It also provides a forum accessible by those who would otherwise have no voice and no way of communicating their plight to the rest of the world.

How will this be accomplished? Through the use of already widespread mobile devices.

[Wphr.org](http://wphr.org) effectively accomplishes the merging of Web 2.0 type interactivity with the advantages of mobile devices by allowing users to post content from their mobile device via text message and have it instantly visible on the web site following approval from a site editor or administrator. The need for this approval is a temporary measure necessary for the reduction of spam and other unrelated, commercial, and blatantly inappropriate content. It is hoped that the site can eventually transition to a “craigslist-style” model of community policing and “flagging” of inappropriate content.

If you have a mobile device available right now, you can send a text message to hr@wphr.org (input that address in lieu of a destination cell number) and when any user with editor status or higher approves it, your message will be posted as a new article.

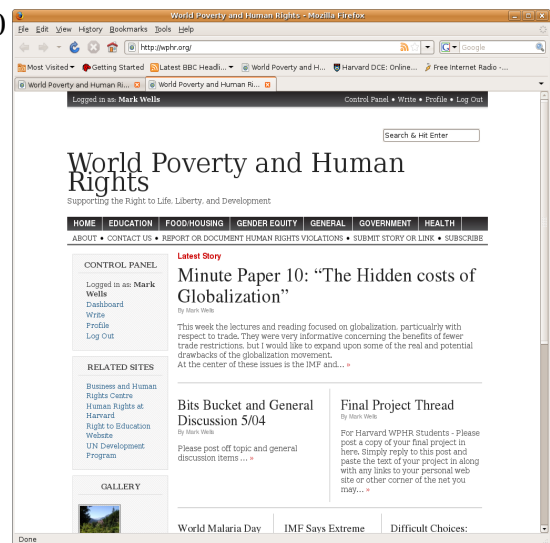


Illustration 1: The main page of wphr.org

Multimedia content generated by and sent from a cell phone is also supported.

Many other features and categories are available, and I defer to the website itself for more information on these.

V. Availability of Mobile Technology and Internet Access in the developing World.

We are at a unique point where the availability of technology intersects with a dire need for so many to achieve the enjoyment of the basic rights to food, housing, education, and all the other first and second tier human rights. Many countries with severely oppressed and impoverished populations, though they can't manage to feed their starving masses, have large numbers of cell phone users.

New cell phone networks in developing countries are almost exclusively based on the GSM(Global

System for Mobile communications) standard. This means that SMS(Text messaging) capabilities should be available to every user as SMS is part of, and was developed specifically for GSM.

For example, according to the CIA world fact book, as of 2007 Zimbabwe has more than 1,226,000 cell phones in use in a country with a population of approximately 11 million.³ This statistic is not unique in the developing world – many have comparable levels of mobile technology adoption.

This represents an enormous pool of potential contributors. Even in areas with no cell coverage, phones can be used to take pictures or write short accounts which can be transmitted at a later time when and where the individual enters a coverage area.

VI. Agency of Communications Technology in a Developmental Context

World food production is sufficient to feed the current global population, and is projected to increase and keep pace with population levels through 2030 and beyond. In fact, the growth rate for the demand of cereal grains has steadily dropped for decades⁴

Yet we still have nearly a billion undernourished people, and many without access to clean water, health care, or housing.

One of the most common reasons that resources such as these are unavailable to a given population is political corruption, despotism, and collusion with profit-seeking entities resulting in large segments of the population being deprived of land access rights, water rights, and all of the other resources necessary for the right to development to be realized.

When we view poverty as capabilities deprivation,^{5 6} in many cases we may find that a population, though lacking the capability to consistently provide many basic needs to large segments, may nevertheless have access to (relatively)inexpensive mobile communications technology(see preceding section). It follows then that they should make use of this capability in a manner that serves to increase worldwide awareness and thereby bring pressure to bear from the international community and aid providers against barriers political and otherwise that prevent the realization of the canon of basic human rights.

The conundrum is that by virtue of having absolute or near-absolute power, corrupt and oppressive regimes often use that power to suppress the people and mechanisms which might begin to effect positive changes in areas such as resource allocation or infrastructure development. A good example of this is when governments monitor internet activity and communications, and then either restrict access to content deemed “undesirable,” or suppress and take retaliatory action against those who report the regime's wrongdoings to the outside world using a public forum.

3 CIA world fact book country comparison, <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2151rank.html>

4 UN FAO summary report, “World Agriculture : Toward 2015:2030,” 2002, p

5 Stephen P. Marks, “[The Human Rights Framework for Development: Seven Approaches.](#)” *FXB Center Working Paper Series*, No. 18, 200, p9

6 Amartya Sen, *Development as Freedom*, 1998, pp. 87–110.

A recent article in MIT's Technology Review profiles some of the leading technology for anonymizing internet activities such as reporting atrocities, election tampering, and violence, highlighting in particular the Tor Project, which uses both encryption and multiple proxies/relays for anonymization to make it nearly impossible for would-be retaliators to trace those who put their very lives on the line to inform the world about wrongdoing.

For an excellent example of this in action, visit <http://www.sokwanele.com>. This site graphically documents atrocities committed by the Mugabe regime. It is the stated goal of wphr.org to follow a model similar to the Sokwanele model, but on a global scale, and with support and optimizations for mobile-based communications.

The article also mentions an ongoing study by the OpenNet Initiative, a research project based at Harvard as well as the Universities of Toronto, Oxford, and Cambridge, has determined(thus far) that at least 36 countries take steps to suppress the online speech of their citizens.⁷

The censorship of political speech is a key barrier to be overcome in the quest to effect positive change on behalf of those suffering from extreme poverty.

To this end, as of 5/7/09, in addition to the earlier described components, wphr.org has also become a fully functional relay node for the Tor network, providing secure anonymization for users throughout the world.

As mentioned earlier, there is no substitute for adequate nutrition, but in many places where people are lacking such, it would appear that some segment of the population has access to modern network communications technology, either mobile or land-based(internet). Perhaps a friend or family member, or any other interested party.

It is the goal of wphr.org to provide a mechanism for these individuals to easily and safely (anonymously) report on conditions in their region or follow individual stories, and have it archived and published in a public forum. Regular postings that chronicle specific individuals' plight on an ongoing basis in these regions, are highly encouraged.

The technology can also be used constructively for such things as resource allocation, political organization, and coordination of relief efforts or infrastructure development projects. The challenge will be spreading awareness that this technology is freely available to everyone with a cell phone, and education of would-be contributors about the anonymous aspect of the site.

VII. Acknowledgments and Conclusion

The effort to bring the vision of wphr.org to fruition is and has been fraught with numerous challenges, both technical and practical. Most of the technical issues are out of the scope of this paper, but a great deal of effort has gone into its development. In particular, I would like to thank the numerous developers involved with the Apache Project, the MySQL project which is implemented as the back-end database for wphr.org, the Wordpress project and accompanying plugins which have been invaluable for integrating the mobile-enabled features of the site.

⁷ "Dissent Made Safer" by David Talbot, Technology Review, May/June 2009, p60

A major and ongoing issue will be that of abuse and spam. Due to its anonymous features, wphr.org will likely be the constant target of attempts to post such undesirable content as Viagra ads and pleas from “Nigerian Princes” for help with their “banking issues.”⁸ “ This is why it is intended that the site eventually adopt the craigslist model mentioned earlier.

On the practical level, the biggest challenge we face at this time is apathy on the part of the general public in the western world. To address this challenge, wphr.org will strive to generate interest in the plight of the less fortunate by working to engage visitors in the human stories of those affected, seeking to tap into the interest garnered by the broader media, possibly in a similar fashion that so-called “reality shows” have done, but with an ever vigilant loyalty to the principle that the suffering of the oppressed and impoverished is very real, and should never be exploited. Ω

⁸ Please see <http://www.419eater.com/html/letters.htm> for examples of how this activity is properly dealt with.