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DROUART Vincent
vincent@drouart.net

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Internet-Terminals

Introduction

The explosion of the Internet network these last years has created some new social, cultural and economic practices. Marriage between the information society and new technologies make of Internet a media of the future, but also a media of which practices and manners remain problematic.

Through a speech of freedom of expression, direct and " free " access to the information, possibility of communicating worldwide, pushing aside the notions of space and time, many are those who think that Internet reduces social and cultural disparities, and borders among the peoples, since everybody has today the possibility, in theory, of reaching the most universal information source and the most powerful tool of communication ever invented : Internet. Indeed, from a " mere computer ", of which most are delivered with integrated modem, each can dive into the cyberspace ...

But access to the network requires the mastery of these technical tools that are the computer, the software packages, the plug-ins, the access provider, without counting the investment which endures this material.

Internet is everywhere: in our televisions, our radios, our magazines, our administrations. No one can today escape this media echo provoked by, and for the Web.

Where nobody disputed the efficiency of the traditional mail, Internet invented the e-mail, where everybody contented himself with the mail-order selling, Internet invented the electronic business, the scientist can today confront his results directly with his Japanese colleagues, the student has finally access to the resources of the libraries of the whole world.

Internet creates necessities, but it also responds to a real demand of information and communication.

But access to the web is still reserved today for a certain elite, culturally prepared and familiar to new technologies.

A cultural barrier separates then the greenhorn from this " universal access " to information.

More than the network in itself, which is today much friendlier and easier of access than to the stammerings, it seems that it is especially the tool allowing to reach Web who pulls a certain category of population. By comparison, we could almost say that the persons who do not master a

little the computer tool are " illiterates of the modern times ", as the mediatization of Internet is today strong. It is this same mediatization which makes that Internet becomes indispensable to all, and this stigmatized population, feels today the need to reach this network.

Even though at present, motivations in a connection finds more than a general curiosity that a real necessity, each claims its right for the personal enrichment through human, cultural and commercial exchanges, and the need to participate into the development of new technologies.

Until now, connection to Internet could be established only due to a computer, with all the technical and financial constraints which it engenders, but for some years, in front of the craze that provokes the network, new tools allowing everybody to connect are developed. As such we can see projects of refrigerators appear, connected washing machines or still watches allowing to read e-mails.

In front of the variety of these projects, we interest in the prototypes which are today the most developed, see already commercialized and accessible to most of the stock exchanges: terminals dedicated to the consultation of web sites, under the shape of autonomous "Minitels - Web", we shall also approach "decoders" connected with a television set, supposed to democratize access to Internet.

The set of the meditative documents do not claim to be able to collect all the articles on the subject, nevertheless, they offer a sample group of speech of different previous history, taking the shape of articles of current events, of " news ", special files, or advertising, resulting from builders themselves, of specialist publications in data processing, in the field of Internet, of bodies of technological watch or still governmental organizations. Let us note however that non-specialized press does not propose a lot of information about this object still little spread.

In the concern of power to follow the technical evolution of these objects, and the ambient speech, we have chosen to present documents in a chronological way.

Altogether, the speech stands out three big tendencies which we are going to study.

At first, we shall try to analyze the causes of the appearance of this new object, notably compared with an already existing object: the personal, first computer tool allowing to reach Web, then we shall approach this object in term of necessities and social - cultural manners.

The second part will centre more on economic dimensions inferred by this object, at first from an internal point of view, that is the development of the electronic business, then from a more global

point of view, deciphering the economic stakes of Internet in terms of appropriation of the network.

We shall try finally to stand out technological promises ensuing from this analysis, by approaching notably the notion of technical innovation, in front of already existing tools of communication and information.

Social and cultural dimensions

Since the origin of Internet, in the end of the 60s, while the network named Arpanet was only an American military application, the web always weaved with, and for computers. In the years which followed joined the academics then the institutes of search, and at the beginning of the 90s, Web gains homes and companies due to the arrival of Personal Computer. Since about twenty years, Internet is within the reach of everybody, at least within the reach of everybody who has access to a computer, a modem, a subscription, who knows how to use and configure this material, and who has necessary capacities to go through the network correctly and to find satisfaction to their necessities. In fact, we can see that Internet was, and is still accessible to a small part of the population. Still it is necessary that this population feels the need to reach this network. Because Internet has not always been as attractive as today, as at the level of the use as by the contents. Some years ago, Internet was still intended for a restricted population of researchers, by academics and by information scientists and the main sources of information were supplied by this same population.

But, with Internet at the head of procession, " computer revolution " is on march, and the bug of 2000 did not stop it. More than a technical revolution, it is an economic, social and cultural revolution which shakes our society, some even announced a new industrial revolution. Internet invests schools, universities, public administrations, price of PC make them more and more accessible, access providers propose free accesses on CD-ROM, also free, that you only have to insert into the reader to obtain a connection, France Telecom adapts his fixed prices to the customs of the Internet users, portals multiply and offer a point of departure to facilitate (and to direct) navigation, everybody wants to have his site. Everything is made to facilitate, but also to favor access to the network. Because we shall have understood it, this craze provokes, and is

provoked, by important social, cultural, but especially economic and political stakes. Each fights then to appropriate the tool, until then untamed, which will allow to control information, because above social, cultural or economic questions, the web which is weaved around the world draws between the lines the stakes in power.

It is a question then of allowing everybody to reach the Web, cultural and social stakes call upon the right of access to the information and in new communications, economic stakes are provoked by the development of the on-line business and the number of machines which will be sold to reach the network. It is in this optics that were thought and developed terminals and Internet decoders.

Everything was thought to abolish inconveniences bound to the navigation on a computer: Computers are unaesthetic, heavy and blocking, the new tools will be beautiful, light and compact.

On a computer, update and material and software configuration is difficult, the new tools will be easily evolutionary, and could be updated online.

Access to the network on a computer is boring, the new tools will reach Internet by a simple pressure on a single button.

Computers are dearly, the other tools will cost twice less.

The methods of payment at distance from a computer frighten, the new tools will have a reader of credit card.

Finally, the user of Internet on computer does not always know about which wave to surf in first, the new tools will propose a page of reception to every connection better to direct navigation (and consumption) of the new Internet user.

The new tools that are terminals and other decoders Internet introduce new notions into the use of Internet: Momentariness, security, accessibility and aestheticism are the main trump cards of these new machines. The aimed public is mainly a fireproof public in the data processing, which does not want to invest, and to put a lot into a computer, or which does not want a big machine

in the middle of living-room, but which has, or to whom will be aroused, the envy to reach the network of networks, in a simple, effective and friendly. This type of product also can address the middle managers who wish a second access to Web, for an occasional and targeted consultation, without the "constraints of manipulation and heaviness" of a computer.

All these small innovations are going to allow people having no computer experience to reach Internet. But is not this new way to reach Web going to change the uses of Internet? Indeed, the telephone offered us a good example, will these uses those be foreseen originally by the designers? Will the terminals of tomorrow look like current prototypes?

On the contrary, the question can be answered in terms of need. Do the new tools dedicated to Internet answer a real need, or do they create new necessities?

Vincent Créance, director of the design at Alcatel, producer of the terminal Web Touch One, thinks that "sophisticated technologies have to put themselves within the reach of all and adapt themselves to each, and not opposite", but marketing researches and marketing are as unpredictable as weather report, and nobody can say which success, which public and which uses will have these terminals in the future.

Indeed, the current market of the terminal Internet is only in its stammerings and it is impossible for us to pull conclusions on the real uses of his users. Nevertheless, the speech of various articles allows us to determine the uses which have been anticipated by the designers of these products. Most of the encountered articles insist on four important uses to which are dedicated these terminals.

The first evoked function is of course that of the immediate access for the information. Democratization and demystification of the Internet are the subjects of preference of these articles. The report of the Senate of 1997 already demonstrates a political will of the access to information for all, no matter which level of mastery of the computer tool. In fact, access to information is nothing else than access to Internet, no matter which way of reaching the network, the contents of available information about the way stays the same. Indeed, real novelty is more in the way of reaching the network. Access to the information is already possible from a computer, this way terminals will not create new uses, but new users.

The second function anticipated by the designers of these machines, or by the "technological guards" is a function of communication. The terminal Internet should gain its small success with the persons avid to reach this new tool of communication that is the E-mail. An article bets even on the use of these terminals by grandparents who would like to communicate by e-mail with their grandchildren. Still, the terminal - internet will not create new uses but again users, it is a question once again of convincing the fireproof in the data processing of the interest of Internet in information and in communication.

We find moreover these dimensions in the shape of these terminals, as well as in the name which is given to them. Certain designers bet more on an aspect in particular, by trying to get gestures associated to familiar media such as the telephone or the minitel. For example, the Tel@phone or Webphone of France Telecom and IBM have a suggestive name, and they look like a modern phone receiver, integrating a small screen. Uses supposed with these terminals would be then more directed to the possibilities of communication provided by Internet.

On the contrary, the project of Absolut design do not possess phone receiver, it would be then more intended for the consultation of Internet, as one consults a Minitel.

Analogy is omnipresent, terminals are ceaselessly compared with the Minitel, or with the telephone. On one side, they are presented as the successors of the Minitel, being brought to replace them, and on the other hand, they look like additional option to the phone, a new coming function to be transplanted in our good old receiver phone. In the article extracted from Cofinoga, the author has the same reflection. According to him, new technologies will have success only if they join a logic of organic growth rather than a technological break. "The most ancient is not always exceeded by the most recent. Better, it can be used of alibi to the development."

This notion of complementarity meets itself moreover in a even more blatant way when these terminals appear under the shape of decoder to be connected with the television set. Sometimes, the functions of information and communication fade with the idea that Internet could become "the television of future". Internet could then establish a new television channel, interactivity besides, or maybe, in a more distant future, will replace our traditional Hertzian chains, just like the numeric bouquets which appear bit by bit on the cable or the satellite, interactive moreover, and announced certainly the broadcasting landscape of tomorrow. Let us note that this function

attributed to Internet-terminals is valid only in the particular case of "decoders - tv-Internet". The last use called with these terminals is " the on-line purchase ". Indeed, most of the concerned terminals are provided with banking map-lights, allowing a level of security of exchanges still ever reached. Once again, this small " technical innovation " is intended to demystify the network, and more particularly in swindles of which the on-line business speaks so much today. The introduction of this reader of card doubtless establishes the main technical innovation of these terminals, because until now, we were able to see that terminals were only ultra-simplified desktop computers, and except for the touch-sensitive, supposed screen to replace the mouse, we meet ourselves in front of a PC without hard disk or peripheral of stocking or printing. The reader of check card is certainly the only trump card that have not desktop computers yet. But once again, this small innovation does not create uses but facilitates, and reassures an already existing use, that of the purchase on Internet.

More beautiful, more compact, easier to use than a PC to reach the Internet, these terminals are attractive. They do not create new uses, but every producer dedicates its machine for a particular use, betting in some sorts on the future of Internet, and the likely development of a type of use in particular. Navigation, e-mail, broadcasting or electronic business, all these possibilities are offered to us by the Web, and each tries to privilege an aspect rather than the other one. Nobody innovates really, everybody tries to develop some already existing branches. But is not the interest of the network exactly to be able to gather and to take advantage of every of this aspect from just one machine? The computer which we use today is certainly imperfect, but it allows nevertheless to print, to store information for a consultation " except line ", to personalize its access to Internet by adding notably plug-ins allowing us for example to remove the advertising blindfolds. Terminals deprive us of the possibility of mastering our access to the network by standardizing it. By removing us the possibility of getting back information or by imposing us a page of reception, these terminals supposed to move closer the individuals of the network of networks, takes us away from it and reduces all the possibilities of Internet to a simple consultation, as one would consult a minitel ...

Economic dimensions

The unprecedented craze of which give evidence the media, and the public, created at the manufacturers and service companies some new perspectives of economic development. Web sells, is sold, it meets itself today in the centre of numerous economic stakes.

American studies showed that the young people spent more and more time in front of Internet, to the detriment of the small screen. In France, 96.6 inhabitants on one thousand are today connected, and they could be 531.1 on one thousand in 2005 (source Internet Industry Almanach). This constant evolution of the Internet users does not leave the announcers indifferent.

Indeed, Internet is a media as the others, and as such, it becomes an important advertising medium, in view of the growth of the " cyber-audimat ".

But the peculiarity of the network, and so the pages which it transports, is to have no borders. The potential population which can be touched by the advertisement is so relatively important. The second trump card of Internet lies in the inexhaustible variety of its contents. From the most general site to the most specialized one, each can find that corresponding to the centre of interest. This particular aspect of the web allows so, to target the most exactly possible advertisement to touch the public the most interested

The most important sites, which live mostly on this advertisement, begin to make known themselves in traditional media, as the television or the newspapers. Stakes today is indeed to attract the more to Internet.

Various Internet-terminals which appear today are conceived in this optics. Collected articles, that they are critical or commercial, insist all on this aspect of terminals. An access easy to Internet, the democratization of the network, SVM assuring moreover that " even the fireproof in microphone will eventually passed there ".

Naturally the admitted purpose is not to attract people to the web to assure the profitability of the advertising banners, and all the actors interested in these terminals do not lie on this principle. But the stakes in the advertisement on the Net play a rather important role in the development of terminals, and it is impossible not to evoke them.

Numerous alliances form today around Internet, recently fusion Time-Warner / AOL, and maintaining EMI, has to provoke numerous reactions in the economic, political and cultural

world. It stands especially in the fact that AOL is one of the most important access provider of the network, and that as such, he proposes to his subscribers a page of reception, a gate regrouping various services and news. This gate is there some sort AOL's shop window, and its contents are not harmless, it depends especially on various commercial alliances which form with the group.

The same phenomenon occurs with terminals. For example, Alcatel's Web Touch One will be proposed in kit in the large-scale distribution, that is the reason why the buyer of this terminal vera proposed a subscription compulsory for an access provider, for a reduction on the price for the terminal. Alacatel developed a platform HomeTop on its terminal, this platform is in fact a page gate resident in the memory of the terminal and which displays necessarily as soon as one starts the terminal, whether it is to go on Internet or just to phone. The partners have so, for a "share", the assurance as their messages will be seen by the users.

Advertisement is not only stakes economic of Internet. There are many those that bet on the development of the on-line business. So, when Gilbert ZEKKOUT, in the report of Senat, says to us that it is essential to make transparent the use of Internet to generalize the access of it, to offer the possibility of collecting people around the same centre of interest, of investigating information as ever previously, he does not forget to say that the electronic business is going to abolish the intermediaries among suppliers and customers, and that it opens the way to perspectives of development of the discriminated regions.

Economic stakes often go of pair with political wills.

But the development of the electronic business is slowed down by a reliable lack in means of payment, many are afraid of giving their number of on-line credit card. Indeed, of too numerous anecdotes revealed that the secured paiments where not always as reliable as that. Even there, Internet-terminals suggest filling this gap directly by integrating into their case a reader of check card, what should in theory produce reliable paiment to 100 %. The interest of page gates is even more tempting for the partners, knowing that the Internet user will not have any more of apprehensions to buy on-line. But there are only suppositions, we can not yet say if, on one side, terminals are going to become widespread, or in a lesser measure, shall find a public, and on the other hand, we do not know if this new means of payment will seduce and will make the sales on Internet climb. Let us note only that the introduction of a reader of check card in Web-terminals constitutes a certain advantage that do not possess desktop computers today.

A last point on economic stakes bound specifically to these terminals is approached by Libération.com of October 7, 1997 and the number 173 of SVM. This stakes in a direct report with what is presented as the predecessor of Internet-terminals: the Minitel. With 10 million users, the minitel is even more lucrative for France-Telecom and the operators of services than the on-line business. It is for that reason that France-Telecom was for a long time accused for slowing down the access of the French to Internet. But in partnership with IBM, a solution was to find a means to make gradually the users and the operators of the Minitel in the Internet technology. Web-terminals should facilitate this task: access to Internet by a single touch, touch-sensitive screen colour, secure payment, the terminal has speeds of "super-minitel". Purpose is not so for France-Telecom to provoke a rough break between Minitel and Internet, but to keep its economic and financial interests by a progressive passage, due to the introduction of these new terminals.

The considerable development of Internet created numerous economic stakes with various levels. The elaboration of tools to reach Web in the contents which is proposed to it, and sold, each tries to benefit from this growth. Internet is already old, but Web, the big - public Internet, is still it in its stammerings is establish an immense space to be conquered. Even some years ago, discussions, services or on-line business were especially centred on what collected the Internet users: data processing. But new services of the the most attractive and diversified appear every day on the web and are often intended for the widest public possible. And if advertisement for these services begins to bloom on our televisions to attract new Internet users, the development of terminals is another means, even though it is material, to attract most world to networks and to generalize the use of it.

Conclusion: technological promises

Web is at present a gigantic multimedia laboratory, still bad defined in its real uses, in its purpose or in the tools which open us its doors.

The terminal - internet, that it is called Web Touch One, Webphone or Screenphone, that has the shape of a Minitel or a decoder TV, joins in this logic of experimentation which characterizes the

industry of Web nowadays. Everything is only speculation, each being persuaded that the product will be adopted with the biggest number. Because the question of the normalization of terminals is important, already in 1997 had met some giant of the data processing to agree on a language of development for all the terminals, Alcatel has already concluded agreements with THOMSON, RCA and General Electric to diffuse the technology of Web Touch One in the United States. Each fights for its the standard to be recognized and for its product to become a model.

The problem of the standardization and the standard is not settled only at the level of the various terminals, but also, and especially, between terminals and Very Web. Does one visit to seem of new languages of programation specifically dedicated to these terminals, little just like those developed for the consultation of e-mail or of news on mobile telephone? If it is case, is it going to change the face of Internet, are terminals going to take the control of the network of networks? This brings us to wonder about the adaptation: Is it Internet which has to adapt itself to these new tools or do these last ones have to adapt themselves to Internet? Until now this question was not settled because Internet had only a single protocol, adapted to the broadcasting of its contents on any computer, there are only the increase of the outputs which allowed to introduce there images, sound, and now videos.

Indeed, Internet was always conceived for computers, which impact will have its consultation on a terminal? Most of the terminals have only a screen of 640 by 480 pixels, while current tendency is to optimize its pages in 800 by 600 pixels. Outputs allow today to grant a place more and more important for the graphic aspect of pages, will not this one be distorted?

The fashion of the musical files MP3 tends to become less and less marginal and to be got back by selling sites these files, how then to download them on a terminal? Question is settled also for games, applications or files attached with E-mail. How certain articles can claim to be able to predict that Web-terminal will replace the desktop computer?

It seems that terminals and PC have at all the same uses, and as consequently, they will have necessarily the same users. The terminal will not certainly replace desktop computers but will have more, as quotes the number 136 of PC MAGAZINE, a function of second access to Web, dedicated to those that wish to have an occasional and targeted consultation, without heaviness of a PC.

Can one say while the terminal-Internet constitutes a real innovation? The only terminal, as the one imagined by Absolut design, is only a ultra-simplified computer only dedicated to the

consultation of web sites. Most of the other terminals are only compilations of tools, allowing technological summary, from a single device, to phone, to send and to receive faxes, to administer an answering machine, to consult the Minitel, and to reach Internet. Internet-decoders to be connected with the television adds simply a function to the television, in some sorts a new interactive program just like the television at your choice of the cable and the satellite.

Terminals are often presented to us by comparison to these tools already integrated into our current life, but in fact of revolution, they constitute rather an evolution of these tools, a new function, with all that supposes an access to Internet: information, communication and on-line business. The name given to these terminals goes moreover to this same direction, that is the name of an object already existing to which has been added word "Web" as for example Webphone or the Minitel-Web.

Real revolution is not a technological revolution, but a cultural revolution carried by internet itself, and the new tools come to us so that we come to Internet. Today Internet is discreet and easy of access due to terminals, tomorrow it will be integrated in our garment or into our glasses, but the way of reaching Web is not important, the real uses of Internet will be made on Internet itself, and not on the tools that allow to reach it