



2001 -- Some Space for an Odyssey

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Miran Pecenic is in charge of IT at Nuova Banca di Credito di Trieste. In the Eighties he supervised the creation of the internal IT network for the bank. In 1995 he has brought the bank on the Web, and devised more than 80 pages, among which the one on Italian on-line banks. In January 1996 he set the bank intranet with around a dozen internal services. As a speaker, he took part to numerous conferences and he has published a number of articles on Italian, Slovene and Canadian journals. In 1996 he also contributed actively to a statistical research on the use of the Web in Italy, receiving 1750 replies.

We are all asking ourselves where this thing called Internet will take us in the near future. Nowadays we are watching, writing, we talk, seeing each other, and in a while we will be even shopping without even leaving our homes. On-line work minimizes fixed overheads and it is going to become more and more profitable, in spite of the danger that a whole family of jobs (an example of which are those US airline companies that have subcontracted their reservation operations to South-East Asia) will be displaced and relocated elsewhere in the world where costs are lower.

People more famous than me have been already addressing this issue. What I would like to add are a number of conclusions on a greater danger, that emerges from the advance of technologies on a broader scale. Let's use our logic to browse through the developments that are taking place. It is by now clear that by the year 2005 all available addresses (e.g. 255.1.255.1) will be exhausted. Some authors forecast that, two years later, all citizens of the world will have an IP address.

The solutions seems clear: it would be sufficient to re-design the whole procedure to allow each user to have 60 trillion addresses each. Why so many? Have we been forecasting what will be happening in the year 2350? Have the net-engineer been working on procedures to allow for such a multitude of addresses? Home technology, leaving Personal Computers aside, is rapidly turning to fuzzy logic. The task is to make home appliances (but it is also the case, inter alia, of automobiles) clearer, to allow them to learn the tastes and habits of users, with the excuse of improving their effectiveness. Washers and dish-washers that choose autonomously the right task and the right amount of water, while the net provides the necessary information, without even the need to look for them; the TV set or the HI -FI system provide movies or music that are interesting to the owner, and so on. We are still at the onset of a strategic plan, that I feel is not yet shared by all producers, but that is increasingly felt to be a novelty (or as a gadget, to put it better) by larger numbers of consumers.

So far so good.....the latest news tell us that IDE and SCSI (7 units on line) technologies are dead, while new technologies will enable us to connect a single PC to 64 or even 127 peripheral units. A couple of examples: TV, VCR, HI-FI stereo, washer, dishwasher, microwave, telephones, pacemakers, counters (some models exist that allow for remote control), and so on. From the electronic log of these appliances, it will be possible to go back to the habits and tastes of each single user.

Telecommunications are increasingly more wireless, from the old remote TV control, to keyboards, to infrared printer, to DECT telephones. The latest technological attempts (from the AT&T telephone super-cables or the use of electricity cables tested by Novell) haven't yet seen the light, if they will ever do. During the last year, a student at the University

of Palermo and I, have been working on a statistical project on the use of the Web in Italy. The task we had to face was how to attract the largest number of visitors. We decided to try and provide gifts; since our budget was very limited, I created a free-of-charge news-by-mail service, called Netzapping. After the user fills in the details of a questionnaire with 15 questions, s/he has the opportunity to enroll on the news service choosing from 10 among sites and topics.

Analyzing the log-in details I found out that visitors leave behind data that identify them. I can follow them and see, on the basis of the pages chosen, their choices, tastes and/or habits. If I insert every now and then some form requests, I can find out with even greater details what the user is interested in. I found it ironic that, over the same period, there was a great deal of discussion over the newly-drafted law on data privacy in Italy.

Personal computers are becoming more and more means of communication for information, and less and less creative machines. The prevailing use nowadays is connection to the Net to search for software of information. Ownership is not yet very widespread; furthermore not so many users have the technical competencies to upgrade regularly operating system, browsers and plug-ins. Wouldn't it be much simpler to identify an alternative avenue for the Net, like the TV set upgraded with a black box and a simple input device?

Nowadays, in the Untied States, cable-TV stations offer access to Internet on the channel they would otherwise use for teletext, thus allowing users to navigate using simply their remote control. Because of the need to upgrade to the new 16:9 standard, or other satellite standards, everybody will probably be able to use these new-generation televisions, including Internet-TV as a component, and not even as an optional.

In the banking world the buzz-word is home-banking. So-called offshore banks (in fiscal heavens such as Bermuda or Antigua) are already offering this service in a very comprehensive and visible way; US banks have been offering it bundled with other home-finance applications such as Intuit Quicken or Microsoft Money. In Italy half a dozen banks have followed a soft approach fearing hackers' attacks and waiting for (and to invest in) a National or International standard. After the first wave of banking software and services on the Internet, who will refrain from offering suggestions about providers and products tailor-made to the interests of users, interests that can be readily accessed from the electronic information left behind by the users themselves? When we will need to buy a new car, we will not need to go out and search for it; we will be, on the contrary, searched after, on the basis of our tastes, on the number of members of our family, on our financial capabilities. Science-fiction? Not really, just a long sequence of bytes ...

If these are the ingredients of the cocktail, each ranked because of its relevance, can we try and guess its taste? The electronic heart of our home will be the personal computer (or maybe the TV set). We will be able to connect to it every electric device. Every device will have its own, unique Net address, probably not on the Internet as we know it today, but on something simpler and more global. Each consumer will communicate its own tastes to the producer of the device (clearly on-line). There will be continuous verification (free of charge) to allow the device to communicate with its producer (an electronic "Trojan Horse") to provide the latter with all the information necessary not only to improve the product, but also to learn the habits of the user. Let us imagine, for example, a Japanese producer of electronic appliances, computers and cars; what will prevent such producer to violate more and more the privacy of consumers.

Referring to the title of a famous movie, in the year 2001 will there still be space for an odyssey? Individual, privacy, and initiatives will be words of the last millennium. I don't want to sound excessively visionary. It is now more than twenty years that I have been working with computer, and more than three that I have been involved on the Net, because I am convinced that this medium can have great use, if it remains within some ethic boundaries.

The technological steps that I referred to above remind me of the phases that led to the cloning of a sheep in Scotland. After the event, there has been a great deal of movement and discussion, but in the meantime the target had been reached. To say that something is illegal, after it has been done, is long overdue. Other people are already in a position to use it for their own objectives. I truly hope that a similar fate will not be shared by Internet.