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The 3rd Annual Conference on World-Wide Web Applications was held during the first week of September this year. More than 50 papers were delivered on various multidisciplinary topics, by academics as well as speakers from the corporate environment. As in the past, *SAJIM* will again select the most applicable papers, have them peer-reviewed, edited and consequently published in the next four issues. The bulk of the papers are soon to be published in the conference Website (follow the above link).

The text of the Welcome Address, delivered at the Conference by Prof. Desiré Vorster, Vice-Rector (Management and Support Systems) of the Rand Afrikaans University, forms this issue's editorial. It clearly echoes the important role the Internet and Web play in general, but also that, from an information management point of view, how they are already setting new directions for scholarly communication.

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Welcome address, 3rd Annual Conference on World-Wide Web Applications

Introduction

We learn from things that have happened, things that took place maybe last week or maybe several thousand years ago. Nothing could be less static, however, than the digital revolution that has swept our planet over the last 20 years.

Lou Gerstner, chairman of IBM said the following:

> Every now and then, a technology or an idea comes along that is so profound, so powerful, so unusual that its impact changes everything. The printing press. The incandescent light. The automobile. Manned flight. The Internet. It doesn't happen often, but when it does, the world is changed forever.

In the decade of its existence, nobody would have thought that the World-Wide Web would become such an important and integral part of our work-related and personal lives. Only recently, it was imperative to add an e-mail address to one's business card; nowadays it is not only essential but also the 'in' thing to add the Web address of your organization, department or even personal Web environment to your business card. Various trends can be mentioned here to illustrate the different areas in which the Web is impacting on us:

The first area being

- **Teaching and learning:** Online courses are the order of the day. Use any search engine to discover the multitude of courses that can be followed via the Web. The friendly interface, the interactivity and the uniform platform of the Web generate

promising possibilities to teach and learn. The concept of the electronic university is no longer a dream: Web-based courses are abundant where the Web is not merely utilized as a publishing tool of study material, but also as an infrastructure to gain access to the world's digital courses as well as information sources in different formats (such as normal text, graphics, video and sound files). And what's more, it's a way of acquiring the knowledge of experts in the field, working as teachers from anywhere in the world. The International Distance Learning Course Finder is the world's largest online directory of e-learning courses from 130 countries. This universal distance education resource has information on over 55 000 distance learning courses and programmes offered from a multitude of universities, colleges and companies.

The second area which the web has impacted is

- **Research:** The Web has become, in its very brief life span of merely ten years, an important warehouse of data and information that can be retrieved by means of sophisticated single and meta search engines. Similarly, its functionalities are rapidly transforming the Web into a powerful research tool with which to launch sophisticated investigations via the Web, with the use of questionnaires, Delphi survey techniques, group discussions, and so forth. The diverse virtual communities that have been developed over time are increasingly being studied from departure points such as ergonomics, user interfacing, human behaviour, productivity and similar trends, with results coming to the fore that assist us in a better understanding of human reactions while performing in a digital or virtual world.

Thirdly,

- **New ways of scholarly communication have emerged through the Web:** The conveying of research results via the Web has become such a widespread functionality that various formats with breaking news about new products and new research results are being conveyed through newly developed channels. Electronic bulletin boards are loaded with discussions on techniques and methodologies; e-mail groups have revived the concept of the invisible college (that is, scientists or researchers keeping in touch with each other, and sending each other research results even before they have been made known on a conference podium).

Fourthly,

- **E-journals** ('old wine in new bottles') have also been impacted by the Web: The ultimate vehicle to transmit research results reliably in a regular fashion, while acting as a repository of scientific contributions, was for centuries embedded in the scientific journal. This still holds true today, but with the added benefit that the scientific journal has been transformed, via the Web, into a dynamic multimedia source of new research results. Not only has the publication delay been eliminated, but the very nature of peer-reviewed articles will never be the same again. For the first time in the history of **scholarly communication**, authors can impact on the nature of their articles, and they can utilize their creative skills to generate a scientific article that is a far cry from the traditional paper-based equivalent. And for the first time in the history of **electronic publishing**, such an article can contain various formats of data or information, namely variations between text, graphics, sound and video. Text-embedded links from references or footnotes can now point to the full text of the source, in any format. Animations, with or without sound or video can be incorporated. These 'live' but similarly virtual documents can also be allowed to develop (or 'grow') by allowing correspondence (such as 'letters to the editor') and subsequent contributions by the author to be amended on the original text.

Lastly:

- **E-business, e-commerce and teleworking** have also been affected**:** The impact of the Web on these sectors is yet to be established. The fall of the dot.com companies will not prevent further innovations from being developed in the near future. Initiatives from as modest as selling the full text of journal articles to online registration for conferences and courses will be succeeded by real e-business ventures such as full-scale banking and investment possibilities, online shopping and teleworking. Intranets are increasingly utilized for information management and knowledge management. Teleworking, always the dream of many knowledge workers, could soon be the norm rather than the exception. We have already seen how WAP technology in the cell phone industry is stripping these workers of their attachment to the physical office. Intranet and extranet developments have made these possible. Not only internally generated but also external or commercial aggregators of information are being imported into these infrastructures; thus, data and information as well as internal communication are being made available to any work-related situation outside the traditional office.

Size and growth of the World-Wide Web

The impact of the Web was illustrated by these examples, but the reality is that, although the Web has already had such an impact on our daily work, a large percentage of ordinary people, for various reasons, do not yet have access to the wonderful world of the Web. This is the crux of the matter: that we, in our research and in our developmental work, should strive to reach out to those who do not enjoy the facilities to address their own problems, to improve themselves scholastically and, in general, to be able to make contact with developments in the outside world. This was never possible before. But the Web has the means to bring people living far from the hub of developments and in modest villages in touch with the global village with all its facilities to improve themselves, to learn from others and to learn from each other, irrespective of the remoteness of, and distance between, the non-global villages.

If you think that 'most' people have access to the Internet, and even surf the Web regularly, then you are mistaken. In statistics that are continuously updated, NUA Internet Surveys (www.nua.com) has provided the staggering figures in **Table 1**.

Table 1 Web access per country/population

Date	Number (million)	% Population	Source
November 2000: World	407.1	6.71	Nua Ltd
November 2000: Australia	8.42	43.94	Nielsen
July 2000: China	16.9	1.34	CNNIC
November 2000: Hong Kong	4.6	48.69	Nielsen
November 2000: United Kingdom	19.98	33.58	Nielsen
December 2000: USA	164.4	59.86	Nielsen
			Media

| **May 2000: South Africa** | 1.19 | 4.19 | Africa |

To make matters worse, the sheer size of the Web is intensifying the problem of information overload. Cyveillance®, a Washington DC Internet company, recently announced the release of its study, *Sizing the Internet* , which revealed that 2.1 billion unique, publicly available pages existed on the Internet by the end of 2000 (http://www.cyveillance.com/web/us/newsroom/releases/2000/2000-07-10.htm). The study also found that the Internet is growing at an explosive rate of more than 7 million pages every day, indicating that it will double in size by 2001. Cyveillance further projects that the Internet's highest rate of growth is still to come.

From a business or corporate point of view, and this applies to the tertiary sectors as well, it is widely accepted that, as the Internet grows, so does the 'knowledge gap' between what companies know and what they do not know, translating directly into lost opportunities and lost revenue. According to Wolfgang Tolle, Cyveillance CTO and Vice-president of Operations. 'More than ever, companies now need to gather e-Business Intelligence not just from their own corporate Web site but also from the other two billion-plus pages on the Internet that may be impacting their businesses'. The good news is that irrespective of these figures or Wolfgang Tolle's comments on *lost opportunities and lost revenue*, the total Internet revenue in the world (see **Figure 1**) indicates huge untapped resources, especially in view of the very low percentage of Internet access per population size.

Figure 1 Total Internet-generated revenue
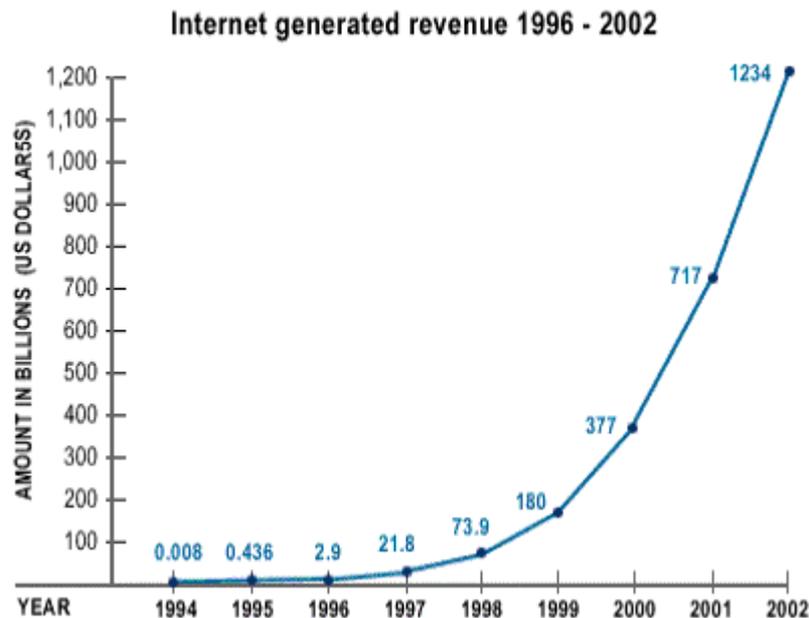
Finding mutual solutions to the information overload

In this digital era, one of the most effective ways of addressing problems is probably the old-fashioned method of face-to-face communication. Terms such as *virtual conferences* or *electronic bulletin boards* are extensively used to exchange new ideas and findings to solutions. But it seems that nothing can compete with the effectiveness of personal contact between groups with mutual interests. This approach has been echoed by the International World-Wide Web Conferencing Committee (IW3C2), a non-profit body that arranges similar meetings, but on a much larger scale than this 3rd Annual Conference on World-Wide Web Applications.

[Robert Cailliau](), one of the two 'fathers' of the Web, organized the first Web meeting of its kind at CERN in 1994, to herald the first success gained by this new information infrastructure. This was followed by the formation of the IW3C2, which held its 10th meeting in May this year, in Hong Kong. By the way, Robert was the keynote speaker at the 1st WWW conference at RAU, in September 1999.

The IW3C2 formally ruled at its committee meeting in Hong Kong this year that the RAU Conference be endorsed as a so-called Regional Conference of the IW3C2. The scope and standard of the first two conferences, and the content of this year's papers, were scrutinized and accepted as of a high standard, as set by this international conference's organizing body.

This brings us to the very nature of this year's conference, the third of its kind on the RAU campus. The main theme of this year's plenary sessions, on Wednesday and Thursday mornings, addresses e-learning. To enable us to look at this very important topic from a fresh angle, the speakers will look at e-learning from a business point of view. Apart from Anthony Ward's presentation of *e-Learning as a Business*, a mini-symposium will consist of the viewpoints of three prominent representatives from the private sector. Their viewpoints will probably be different from the didactical theories of the tertiary sectors, but there is no reason why this opportunity should not stimulate the exchange of ideas and the setting up of alliances or partnerships between these two environments.

The parallel sessions consist of a total of 50 papers, representing various tracks or sessions. A quick glance at the programme reveals sessions such as

- e-Business
- e-Learning
- e-Navigation
- Web and tourism
- Web and medical issues
- Ergonomics
- Cyber law and
- Multiple case studies of using the Web in the teaching and learning process.

First ONLINE|OFFLINE WebArt Exhibition

To conclude, mention must be made of the WebArt exhibition presented proudly by this Conference in cooperation with RAU's Gencor Gallery. During the exhibition, various artists will be demonstrating their artistic (and computer!) capabilities.