

African Media Online - Second Edition

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1 Section One - What is the Internet

1.1 Introduction

The Internet has evolved from being an obscure playground for the technically-initiated minority and academics in the 1990's into the fastest growing global communications medium. According to the NUA, there are estimated 304, 36 million people online currently, and a global estimate of 72 million host computers online in January 2000, as compared to the 13 million in July 1996 (<http://www.nw.com>)

During the past few years the Internet as a communications medium has enjoyed unprecedented growth, extending into virtually every sector of human activity, from commerce and trade to travel and tourism. Geographical boundaries are being broken down every day as more and more business is conducted over the Internet. The Internet is driving the establishment of a truly global economy where the nations of the world can freely trade their goods and services.

The pace at which these changes are taking place is unprecedented in world history. However, there is a danger that, instead of becoming the great equaliser, the Internet may become the great divider. This is because countries that are slow to become "wired" to the Internet - particularly those in the developing world - will fall behind nations already far ahead in terms of Internet connectivity. Therefore, we may end up with two sharply divided groups of countries: the one an electronic elite, well-equipped to take advantage of the Internet and its vast potential; another, a sort of electronic underclass, unprepared to take its share of the global Internet cake. The haves and have-nots scenario of the industrial age will be replaced with the knows and know-nots of the information age. This book attempts to demystify the Internet and provide a guide on how to use the medium.

1.2 History and development of the Internet

The basis of the today's Internet was developed by the US Defence Department in the early 70's. It was specifically designed to enable military personnel to continue working in the event of a military attack even if part of the network was destroyed. The Department's Advanced Research

Projects Agency (ARPA) determined that the best way to secure a communication system from any attack was for it to be totally decentralised. Thus ARPAnet had each computer connected by high-speed data cables to a number of neighbours. "When computer A wants to send a message to computer B, it divides it into "packets". Each packet is sent to the neighboring computer C with a note of the "address" of B. Computer C looks up the best available route in the general direction of B and forwards the message. If computer C disappears, A tries its other neighbors." (Holderness, 1995). In this way any obstacles are avoided and the messages are simply re-routed. It is this unique feature that allows the Internet to be the free medium it is today. It is not owned by any government or corporation and cannot easily be controlled by them. This also makes it a unique publishing medium.

The Internet is often described as "the network of networks". It consists of millions of computers that are online 24 hours a day, ready to send, receive and pass on messages from similarly connected computers anywhere in the world. If you have a computer, a telephone, a modem, the appropriate software (computer programs), and an Internet service provider (ISP), you can connect to the Internet.

The Internet is a medium for transferring digital text, pictures, audio and video between any number of people anywhere in the world. Nua Internet Surveys report that there are now 304.36 million Internet worldwide as of March 2000

(http://www.nua.ie/surveys/how_many_online/index.htm). The Internet is more than just the widely-publicised world wide web. It is any tcp/ip data, which can be described as the lingua-franca of computer networks. The web is that part of the Internet that uses http: protocol, via html and similar tags to display web pages. Although still in its infancy, in Africa today, WAP is the cell-phone standard for intersecting with the rest of the Internet.

1.3 Getting started - what you will need:

A Computer:

You will need a computer, a modem, and some software. Then you need to get connected to the Internet via an Internet Service Provider. You can basically use any computer to connect to the Internet but it must have the computing power to be able to handle the software.

With a 286 PC you will be able to run a DOS based electronic mail (email) program. To be able to browse the World Wide Web (WWW), and see the graphics (pictures) you will need at least a 386 IBM compatible PC, with 8mb of internal memory (RAM). This will be quite slow but it should be adequate. To listen to sound and video files, you will need some extra equipment - a sound card, video card and speakers.

Modem:

Computers work with digital data. Most of our existing infrastructure i.e. telephone lines use analog signals but data is sent via the telephone line - how? Most telephones in Africa use analog signals. A modem translates the computer's digital signals into analog signals. These are then reconverted to digital signals by the modem at the receiving end. Modems come in three forms: Internal, external and PCMCIA. Internal modems are installed inside the computer. External modems can be plugged into your computer. They also require a separate power source. PCMCIA modems are little card-like devices commonly used for laptops. However, the type of modem is not as important as the speed of it. The transfer of data is measured in bits per second (bps). A 36,600 bps modem is a good starting point. They can be a little expensive but will reduce your online charges and can save a lot of frustration later. Be sure to check that the modem you purchase is compatible with your computer and is able to connect to your service providers' modem.

Getting a connection:

To access the Internet, you will have to connect your computer via a modem to an ISP computer. You subscribe to the service and in addition to the telephone call costs, you pay a fee to the provider, based on a flat monthly rate or an amount related to usage. Your ISP will supply you with the necessary software. This will consist of TCP/IP (transmission control protocol/Internet Protocol) which allows computers to 'speak' to one another; an email program; and a Web browser for surfing the Internet.

Levels of Internet Connectivity

There are various levels of connectivity - email only; dial up full Internet access; and 24-hour access which is expensive and is usually limited to corporations and universities.

So you have the hardware and software installed. You are connected to the Internet but what can you do with it? There are numerous ways to use the net. How you choose to use the Internet will depend on the kind of access you have and your needs and preferences.

2 Geography of the Internet

The Internet can be divided into six distinct services and I will outline the basic functions of each:

- e-mail (electronic mail)
- telnet
- ftp (file transfer protocol)
- gopher
- www (world wide web)
- wap (wireless application protocol)

2.1 E-mail

This is for communication. Email software such as Pegasus Mail or Eudora, etc allows users to send and receive messages around the world for the price of a local telephone call. Many web browsers have e-mail tools built into them like Netscape and Interscape. An e-mail address will look something like this: kammy@thoth.ru.ac.za

Kammy is the user at (hence the @ sign) the journalism department (journ) of Rhodes University (ru), an academic institution (ac) in South Africa. The za in the address refers to South Africa.

Remember, like telephone numbers or postal addresses the e-mail address must be correct or else the mail will not reach the intended person. People today often sign up for free web-based e-mail addresses, such as hotmail, yahoo mail and ananzi mail, etc so their addresses will read like kammy@yahoo.com. The advantage of web-based e-mail addresses is that people can access their mail from any internet-linked computer in the world simply by visiting the parent site (eg. www.hotmail.com). Journalists often customise their Pegasus or Eudora e-mail software to autoforward mail to a web-mail address, but expect to have access to a cyber café or a linked computer somewhere else.

101 uses for e-mail

- It can be sent and received at your convenience.
- It is far cheaper than making a voice call.
- You can download your e-mail from the Internet wherever you are in the world.
- Via e-mail, it is sometimes easier to get to difficult sources who will not speak to you in person. Many journalists have successfully used e-mail for conducting interviews.
- If you write about particular topics - health, environment, development, sport, or whatever - you can subscribe to free, specialised e-mail publications, which can be very useful in keeping you informed about your subject.
- You can also participate in expert discussions via mailing lists.
- On the World Wide Web (WWW) there are 'intelligent agents' that can monitor news, debates, organisations, on your behalf, and inform you via email when relevant information is found.
- In some African states where telephone connections are sometimes difficult to find, many people can share one telephone line to receive their own e-mail.
- You do not have to synchronise phone calls with the person at the other end. This alleviates the expensive telephone tag where somebody calls and you're out of the office when you return the call they have left.

Accessing Internet resources with e-mail

For persons with e-mail access only, it is possible to obtain documents from the World Wide Web using one of a number of mail servers set up for this purpose. You can send a command by e-mail, such as "get" or "send" followed by the URL (Internet address) of the page you want. The server then retrieves the file and sends it to you by return e-mail. The process is slow and tedious as compared to web "surfing" with browser programme like Netscape or Internet Explorer. Response times may vary using this method depending on the location and network traffic. The major sites providing this service are w3mail@gmd.de; agora@dna.affrc.go.jp; agora@kamakura.mss.co.jp; webmail@www.ucc.ie; and agora@info.lanic.utexas.edu. A "help" message to any of these servers will bring you a file explaining the particular commands it uses. In addition to the basic "get" or "send" command, most servers have additional commands to select whether to receive the files as html (the coding that enables browsers to display your document) which can be opened in a web browser and does not require you to be connected online.

One of the many resources available via e-mail is The Reporters Internet Guide (RIG) compiled by Scott Henry. It is an excellent resource for contacts, websites, searchable databases, etc. It can be downloaded onto your computer and you can browse at your leisure. The address is <http://www.crl.com/~jshenry/RIG.ZIP>. It is a compressed zip file and will have to be unzipped before it can be read. Zipping software can be acquired free as an attachment at <http://www.tucows.com>. This is quite a large file and takes the server (that is the computer holding the data) about three or four days to process due to the amount of requests it receives. I received my file four days after I sent the request.

Patrick Crispen has also compiled a week by week tutorial guide to the Net. This can also be downloaded onto your computer. You can download the index file from <http://www.brandonu.ca/~ennsnr/Resources/Roadmap/> or you can get the lessons e-mailed to you. Send an e-mail letter to LISTSERV@UA1VM.UA.EDU with the command GET WEEK# PACKAGE F=MAIL (there are six weeks) in the body of your e-mail letter, replacing the # with the week number of the block that you want to retrieve. For example, to get all of the "WEEK2" files e-mailed to you all you have to do is send an e-mail letter to LISTSERV@UA1VM.UA.EDU with the command GET WEEK2 PACKAGE F=MAIL

The servers distributing such resources are often very busy and you may have to try a few of them before you get what you need. I find it useful to get the help files first, print them and then read them at my leisure, and make a note of what I need to do before sending a message. This can save a lot of time, frustration and returned e-mails. I have included a list of helpful African resources for journalists at the back of this book. All of these files can be retrieved in the same way.

2.1.1 Using e-mail to publish and distribute

East Cape News (ECN) is a small news agency in the Eastern Cape, South Africa, covering news in the area. Until recently they used to fax their stories to newspapers in South Africa and pictures were sent via courier. This was expensive and often tedious and material could take up to 24 hours to reach its destination. Stories are now e-mailed and any photographs are either scanned into digital format, or captured directly by a digital camera, and sent as attachments (a digital file sent with the mail), or are placed on a Web page from which the newspapers can easily retrieve them. This is a quick, simple, efficient and very inexpensive means of transferring photographs and

stories. Also, the copy does not need to be re-typed at the receiving end. It is also possible to send and receive sound files as e-mail attachments as happens with radio stations in French West-Africa. In these cases, audio recordings are digitised with software programmes like RealAudio, and compressed by the same programmer and being sent on the Internet.

2.2 Listservs

2.2.1 Mailing Lists

Mailing lists or listservs are Internet discussion forums where all messages are delivered as email. Users have to subscribe to the mailing list in order to send and receive listservmail. They can be an invaluable source of information for journalists. Members are often experts in their field, or very knowledgeable, and journalists around the world use listservs to stay informed, or to track down experts. Listservs are also particularly helpful to reporters covering beats e.g. Health, environment, crime, etc. Journalists can subscribe to the relevant mailing lists thus allowing them to keep up with what the experts are talking about, spot new trends, events or build a database of expert contacts internationally. Listservs can also help journalists establish new contacts, liaise with colleagues and keep in touch with debates around the world.

Listservs are particularly useful to journalists in Africa because they do not require expensive hardware and software and fast Internet links in order to be able to accessible. You will be able to use them with basic e-mail access. Most listservs are free to belong to. Make sure to read over your Internet service charges as some ISPs do charge for the number of e-mails received. However, some listservs allow one to receive the week's discussions in digest form. Digests are generally multiple e-mails that are compiled into one message and sent either daily or weekly.

To find listservs:

<http://www.nova.edu.7inter-Links/listserv.html>

<http://scwww.ucs.indiana.edu/mlarchive>

<http://www.tile.net.tile/listserv/index.html>

<http://paml.net/>

Mediachannel

Misaalerts

John Barkers Listserv

These are a few that might be useful to journalists:

Online news - to subscribe send mail to Majordomo@nando.net with the following command in the body of your email message: subscribe online-news-dummy

Society of Professional Journalists - general journalism issues. To subscribe send mail to SPJ-L-REQUEST@PSUVM.PSU.EDU

CARR-L - Computer assisted research and reporting - To subscribe send mail to listserv@ulkyvm.louisville.edu

IRE-L - Investigative reporting. It is frequented by members of the professional organisation, Investigative Reporters and Editors, IRE. To subscribe send mail to listserv@mizzoul.missouri.edu

Listserv Commands

A listserv usually has two email addresses associated with it. One is the "listname address" that allows all the subscribers to communicate. If you post a message, this is the address you will send it to. For example, to send a message to all the people currently subscribed to the Computer-Assisted Reporting & Research list, send mail to CARR-L@ULKYVM.LOUISVILLE.EDU. Remember, you can only do this if you have already subscribed to the list. To do this you send the message SUBSCRIBE CARR-L Your Name to the email address

LISTSERV@ULKYVM.LOUISVILLE.EDU

Minding your p's & q's

- Each listserv has its own personality. "Lurk" for a while and watch the use of language and tone with which people respond before you start posting.
- Know what's being discussed and stay on the topic when responding. Time is important and people do not have time to sift through laborious replies.
- CAPITALS ARE CONSIDERED SHOUTING IN NETIQUETTE AND IT IS VERY RUDE TO USE CAPITAL LETTERS.
- Always read your messages before posting them. It is very easy to rush off a letter and this can be damaging sometimes. Always check that you are sending the correct message to the right address. There are often stories of personal messages mistakenly sent to listservs and vice versa.

- Do not send long questionnaires to the listservs. Always tell people of the research you are doing and ask if they would be willing to participate. You can then send the questionnaires off individually.
- Always check that your query has not already been discussed. Some listservs allow you to search the archives and get a file of the past postings.
- Most of these people are very busy. Ask only when you really need help and are not just being lazy.
- If you want to speak to a specific person/a few people, send a message directly to them rather than mailing the entire group.
- It is rude to advertise unless the group specifically allows it.
- People sometimes take a while to reply and this is not the source to be using on deadline.
- Always ask people if you can quote them. Most often they don't mind, but sometimes they may take offence. Identify yourself as well so that people know who you are. The easiest way to do this is to add your "signature" to the bottom of the e-mail. Most e-mail programs allow you to create a signature file and automatically append this to all messages.

Consider the source of the message. Treat online contacts and sources the same way you would real ones. Always check that the source of the information is legitimate and not someone posing as an expert or a spokesperson. The same would apply for manners and etiquette online.

2.3 Newsgroups

Newsgroups (aka Usenet) are another major realm of online debate and discussion. Consider these as international meeting places where people can drop in at any time, leave their messages and read what others have to say.

They differ from mailing lists in that one does not have to subscribe to a newsgroup. Also, the messages do not come to you as email. But anyone can read the messages, and anyone can post messages to newsgroups. Your Web browser (usually Netscape or Microsoft Explorer) has a built-in function for reading, and posting to, newsgroups.

A newsgroup can be loosely described as a collection of messages with a related theme. Millions of messages are sent to newsgroups every day, covering everything from art to zygotes. The newsgroups are divided into hierarchies, such as:

about.

comp - about computers

misc - news that does not fit anywhere else (miscellaneous).

Alt - alternative news groups that tend to cover unusual or controversial topics. These are sometimes not carried by all sites.

Biz - business

Rec - recreation

sci - science

News - about usenet itself.

Newsgroups are extremely useful sources of information for journalists. While it is often tedious to read through all the postings to a newsgroup (there are many trivial and/or abusive postings) there are very useful Web-based tools that can help you search the archives of newsgroups, or monitor them into the future. The best such tools are

1) DejaNews (<http://www.dejanews.com>), a dedicated resource for dealing with newsgroups. You can use it to search many thousands of newsgroups simultaneously for any concept of interest to you. It has a well-developed and powerful search syntax, allowing you to search by author, by keyword, by time frame, by hierarchy, etc. DejaNews has the largest archive of past newsgroup postings of any tool on the Internet.

2) Reference.Com (<http://www.reference.com>). This excellent resource allows you to search the archives of both newsgroups and mailing lists. And, most interesting for journalists, it allows you to place a 'standing search'. You define your topic of interest, with keywords, and thereafter the tool monitors the newsgroups continuously on your behalf. If any new posting matches your topic, it is sent to you by email.

Newsgroups are not as structured as mailing lists. There tends to be a lot of "noise" as there is usually no one moderating the discussion as in a listserv. However, a newsgroup can be a great

place to discover story ideas, and to get the required information by monitoring discussions. It is also a great place for an informal discussion without the bother of subscribing to a listserv and waiting for an answer.

Some journalism discussion groups:

rec.mag

rec.radio.broadcasting

alt.journalism

alt.journalism.gonzo

alt.news -media

alt.politics.media

Transferring information

2.4 File Transfer Protocol (FTP)

FTP is a method of rapidly sending and receiving data from one computer to another. This will also allow you to download shareware or low-cost programmes to install on your own computer. FTP is run by installing FTP software on your computer (which can also be downloaded from <http://www.tucows.com> you do not have FTP software). Transferring files across networks takes up a lot of computing power and it is considered bad form to connect to most FTP sites during their business hours. Just as you can receive files over the Net, you can also make your files publicly available for other people to share.

Most FTP files are compressed to avoid clogging the data lines and to ensure that the data is transferred quickly. Winzip for windows, pkzip for dos, or Stuffit Expander for Macintosh will decompress them. These programmes are also available on sites like <http://www.tucows.com>.

2.5 Telnet

Telnet is a program that allows you to log onto a remote computer and use its programs directly. It has several uses: Using Telnet you can check your e-mail if you are away by logging into your account at home. (Note that this can only be done if your service provider allows it). You can telnet to the world's major database hosts (such as Dialog, FT Profile, Dow Jones and others) to do

research, but these are commercial services and can be costly. You can also telnet into libraries around the world.

Telnet is not a search engine. You cannot get to a telnet site unless you know the address. Luckily however, there is a Web-based resource, Hytelnet, which contains a huge database of telnet addresses.

You can find it at the Web address <http://library.usask.ca/hytelnet/>

2.6 Gopher

Gopher, a menu-based tool for accessing text-only information, was developed in the 1980's to make online navigation simple for novices. (Gilster, 1994:37). The Web, with its possibilities of hyperlinked text, colour pictures, etc., has largely replaced Gopher. Nonetheless it is still a useful tool. There are enormous volumes of data residing on Gopher servers around the world. It is also possible to search 'gopherspace' (all the gopher servers in the world) by using Veronica, which is a search engine that trawls all the gopher sites every few weeks, looking for new information.

Veronica can be found at the University of Minnesota site. The original gopher site and possibly the largest of them all is at <gopher://gopher.umn.edu>

2.7 Internet Relay Chat (IRC)

This is one of several technologies allowing real-time text-based communication via the Internet. IRC is great for interviewing people. "Since its development in Finland in 1988, IRC has played a worthy part in transmitting the latest eye-witness accounts of every major event - including the Gulf war, the Californian disasters, the Kobe earthquake, and the Oklahoma bombing." (Kennedy. 1995:105). IRC works on a concept of channels that are based on interests. There are hundreds of channels dedicated to different interests ranging from cricket to personal relationships. To find out more about IRC try: <http://www.singnet.com.sg:80/public/IRC/index.html>. IRC is increasingly available on websites, via web-browsers like Netscape or Internet Explorer but you can also download specialised software like Mirc to access non-web IRC venues on the Net (<http://www.mirc.com> or <http://www.icq.com>)

3 World Wide Web (WWW)

The WWW is the fastest growing aspect of the Internet. The WWW can be accessed using a 'browser' program like Netscape or Internet Explorer. These allow access to the text or multimedia documents on the Web. The reason for the web's popularity amongst its users is its relatively easy interface, and its incorporation of hypertext and graphics. Text documents are stored in html (hypertext mark up language) format, which allows you to click on hyperlinks (highlighted words) in order to get to another file.

Journalists are increasingly using the web to access information for stories. Many governments store policy documents, court rulings and other information on their web sites. This makes the information easy to find and retrieve at your own convenience.

More and more newspapers are beginning to store their archives on the net. Some of these are commercial but most are free. This is an international research library at your fingertips, allowing you to compare and contrast your country's stories with those in other countries.

Apart from the myriad of research possibilities, the Web also has an abundance of reference information - like dictionaries, thesauri, and the Encyclopaedia Britannica. There are also white pages which allows you to search for e-mail addresses -- some even include phone numbers and addresses, urls. Try some common surnames from your country and see if you can find useful contacts in the diaspora. There are also a variety of online calculators that can calculate anything from your recommended weight to the difference in living standards from one city to another. Online translators are also handy for journalists seeking information on websites in a foreign language.

Ten tips to become a power browser

1. Set your launch page to a local site or even a blank page (Go to Options on the toolbar - General - Appearance and select the blank page option). This will launch the browser quickly as it will not have to connect to an international site. If your bookmark file is small, you can set this as your homepage (it's in the Netscape folder called bookmark.htm on your hard drive) or you can customise this to only incorporate your favourite links. Unfortunately, Internet Explorer does not have an equivalent, however, software programmes that convert the favourites folder to a single bookmark file can be downloaded from <http://www.tucows.com>.

2. Open multiple windows, so that when one is loading you can browse at another. It is under the file menu - New Web Browser in Netscape Navigator and New Window in Internet Explorer or "control n". You can then "toggle" between windows according to which are downloading faster.
3. You can turn off the graphics if you are checking a number of sites (In the Options menu, turn off the Auto Load images by clicking on it). This eliminates the slow downloading of images as you move about the Net. When you find a site of interest and want to see the images, click on the Load images icon on the toolbar. For Internet Explorer, on the tools menu, click internet options, click the advanced tab, in the multimedia area, clear the show pictures check boxes.
4. You can disable javascript by clicking on Preferences - Languages and uncheck the Java and Javascript boxes. You'll save yourself a lot of time by not having to wait for pointless Java applications to load.
5. If you can, use a proxy. Proxy servers sit on the Internet storing local copies of frequently accessed files and every other document that passes through. If you configure your browser to a local proxy, it will check there for a copy of the document before it goes on to look for the URL. This is a great time saver (Under Preferences - Proxies check the manual proxy option). Check with your service provider to see if there is a proxy that you can use. Some web companies also display their proxy settings on their web pages.
6. Whenever possible, browse the Web when the US is asleep. Americans are the largest block of users in the world. There's also less traffic outside of traditional office hours and weekends. Sunday mornings are the best time to surf.
7. Your browser stores recently accessed pages in an area called the cache. When you click on a link, it checks the cache first to see if it has a copy. In Navigator you can change the amount of memory cache you have. The default is 600K, but if you have a machine with 8Mb or more you can safely change it to 1000K. You will find this in Options-Network Preferences and select Cache to access the dialogue box.
8. Set your disk cache to the largest that your computer will allow. With a large hard drive and if you have the space to spare, 10 or 20mb works well.
9. Organising your bookmarks will save you a lot of time. The better organised they are, the quicker to find. Bookmark importer is a program that allows you to load your bookmarks into a Windows Explorer style view and edit them from there. You can get a copy from ftp.download.com/pub/win95/internet/bkmark11.exe

(Tips taken from .Net May 1997.)

Search Engines

Anybody who has "surfing the web" will know that it can be incredibly frustrating if you are looking for information in a rush. Sometimes called the World Wide Wait, it can be exactly that if you don't know what you are looking for and how to find it. The sheer size of the Internet --- with more than 100 million websites -- and the fact that documents are not indexed makes it seem impossibly difficult to find the relevant information. Although web search engines try to create a detailed record of the Web by using automated software agents that trawl sites and record the addresses, it is from this point on that the information varies. Some search engines record the full text of all the sites visited and others index only the URL and a summary of the site. Thus the adequacy of each search engine varies according to the manner in which they update record their data. And none of them has a complete index of all websites.

Another important consideration when using search engines is the search language they use (see below). It is important to read the help files to determine the best way to fully exploit all the features of the search tool so that you can get the best results in the shortest possible time. Finally, the speed with which these documents are retrieved is very crucial to the choice of engine.

Currently no one search engine stands out in terms of the above criteria. A test of different engines revealed that the results can vary given the same search criteria. Therefore it is a good idea to do a number of searches on the same subject using different engines.

Examples of search engines and web guides:

International: Go Network, Excite, Infoseek, Yahoo, Northernlight.com

South African: Aardvark.co.za, Max.co.za, Ananzi.co.za

Boolean Searching

Web searching can yield tens of thousands of results, so the more detailed and focussed the search the better. To do this, boolean phrasing is often used. "In the 1940's, a mathematician named George Boole, used the concepts of binary systems to create a new type of algebra that included a mathematical operation called a logic gate. Using this same principle, logic gates can be used to add, subtract, multiply, divide, and compare symbols or numbers." (Laudon et al, 1995:33).

Boolean Searching is a set of instructions for the computer to match specific phrases or terms.

Operators are AND, OR, NEAR and NOT. Most search engines use Boolean operators.

AND connects two different terms - Africa AND Internet - refers to the Internet in Africa. Both terms must be present.

OR - requires that at least one term is present - Africa OR Internet - documents on Africa or the Internet.

NEAR - one term must be found within a specified number of words

NOT - excludes this term from the query - Africa AND Internet NOT radio - this will exclude any documents that contain the word radio.

Some of the engines recognise capitalisation.

Plus/Minus Signs

Some search engines use plus signs to connect phrases (like the Boolean AND) and a minus to exclude the term from the search (similar to the Boolean NOT).

Africa +Internet -computers

Quote Marks

Like the Boolean NEAR, this indicates that these words should be treated as a phrase:

"Internet in Africa"

Most search engines have help files on their site. For example, The Infoseek search engine has a detailed help file for advanced queries. With use journalists tend to develop their own style of searching and narrow down the best search engines for their specified purposes.

Some commercial databases on the web, like Dialog or FT Profile, charge for the number of documents retrieved. Thus it is worthwhile to spend some time learning the search terminology, as mistakes can be expensive.

It is important to note that the Internet is merely a tool for journalists. It does not change the role of the journalist and it is only as good as its end user. It also does not mean that if the information is not on the net, then it does not exist - it simply implies that the journalist needs to look elsewhere for the information. And just as journalists should be sceptical of information acquired offline – from people, publications, etc, so the Net should be regarded with caution. An e-mail message signed Bill Clinton is unlikely to be the real Bill Clinton.

3.1 WAP

The Wireless Application Protocol (WAP) is the de-facto world standard for the presentation and delivery of wireless information and telephony services on mobile phones and other wireless terminals. WAP-enabled devices are companion products that will deliver timely information and accept transactions and inquiries when the user is moving around. WAP services provide pinpoint information access and delivery when the full screen environment is either not available or not necessary. These multimedia capabilities include the ability to retrieve Email, and push and pull information from the Internet.

4 Opportunities for journalists on the Internet

4.1 Journalists Online

"Journalism faces a historic challenge to adapt to a new medium, whether people relate to it through a television screen, a computer monitor, or some new hybrid. All journalists - even the most technophobic - need to understand how digital communication systems are challenging both the business models and journalistic conventions we've inherited from other eras of technological innovation." (Fulton, 1996:<http://www.cjr.org/html/96-03-04-tour.html>)

Nicholas Negroponte summed up the key difference between old media and new media in his book, "Being Digital". The important factor here is the difference between atoms and bits. While newspapers are about physical things, i.e. atoms, new media is about electronic pulses, i.e. bits. Because atoms are physical things, this makes them laborious to copy, expensive to transport, and hard if not impossible to tamper with. In contrast, a digital code can be copied instantly and replicated millions of times over, shunted around the globe (and into space) at near real-time speeds, and can be mixed and matched at will. "Add to this picture, the networking of bits, and you have the ingredients of the Information Age. There is a quantum leap in terms of how information can be utilised as a resource in terms of archiving, flexibility, searchability, and its flow, compared to what was possible under previous information technologies. There is indeed a qualitative difference." (Berger, 1997:<http://journ.ru.ac.za/staff/berger-misait.html>)

For journalism and journalists, this opens up a myriad of possibilities. No longer bound by the constraints of time and space, journalists are using this new technology to their advantage, whether this is to publish their information online or to conduct research for their stories. How are journalists using this new medium?

4.1.1 The WWW as a research tool

Journalists are using all the different features of the Internet from e-mail to the World Wide Web to find information. A recent study of US editors found that nearly three fourths of the respondents report that they go online at least once a day, a huge jump from last year's 48 percent. The results of this year's survey are proof positive that the Internet is now fully integrated into the journalists' toolbox. Responses show an increase in use of the Internet for story ideas and pitches, article research, and gathering of reference materials. In addition, e-mail has become increasingly popular among journalists both as a contact method with sources, and in communicating with readers. (Ross & Middleberg, 1999: http://www.middleberg.com/home_static_frame.html). More and more journalists are using the Web for research and the number of websites and databases dedicated to assisting reporters with their research have increased. The Poynter Institute runs a "Hot Topic" section on its webpage. They collate all web data that relate to the hot topic of the week and provide journalists with a one stop jump station. Past hot topics include the Winter Olympics and the Clinton Scandal in the White House. The parliamentary monitoring group has a website with a searchable database of press releases, announcements and government policy papers that can be accessed at any time. If a journalist was doing a story on comparative telecommunications policy in Southern Africa, South African information could easily be found there (<http://www.pmg.org.za>). The various SA government departments also have a large number of their policies and papers online.

4.1.2 Finding sources

The Internet opens up a world of international contacts who are all experts in their field. Swedish Journalist, Fredrik Laurin, has described how he used mailing lists to do in-depth research on a story. Oscar Vallo, a suspect, died while in police custody in Sweden. Forensic examinations were carried out and the policemen only received fines for causing "grievous bodily harm", although

witnesses reported that they saw the police beating him while they were arresting him. Laurin said, "it was obvious that what the policemen had done could very well have caused Vallo's death, and that the forensic scientists were not being objective, because I discovered an old boys network among them." A discussion group on the Net led him to a forensic scientist in New York who was an expert on deaths in police custody. The scientist examined this case and said the death was very likely caused by the policemen's actions. "Sweden was too small to find an independent forensic scientist to investigate the case and the Internet was fantastic in locating someone from the outside to look at it." (Laurin, F. 1997:3)

4.1.3 Conversing with other journalists

Journalism can be a very isolated profession. Chat groups, listservs and direct e-mail give journalists the opportunity to converse with others in the profession and to compare and contrast, critique and celebrate what journalists in other countries are doing. Sites for journalism include <http://www.pynter.org>, <http://www.freedomforum.org>. <http://www.mediaweb.co.za>

4.1.4 Finding leads & stories

There are often nuggets of information that could lead to a story. Journalist Bill Clede, writing in Quill, March 1995, noticed a posting "in an online Police forum where an officer wondered if members of the force obeyed seat belt laws better than other motorists. `I gathered all the replies, asked some questions of my own, collected leads to other sources for telephone follow up, wrote the article and sent it to the magazine,'" (Berger, 1996:12)

4.1.5 Managing Press Releases

In South Africa, the Press Gang collates press releases and publishes them on the Web. This makes it much easier to search for the information when it is needed. This is especially useful for research purposes to give journalists some idea of the company or the organisation and to provide some historical reference.

4.1.6 Collaborative journalism

The Internet can render boundaries obsolete - thus it is much easier to work on collaborative stories with other journalists comparing and contrasting different situations. There was a posting on the

Online News listserv querying the nepotism laws in different states in the United States. The journalist was doing research for a story in Oregon and wanted to compare and contrast the laws in different states. This could quite easily be done for similar efforts on stories relating to Africa.

4.1.7 Conducting interviews

Journalists are increasingly using the Net to conduct interviews. This is often done over e-mail or Internet relay chat (IRC). Ross and Middleberg found that e-mail is becoming more important for daily communications among journalists. Journalist Dean Naidoo at Natal Newspapers in Durban conducted a 40-minute online interview with Ros Brennan in New South Wales, Australia, about anti-child abuse legislation in that country. The cost was that of a local telephone call. (Stanbridge, 1997). Computer Assisted Research and Reporting lecturer, Stephen Quinn, gives another example. An Australian state passed a bill allowing euthanasia. "There was a challenge to this law and the doctor who pioneered this technique under debate refused to be interviewed. But one journalist had his e-mail address and through this medium, contacted the doctor 1500km away and got from him an exclusive story. The doctor felt safe and could control what he revealed in e-mail." (Garman, 1997:3). With networked communication structures, the possibilities for newspapers are endless.

4.1.8 Turning data into information

Database software allows journalists to conduct statistical research and turn the data they collate into useful information. Swedish journalist, Fredrik Laurin, used this for an investigative story on Swedish judges who earn money on the side. He "used computer technology to create a comprehensive database detailing 40 judge presidents' families, business interests, dates of marriage, incomes, tax details, affiliation with organisations such as the Freemasons and much more." (Garman, 1997:3). He found that some judges were earning up to 200% more moonlighting, than they earned as judges. They did not declare this information even though the law required it. The story was aired on Swedish television.

In another example, Philadelphia Online took the 1994 homicide statistics and broke them into dozen of categories so that readers could set their own search parameters and retrieve the data they were interested in. Staff also posted the raw statistics for school districts in the region. Increasingly, statistics can be found on the Internet and downloaded for analysis in spreadsheet and database programmes.

Web commentator Steve Outing says journalists can use online newspaper ads and classifieds to get a clearer picture of trends in the employment or housing sectors. "An analysis of a paper's auto classifieds can paint a picture of how long people keep their cars before trading them in, or track the popularity of particular models. A look at the data in apartment classifieds can track price trends. The opportunities for original data to support reporting are great." (Outing, 1996:<http://www.mediainfo.com/ephome/news/newshtm/stop/st102896.htm>)

4.2 Drawbacks for journalists using the web

Amidst all the hype about the Internet, it is important to remember that like any other medium, there are also many drawbacks.

4.2.1 Reliability and credibility of sources

It is difficult to verify sources on the web. According to a reporter from the Gannett News Service, David Milliron, after the Oklahoma bombings, "someone on America Online identifying himself as Timothy McVeigh posted several messages - which were picked up and reported without confirmation." (Fulton, 1996:<http://www.cjr.org/html/96-03-04-tour.html>). It is easy to fake Internet return addresses or log-on as someone else. Just as any good journalist should always check all sources and verify any information, the same applies to Net journalism. Nora Paul says: "Only a two percent error is a chink in the armour" that can be exploited by those wanting to clamp down on journalists." (Garman, 1997:3).

4.2.2 Security

There is no guarantee that any information is 100% secure. Mail can be intercepted and read at any point: According to Fredrik Laurin, "E-mail is about as secure as sending a postcard. When you send a message it goes through hundreds of cables and hits a lot of computers - anyone who cares can make a copy of it and read it, there's no scotch tape on it by the time you get it. You'll never know if someone else has looked at your mail." Thus it is best to encrypt sensitive information. Researcher Mark Comerford reiterates this: "I had just written a article on how important it is to encrypt your stuff and then I accidentally sent a source file of a story to a thousand journalists - unencrypted. If the file had been encrypted no one would have been able to read it." (Moen,

1997:3). One of the best programmes for encrypting information is PGP (for Pretty Good Privacy). It is available freely on the Net.

4.2.3 Overdependency of online sources

With the ease and availability of information online, journalists run the risk of losing contact with people. "Journalists deal as much with people as they do with data and facts. But as technology makes everything easier than before, it could become less appealing for some reporters to go out on the street, and talk to people face to face. As Ron Meader of the Minneapolis Star-Tribune says of online interviews: The risk to me is that we rely too much on cybertext rather than personal human contact and connection." (Chang, 1997:<http://www.december.com/cmc/mag/1997/jul/chang.html>). This concern was also raised at the New Media 2000 conference, held at Rhodes University, Grahamstown in 1997, where journalism trainers said that too much reporting was already done by phone or fax rather than direct contact, and the Net exacerbated this. However, as Fulton says: "computers should be used for computer-ASSISTED reporting, not computer-COMPLETED reporting. In short, the computer is a tool like a telephone." (Fulton, 1996:<http://www.cjr.org/html/96-03-04-tour.html>)

4.3 Information Glut

Neil Postman of New York University argues that "journalists haven't adapted to the world they've helped to create. In the nineteenth century the problem journalism solved was the scarcity of information: in the late twentieth century the problem has become information glut. The problem isn't getting more diverse forms of information quicker. The problem is how to decide what is significant, relevant information, how to get rid of unwanted information." (in Fulton K, 1996:<http://www.cjr.org/html/96-03-04-tour.html>). However, in an age where information is so readily available, journalists and consumers run the risk of information overload. "Too much of what journalists do adds to the clutter. Much of the new media does the same. The information glut, meanwhile, masks a corresponding scarcity - high quality reporting and interpretation that helps people make sense of their world." (in Fulton K, 1996:<http://www.cjr.org/html/96-03-04-tour.html>) Any one who has spent some time searching on the Web will soon realise that Africa does not have enough information on-line. However, once the use of the Internet spreads and more people start putting information online, an information glut becomes the new reality. For now Africa does not have this problem but it is important to train journalists to be able to handle information effectively.

4.3.1 Conclusion

The Internet provides journalists with the tools to hone their skills and become better reporters with the new information at their disposal. It is not only important to know how to use these new tools, but it is also vital to know what tools are actually available. "The future belongs to neither the conduit or the content players, but to those who control the filtering, searching, and sense-making tools we will rely on to navigate through the expanses of cyberspace." (Fulton, 1996:<http://www.cjr.org/html/96-03-04-tour.html>).

5 New Opportunities

5.1 *Opportunities for newspapers*

The total number of newspapers publishing on the Internet is 3,622, nearly 80% more than many experts had been expecting by the end of 1998. (Meyer, 1998: <http://www.newslink.org/emcol10.html>)

Africa can claim 53 newspapers on the Internet compared to the 2,059 American newspapers online. However, this is one technological change that need not surpass Africa. As Ross and Middleberg explain, "no change has come about as fast as what we are calling "new" media - online services, especially on the World Wide Web. Why? The technology is ripe, economic barriers to entry are low, and there are almost no regulatory hurdles, either. Thus, new media continues to expand, although powered weakly by anemic advertising and limited direct user fees, because it can." (Ross & Middleberg, 1996:<http://www.mediasource.com/study/cont.htm>).

Add to this "interactivity, immediacy, and limitless space", a few of the characteristics of the Internet, and this makes it an excellent publishing medium. (Erlindson, 1995: <http://ourworld.compuserve.com/homepages/Merlindson/paper1.htm>) African newspapers online are already a valuable resource for journalists, and their numbers are certain to grow. Their main weakness as sources of reference is that most do not maintain a searchable archive. A good example of what can be done is the Pan African News Agency, which began an archive in April 1997. It has a very powerful search language.

What are the opportunities for newspapers?

5.2 *Ease of publishing*

It is relatively easy to publish, especially if there is already an infrastructure of computer hardware and software in the newsroom. The start-up costs of publishing on the Web are very low as compared to publishing a newspaper. Rising costs of newsprint and transporting the finished products to point of sales have encouraged many newspaper publishers to choose the web. This medium also does not require large printing presses and a fleet of delivery vehicles. There are no deadlines and information can be put up at any time of day.

5.3 *Readership*

Local markets are often saturated and the World Wide Web offers a totally new opportunity to expand readership. Previously geographical boundaries and the limit of the publishers' ability to deliver determined this. This has changed. With a web audience, readers could include a 65-year-old retired teacher from New Zealand or a 16-year-old high school pupil. This was previously unheard of. As Internet pioneer and author, Howard Rheingold, has said, "A tremendous power shift is underway, and it's about our ability to connect with each other in new ways. A personal computer plugged into a telephone creates a new communication medium, with unique properties and powers. The fact that you don't have to own a newspaper or TV station to broadcast what you think to anyone anywhere in the world is a significant political shift."

(1997:<http://www.newslink.org/ajrjd1.html>) For African newspapers this means they can communicate with Africans abroad as well as other possible readers within the country who cannot get the paper edition. "For the *Zambian Post*, publishing on the Net also proved valuable in terms of generating solidarity from an international community of Internet users at a time of repression."

(Berger, 1997:<http://journ.ru.ac.za/staff/berger-misait.html>)

5.4 *Advertising*

Most online newspapers get their revenue from advertising. However, with the growth in Internet commerce, the possibilities to earn other sources of revenue have increased. Multi-national companies like Coca-Cola and Macdonalds are looking to increase their presence in Africa. Advertising in an African newspaper online may just increase their market share. Dirk Asendorpf, South African correspondent of the German newspaper *Tageszeitung*, the first German newspaper to go online, said that they did not suffer any losses from their print edition when they went online

although it had a very positive effect on marketing and acquisition of advertising. "Although the use of the Internet edition is free, online advertising can provide a limited revenue for the editorial company. Since there are no negative side effects on the sales of the printed version nothing stands in the way of getting into electronic publishing." (Moen, 1997:1).

5.5 Subscriptions

Only a few online newspapers earn their revenue from subscriptions, and these are mostly financial journals. Due to the numerous choices and other possibilities that the Web offers, most people are not interested in subscribing. There are also different degrees of subscribing - some newspapers charge for accessing their archives while others will offer the headlines or teasers and charge for the full text of the article. Of all the Web papers, the Wall Street Journal is one of the handful that charges for access to any part of its on-line daily. Peterson says that most newspapers would like to charge but until they see a large and loyal audience emerging, they are not willing to accept the decline in readership that comes with subscription charges. To prove this point, Peterson says that the Wall Street Journal provided a classical case of losing 90 percent of its subscribers immediately after a 30-day free trial period (1997)

5.6 Databases

The real power of the Internet lies in the ability to search databases for information. These serve a dual purpose that is of benefit to the newspaper. Databases can also allow journalists to search their own newspaper's articles online instead of having to go through the laborious process of searching through the cuttings library. It also provides newspapers with another opportunity to earn revenue by charging for access. However, from the experiences of other newspapers online, it seems as if users are only willing to pay for access to databases if the newspaper has a well-established name and reputation. Newspapers can also sell their database archives to a commercial database like Dialog, which allows users to search the databases for a fee that is then shared with the newspaper. Depending on the publisher, all the information or selected extracts (like a popular column) can also be published on a CD-ROM and sold. German newspaper Tageszeitung published all the text of their electronic archives for the past 10 years on a double CD. About 5000 copies were sold for a price of R200. (Moen, 1997).

5.7 *Classified advertising*

This seems to work especially well for small local newspapers. Naspers, in South Africa, has created two virtual villages online. They allow local businesses to advertise and publish the local newspaper. These sites have information ranging from real estate to cars and there was even a classified ad looking for a lost pair of kid's spectacles. (<http://www.stellenboschvillage.com> and <http://www.helderberg.com>)

However, classified ads need not adhere to the tradition of appealing to local markets. Newspapers could also provide classified services like house swapping or local African artwork that is for sale. Unlike newspaper classifieds, it is also very easy to provide colour pictures to go with the ads.

This is a description by Ranil Senanayake of the Environment Liaison Centre International (ELCI) in Kenya of a service he is currently negotiating with the US-based organisation, Earth Marketplace. A delicatessen in Oakland, California imports produce from remote countries directly through the Internet. The manager connects her computer to the Earth Marketplace service. She fetches the details of a farmer's co-operative in Suriname from a computer in Nairobi. After reading the description she negotiates a deal directly with the farmers, who read and reply to her messages on a computer in the co-operative's office. The profits go straight to the local producers, and the consumer has increased choice.

5.8 *Internet Service Provision*

Some media companies generate income by offering Internet related services. "Typical services include providing Internet access, creative web design, and page set-up and hosting services. Since many of the newspaper companies already have the hardware (such as servers and computers) and the software for web publishing and many of them are Internet Service Providers, they can use this equipment again to help others who want to get onto the Internet - with a fee." (Tham and Peng, 1997:http://www.isocorg/inet9/proceedings/G1/G1_3.HTM#S1). This is especially useful for African newspapers given the dearth of ISP's on the continent.

Dr Abou Latif Coulibaly sees the development of the Internet, especially in Africa, as revolutionary. "Now we can get news from our own country wherever we are. I can read the news from my country in own language without anyone telling me that I have to read it in French, or that

I can't get news in my own language - it's a democratic aspect of the Internet. Africans must not miss this revolution." (Moen, 1997:5)

6 Publishing Online

6.1 From Paper to screen

Undertaking a new publishing venture is a huge responsibility, especially into a new medium like the Internet that has not been fully proven yet. The ease of publishing on the Net should not cloud this fact. "While the advance of technology today is really revolutionary, its implementation into the organisation is evolutionary. The organisation has to develop its strategic plan, then identify how technology can assist the organisation in fulfilling its mandate in terms of productivity, efficiency and relevancy." (Hunt, 1997:<http://mediavision.cotr.bc.ca/archives/techno.htm>).

6.2 The Online Mission

A clear, short statement of objectives should form the foundation of your online project. This should cover the purpose of the site, what you expect the site to achieve and how this will be done. Make sure to include specifics (e.g. You expect the site to be profitable in 18 months or attract more advertising revenue for both the print edition and the online version) so that you can evaluate the exercise within a chosen time frame and see if it has achieved the stated purposes. Building a web site is usually an ongoing process, not a one-time project with static data. Long term editorial management and technical maintenance must be covered in your plans for the site. Without this longer-term perspective your electronic publication will suffer the same fate as many websites - an enthusiastic start, but no lasting accomplishments. (Horton & Lynch. 1997:Yale C/Aim Web Style Guide)

6.3 Online Strategy

The following factors need to be considered before venturing to publish online.

- Strategising and planning the site
- Putting up and servicing the site on an ongoing basis
- Promoting the site
- Evaluating the exercise

6.3.1 Strategising and planning the site

The issue of finances and resources is very important. Determine if you have the necessary finances for the venture. It is very rare for online newspapers to start making a profit or to sustain themselves immediately. It will most probably need to be subsidised by some other department. Publishing online will not save an already ailing newspaper. It requires substantial funds and human resources before it takes off the ground and this could drain a newspaper's resources. Determine the level of your involvement in online publishing as this will seriously determine the kind of resources you need. If you are putting the entire edition of the newspaper online everyday together with regular updates, this will require a full-time staff. However, if you only put up selected articles with an accessible database, this will require less time and expertise. You will have to determine if there is an Internet service provider in your area and if they will give you server space. Internet Service Providers often charge for commercial sites and if this is going to become a long term project it may be a good idea to invest in your own server.

It is important to include staff in the venture. While revenue and finances play an important role in the viability of an online newspaper, one cannot underestimate the culture and attitude of current staff. Very often it is the enthusiasm of staff or lack thereof that determines the success or failure of any new venture. Cultural resistance from within the paper could be overwhelming.

The question of resources could also create divisions within the organisation. Using the resources and finances from the print edition to subsidise the online edition could annoy staff. "Pouring resources into the online edition, however, could upset staff of the print edition, particularly if they are not well integrated into the online edition." (Auman, A.

1997:<http://www.december.com/cm/mag/1997/jul/auman.html>)

Determine your target audience as this will impact on the design and maintenance of the site. It will also impinge on the type of information you decide to put online and the style of writing.

6.3.2 Putting up the site and servicing it

Who will be putting up the site?

Commercial design companies tend to do both the initial design and maintenance of the site. If you do not have the expertise, i.e. graphic artists and people with ability to program in html, then it may be a good idea to contract it out. It may be cheaper as doing it in-house will require allocations for

new salaries and perhaps even software. It is critical that the site be designed with a view for the long term – for instance, whether it will interface with a database capable of sorting and sifting ever-growing volumes of data. In addition, the site needs to be designed for low maintenance, with maximum automation features for example, once the site is put up, it has to be maintained. It is important to determine this in the beginning. Nothing loses readers faster than a dead site or a site that is updated sporadically.

Who is your target audience?

Is it African students abroad or expatriates living and working internationally? This will affect your design especially in terms of the way the information is structured. Designers need to know this. A South African business recently redesigned the site. The target audience is older businessmen. The redesign was done by a young graphic designer who was not quite sure of the target audience and it was not appropriate for the newspaper - its image or target audience. Needless to say, the redesign had to be redone. Thus, it will save time, money and a lot of frustration if this is determined at the start of the venture.

What kind of graphical information will be included, if any.

If a private company is putting up and maintaining the site, it is important to determine this at the beginning as most companies charge for graphics and pics.

Will there be audio on the site? Who will be putting up the sound files?

A basic checklist for the design of the site

Organisation and navigation - ensure that the material is organised in a logical manner and that visitors can easily find what they are looking for. Disorganised and unstructured information will lose visitors.

Design - is it in keeping with your corporate identity and does it serve your target audience?

Multi-media and effects - do they work and do you give visitors the option to turn these off? A good idea is to keep the most important information above the effects.

Interactivity - does the design invite readers to the site allow them to post comments or play games and in short - convince them to stay?

Functionality - is the site functional for the purpose that it was put online?

6.3.3 Promoting the site

Submit the URL to search engines and web directories. It is important to promote the site, especially online. Submit the URL to search engines and web directories like Yahoo.

Submit the URL to newsgroups and listservs, especially African ones, as these people will be most interested in new sources for African information.

Use the print edition to promote the online edition. Print the reporters' bylines, start a newsgroup so that readers can join in a chat group. The more page impressions to a site means more advertisers.

User statistics can be used when selling advertising space.

Encourage reporters in the newspaper to use the site and to share the URL with their friends and colleagues.

Add the URL on promotional material like pens, t-shirts, etc.

It is very difficult to find African information online and the directories frequently do not list African sites because they are unaware of their existence. Thus it is important to employ an aggressive promotional stance.

6.3.4 Evaluating the site

The web is a fast changing medium. What worked yesterday may not necessarily work today. Thus make sure to evaluate the venture after a few months. If it is not earning enough or if it isn't able to sustain itself and is drawing too much from the print edition, perhaps the venture needs a re-think.

Web design can get stale very quickly. From your log files, evaluate what readers are looking for and what information they require. Take reader polls either online or in the print edition to determine what readers prefer to see.

Html is a dynamic programming language. Each web browser and computer interprets the language differently. There is a significant difference between PC's and Apple Macintosh's. Thus it is important to test the site from other computers to see how quickly it downloads and to check that there are no glaring differences in the programming.

Readers are not prepared to wait for information. Remember the next page is simply a click away. Look at the feedback that readers have given you. It is important to note these when updating/redesigning the site.

Most importantly, evaluate the site against the mission statement written at the start of the venture. This will also need to be changed and re-written as your online goals change and expand or diminish.

6.4 New Media Demands on the organisation

The Internet is a new publishing medium for news organisations. Like any other venture, publishing online places new stresses and strains on the organisation and it is important that this is considered. Although it is an exciting new medium without the barriers to entry that other publishing media like televisions and newspapers have, it is often complex and difficult to understand. Newspaper's experiences with online publishing have shown that editors and reporters sometimes struggle to cope with a rapidly changing culture within the newsroom and new technology that is so different from anything they know and worked with. The same applies to broadcasters going online. New media calls for levels of co-operation within the newsroom, in the media industry and with other interested players such as computer companies and access providers. In the case of African news media, co-operation may also have to cross national boundaries. To ensure that the venture to publish online is a smooth one, it is important to consider the following factors:

6.4.1 Working in teams

Journalists are often loners, preferring to chase their own stories. However, writing for online media is a collaborative process. New media is about creating "packages" of news for readers. These packages can include pictures, graphics, sound and video if possible and other links to related stories. However, even if you do not have the resources to include all of this, the very nature of the web requires that journalists create packages of information for readers. One person cannot do all of this. It requires staff to work with other people within the organisation like layout artists, subs, photographers, computer programmers, etc. Newsrooms are often structured in a linear fashion where writers file the story and never see it again. New media requires that journalists prepare a package of information rather than a plain hard news story. Time frames have also changed. Journalists no longer write to a specific deadline as in the print publication. They need to be re-trained to work with a continually developing story. The Net also allows for publishing to a

very targeted audience. Thus reporters need to re-package information to make them relevant to their specific online community, wherever they may be physically situated. Some newspapers may target expatriates living abroad while others may decide to target an elitist Southern African audience. If African journalists decide to also serve as a news agency supplying stories to internationally newspapers - then these new audiences, who probably have very little local knowledge, have to be taken into account. The medium is a constantly evolving one. This means that the journalist may have to go back and re-write parts of the story and edit other bits. Some staff may resent this and view this as others encroaching on their territory. It is important to create an atmosphere of camaraderie so that people know that they are working together as a unit towards a common goal. Creating teams of people to work on specific stories may help the process.

6.4.2 New Skills for staff

Online staff need to have different kinds of skills compared with traditional print or broadcast staff. This is in addition to their journalistic skills. They must be team players, able to work with different staff including programmers and news librarians. News organisations must define their specific target audience or online community and align reporters to write for them. Apart from catering to a specific market, the quality of writing will invariably be better as journalists will be speaking to people rather than writing into a void. Although, information may be cheap, online media still require the basic skills of a journalist. Readers do not have time to sift through information to find what they need. Reporters need to sift through various resources to find the useful information and analyse this data to create new nuggets of information for their readers. They can only do this if they know the medium. In order to know the medium, they need to be given sufficient time, training and technical resources to learn and practice it.

Reporters need to be trained to think of a story in its entirety rather than a space on a page. New attention seekers have also entered the equation - banner ads, click throughs and hypertext also compete for the reader's time and attention. Stories must be linked both horizontally and vertically, i.e. with other articles that relate to the story from the internal database or archive as well as stories of interest and other websites that may be of consequence. The answer lies in liberating the mindset so that journalists follow not paper, or even words, but a story that can be told in a range of media platforms and in a range of depths.

6.4.3 Changing readers

It is worth noting that the readers of the online newspaper or news website are no longer the same as the printed product or the electronic broadcast and it is important to consider them. Especially if the audience is living overseas, they tend to be computer literate and sometimes want to engage in discussion over the day's news. This is an edited version from the Newsgroup on the Ghanaian newspaper, The Graphic's, website:

"Dear all, I just happened to be reading today's cyber edition of the Graphic and came across a rather painful scenario facing our country today. It is the plight of our fellow Ghanaians, our mothers, fathers, brothers, sisters and children due to inadequate medical care and staff. The issue is about the mass exodus of Ghanaian doctors to other lands in search of greener pastures. Well, one might ask why I have a problem with this. In the first place, I do not have a problem with any form of emigration or immigration provided it contributes to the success and betterment of the individual. However I find it quite offensive and insulting to mother Ghana when Doctors and other personnel trained with the scarce resources we have decide to abandon ship in search of greener pastures. Look back fellows, to the land of thy birth. Contribute to your motherland for Ghana made all of us what we are today. I'd appreciate comments and criticisms. Please overlook any errors. I usually don't edit these messages."

A follow up reply was posted:

"This article or message is so far the best and touching one I have read on this message board. Good job! I come across all these doctors who are working in county hospital all over the country and when you ask them how long they've here, it's always - "just a few months, or a few weeks". And I ask myself, "How many doctors are there left in the country?" I couldn't agree with you more, these young doctors should be made to pay their debts to society before they flee."

(<http://www.ghana.com.gh/wwwboard/messages/604.html>)

6.4.4 Incorporating online media

The "old media" platform will probably be subsidising the online one and it is important not to forget this. Newspapers and broadcasters work to a deadline and thus the online media should work around this as it is more flexible than they are. There are also technological issues that need to be determined. How will the online staff get the information for the online edition and at which point in the production process will they receive this? It is best to take copy after it has been subbed and

is ready for the print edition or the broadcaster to avoid embarrassing and sometimes expensive mistakes. Who will oversee this entire process and ensure that it runs smoothly?

6.4.5 Creating Databases

Databases are perhaps the greatest asset of the online media. Who will be responsible for archiving the old material? Will there be a searchable database of stories on the site? This is a very good idea as databases can be very valuable in the future. Bart Preecs, an electronic publishing consultant in Seattle says, "As newspapers go online and build up a collection of data on neighbourhood schools, crime rates, business leaders, public officials and so on, the stories interweave and grow into a digital community encyclopaedia. The paper becomes a valuable resource that readers will access long after the stories are pushed off the front page. Online newspapers must be more than a headline news service. They must have memories." (Lasica, 1997: <http://www.newslink.org/ajrjd13.html>). How the databases interface with the web is a critical issue. Popular software programmes in this regard are PAP (freeware) and Cold Fusion (commercial product).

6.4.6 A new concept of news

At no time in history has the saying "delivering all the news, all the time" been more plausible. Given the nature of the Internet - there are no deadlines or newsholes to fill. News organisations need to restructure their news services to acquire the best out of them. News has been a one-way street - all push and no pull. Readers now have the power to choose the news they require and decide when they would like it. "Distributing news and information by computer may radically change the deadline psychology of the news business. The ability to retrieve what is now dismissed as 'yesterday's news' will turn out to be far more important to readers and users (Lasica, 1997: <http://www.newslink.org/ajrjd13.html>).

7 Section Six - Africa and the Internet

7.1 Introduction

Knowledge is one of the keys to development. Information and communication technologies have the potential for increasing access to knowledge for all. "The new technology can't solve the fundamental problems we face as a global community: poverty; marginalisation; environmental deterioration. But it can be integrated into our strategies for solving these problems." (Marleau, 1997. (http://www.globalknowledge.org/graphics/knowledge_for_dev.html). Professor Stanford Mukasa has identified the role of the journalist in this process: "The African journalist needs to be competent in researching and disseminating Global Knowledge for development (GKD)." (Hutton. 1997:6). Although there are various problems with the Internet in Africa currently, unlike previous technological revolutions, this one need not bypass Africa.

7.2 Africa and the Internet

Africa's socio-political and infrastructural background are important indicators of the continent and its future prospects. Africa is a continent recovering from the ravages of colonialism, despotic governments and natural disasters. It is characterised by underdeveloped economies and third-world characteristics. However, amidst these barriers, it is also a continent that is rapidly developing. The dramatic growth in Internet connectivity and access are important indicators of the continent's progress. At the end of 1996, only 11 countries had local access, but by May 1999, only three countries were without local Internet services (Congo - Brazzaville, Eritrea and Somalia). The total number of computers permanently connected to the Internet in Africa (excluding South Africa) is over 10 000. The six-monthly African host growth rate is almost double the International average (36% in Africa as compared to the international average of 18%). Although it is difficult to measure the actual number of Internet users, there are now over 500 000 dial-up users on the continent. According to a recent study by the UN Economic Commission for Africa (ECA), each computer with an Internet or e-mail connection support an average of three users. This puts current estimates of the number of African Internet users at somewhere around 1.5 million. Most of these are in South Africa (according to recent surveys by Media Africa - about 1 million), leaving only about 500 000 amongst the remaining 734 million people on the continent -

about 1 Internet user for 1500 people, compared to a world average of about one user for every 38 people (Jensen, 1999, <http://www3.sn.apc.org/africa/afstat.htm>).

7.3 *Overcoming infrastructural hurdles*

7.3.1 The information and communications infrastructure

The differences between the development levels in Africa and the rest of the world with regards to information and communication technologies are even wider. Only 2.5% of the world's televisions are on the continent (with 13% of the world population here). The teledensity is approximately one per 200 inhabitants and computer penetration is less than 3 per 1000. The unprecedented adoption of cellular services in Africa can be attributed to the need for telecommunications services, not provided for by the fixed line services. Cellular services now comprise about 20 % of the total phones on the continent (outside SA) and are available in 42 countries. However, prices for cellular services are very high, even though most countries have two operators.

Another major impediment to the increased use of information and communication technologies, is the irregular or non-existent electricity supplies, especially outside the major towns. Many countries have extremely limited power distribution networks which do not penetrate significantly into rural areas, and power sharing (regular power outages for many hours) is a regular occurrence, even in some of the capital cities. Transport networks usually display the same level of development and similar problems as the electricity supplies.

Added to the high cost of telecommunications in Africa, Internet access is largely restricted to the capitals and major cities. For most people, it is prohibitively expensive to use the Internet. Together with call charges, Internet service provider fees are high. Usually, the public telecom operator has a monopoly over the international gateway or access to the national backbone, and leave the resale of the end-user Internet access to the private sector. In response to the high cost of full Internet services, the slow speed of the web, and because of the over-riding importance of electronic mail, lower cost e-mail only services have been introduced by many ISP's.

Together with these infrastructural hurdles, Africa is largely an importer of technology. The equipment is often subject to high import tariffs, making it several times more costly than in

industrialised countries. Hence, computers, software and modems are out of reach of most Africans.

7.4 Conclusion

It is important to note that even though Africa compares poorly against international averages, progress is occurring very rapidly from an extremely low base. Access to information and use of communication tools in Africa have until recently been largely in the hands of state monopolies. However, with the trend towards open democracy and more liberal market oriented policies, there is a marked improvement in the availability and diversity of information and communication channels. Rates of telephone line growth are at their highest levels ever, and hundreds of new media outlets in print, radio, television and the web have emerged in the last couple of years. First World markets have recognised Africa as a growth sector. In addition, there has been increased interest in restoring pride in African communities and culture by both local communities and African governments with increased regional co-operation. However, in order to fully enter the global information society, African governments will need to more aggressively address the infrastructural problems on the continent, particularly in the telecommunications and communications sector.

7.5 What the Internet could do for African development

One of the reasons for the wide spread of the Internet in developed countries is a very good telecommunications infrastructure. Unfortunately, the same could not be said of Africa. Apart from poor infrastructures, telecommunications services often lack support and are very expensive. The average total cost of using a local dialup internet account for 5 hours in Africa is about \$60/month (usage fees and telephone time included but not the telephone line rental). According to the Organisation for Economic Cooperation and Development, 20 hours of Internet access in the United States costs \$29, including telephone charges. Although telecommunications costs are higher in Europe (\$74 in Germany, \$52 in France, \$65 in Britain), the African charges cost four times the amount for basic Internet access. Added to this, all of these countries have per capita incomes at least 10 times greater than the African average (Jensen, 1999.

<http://www3.sn.apc.org/africa/afstat.htm>)

Journalists and media workers need to use the media to lobby for better services which would ultimately benefit the society. (Holderness. 1995://<http://www.oneworld.org/panos>).

Even with these major infrastructural hurdles, the technology presents enormous opportunities for the continent, especially as Africa has the potential to leapfrog large stages of development and fully enter the information age. "As a result of the information and communication revolution, knowledge and information now rival natural resources and labour as key factors of economic production" (Opuku-Mensah, 1998:19). Thus any development effort on the continent must take into account information and communication technologies. The subsequent chapters explore the potential of the Internet for development in Africa.

"Telecommunications is now recognised as an essential tool for development: an unpublished study by the Organisation of Economic Cooperation and Development charts a direct relation between growth in telephone line density and economic growth."

(<http://www.fao.org/waicent/faoinfo/sustdev/Dodirect/DoengB01.htm>)

The Internet is a self-empowerment tool. It cannot and will not feed the starving masses nor will it educate children on its own. However, it is a powerful tool that can accelerate change in Africa.

The current term Global Knowledge for Development (GKD) is never more possible than the Internet. African media has the resources, the power and ultimately the voice to provoke change. This can only be done when the media themselves begin to use and understand the medium.

"There's a synergy to sharing knowledge. People add to it, refine it, develop it and improve it. If we keep it to ourselves, it won't reach its potential. If we share it, it returns a hundredfold and benefits others as well" (<http://www.globalknowledge.org>).

7.5.1 Encouraging accountability and transparency

The Internet's potential as a vehicle for free speech and access to information and ideas is unprecedented. It has revolutionised global communications and offers almost instant access to virtually unlimited information and the ability to communicate that defy the barriers of time and space. With the global information society, the right of access to the means of expression - the right to communicate - is increasingly being recognised as a fundamental human right. Journalists and human rights organisations in Africa have been quick to circumvent government censorship and control. The number of organisations with access to e-mail have mushroomed in the past few years, and it has greatly enhanced the networking ability and the availability of human rights

information within Africa and abroad. Although, still in its infancy, the new technology has demonstrated its value to human rights and the potential for the advancement of human rights and democracy in Africa.

Information technology makes it possible for all information to be put online and anybody anywhere in the world can access this information. Knowledge is power. Authoritarian regimes often maintain their power by limiting the circulation of information. Journalists need to lobby governments to increase the amount of information online. Transparent governments allow for a democratic society and a healthier society and this technology has enabled governments to encourage transparency and participation by putting government documents online. Professor Mukasa urged Africans to champion basic human rights for the masses, expose corruption and agitate for transparency in government. (Hutton, 1997:6).

7.5.2 Lobbying for government information and increased political participation

The Internet will only become useful to African journalists if there is more relevant African information online. It is also a self-empowerment tool, i.e. only Africans can put up information about themselves. Nobody else can and will do it. Currently, "most Southern journalists are likely to receive most of their information about Southern countries outside their region through the news agencies of the North. The existing pattern of information available through the Internet repeats this pattern." (Holderness. 1995://<http://www.oneworld.org/panos>).

This balance of information power could be radically shifted and equalised. Theoretically the Internet allows both journalists and newspaper organisations to become their own news agencies without having to rely on Western dominated news agencies like Reuters and Associated Press, etc. A continuous exchange of information through southern journalists is possible. As Holderness says: "Theoretically, a newspaper in Caracas could send its stories by electronic mail to Calcutta, the Congo and Cambodia." (<http://www.oneworld.org/panos>)

Currently, SA is one of the few African countries, which used the Internet in a significant way to publicise and canvass opinions on policy papers and draft legislation. The South African government have given high priority to transparency and to publishing documents online for public

education and debate. Institutions such as the TRC have set up websites and mailing list. SA government meetings and minutes can also be found online.

The Namibian government has also included Internet access to parliamentary archives as part of a project to make the legislature more transparent. These are notable exceptions and the continent still has a long way to go before full political transparency is reached.

7.5.3 Nongovernmental organisations and lobbying for freedom of information

Repressive regimes in Africa suppress the freedom of information and the freedom of the press by owning large sectors of the media and prohibiting publication of information that is critical of the regime.

In Nigeria, where journalists were frequently at loggerheads with the regime of Gen. Sani Abacha, the Lagos-based Independent Journalists Centre published a regular electronic newsletter detailing threats and harassment against the press. "The newsletter using reports from correspondents around the country, has helped to solidify international support for Nigeria's journalists, according to its editor, Akin Akingbulu." (Eddings, 1997:

<http://www.freedomforum.org/newsstand/reports/amf/africamediaforum.pdf>). Then jailed Nigerian journalist, Babafemi Ojudu described their use of the Internet: "A month ago the government brought in tons of fuel. In Nigeria, you have to queue for about 24 hours to fill a tank. The fuel turned the country into a big smelly pot, and many mechanics died in the process. Nobody knew exactly what which company was responsible for this, and the government was not going to tell anybody. So we got in touch with some newsgroups on the Internet. Within three days, the Web supplied the information on where the fuel came from and how much was involved." (Ojudu, 1997: <http://www.freedomforum.org/newsstand/reports/amf/africamediaforum.pdf>)

In March 1998, non-governmental organisations in Zimbabwe used the Internet to defeat their governments attempts to prevent them from participating in the Human Rights Committee's consideration of the country's human rights situation. The Zimbabwean government had secretly scheduled its appearance before the Human Rights Committee, without informing any of the organisations within the country. Amnesty International was aware of the schedule of the Committee's hearings and encouraged non-governmental organisations in Zimbabwe to give their

input to the Committee. As part of its reporting requirements to the Committee, the government had produced a 55-page report on the human rights situation in the country, without circulating the document for comment. Amnesty International obtained an electronic copy of the report and sent it via e-mail to these non-governmental organisations and thus they were able to respond and provide independent commentary on the government document.

The *Zambian Post* used the Internet to generate international solidarity at a time of repression. The Zambian government banned an edition of the newspaper for revealing secret plans by the government to conduct a referendum that would have caught other political parties off guard. By the time of the ban, the paper was sold out and online on the Net. Although the Zambian government initially succeeded in getting the local Internet service provider to remove the online edition, this did not stop the world from viewing the story that embarrassed the state. The banned online edition was also retrieved and re-published on the Net by an American specialist on banned newspapers. The government also sued the *Post* but the paper successfully defended the suit resulting in the edition being put back online legally. (Mulaudzi, 1997:3)

Non-governmental organisations are also using the Internet as an empowerment tool. Sangonet has just started WomensNet aimed at networking women in Southern Africa (<http://www.sangonet.org>). The Media Institute of Southern Africa (MisaNet) connects local organisations electronically in a news exchange pool. As Jerelyn Eddings from the Freedom Forum has said: "African journalists are using the Internet as a bonding tool to connect with each other and with international colleagues." (Eddings, 1997:<http://www.freedomforum.org/newsstand/reports/amf/africamediaforum.pdf>)

7.5.4 How can media spearhead the revolution in Africa?

African newspapers need to be at the forefront of the information revolution to ensure that Africa does not lag behind. The World Bank says: "There is an opportunity for leapfrog - new technology can provide better, cheaper links to subscribers, while competing global operators can provide low-cost long distance connections. Developing countries can deploy telecommunications for lower costs per capita than was spent by the industrial world."

1994:<http://www.worldbank.org/html/fpd/harnessing/hid1.html>)

African newspapers and broadcasters need to be at the forefront of the information revolution to ensure that Africa does not lag behind. Global communications of this nature present new and exciting opportunities for Africa. As the information society gathers pace for the next millenium, the inequalities within it are exacerbated. The gap within the information rich and the information poor widens daily and this will become increasingly difficult and more expensive to remedy if it is left to its own devices. "The media, as the number one institution standing at the interface between the info rich and info poor, needs its journalists to be the most information-rich of all, if there is to be any bridge over the great divide." (Berger, 1997: <http://journ.ru.ac.za/staff/berger-misait.html>) As Roland Stanbridge, Director of the New Media Lab at the Department of Journalism and Media Studies, Rhodes University says: "Even if the majority of the people in Africa do not have access to the Internet, it can be used by those few who have access for the benefit of communities." (Highway Africa, 9 September 1997:3). It is also important to ensure that the information rich are not left information poor in as much the problems and potentials amongst the information poor are not expressed in the information society.

7.5.5 Creating an awareness through the newspaper

Media institutions need to get access to the Internet although access alone is not enough. John Mukela of the Nordic-SADC Journalism Centre has said: "Two other (except for the Lusaka Post) newspapers in Zambia have access but don't actually use the capacity - they haven't really got the hang of it." (Holderness. 1995://<http://www.oneworld.org/panos>). Staff within the organisation need to be trained and encouraged to use the new media. Based on the "each one teach one" principle, the more people become accustomed to using this medium, the more likely they are to realise the potential of the Internet. The Internet is a medium where users are prepared to share information and experiences. In the same way, this could spread to all areas of society where the journalists start spreading the value of their knowledge, through their writing and practically by giving workshops, etc.

7.5.6 Gender and the Internet

Women's contribution to African development should not be underestimated. In Uganda women constitute over 70% of the agricultural workforce and produce up to 80% of the crops. There is currently a gender gap online in all societies - it is predominantly a male medium. African women

often occupy a subordinate position in society, because of their higher domestic workload, unemployment, illiteracy, poverty and lack of access to power and decision-making. As with rural and poor communities, women's lack of access to the benefits of information technology threatens to reinforce their second-rate status and create a new form of social exclusion. Nevertheless, a large number of women are beginning to become familiar with and work with information and communication technologies.

Sangonet's Women'snet is an attempt to address and popularise gender issues online. Webmaster of Women'snet Lynn Danzig has said: "Although most South African women still don't have access to the Internet, the development of a one-stop shop of accessible and relevant information on key issues for women is very valuable. Internet-based information, being digital is easy to import into print and broadcast media, and thus benefit people who are not online" (1999).

7.5.7 Education and technology

Media and journalists have often taken an active role in the social upliftment of communities. The Newspapers in Education programme are one such effort. There are now various initiatives to bring connectivity and partnerships programs with African schools. The Toronto conference on GKD recognised the importance of the media to disseminate information and educate people. "As the technology infrastructure is so important, we should extend the focus, not only to schools, but also to local and community media, in order to ensure independent information." They also outlined twinning programs with media organisations from Canada and Africa on the basis that young people take to new technologies more quickly. "Why not put this capacity of young people to use?" (<http://www.globalknowledge.org>)

American school children are becoming increasingly Net literate everyday. In some instances students have access both at home and at school. The South African Schools Network aims to bring low cost connectivity in schools in this country. The Department of Journalism and Media Studies at Rhodes University, South Africa runs an annual newspaper-training program with local disadvantaged teenagers. The newspaper is also published on the Net (<http://www.grab.ru.ac.za>). In their articles, the pupils outline their social concerns and the problems they face, like teenage pregnancy, smoking and drinking, etc. They receive e-mails from other teenagers around the world who experience similar problems in their communities. For pupils whose horizon was very limited

for economic reasons, this has opened up a whole new world for them - both literally and figuratively. In the broader social context - education correlates with employment, income, and opportunity. When these pupils graduate from school, they will be more computer literate than their predecessors. They will also be better producers and consumers of information. Media workers need to be at the forefront of this change to cope with a new audience. Standford Mukasa said that "journalists must be more dynamically involved in all aspects of life in Africa, especially in the area of consumer education and sustainable development." (Hutton. 1997:6)

7.5.8 Health and welfare

Highly developed technology allows for medical procedures without the doctor being present. However, health needs in rural Africa are much more basic and the Internet can help with these problems. "During the recent Ebola virus outbreak in neighbouring Zaire, Zambia was able to use the Internet to check details about similar cases in the Copperbelt. Doctors can access a wealth of information on anything from Aids to clinical and management practices." (Holderness. 1995://<http://www.oneworld.org/panos>) The deputy minister of health, Dr Katele Kalumba, reiterated this saying that although "people see the Internet as a luxury, it can save costs as well as lives. Health workers can check the availability of essential drugs and so avoid making unnecessary journeys."

It is of mutual interest to create a better society throughout the world. "Human development and poverty alleviation, long-established goals of economic and social development, are increasingly a prerequisite for international competitiveness. Communities everywhere, informed through television of how others live, aspire to higher standards of living and place increasing demands on their leaders. Disease and malnutrition are recognised by their victim as mainly economic and political problems, creating pressures for change that reverberate internationally. Education is recognised as a basic human right and the path to higher incomes. This rising social agenda is spearheaded by increasingly influential non governmental organisations."

(<http://www.worldbank.org/html/fpd/harnessing/hid1.html>)

Once again the media can play a role in social upliftment by providing the information that societies need and act as the conduit of information between northern countries and rural communities in Africa. African media best understand the communities that they reach - their fears,

hopes and superstitions. African journalists can unpackage information to make it relevant for their communities. Again, they can also disseminate traditional information from their communities to all areas of the globe thus helping to empower their societies.

7.5.9 Green Issues

The preservation of the environment and natural resources has become the concern for a well-informed public internationally. As global awareness grows, accountability for the use of resources and pollution increases. "Economic growth cannot be pursued at the expense of the environment, lest such growth become unsustainable and threaten the health of the entire world. Yet the concern for the environment has significantly different connotations in developed and developing countries." (<http://www.worldbank.org/html/fpd/harnessing/hid1.html>)

International environmental monitoring can become more efficient and reliable with networked electronic information systems. The instant access and response that the Net allows assists environmental campaigners internationally. "Last year, following US President Clinton's announcement that he was about to sign the Convention on Biodiversity, Indian environmental activist Vandana Shiva received a draft copy of Clinton's proposed statement . A statement which, according to Shiva, threatened to 'hijack the Convention for the benefit of industry, making it an instrument to be used against the Third World.' She contacted the Malaysian office of Third World Network - a development media organisation - and her message was posted on various bulletin boards on the Net. Almost immediately, protest faxes and e-mail messages from non-governmental organisation's around the world were being sent to the White House." (Holderness, 1995://<http://www.oneworld.org/panos>). Journalists need to be watchdogs and commentators of society and the Internet can strengthen this function.

7.6 *Problems with the Internet in Africa*

7.6.1 Language

English is the dominant language on the Internet. The reason for this is largely because it was developed in the United States and became popular among American academics. Also, for practical and economical reasons, it has continued to be the language of choice. However, this seems to reinforce the division between those who can and cannot have information. Ranil Senanayake's

mother tongue is Sinhalese: he cannot use the Net in this language and does not expect to be able to. "It matters because it restricts the people who can start using a computer to the people with the ability to work in two or three languages. I think in English, which makes a huge difference to what I think. If you read and think in that language and you have the cultural and social values ingrained in you, the way you interpret that information may be totally different." (Holderness. 1995://<http://www.oneworld.org/panos>)

Technical limitations like the computer keyboard, which uses the Roman alphabet, prevent the use of other languages. "It is at present only really practicable to send electronic mail in languages which use the Roman or Cyrillic alphabets. Software programs that can handle different scripts are common. But files generated in a language like Hindi or Japanese by one program are not readable by other programs." (Holderness. 1995://<http://www.oneworld.org/panos>)

Indian journalist, Bittu Sahgal points out an economic disincentive that favours English-language elite targeted information over grassroots vernacular information in many countries. "Most journalists who write in Hindi are really struggling. They get 150 rupees for an article, when the English version would earn me 800 rupees." (Holderness. 1995://<http://www.oneworld.org/panos>) Thus if current trends continue, the Internet may just become another tool for linguistic domination by the West. This is not all bad. To the extent that English is the dominant lingua franca on the Net, it is precisely these kind of issues that can be debated on a global scale. The ideal would be software that allows users to input text in their mother tongue and automatically convert it into a pre-selected language for the receiver on the other end. But for now, English seems to be the language that will allow us to debate issues on a global scale.

7.6.2 Political and cultural domination

Language is not the only issue of contention on the 'Net. "Commentators currently define the most common political position expressed on the 'Net as a sort anarchist-capitalism, at the extreme individualist end of the US spectrum, reflecting the spontaneous and anarchic growth of the medium to date." Described as the most democratic tool, the Internet is in danger of being influenced by economically successful western countries that have the capital and expertise to propagate their standpoint. Amadou Mahtar Ba from the Pan African News Agency comments:

"The main threat is that developing countries will be only consumers of the Infobahn services. Almost all the information is from developed countries. There is a need for our countries to propose specific services on the Infobahn so that they can have a presence in it and become information providers."(<http://www.fao.org/waicent/faoinfo/sustdev/Dodirect/DoengBO1.htm>)

Although political websites range from the Klu Klux Klan to human rights groups like Amnesty International, the Net is currently very individualistic. At the opening of the African Centre of the Freedom Forum in Johannesburg in 1999, audience members voiced a similar concern: "It is said that there's a lot of Western influence on the Internet, and some people have gone to the extent of saying that African moral values are being eroded through the Internet." Kanthan Pillay, managing editor of the Cape Times in South Africa responded: "We are seeing an increasing globalisation of moral standards. The extent to which we are able to retain control of our own cultural values is the extent to which we use the technology to promote those values as opposed to trying to shut out what is coming from the rest of the world." There are very few African political websites online and it is important that these African countries use this medium to ensure that the web is indeed a democratic medium with different political viewpoints. If the Internet is to fulfil its promise as an electronic extension of a global civil society, then governments in Africa and elsewhere must cease trying to control the information revolution, and help nurture their own networks and encourage equal access for all.

7.6.3 Relevance of Information

Most of the information on the Net is generated by the richer Northern countries like the United States, Canada and the United Kingdom and thus most of the information is relevant only to their societies. This is not without value to other societies, but it needs to be kept in context and adapted if it is to be of local relevance or interest.

"The sheer volume of information available on the Net makes it difficult for Southern-based people to make much use of it. Much of the data is irrelevant, trivial or just unreliable. The increased connection and communication charges means they have to rely, like Bittu Sahgal, on sympathetic northern contacts to provide them with the information they need." (Holderness, 1995://<http://www.oneworld.org/panos>).

The Net is a pro-active medium. All of these factors can be changed, but they can only be spearheaded by active Africans willing to put up information and change the current status quo. Dutch journalism teacher, Peter Verwey told New Media 2000 conference delegates in Grahamstown, South Africa: "the Net is the individuals on it. The Americans won't put African information online - it's up to Africans to do it." (Berger, 1997:2)

7.7 Conclusion

Given the recent changes in Internet access and connectivity, there is no doubt that the Internet is certain to continue spreading rapidly throughout the continent. Whether it will benefit African society or not is dependent on the information that we as Africans put online. As David Lush says, "The Internet is an elite medium, but I feel that this should not detract from its uses: those Africans with Internet access tend to be decision-makers, academics and professionals whose use of the Internet can benefit many. Lives have been saved as a result of rural hospitals using e-mail to get speedy diagnoses on patients' illnesses. Media workers can pass on their audiences information gleaned from the Internet. So by making public information available on it, governments would not just be benefiting the elite" (1996). If properly utilised, the benefits for Africa of the new information and communications technologies could then be an empowered and better educated civil society, improved economic development, greater social equality and increased respect for human rights.

8 Creating web documents

Hypertext mark up language is the language that Web browsers require in order to interpret your instructions to display a document. They can be created using a text editor like word perfect or notepad. These files need to be saved in ASCII format and the html tags must be added to the document manually. There are a number of WYSIWYG (what you see is what you get) editors like Hotdog, Corel Webdesigner and Hot Metal that also allow you to create html documents. It is better to understand a little html before using these as you can correct any mistakes in the code. Recent versions of MS Word and Word Perfect allow you to save documents with .html file extensions without having any knowledge of coding. Once again, it is still better to understand a little html.

Getting Files on a Server

To publish these pages on the Web, they need to be placed on a server so that people can access these documents. Before starting to publish, ensure that your service provider will give you space on the server or if you are using your own server, ensure that the systems administrator has set it up so that the documents can be published.

Minimal Html

An element is a fundamental component of a document. Some examples of elements would be paragraphs, tables, and heads. You need html tags to mark the elements of a document so that the browser can read it.

Instructions for the browser to interpret are encased in brackets e.g. `this is the bold attribute`
`` These are called tags. To denote the various elements of a html document, you have to use tags. Html tags start with a left angle bracket (<) and a right angle bracket (>) Tags are usually paired (see example above) to start and end an instruction. The end tag has a slash (/) at the end. Html tags are not case sensitive.

Every document has to have certain standard information at the beginning and end of it. Browsers are programmed to look for this information in order to recognise it as an html document.

The absolute minimal page should look like this:

```
<html>
<head>
<title>Publishing Online</title>
</head>
<body>
<h1>this is the first headline size. </h1>
<p>The p tag denotes a paragraph. </p>
<p>Browsers do not automatically read in paragraph break and thus they need to be told when there
is a break in the text. </p>
<p>this is the third paragraph of text</p>
</body>
</html>
```

Unpacking tags

<html>

This indicates to the browser that the document has information coded in html. The file extension (.htm or .html) also says this. Browsers require that text files are saved in this format.

<head>

Identifies the first part of the Html coded document that contains the title.

<title>

This is shown at the top of the browser window. This is often also the part that the search engines use to display search results. This is also the part that is displayed on a bookmark list. Thus it is important to use a title that summarises the contents of the document.

<body>

This part contains the content of your document. Within this area, you can include other tags like the <p>, and <i>.

Headings

This is like a newspaper headline. There are six levels of headings and they are denoted by this tag `<h1>`. H1 is the largest and `<h6>` is the smallest.

Paragraphs

Unlike word processors, browsers do not automatically detect hard returns and they will have to be coded in `<p>`. Without this, the browser will read it as one long paragraph. You do not have to worry about the length of the line though it is best to keep it to fewer than 72 characters as it is easier to read. If you are automatically saving text as html documents in a word processor like Word Perfect or MS Word, change the line spacing to single line spacing. Double line spacing is difficult to read in a web browser because of the huge gaps between text.

It is best to leave lines between paragraphs in the source code to make editing easier.

You can also force a line break by using the `
` tag.

Both of these tags do not require a closing tag `</p>`. This is automatically assumed by the browser.

Lists

You can include unnumbered, numbered and bulleted lists in your document.

Unnumbered Lists

```
<ul>unnumbered list starts here
```

```
<li>point one
```

```
<li>point two
```

```
<li>point three
```

```
</ul>unnumbered list ends
```

you do not need closing tags for the list item ``

It should look like this:

point one

point two

point three

Numbered Lists

This is exactly the same as an unnumbered list but it uses the tag `` for ordered list. The `` tag remains.

```
<ol>
<li>point one
<li>point two
<li>point three
</ol>
```

It should read

```
point one
point two
point three
```

Definition List

A definition list allows text to be formatted on different lines. This is similar to the tab command in word processing.

```
<dl> start of definition list
<dt>Definition term - Term 1
<dd>definition definition - we will be looking at amphibians and will be dissect frogs in pracs.
<dt>Term 2
<dd>We will be looking at mammals. There will be no dissections in this term.
<dt>Term #
<dd>This is the last term and hence will be reviewing work for the year and we will also have a test every week.
```

It should read:

```
Term 1
```

```
    We will be looking at amphibians and will be dissecting frogs in pracs.
```

Term 2

We will be looking at mammals. There will be no dissections this term.

Term 3

This is the last term and hence we will be reviewing work for the year and we will also have a test every week.

Horizontal Rules

The `<hr>` tag produces a horizontal line the length of the browser window. You can specify the length and width of the rule.

`<hr size=3 width="75%">` You can specify the width as a percentage and the browser will display it as a percentage of the window or in pixels which is more accurate. Instead of `width="75%"` it will read `width="500"`

Hyperlinks

This is perhaps the most important part of a html document. These tags are denoted by the different coloured text in your browser.

type the anchor tag `<a>`

specify the document you are referring to - ``

Type the text you want to be displayed by the browser.

End the tag ``

A link should look like this:

``This is a test file``

Make sure that the file is in the same directory as the index file you are working with or specify the directory so that the browser knows where to find it.

E.g. ``This file is in a folder called papers.``

Linking to URLs

The same tag applies to linking to other URLs on the web. Be sure to enter the entire address.

E.g.

`This links to the Journalism Department`

Mailto

This tag allows you to add your e-mail address in your webpage so that users can mail you from the Web.

`This is my e-mail address`

Images

You can also incorporate images into your document. Browsers support GIF, X bitmap (XBM) and JPEG format.

The image tag is `` Like the href tag, images must be in the same directory or it must be stated if it is in another directory. It is also a good idea to add the height and width attributes so that the browser knows the size of the image.

``

Always think twice before using large images as it takes a long while to download.

Saving and testing files

You can test this document by saving it eg. Test.htm and opening it in your browser. In Netscape Navigator, this is in the File menu - Open file. You can also save the source code of another document from the web and use it as a template for your own document. It is in the View menu - view document source. The source code will open up in a new window.

Check to see that all the links are working. There are no broken links or images. There are html validation services that can be downloaded from the Web. These will check your code.

Browsers differ. Not all browsers support the same html code and some interpret codes differently. Use correct html and little else can be done to control the way a browser will handle your document.

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9 Glossary of Terminology

ASCII - American Standard Code for Information Interchange - binary code developed by the American National Standards Institute and it is used primarily for data communications.

Bandwidth - the difference between the highest and lowest frequency that a communications channel can carry. It is also sometimes used to refer to the carrying capacity of an information channel.

Baud Rate - speed at which data travels through a channel.

Binary - having only two possible states - on or off

Binary Code - a code that represents characters as binary digits.

Bit - short for binary digit. Can have only one state - on or off.

Bookmark - like its name suggests, this works similar to physical bookmarks. Simply add your favourite bookmark to the file and these can be saved and taken with you or mailed to a friend.

Bookmark - you can store the address of a site in this file for later use. Click on bookmarks in Netscape Menu Bar at the top. Then add bookmark. To visit the site again, simply click on it. This file can be downloaded and taken with you.

Boolean Logic - ways to make the computer understand phrases. To combine phrases use, AND, OR, NEAR, AND NOT.

Bps Bits per second - measure of the speed at which data travels through a communications channel.

Browser - a programme that allows you to download and view web documents. Mosaic was one of the first browsers.

Browsers - Software programmes that enable you to view documents on the World Wide Web.

They "translate" html-encoded files into the text, images, sounds and video that we can view.

Netscape, Internet Explorer and Mosaic are examples of browsers. Lynx is a text-based browser.

You do not require a high-end computer for this and is sometimes quite convenient just for research.

Byte - a single character of data. Eight bits equals one byte.

CD-ROM Compact Disk Read Only Memory - Optical disks that can store over 600 megabytes of data. They are read only i.e. cannot be written on.

Domain - part of the DNS that specifies the location of a host and the kind of host i.e. if is a commercial, government, academic, etc organisation.

Domain name system - a system that locates the numerical IP address that corresponds to a host name.

Download - Saving a file from the Internet onto your computer either on a disk or on the hard drive.

E-mail - a method of sending primarily text files and messages from one computer to another anywhere in the world provided they are connected to the Internet. You can now also send sound and picture files.

FAQ frequently asked questions - a document containing the most frequently asked questions.

Flame - An abusive attack on someone posting in Usenet.

Floppy disk - a plastic disk that allows you to store information from your computer and take away with you. They come in two sizes - 5 1/4 inches and 3 1/2 inches.

FTP file transfer protocol - to transfer files from one computer to another anywhere in the world.

Gif - this refers to the file format that pictures are sometimes stored in.

Hardware - this refers to the actual computer that is needed to run the software. This can be a Pentium PC or an apple Macintosh. Hardware will also include things like modems and scanners.

Home Page/Web page - web documents are usually referred to as pages and a home page is usually the primary page for a person or an organisation.

Homepage - the first page when your browser starts up or the page of an organisation or a person. If you put information off yourself on the Web - that will be your homepage.

Html - hypertext markup language. A standardised language of computer code that allows computers to interpret instructions and display them in the form that we see on the Web.

Internet - this is the network of networks, which allows any computer connected to it to communicate with others.

Internet Explorer - web browser software.

Internet Service Providers (ISP's) - any computer that allows you connect you to the Internet is known as a host. Companies that have companies hosting computers and allowing you to connect to the Net is known as an ISP.

IRC Internet Relay Chat - real time keyboard chat.

ISDN Integrated Services digital Network - technology that allows voice, data and images to be transmitted simultaneously over telephone lines.

ISP - Internet Service Provider. A company that provides you with access to the Internet.

JPEG - a file format for graphics and pictures. It is often preferred by Net users because it is highly compressed and thus reduces file size.

Links - documents can be interconnected through a series of links. These can be within the same document and stored on the same computer or it can link to a different document on another computer. Links are generally denoted by a different coloured text. They can also be pictures. When you pass your cursor over a link, it will turn into a pointing hand and the URL will pop up at the bottom of the window.

Listservs - select mailing lists where users have to subscribe to receive mail.

Mirror - another FTP or website that is a replica of the original set up to share traffic and make it easier for users to retrieve information.

Modem - MODulator/DEModulator - Allows computers to communicate over a telephone line by Netscape - web browser software by converting analog signals to digital signals and vice versa.

NNTP - Network News Transfer Protocol - The standard protocol for the exchange of newsgroup articles.

POP3 - point of presence - e-mail protocol that establishes a presence on the Net and allows you to pick up your mail from anywhere in the world.

Server - Usually designates a computer connected to the Internet information available on it.

Signature file - footer that is automatically attached to e-mail and newsgroup postings so that the reader knows who are.

SMTP - Simple Mail Transfer Protocol - Internet protocol for transporting mail

Spam - posting the same message to multiple newsgroups.

World Wide Web - a collection of documents that are interconnected through hypertext links.

Zip - compressed files to save space. Files have a .zip extension and need to be unzipped with a software programme in order to be able to read it.

Download - Transferring a file from one computer to another.

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