Human Rights Software:
Information Support Solutions For Social Justice

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ABSTRACT

Human rights centres and non-governmental organizations (NGOs) have crucial information support needs, many of which can be met by the existing and ongoing development of information technology software applications. For communication and Internet use, the psiphon program allows for secure and anonymous information exchange and distribution, including firewall circumvention. For data collection, organization, encryption, and storage, Martus software can be deployed to help protect sensitive information and identities. Based on documented projects and websites, the following research examines these emancipatory tools to determine: the technologies in use, emergent, and under development; their possible usage in the critical arenas under discussion; and, the greater effects of these technologies as they relate to social justice and information access in the global information society. The purpose is to raise awareness within human rights communities and information centres about the existence and availability of these tools, so that these groups may find appropriate and accessible solutions that match their information support needs. Further, it is hoped that the information presented here will generate open, intercultural, and international discussions of human rights policy development, strategic planning, and implementation.

INTRODUCTION

Preliminary research suggests that human rights centres and non-governmental organizations (NGOs) deal with specialized information types, particularly when one considers the vast amount of information and data

collection they oversee on a daily basis: testimonials and affidavits, video and audio reports, abuse analyses, basic survival needs (e.g., tracking water or food shortages), and evidential documentation for legal tribunals. Some of these varied information support needs are met by readily available computing software technologies: word processing programs, database applications, email, Web browsers, etc. Other software solutions are less known, despite their potential to help solve some of those sensitive and specialized information needs. Specific software applications have been designed with the intent that they be used in human rights work of one kind or another, such as secure communication and information dissemination, data encryption, and information storage and retrieval. These needs are all incredibly relevant for the human rights area, particularly for those organizations and NGOs operating in unstable locations or under hazardous conditions (resultant from natural disasters and/or human-made problems). While the research presented here should not be taken as complete or exhaustive, it is hoped that the accessible information presented here will promote an awareness of the tools and technologies available. This will have the primary benefit of improving human rights information work, ever more critical in the growing global information/knowledge and digital society and during an era of mass registration and surveillance. Ideally, increased adoption and awareness of these solutions with have the benefit of driving further development in this area, increasing the information and technology support given to human rights work.

LIBRARIANSHIP AND HUMAN RIGHTS

This research springs from the understanding that freedom of information and information access are core values of librarianship, and takes these values as guiding principles. Drawing together the rights to intellectual freedom, information access, and basic human dignity, and approached with a concern for the social values and responsibilities of society at large, librarians themselves have recognized the connections between their work and the protection and promotion of human rights. Here in Canada, support for human rights in librarianship can be found within the rhetoric of the Canadian Library Association (CLA), particularly in the CLA *Code of Ethics* (1976) and official position statements on *Intellectual Freedom* (1985) and *Diversity and Inclusion* (2008)

(CLA *Position Statements*). A core value of Canadian LIS includes the belief that "principles of intellectual freedom and free universal access to information are key components of an open and democratic society" (CLA *Mission, Values, & Operating Principles*). In the United States, advocacy and activism have long been part of the work of the American Library Association (ALA) (see Samek 2001 for a historical perspective). The ALA is the oldest and largest individual association of LIS professionals, and its advocacy and activist roles are found most particularly in its Social Responsibilities Round Table (SRRT). Founded in part from a "[c]oncern for human and economic rights ... [SRRT] believes that libraries and librarians must recognize and help solve social problems and inequities" ("Welcome to SRRT"). Among the greater ALA directives, support for basic human rights has been recognized in the ALA *Policy Manual*, with policies about human rights abuses (policy 9.5), by situating human rights among its overarching policy objectives (58.1), and confirmation of support for the United Nations' *Universal Declaration of Human Rights* (*UDHR*) (58.4, 58.4.1).

At the international level, the International Federation of Library Associations and Institutions (IFLA), a joint organization of library and information organization from across the globe, advocates the promotion of human rights through librarianship, information ethics, and global information justice. The *IFLA/UNESCO Public Library Manifesto* (1994) recognizes that "[f]reedom, prosperity and the development of society and individuals are fundamental human values," and views the public library as "a living force for education, culture, and information … for the fostering of peace and spiritual welfare through the mind of men and women." Other prominent arguments for the connections between librarianship and human rights include Phenix and McCook (2005), Byrne (2007), and Samek (2007). Additionally, ongoing discussions can be found through serials such as *Progressive Librarian* and *Information for Social Change,* as well as through many blogs and listservs, such as *Librarians for Human Rights* (http://justicelibraries.blogspot.com/) and HRLibs (Human Rights and Librarians, http://groups.yahoo.com/group/HRLibs/). Ultimately*,* the ideas of social responsibility, human rights, and the freedoms guaranteed by the *UDHR* serve as guiding principles for librarians as professionals and as individual world citizens. In our global information society, quickly becoming a global knowledge civilization, librarians and information specialists are uniquely poised to help shape the future of information ethics and

social responsibility in word and action, and to advocate for social change through continued improvement and development.

THE INTERNET AND ICT

Representing the view of LIS professionals at the international level, IFLA's *Internet Manifesto* reaffirms the fundamental human right of access to information with a direct reference to Article 19 of the *UDHR*. The *Manifesto*, unanimously ratified by the IFLA Council in 2002, recognizes the power of the Internet as a tool of information and communication, and directs libraries and information centres to act as Internet gateways and venues of free, public Internet access. It is unapologetic in its professed values, arguing vehemently for the roles of both libraries (and their librarians) as information access and support centres. Further, in calling for international understanding of and participation in the Internet and the online world, IFLA challenges governments to recognize that unfettered and unfiltered information flow is a right that should be granted to all citizens, regardless of nationality, and that assisting efforts of information accessibility and support among developing nations is an international duty. In 2003, a joint steering group formed by IFLA and the International Publishers' Association (IPA) released a statement on "Freedom of Expression on the Internet." Also drawing upon Article 19, this statement echoes much of the earlier IFLA statement. It also draws together the library and publishing worlds, recognizing that both services have interests in promoting free expression, information access, and places responsibility on the international community to maintain and promote the Internet as an unfettered information tool.

Issues of intellectual freedom and the Internet are most prevalent with regard to filtering technology. Years after popular acceptance of the Internet as an information tool, the questions surrounding who exactly is responsible for monitoring Internet behaviour of users (and especially of children) in public libraries continues to provoke vigorous debate. As a publicly funded institution, a public library is often held accountable to the community at large for every dollar in its budget, and so in many ways is expected to reflect the values of the community at large. On the other hand, as a site of information access and intellectual freedom, the same library should be opposed to censorship and

Internet filtering. The result is that many will libraries leave it to Internet users (or their parents or legal guardians) to monitor online behaviours. Much of this comes from the realization that Internet filters simply do not work in the ways one would expect. Schrader (1999) shows that many of the commercially available filtering programs are typically too discriminate, and perhaps anti-competitive, in their deselection algorithms. For example, Internet filtering software will block sexual health websites and sites that are critical of the software itself. In other cases, these programs filter much too broadly, such that entire resources and websites simply disappear, becoming "utterly invisible to searchers, leading to the conclusion that no information even exists on the topic of interest" (10). Ultimately, it is up to individual librarians/institutions to make the decision of whether to employ filtering technology. However, if the core ethics and values of the LIS profession call for open and free information access at national, international, and transnational levels, we can feel confident suggesting that the use of filtering software should be the exception, rather than the rule.

The literature discussing the intersection of information issues, human rights, and technology is engaging and varied. It is interdisciplinary in nature, and its diverse sources include grassroots communities, business and economics, research centres, the academy, and government. Given the explosion of information sharing seen since the advent of the Internet and the rise of the World Wide Web (WWW), it is not surprising that much of the research in this area focuses on the effects this communication tool has brought to the human rights sphere. For instance, Collins (2007) illustrates the effects that Internet-based and other technology-based efforts have generated results at human rights abuse testimonies, such as the ease with which digital video recordings can be captured and reproduced to help prevent rights abuses, and to document those abuses when they do occur. Collins suggests that such technology-based information resources can speak for the oppressed, often in absentia, against the authorities who commit such crimes against humanity.

In other areas, the researchers at the University of Toronto's Citizen Lab have drafted an online guide that instructs users on how to circumvent Internet filters and firewalls (2007). Written in a straightforward, approachable language aimed at the everyday user (as opposed to being overly technical), the guide presents detailed descriptions and case studies that briefly instruct the reader in

various ways he or she might employ technology to avoid authorities, bypass Internet filters, and surf the Web privately and anonymously. This and other guides are not in themselves library-related, but as information resources, their promotion of circumvention tools can empower the reader to find the same rights and goals as those promoted by LIS institutions. The Internet age has enabled new means of communication, and has thus also created a new generation of reporters that respond to the challenges of our particular information age. Armed with their laptop computers, digital cameras, and smartphones, a generation of bloggers, cyberjournalists, and hacktivists (an amalgam of hacker and activist, such as a computer hacker who illegally hacks for social or political reasons) have heralded a new age in citizen journalism and activism. They can be found operating online and based anywhere in the world, though of greatest interest are those living or working in countries where censorship is the norm and state-run media is the primary (and often only) source of information about the outside world. Often labelled as dissidents and subversives by their governments, such individuals and activists are regularly persecuted (within and outside the bounds of law), while their blogs and websites are monitored, sabotaged, filtered, shut down, or defamed by authorities. A release from Reporters Without Borders/Reporters sans frontiers, *Handbook for Bloggers and Cyber-dissidents* (2007)*,* instructs online individuals on ways to avoid detection, to more easily disseminate information, and to counteract the information barriers constructed by their oppressive regimes.

With regard to information access, it is typically in those countries and regions already known to be rights abusers that print and broadcast journalism are just as stifled as their online counterparts. Often controlled directly by or run on behalf of the government or state power, many media outlets practice various forms of censorship, self-censorship, or inside censorship, while also disseminating propaganda. This practice contributes to the erosion of human rights both informational and physically tangible. In a region where journalists fail to report or record an event that obviously violates guaranteed rights, this is no better than ignoring the problem: the journalists appear complicit with authorities, their silence equates to censorship, and so the violations and abuses continue. A recent study unsurprisingly revealed that countries that actively censor and otherwise limit information access exhibit lower human rights

standards and practices than those countries with greater information freedoms (Apodaca 2007).

The example of the "Saffron Revolution" in Myanmar/Burma is particularly relevant in this context. There the information flow through both traditional media and the Internet is controlled by the ruling military junta. Yet during the 2007 citizen revolt by Buddhist monks and the common citizenry, the power of these new technologies was evident. Through the use of technology and new citizen journalism, dissidents subverted the state media by turning the flow of information on its head. As the military response to the revolution grew more violent, the Burmese people were so effective in spreading news of the revolt and the military crackdown that the images and videos sent to the international community drew attention to their plight. These images and videos were so effective that the ruling military junta was forced to take drastic action. The government controlled the only Internet service providers (ISPs) in that country, and so it disconnected the Internet, effectively severing the electronic flow of information in and out of the country. In language of the report issued by the OpenNet Initiative (2007), a collective of research institutes that focus their efforts on Internet filtering and surveillance, the Burmese military junta "pulled the plug" on the Internet, disconnecting the country's Net access. Shortly after, the revolution lost much of its popular momentum, while widespread military and police action against citizens, monks, journalists, and reporters crushed the remaining dissidents. While misinformation and information loss are not the only factors contributing to the chaos, the resulting crackdown included citizens who were arrested without cause, "disappearances" and missing persons, and multiple deaths. At the beginning of the revolution, information communication technology (ICT) and Internet connections helped prevent abuses; once disconnected, images and documentation no longer escaped, and so the junta was able to continue its attack without international oversight. The revolution ended, and little has changed in the country.

We know that technology is in and of itself mostly benign and that, like any tool, it is in the application of the technology that can make it seem good or evil. In many cases, the same software that is used to prevent harm in school libraries, such as filtering applications, are used to commit human rights violations. Faris and Villeneuve (2008) show that Internet filtering is rampant in locations where other human rights infringements occur, particularly when the

government is interested in controlling citizen uprisings and other forms of popular dissent. They note that the practice of filtering is most on the rise in developing nations, especially among oppressive regimes in Asia and the Middle East (the Great Firewall of China and the censoring practices of Syria and Turkey are commonly used examples). Citing the expansion of Internet usage in these regions, the authors discuss how a government's original investment in hardware infrastructure and software can be easily adapted to enhance their censorship efforts. Those of us who have uninhibited access, particularly in the (mostly) democratic regions of the Western modern and developed world, must be conscious that we are using technologies that exist at a level beyond the scope and abilities of what is typically available in the developing world. The populations of developing nations can employ technology to help level the playing field between themselves and the people of the developed world. However, doing so is difficult when governments are actively subverting those tools to use against the citizenry.

Many Internet-based supporting tools for human rights work exist, but harnessing the power of the Internet alone is not enough. While blogs, forums and wikis can empower cyberdissidents, hacktivists and citizen journalists, these tools alone cannot meet the dynamic, complex, sensitive, and varied information support needs of human rights information centres and workers. Additionally, the Internet does not fill the needs gap left by common computer applications (e.g., productivity suites or email applications) that cannot or do not do what NGOs and rights organizations need them to do. Whaley (2000) notes that where technological trends are concerned, "NGOs often find that their needs are different from the interests of commercial infrastructure and software developers" (38), and that compared to many businesses, the technological needs of NGOs can be fairly simple and straightforward (38-39). It is a matter of understanding those needs, finding the will to act, and creating the technological tools to help solve them. Whaley makes a recommendation that will no doubt be important for future research projects, arguing that "NGOs need more forums in which human rights leaders can exchange ideas with IT leaders about what kind of technology would best support the spread of equality and civic discourse" (39). Here at least is one specific need expressed in clear terms: there must be communication about and understanding of the needs of rights information

workers who are to use human rights technology if the technology itself is to have any value.

As for how human rights and ICT come together as projects in action, a number of existing examples show that there are technologies in the sector that attempt to meet the information support needs of rights groups. For example, Rezaian (2007) highlights a statistical review and policy analysis of information and communication technology usage in Sub-Saharan Africa, with emphasis on specific countries where ICT project implementation is used to combat poverty. In some locations the deployment of ICT-based poverty-defeating projects has served to decrease destitution levels while simultaneously increasing local educational and information literacy levels. While technology cannot solve all problems, Rezaian argues that ICT projects can and do have positive effects on communities, when deployed in conjunction with other socially responsible initiatives, such as education programs and housing projects. He presses the need for further research in the area, as evidence of these beneficial effects have already been seen to influence national poverty-reduction policies and decisions about increasing international aid.

HUMAN RIGHTS SOFTWARE

Progress has been made with the open source software and free software movements. Within these groups we can find community-driven models of development, pushed by volunteerism and the altruistic or philanthropic desire to improve on or replace existing applications, to create solutions where none exist, and to provide programs with open code, instilling a sense of accountability. In this regard, open source and free software stand in contrast to the typical models of software development in the for-profit arena, where the bottom line and pleased shareholders are major concerns. While innovation can be slowed by disagreements over intellectual property and copyright in both for-profit and open source arenas, extra delays in development of solutions for human hit the NGO and rights sectors particularly hard. When those delays are compounded by the lack of financial return on resource investment, not to mention the potential risks to human lives that are not seeing the benefits of the technology destined to help, there is little incentive for for-profit companies to contribute to human rights software projects. On the other hand, the positive

effects of GNU General Public Licenses (GPLs) are being noticed (Vucic 2006). These licenses recognize and credit the program developers while still allowing for the free distribution and use of open source applications, diminishing the controversy while spurring future development. Similar to the Creative Commons licenses often used for sharing media, GNU GPLs can drive innovation for the sake of innovation, without worry for the bottom line. This approach recognizes that technological solutions have a wider reach than we might first imagine, and helps account for different cultural contexts, particularly those based in communitarianism and interest in the betterment of society as a whole.

What is needed now is the necessary next step between understanding the power that ICT projects can have on human rights and moving forward to full-fledged electronic information support for human rights work, NGOs, and other areas of the non-profit/not-for-profit sectors. We know that technological developments can be used to improve information collection and dissemination. Due to current advancements in human rights software implementation, the time is right for further research into the connections between human rights and technology, research that can inform future developments on both the information management and technical application sides. By focusing such research directly on information centres and workers, both the rights organizations themselves and the developers can make connections and assist one another, through software connections and ICT resource sharing. It is hard to see such collaboration in a negative light, when we know that human lives may be saved, rights violations prevented, and rights abusers exposed and brought to justice. Thus, the phrase "human rights software" refers to "the applications developed for use in rights information centres and field offices, NGOs and other organizations".

There are a number of software tools already available or under development for use in the field. Some have received media attention and been employed for specific projects, while others are little-known or are for use in specific projects or areas. This list, organized alphabetically, names some of these projects, and their URLs available at the time of writing:

- Analyzer, http://www.hrdag.org/resources/software_projects.shtml

- FrontlineSMS, http://www.frontlinesms.com/ (with mobile phone technology)

- ICA-Atom, http://ica-atom.org/

- Karapatan-Monitor, http://code.google.com/p/karapatan-monitor/

- Martus, http://www.martus.org/

- NGO-in-a-Box, http://ngoinabox.org/

- OpenEvsys, http://www.huridocs.org/tools/monitoring/openevsys

- psiphon, http://psiphon.ca/

- Sahana, http://www.sahana.lk/

When armed with one or more of these software tools, humans rights organizations will increase their information support abilities, all freely and without fear that the software has been subverted. Unfortunately, there is little opportunity here to completely detail all of these projects, so instead I highlight five of the most significant. This is not intended as a comprehensive, mutually exclusive, or detailed analysis or breakdown of these systems, or as a complete set of documentation. If the reader is looking for more information, the best resources are to be found on the website or project page to the software itself. My interest is in raising awareness about these programs, primarily so that those individuals and groups working in these arenas will be able to identify, find and use the tools built to assist in the fight for human dignities and development.

PROJECT DESCRIPTIONS

The five projects described below represent significant attempts to reshape the information support landscape for human rights work. Most are currently available and active, while other development efforts are ongoing. Of these, the last one described stands out because it is not specific software, but rather a software suite collected for use by NGOs and rights organizations. For each, I have provided basic information on the project and its operations, as well as a description of its uses, operating environment, and languages available. These programs vary in their complexities and capabilities, but they all fit the definition of programs developed for use in or for furthering human rights and/or NGO work.

Basic description:

Analyzer is a database program that can be used to collect and store information regarding human rights violations for later analysis. Based on the "Who did what to whom?" model of human rights documentation (see Ball, 1996), it helps organizations draw together disparate pieces of information to help form a larger picture of a violation or set of abuses. The program includes various means of data analysis.

Detailed information:

The Analyzer software is in use by a number of groups and organizations, and draws on the principles that influenced the Martus project (described below). Analyzer can link to Martus for increased operability. The code is freely available online, though the website for this project suggests that the developer should be contacted before full deployment. The software can help keep records of various abuses and violations that occur during an event of interest to the NGO, records that are collected and entered by the user. It employs a controlled vocabulary system that compensates for the vast number of information sources used to gather information on abuses. This system helps provide specificity when recording abuses, making data management that much easier. This level of control also permits the program (and therefore the organization) to count and map relationships between different violations, helping connect the links between the abuser, the victim, and the events themselves. The program includes an "Inter-rater reliability" (IRR) tool that helps users maintain consistency when applying the controlled vocabulary by monitoring the terms being used.

Additional functionality allows the program to match and track different accounts of the same or similar abuses and violations. It can then generate statistics and reports reflecting the information gathered in the system about

those related events. These documents can be further analyzed to track and understand connections along the "Who did what to whom?" model. Such reports can be customized to show general or specific data. Finally, the Analyzer database is searchable, and will accept multiple user accounts, each with its own secure and user-created password.

Technical requirements:

Analyzer is available for Windows, Linux or Mac OS X operating environments, and requires an Internet connection for full operation.

Languages:

English, French, Spanish

Martus

URL: http://www.martus.org/

Developer: Benetech (Beneficent Technology)

Availability: Free, open source; code available under GNU General Public License (GPL)

Basic description:

Benetech describes Martus as the "Human Rights Bulletin System." This software is used to collect and organize information on human rights violations, and is used by NGO or rights groups to create an encrypted database of violations, victims, and abusers. This information can be archived on remote Martus servers, which helps protect against data loss through seizure by unfriendly authorities, neglect, or damage, for improved information security. Information in the password-protected database is searchable, and the program is informed by an open source philosophy.

Detailed information:

Benetech consulted human rights groups and NGOs (including the United Nations, Human Rights Watch and Amnesty International) to discuss the software needs of these groups. The beta version was tested in various locations across the globe, and improvements were made before the complete version was publicly released. According to Martus documentation, the developers wanted input from these test groups in order to develop the program according

to user needs. Thus, Martus meets the four criteria set by the field testers and consulting organizations: usability, security, searchability, and transparency.

Martus can be installed across multiple computers, and each computer can host multiple accounts. Each account relates to an individual user, and each user has password-protected access. The system permits the headquarters of an organization to create a public account that is accessible from field offices so that remote workers can access the entire database and upload their own bulletins. This is significant for easing communication and information dissemination, and ensures that key stakeholders have access to important and up-to-date information. Once logged-on, users can create and save bulletins documenting new abuses, or modify and update existing bulletins with additional information collected since the last update. Bulletins are organized into folders for ease of access and findability, and the program automatically generates certain folders for users based on sound organization principles. The folders feature also permits the user or NGO to create unique folders (for documenting a specific case for example); this allows the NGO to organize the database using the in-house information management practices already in place. Finally, while specific details within bulletins remain private (to protect victims, for obvious reasons), some bulletins can be publicly shared both within the organization and externally. This means that other rights groups, journalists, researchers, and activists can access the information in the bulletins by searching using the Martus Search Engine.

Technical requirements:
Martus is available for Windows, Linux, and Mac OS X environments, and requires an Internet connection for data backup and retrieval.

Languages:
English, Spanish, French, Russian, Thai, Arabic, Nepali

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psiphon
URL: http://psiphon.ca/
Developer: Citizen Lab, Munk Centre for International Studies, University of Toronto

Basic description:

psiphon is a specialized anonymizing proxy that helps the user (client) circumvent Internet firewalls and filters. It intended for use by those living in countries that are known to censor Internet transmissions, and would be of particular use to journalists, cyber-dissidents, and any individual or organization requiring unfettered Net access for research and communication while operating in arenas where Internet traffic is monitored and/or filtered.

Detailed information:

Most anonymizing proxies and proxy servers/services have publicly available Internet protocol (IP) addresses that can be easily tracked and blocked by countries and organizations that employ oppressive firewalls and filters. psiphon differs from other anonymizing proxy options (e.g., Tor) in two main respects: it is software-based rather than Internet-based, and it relies on trusted social networks. Regarding the first difference, psiphon is not installed in the manner typical to most computer software, i.e., on the user's computer. Instead, a trusted administrator such as a friend or family member located outside the firewall/filter installs psiphon on his or her computer, creating an access point referred to as a psiphonode. The administrator configures the software, and then supplies the user (a psiphonite) inside the firewall with a URL specific to that particular installation, along with a username and password. When the psiphonite (the user) has this information, he or she navigates to the URL set by the psiphonode administrator. The site at the URL will require the psiphonite to authenticate, after which he or she may surf the Internet as usual. Thereafter, all Internet transmissions occur in the same manner as they would over a normal proxy: requests are transferred from the user's computer to the psiphonode, then to the website or resource requested by the user. The psiphonite computer receives the information requested from the destination website, then forwards it back to the psiphonite computer for the user to read or use.

psiphon's reliance on trusted networks and secured transmissions is what allows it to function best. In this scenario, the information passing through the firewall is directed to the psiphonode's IP address, rather than to a 'suspect' site that targeted by the firewall or filter, thus avoiding the censors. Since continued access requires that the proxy site supplied by the administrator remains unfiltered (and undetected by the authorities controlling the firewall), both the user and the psiphonode administrator must trust the other not to reveal the URL, its related IP address, or any username/password combinations that allow access to that proxy. If that trust is broken and/or the IP address revealed to the censors, then the tool is no longer effective. In such cases, the psiphonite may need to find a new psiphonode to grant proxy access, since the original psiphonode (and his/her related IP address) may end up on a blocked list.

Technical requirements:

The administrator side requires a Windows or Linux environment (a Mac OS X compatible version is under development) and Internet connection. Further, the administrator's computer must be powered and running with an active Internet connection if it is to accept requests from the client. Specific configurations of routers and firewalls on the administrator side may be necessary. The client requires a web browser and Internet connection.

Languages:

English, French, Spanish, Russian, Arabic

Sahana (Sahana Free and Open Source Disaster Management System)
URL: http://www.sahana.lk/
Developer: Lanka Software Foundation
Availability: Free, open source; code available under GNU Lesser General Public License (LGPL)

Basic description:

Sahana is intended as an information management tool for disaster zones. It sprang from relief efforts after the earthquake and subsequent massive tsunami that hit Sri Lanka and other parts of Asia in 2004, and has since been deployed in other troubled areas. It is designed for use by aid workers and organizations,

but can also be used by victims and relief volunteers, government officials, and others operating to help ease human suffering.

Detailed information:

The project website and related documentation details seven primary applications of the Sahana software:

- A *missing person registry* to help track/find missing individuals, including the ability for hosting photographs online;

- An *organization registry*, to assist coordination of various relief groups, organizations, and government support;

- A *request management system* that can match the needs of the various aid groups to the financial, material, and human resources that have been donated to the relief effort;

- A *camp registry* that maps the locations and facilities of refugee camps housing displaced disaster victims;

- A *volunteer management system*, registering volunteers working in specific areas and tracking their skills to help match and allocate those abilities in the most appropriate areas;

- An *inventory management system* to help track and accounting for different types of material aid received, based on the standards set by the World Health Organization;

- A *situation awareness overview* that can be updated to reflect the most current conditions in the disaster area for quick information dissemination, including a mapping feature.

Additional modules are available for advanced functions, including a registry for disaster victims, an application for emailing/instant messaging, an aid catalogue, and a means of synchronizing across various installations of Sahana.

The Sahana software can be deployed over a variety of platforms depending on situational needs. Large-scale setups can allow access by multiple organizations and groups, all synchronized so that each has access to the same set of information and resources. This kind of advanced setup requires slightly

more technical sophistication (such as a central server), but otherwise the software functions in the same way as the basic single-point installation (such as that used by just one organization). For events requiring less coordination, or when limited technology is available, a scaled-down version of Sahana can be used for satellite operations. The project website even shows the software running on a version of the minimalist computer developed for the One Laptop Per Child (OLPC) program, which is another interesting innovation of ICT for human rights and social development. Sahana has been deployed in several locations, and is the recipient of a number of awards.

Technical requirements:

Sahana is available for Windows, Linux, and Mac OS X environments. It can be run using a web-based interface, can be adapted for portability.

Languages:

English, Sinhala

NGO-in-a-Box

URL: http://ngoinabox.org/

Publisher: Tactical Technology Collective (software is not developed by Tactical Tech)

Availability: Free, open source software collected on CD or DVD; some downloadable disc images.

Basic description:

NGO-in-a-Box is unique from the other solutions discussed here in that it is not in itself computer software. Instead, NGO-in-a-Box is a software suite that has been drawn together to create a set of programs that are of interest to NGOs and others who work in the area of human rights. The software in each suite has been peer-reviewed and handpicked by experts and others with experience in human rights advocacy and human rights information work. The suites collected by NGO-in-a-Box epitomize the power of free and open source software.

Detailed information:

The Tactical Technology Collective has organized the software suites into a number of separate editions. Since the programs bundled into each suite vary depending on the edition, it is difficult to document all of the features available

through the NGO-in-a-Box program. Instead, I describe the software boxes currently available:

- *Base Box*: This set of software that is primarily for day-to-day operations and productivity. This includes office suite software (such as word processing tools), programs for project, staff, and financial, management, web-browsing, email, and instant messaging, and others.

- *Security Edition*: This suite collects software tools for password protection and maintenance; secure data storage and destruction, encryption, firewall and anti-virus protection, and safe communications. Free and open source programs primarily comprise this suite, though a few trial versions of other programs are included.

- *Audio/Video Edition*: This edition contains a number of programs that can be used to create audio and/or video as part of an organization's advocacy campaign. Its audio components include programs for editing, streaming, and podcasting, and for creating audio CDs. Its video programs can be used for editing and vodcasting (video podcasts), as well as for creating playable DVDs. It also includes a release of Dyne:bolic, a Linux distribution that is specialized for producing multimedia.

- *Open Publishing Edition*: A set of software for publishing and disseminating information and content. It includes tools for desktop publishing and graphic design, as well as for creating webpages, blogs and wikis. This version pairs naturally with the Audio/Video Edition.

Since each suite offers a unique set of software applications, it is up to the individual NGO or rights group to determine which box will best meet their needs. However, to help facilitate such decisions, each suite listed above is accompanied by documentation that explains the installation and use of each of the included programs. Many also have tutorials that take the user through basic use of some of the included applications. Finally, the Tactical Tech team and their partners try to ensure that the technologies are entry-level tools, not overly technical or sophisticated. While this may mean reduced functionality in comparison to professional applications available on the market, the NGO-in-a-Box suites are intended for general users. By drawing upon already-available

free and open source software, the NGO-in-a-Box suites offer ready-made solutions to some of the most crucial information support problems.

Technical requirements:

The technical requirements for each suite vary depending on the individual programs offered. Most are for Windows and/or Linux operating environments, and some include an installable distribution of a Linux version with the disc or as part of the download.

Languages:

This too varies across the different programs, though collecting English versions of all programs for the various suites seems to be the primary focus.

CONCLUSION

These project descriptions are based on information and associated documentation that is readily available on developers' publicly accessible webpages. In some cases, that documentation was detailed and specific, while in others it was necessary to delve a little deeper to find and better understand what the applications did and how they worked. I find it interesting that the phrase "human rights software" leads to approximately 800 Google hits (at the time of writing), and that most of those are repetitions of stories about Martus or psiphon. To me, this seems an awfully small figure given the number of human rights and non-governmental organizations, institutions, research centres, not-for-profits, advocates, activists and other groups and individuals that can be found online. What is missing from the literature (popular and academic) to date is a single information resource that brings together descriptions of these software solutions in one location. I hope that the treatment here begins to fill that gap. I see the necessary next step to be a formal assessment of the information support needs of rights information workers in light of these findings. When we know that technological developments can improve information collection for human rights work, it makes little sense that those needs remain unexamined or misunderstood. I suggest that future research should focus on understanding those needs, which in turn can direct researchers and programmers toward improving or creating the technological tools to meet the needs. By focusing future research on the ICT needs of information centres and workers themselves, we can create new opportunities for development and innovation in the field of human rights

information support, innovations that can be informed by and based in practical research evidence.

These and other free and open source software solutions can be of great benefit to human rights and NGO work. The transparency of open source means accountability for the programmers, but also for the agency or group using the software. This provides and additional level of data security, as all stakeholders can be assured that both data/information and its technical manipulation occur under controlled and verifiable conditions. In this vein, Oram (2002) give the example of a rights organization presenting its findings to a government or other power-holder. In this situation, when reporting abuses and violations, "[a] lot of an organization's credibility lies in its process for collecting data and its use of statistics, but the software [it uses] has to be certified to be trustworthy." Along with those other standards, Oram also notes that open source and free software poses fewer problems for organizations when it comes to the transferability of software licenses and copyright, because none can question whether the organization legitimately "owns" the software being used.

These valuable software solutions are born of the ingenuity and dedication of socially conscious individuals the world over. In and of themselves they are only tools, but the human application of these programs has the potential to help solve rights crises and abuses both seen and unseen. Human rights software programs are specifically designed to help those who help others, and contribute to social justice solutions and the betterment of humankind. By calling for increased attention to, and by raising awareness of, these ICT solutions for human rights, those who need these tools have a chance of discovering them, and those who develop these applications will know that their work is both important and needed. It is hoped that this will encourage greater communication and sharing between the communities, and will encourage community feedback about what works, what does not work, and where there is room for improvement and new development.

I am not suggesting that these programs are the technological panaceas for all information support needs in NGO and human rights arenas, nor that open source or free software will help everyone, everywhere, in every situation. However, consider that these programs are the creative output of select individuals or groups that, when taken together, are fed by and in turn feed into the open source and free software movements. This is a new locus for sharing

and collaboration, not just of technology, but sharing of knowledge of and about the processes that can improve human rights. These communities are dedicated to finding useful, workable, and free technological solutions to some of our civilization's most pressing problems. Meanwhile, across the world numerous groups and private citizens have dedicated their time and efforts toward finding and providing aid on the front lines of human rights and NGO work; toward tracking, documenting, and preventing abuses; toward saving human lives. My goal here is to encourage continued discourse and awareness between these two spheres. If as a concerned society we can emphasize and commit ourselves to the kinds of ideals that influence the open source and free software movements — community, collaboration, inclusion, diversity, choice — we have in front of us the opportunity to direct efforts toward building a information society and knowledge civilization where information freedom and human dignity are strong realities. This utopia may be an ideal not to be realized in our lifetimes, but the necessary struggle toward that goal lies with us here and now.

WORKS CITED

American Library Association. 2007. *ALA policy manual*. http://www.ala.org/ala/ourassociation/ governingdocs/policymanual/policymanual.htm (accessed Nov. 25, 2008).

American Library Association Social Responsibilities Round Table. 2002 Welcome to SRRT. *Social Responsibilities Round Table*. http://libr.org/srrt (accessed Nov 25, 2008).

Apodaca, Clair. 2007. The whole world could be watching: Human rights and the media. *Journal of Human Rights* 6.2: 147-164.

Ball, Patrick. 1996. *Who did what to whom? Planning and implementing a large scale human rights data project.* Washington, DC: American Association for the Advancement of Science (AAAS) Science and Human Rights Program. http://shr.aaas.org/Ball/cover.htm (accessed Jan. 28, 2009).

Benetech. 2007. http://www.benetech.org/ (accessed Nov. 27, 2008).

Byrne, Alex. 2007. *The politics of promoting freedom of information and expression in international librarianship: the IFLA/FAIFE project*. Lanham, MD: Scarecrow Press.

Canadian Library Association. Various dates. *Position statements*. http://www.cla.ca/AM/

Template.cfm?Section=Position_Statements&Template=/CM/HTMLDisplay.cfm&ContentID=4912 (accessed Nov. 25, 2008)

Citizen Lab. 2007. Everyone's guide to by-passing Internet censorship for citizens worldwide. Toronto: Citizen Lab/Civisec/University of Toronto. http://deibert.citizenlab.org/Circ_guide.pdf (accessed Nov. 28, 2008).

Collins, Clay. 2007. Disseminating truth to power: Human rights, information and the Internet as court of last/only resort. *Information for Social Change* 25, (winter), http://www.libr.org/isc/issues/ISC25/articles/DISSEMINATING%20TRUTH%20TO%20POWER.pdf (accessed Nov. 26, 2008).

de Silva, Chamindra. 2006. Sahana: Free and open source disaster management system: Project overview," draft 0.9. 20 Dec. 2006. http://chamindra.googlepages.com/Sahana-Project-Overview-0.9.pdf (accessed Nov. 26, 2008).

Faris, Robert, and Nart Villeneuve. 2008. Measuring global Internet filtering. In *Access denied: The practice and policy of global Internet filtering,* ed. Ronald Deibert et al, 5-27. Cambridge, MA: MIT Press.

International Federation of Library Associations and Institutions. 2002. *The IFLA Internet manifesto*. http://www.ifla.org/III/misc/im-e.htm (accessed Jan. 19, 2009).

International Federation of Library Associations and Institutions/International Publishers' Association. 2003. Joint statement on freedom of expression on the Internet. *IFLA Publications*, (June 26)*.* http://www.ifla.org/V/press/ifla-ipaf03.htm (accessed Jan. 19, 2009).

International Federation of Library Associations and Institutions/United Nations Educational, Scientific and Cultural Organization. 1994. *IFLA/UNESCO public library manifesto*. http://www.ifla.org/VII/s8/unesco/eng.htm (accessed Nov. 25, 2008).

NGO-in-a-box. 2003. http://www.ngoinabox.org (accessed Dec. 12, 2008).

Oram, Andy. 2002. Why human rights requires free software. *Platform Independent*, (Oct. 11). O'Reilly Network. http://www.oreillynet.com/pub/a/network/2002/10/11/platform.html (accessed Jan 12, 2009).

OpenNet Initiative. 2007. Pulling the plug: a technical review of the Internet shutdown in Burma. http://opennet.net/research/bulletins/013/ (accessed Nov. 20, 2008).

Phenix, Katharine J, and Kathleen de la Peña McCook. 2005. Human rights and libraries. *Reference and User Services Quarterly*, 45.1, 23-36.

psiphon. 2006. http://psiphon.civisec.org/ (accessed Dec. 12, 2008).

Reporters Without Borders/Reporters sans frontièrs. 2005. *Handbook for bloggers and cyber-dissidents*. http://www.rsf.org/rubrique.php3?id_rubrique=542 (accessed Dec. 8, 2008).

Rezaian, Bobak. 2007. Integrating ICTs in African development: Challenges and opportunities in Sub-Saharan Africa. In *Information communication technologies and human development*, ed. Mila Gascó-Hernández, Fran Equiza-López, and Manuel Acevedo-Ruiz, 23-56. Hershey, PA: Idea Group Publishing.

Samek, Toni. 2001. *Intellectual freedom and social responsibility in American librarianship, 1967-1974*. Jefferson, NC: McFarland.

---. 2007. *Librarianship and human rights: a twenty-first century guide.* Oxford: Chandos.

Schrader, Alvin M. 2000. Internet filters: Library access issues in a cyberspace world. *IFLA Committee on Free Access to Information and Freedom of Expression* (*FAIFE*) papers (January 1), http://www.ifla.org/faife/papers/others/schrader.pdf (accessed January 23, 2009).

United Nations General Assembly. 1948. *Universal Declaration of Human Rights*. Resolution 217 A (III), adopted December 10, 1948. http://www.un.org/Overview/rights.html (accessed Nov. 26, 2008).

Vucic, Vedran. 2006. Free access to open content and the role of NGOs in the use and design of free software and open hardware in developing countries. *First Monday: Proceedings of FM10: Openness: code, science and content*, May 15 – June 30, University of Illinois at Chicago, Chicago, USA. http://eprints.rclis.org/6375/ (accessed Jan. 31, 2008).

Whaley, Patti. 2000. Human rights NGOs: Our love-hate relationship with the Internet. In *Human rights and the Internet*, ed. Stephen Hick, Edward. F. Halpin, and Eric Hoskins, 30-40. New York: St. Martin's Press.