

HUMAN RIGHTS: BENEFITS OF INFORMATION TECHNOLOGY

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Introduction

When the newest round of Balkan troubles [compared to those of 1913] emerged with the breakup of the former Yugoslavia in 1991, information came drastically faster ... News reports accompanied by digital photographs were available instantaneously to Internet users on the World Wide Web (WWW), and discussed ad infinitum on Internet user-groups and discussion groups. Concerned Internet users established links with the inhabitants of Sarajevo through "Sarajevo on-line", an World Wide Web site allowing Internet users to pose questions directly to identified students ... Action alerts were sent across the Internet directly to concerned observers by groups like amnesty International, which led to letter writing campaigns and popular pressure on Western government officials to act.²

In April of 1996 the United States Institute for Peace conducted a conference on "Virtual Diplomacy", exploring the interaction between new information technologies and international conflict management. During the conference many speakers observed that information technology threatens traditional political institutions ... Overlapping revolutions in information technology and the convergence of communications, broadcast and data technologies into a single digital network of networks typified by the Internet, have undermined old political institutions and simultaneously made new international institutions likely because they make it feasible to reach across geographic political boundaries.³

New information technologies have always had an impact on society. The introduction of the Gutenberg press gave ordinary people the ability to produce and distribute information. The radio played a key role in the transmission of information during WWII and the social upheaval due to the Vietnam war was profoundly influenced by images of the war beamed into American homes via television. However, as the above authors observe, the Internet has revolutionized the way information is gathered, transmitted, disseminated and verified. Radio signals can be jammed, television and the print media (despite satellite technology) remain largely localized

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²Jaime Metz, "Information Technology and Human Rights" (1996) 18 Human Rights Quarterly 705 at 706.

³Henry Perritt Jr., "Cyberspace and State Sovereignty" (1997) 3 J. Int'l Legal Stud. 155.

and expensive. The Internet, on the other hand, is international, inexpensive, easily accessible and highly effective.

This paper will argue that the Internet has the potential to be of great assistance in the promotion of human rights on a practical level. The paper will be divided into three parts. First, the workings of the Internet will be addressed. This is necessary in order to understand why the Internet is seen as being different from information technologies of the past. Second, there will be a discussion on how human rights groups can use the Internet. Included in this discussion are technologies most useful to these groups such as encryption technologies. Third, the use of the Internet by human rights groups will be discussed on a practical level including substantive examples of such use.

The Internet: What it is and How it Works

The Internet is considered revolutionary in the world of information technology because it is capable of global broadcasting, while being an instrument for information dissemination. It is also revolutionary in that it is a medium for cooperation and interaction between individuals regardless of their physical location. On October 24, 1995, the Federal Networking Council (FNC) unanimously passed the following resolution defining the term "Internet".

The Federal Networking Council (FNC) agrees that the following language reflects our definition of the term "Internet".

"Internet" refers to the global information system that --

- (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons;
- (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and
- (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.⁴

The above definition basically describes a network which was developed during the 1960's. The idea was to create a network where each node would be equal to all other nodes. All nodes would have the ability to originate, transmit and receive messages.⁵ Furthermore, the messages themselves would be divided into packets, with each packet separately addressed. Each packet would originate at a specific source node, and

⁴http://www.fnc.gov/Internet_res.html.

⁵Barry Leiner et al., "A Brief History of the Internet" <http://www.isoc.org/internet-history/brief.html>.

terminate at another node specified by the sender. Each packet would make its way through the network independently. The path that the packet took would be immaterial. The packet would be propelled from node to node to node, in the direction of its destination, until it arrived to its final destination. If parts of the network were destroyed, the packets would still continue by whatever nodes were operational. This indiscriminate delivery system seemed chaotic compared to traditional forms of telecommunications but it greatly surpassed previous systems in durability.⁶

The National Physical Laboratory in Great Britain was the first to test a network based on the aforementioned principles in 1968. The Pentagon's Advanced Research Projects Agency (ARPA) decided to fund a more extensive project in the USA using four high-speed computers as nodes. The network (ARPANET) grew to about one hundred nodes by 1975 and was proven reliable enough to be transferred to the Defence Communications Agency.⁷

Ten years later, the National Science Foundation (NSF) created five regional supercomputing centres using its own network (NSFNET) instead of using the ARPANET (to avoid red tape) which was based on Internet Protocol (IP) technology and ran at 56,000 bits-per-second. Long distance costs associated with such communications were bypassed by the creation of regional networks, with computers connected in a "daisy-chain" fashion. Each chain was connected to a supercomputer, and the supercomputers were linked together. Any computer could communicate with any other by passing messages along the chain. The system was so successful that it quickly became overloaded. In 1987 a company called Merit Network Incorporated (along with IBM and MCI) was commissioned to upgrade the system to the present Internet.⁸ The agreed language of communication was TCP/IP (Transmission Control Protocol/Internet Protocol), a variant of the original IP. This common protocol allows everyone to communicate on the Internet no matter what kind of computer is used.⁹

The 1990's saw the explosive commercialization of the Internet. In 1993 the World Wide Web was created. The language of choice was HTML.¹⁰ HTML stands for Hyper Text Mark-up Language and gives the Internet an easily interactive interface by allowing users to jump from document to document by clicking on highlighted text within a document. Of course Internet technology continues to evolve to include other

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Vinton Cerf, "How the Internet Came to Be" <http://www.isoc.org/internet-history/cerf.html>.

⁹ Vinton Cerf, "A Brief History of the Internet and Related Networks" <http://www.dnrc.bell-labs.com/vcerf>.

¹⁰ *Ibid.*

interactive technologies, but regardless of future developments, the Internet of today is sufficient to help human rights activists gather, distribute and verify information.

The most important qualities of the Internet for human rights groups are the lack of a central authority and the packet switching technology. The lack of a central overseer of the Internet is important since it rules out the possibility of anyone acting as an editor concerning what information is conveyed or how information is distributed and to whom. The packet switching technology (as opposed to circuit switching) allows a message, which is divided and transmitted as small packets, to reach its destination without regard to its routing. Past information technologies were limited to a particular route and the message travelled as a whole. For example, a telephone call occurs over a particular telephone line, a fax relays the entire message over a single path.

As mentioned earlier, the Internet is relatively inexpensive. All one needs is a computer and an Internet connection. While there is some expense in connecting to the Internet, in comparison to starting a newspaper or a radio and television broadcast, it is highly affordable. Also, it is much easier to transmit information over the Internet in a private manner. Lastly, there is a culture or an ideology associated with Internet pioneers and dedicated users. This philosophy is typified by the eager adoption of new ideas and the vigilant defence of the Internet against governmental or commercial control.¹¹ Given these principles, one can see why human rights groups are anxious to utilize this technology for the promotion of human rights worldwide. As an example, Amnesty International has used the Internet to its full potential for the promotion of human rights since 1987.

Internet Tools for Human Rights Groups

October 9, 1992, Columbia

Amnesty International learns that several thousand Indians who were staging a sit-in blocking the Pan-American highway near Rio Blanco, Cauca Department, southern Columbia have been fired upon ...

October 9, 1992 evening

Amnesty issues an emergency action via email to its offices worldwide beginning an immediate global response ... Later that night three indigenous leaders are released ...

October 11, 1992

Another 34 Indians arrested during the protests are released.

October 14, 1992

¹¹ Perritt, *supra*, at 162, at note 3.

The Indians have dispersed and returned to their communities after a 12-hour meeting with a government commission ... which results in agreement on a number of points of land reform.¹²

This is an example of the potential power of the Internet in promoting human rights. There are several tools available to human rights groups via the Internet which make possible such expedient and efficient responses to human rights violations.

General Information Retrieval

There are two main types of information retrieval on the Internet, pull technology and push technology. Pull technology refers to the use of Internet search engines to retrieve information by submitting a query to the search engines and then browsing the results produced by a particular search engine. Push technology involves the user telling the browser what type of information he or she would like and the browser then sends the information. It is also possible to use tools such as Informant (<http://informant.dartmouth.edu>) and NewBot (www.wired.com/newbot/) which automatically searches through the information the user requested and reports, usually via email, any updates or changes to the web sites in question.

Internet Directories

There are a number of very extensive web sites specifically dedicated to providing information on human rights. These sites provide a user with a wealth of information on just about every aspect of human rights, as well as access to user-groups and chat groups. Some of these sites include:

- <http://www.aaas.org>
- <http://www.derechos.org>
- <http://www.unm.edu/humanrts>
- <http://www.hri.ca>
- <http://www.unhchr.ch>

Usenet and Chat Groups

These consist of a number of users with a specific interest talking to each other either in real time or by posting a note. This allows people to exchange and voice ideas with

¹² Patti Mallin, "Human Rights Activism on the Internet" (1998) Institute for Global Communication, <http://mail.igc.apc.org/igc/pn/hg/udhr50.html>.

those having similar interests. Also, they can be used as methods of transmitting and distributing information on human rights violations, when security is not an issue.

Fax and Internet Integration

The service called TPC.INC (The Phone Company's Remote Printing Service) allows a user to use the Internet to send a message to a fax machine. This is made possible by a network of institutions and individuals worldwide who register as a remote-fax server. With this a user can send a message via the Internet to someone without an electronic means of communication. When one sends the message TPC.INC looks for a registered remote-fax server in the general area and routes the message to that server. Therefore, even those without any personal access to electronic means of communication can be reached if there is a remote-fax server in their general vicinity.

Telephone and Internet Integration

Perhaps the most exceptional tool available to human rights groups via the Internet is the PGPfone. This software program allows one to place calls via the Internet. There is an obvious cost benefit to this tool but the most important aspect is that the conversations are encrypted so that only the intended recipient hears the what the sender is saying and vice versa. This technology is available at <http://www.pgp.com>

Security Measures for Internet Communication

There are a variety of methods to protect the privacy and authenticity of Internet communications, the following are the most popular and most effective ones available.

i. Digital Signatures and Encryption

A digital signature is an electronic way of signing documents. Technically, a digital signature is the sequence of bits that results from using a one-way hash function to create a message digest of an electronic communication. The resulting message digest is then encrypted using a public-key algorithm and the sender's private key.¹³ A recipient who has the sender's public key can accurately determine (1) whether the sequence of bits was created using the private key that corresponds to the signer's public key, and (2) whether the communication has been altered since the sequence of

¹³ Smedinghoff, Thomas, *Online Law*, (The Software Publishers Association: 1996).

bits was generated.¹⁴ Digital signatures look like a random string of alphanumeric characters. A digital signature is unique for each document signed. This is because a digital signature is derived from the document itself. As a result, any change to the document will produce a different digital signature.¹⁵ A digital signature allows the recipient of a digitally signed communication to determine whether the communication was changed after it was digitally signed. Therefore, a digital signature affords certainty about the source and integrity of the communication.

When a recipient gets a digitally signed communication, the recipient's computer runs a computer program containing the same cryptographic algorithm the sender used to create the digital signature. The program automatically decrypts the digital signature using the sender's public key. If the program is able to decrypt the digital signature, the recipient knows that the communication came from the alleged sender. This is because only the sender's public key will decrypt a digital signature encrypted with the sender's private key. The program then creates a second message digest of the communication and compares the decrypted message digest with the digest the recipient created.¹⁶ If the two message digests match, the recipient knows that the communication has not been altered.

Cryptography keys can be broken through what is known as a brute-force attack. In a brute-force attack, every possible key is tried until one decrypts the ciphertext. The longer the key length, the longer it takes to try all the possible keys. For example, for a key that is 56 bits long, it would take approximately 10 hours to find the key. For a key that is 128 bits long, it would take 5.4×10^{18} years to find the key.¹⁷

After the message has been digitally signed, the entire message can be encrypted to increase security. The sender and recipient can share the single, secret key by encrypting it using the recipient's public key. The encrypted secret key is then attached to the digitally signed document that was encrypted using conventional cryptography. Thus, when the recipient receives the communication, he or she uses his or her private key to decrypt the single, secret key, and then uses that single, secret key to decrypt the communication and digital signature. The encryption technology most used by human rights groups is PGP (Pretty Good Privacy) developed by Phil Zimmermann and is available on the Internet.

ii. Anonymous Remailers

¹⁴ Utah Code Ann. ss. 46-3-103(10) (1995).

¹⁵ Smedinghoff, *supra*, at 44.

¹⁶ www.verisign.com.

¹⁷ www.verisign.com.

Along with digital signatures and encryption an individual can further hide his or her identity in order to maintain privacy. This is accomplished by sending the message to an Internet anonymous remailer such as Anonymizer. The service removes all information that may identify the sender and then emails it anonymously to the intended recipient. This service can also be used if a user wants to browse the Internet anonymously. It can be found at <http://www.anonymizer.com>.

Use of Internet Tools in Practice

Under a computer law, decreed by Burma's State Law and Order Restoration Council (SLORC) in September 1996. The possession of an "unsanctioned" modem is punishable by up to 15 years in prison. Rights groups such as FreeBurma, base their communications facilities across the Thai border, where government reaction to their activities ranges from less than cooperative to downright hostile. PGP encryption is crucial, both to communicate with sympathizers outside South East Asia and to protect data on hard disks, particularly those that detail their sources. Security analysts recently reported that Singaporean contractors are building a "cyberspace warfare centre" to help SLORC crack down on illegal modem use. Even so, spotting data leaving a country is one thing; interpreting it is something else. "Thanks to encryption," said an unnamed source in south east Asia, "an unprecedented amount of information is getting out. There's no stopping it."¹⁸

It is obvious from above example that the Internet has indeed ushered in a new era in information gathering, distribution and authentication. Oppressive regimes are becoming increasingly aware that the traditional methods of controlling newspapers, television and radio are not prevention information from entering or exiting their borders. As we mentioned earlier the Internet's use of packet switching technology instead of circuit switching makes the Internet a means of communication that cannot be confined to borders. One way to describe any attempt to control the Internet on a national level is that it "is like placing a stone on a four lane highway and prohibiting traffic from passing the obstruction".¹⁹

Another example of the way the Internet is used by human rights groups is the use of databases. For example The Center for International Human Rights Law maintains a website in which legal briefs and other human rights legal resources are stored. This allows over-worked and financially disadvantaged human rights lawyers to download the briefs, saving them a lot of time and money. This allows lawyers and other human

¹⁸ David Banisar, Simon Davies, "The Code War" 1 Index on Censorship 163 at 169.

¹⁹ Errol P. Mendes, "Human Rights and the New Information Technologies: The Law and Justice of Proportionality and Consensual Alliances" (1997) <http://www.uottawa.ca/~hrrec/>.

rights groups to take on more cases and thus help more victims of human rights violations.

Furthermore, the Internet has allowed ordinary citizens to play a major role in the promotion of human rights worldwide. An individual who would like to help a cause does not have to do anything more than send an email. The group People's Decade of Human Rights Education managed to obtain more than 800,000 signatures via email and fax to bring to Istanbul where the Habitat II meeting was held. The signatures were attached to a request that housing be recognized as a human right. In China officials are trying to cope with an unprecedented amount of "subversive" information such as electronic newsletters like VIP Reference. VIP Reference is compiled by democracy advocates in the US and distributed to hundreds of thousands of computers inside China.²⁰ Amnesty International, to commemorate the Tiananmen Square crackdown, placed on the Internet a file, which can easily be downloaded onto a disk by any computer with a floppy drive. The file is free and expressly urges the further copying and distribution.²¹

China and other countries are trying to regulate the information flow from the Internet which appears to be in direct violation of international law. The ability to communicate freely across borders is enshrined in a number of international human rights agreements.

Article 19 of the *Universal Declaration of Human Rights* proclaims:

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any medium and regardless of frontiers.²²

Article 19 of the *International Covenant on Civil and Political Rights* states:

... this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice.²³

Article 10 of the *European Convention for the Protection of Human Rights and Fundamental Freedoms* states:

²⁰ Erik Eckholm, "A Trial Will Test China's Grip on the Internet" New York Times, November 16, 1998.

²¹ Amnesty International Uses the Internet in the Fight for Human Rights, 24 May 1996, http://www.amnesty.org.uk/news/press/releases/china_may24.shtml.

²² U.N.G.A. Res. 217 (Dec. 10, 1948), <http://www.un.org/Overview/rights.html>.

²³ 999 U.N.T.S. 171 (Dec. 16, 1966), http://www.unhchr.ch/html/menu3/b/a_ccpr.htm.

Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers.²⁴

Conclusion

There is no doubt that the Internet is a powerful tool. Like most other tools it can be used to the benefit or detriment of humanity. There are plenty of examples of the use of the Internet to the detriment of humanity. Hate literature, child pornography, surveillance, corporate crime and other such activities abound.²⁵ However, it is important not to lose sight of the beneficial nature of the Internet and use it to its full potential. The incredible technology made possible by the Internet has provided human rights groups with resources unprecedented in our history. These resources are vital to organizations that are, for the most part, severely underfunded and short-staffed. The work of these organizations is crucial to the protection of millions of individuals worldwide and the Internet is their best resource. It is therefore of utmost importance, that in attempting to regulate the negative aspects of the Internet we do not jeopardize its ability to contribute to the positive.

Furthermore, an effort needs to be made to distribute this technology to technologically underdeveloped part of the world where, in some cases, it is needed the most. Myers states, "while the Northern hemisphere benefits greatly from the instantaneous flow of information over the Internet, the majority of the Southern hemisphere, in particular, sub-Saharan Africa finds itself nowhere near par with the North ...".²⁶ International human rights law encourages the use of communication tools such as the Internet, as well as, the free and private use of such technology. Attempting to provide those with no access to a powerful tool such as the Internet with some access, however limited, is a worthy goal. A goal which will further the gathering and dissemination of information necessary to ensure the promotion of human rights on a global scale.

²⁴ 312 U.N.T.S. 221 (Nov. 4, 1950), <http://www.coe.fr/eng/legaltxt/e-dh.htm#conv-dh>.

²⁵ Gregory Walters, "Information Technology, Human Rights and Community" (1998) 36 Human Rights Research and Education Bulletin.

²⁶ Jennifer Myers, "Human Rights and Development: Using Advanced Technology to Promote Human Rights in Sub-Saharan Africa" (1998) 30 Case W. Res. J. Int'l L. 343.