

"Datarq". THE DEVELOPMENT OF A WEB SITE OF MODERN AND CONTEMPORARY ARCHITECTURE

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The pedagogic approach in the architectural field is suffering a deep change taking in consideration the impact that has been produced mainly by the CAD and multimedia procedures.

An additional view to be taken in consideration is the challenge produced by the influence of advanced IT which since 1990-92, has affected positively the exchange of information among people of the academic environment.

Several studies confirm this hypothesis, from the wide cultural spectrum when the digitalization process was emerging as an alternative way to data processing (Bateson 1976) to the pedagogical-computational side analyzed by (Papert 1996).

One of the main characteristics indicated by S. Papert (op.cit) is the idea of "self teaching" which students are used everywhere due to the constant augment of "friendly" software and the decreasing costs of hardware. Another consequences to point out by S. Paper (op.cit) is that will be more probably that students at home will have more actualized equipment that most of the computer lab. of schools in general.

Therefore, the main hypothesis of this paper is, "if we are able to combine usual tutorials design methods with the concept of "self-teaching" regarding the paradigmatic architectural models that are used in practically all the schools of architecture (Le Corbusier, F.L.Wright, M.v. der Rohe, M.Botta, T.Ando, etc.) using a Web site available to everybody, what we are doing is expanding the existing knowledge in the libraries and fulfill the future requirements of the newly generations of students".

About Operative Procedures in Graphics

There are certain conventional criteria about the use of graphic information in the architectural design field. This criteria starts with the conceptualization by Vitruvius (Morgan 1960) and Vignola regarding the Greeks canonic orders (Mitchell 1975), and also when the laws of perspective were defined in the Renaissance period (Panofsky 1926), (Benévolo 1991), and continue trough ages with different gradients.

This approach gave the foundation of the concept "design by drawing" as was analyzed in the 60's by design theorists (Archer 1962), (Jones 1963), (Broadbent 1968). But the evolution from computer graphics to CAD

Systems plus the apparition of microcomputers in the beginning of the 80's produced a deep change in the way how design start to be "assisted by computer".

The interaction between "design by drawing" (analogous information) and the current CAD systems (digitized information) allow to create a new world of graphic procedures that still is going an affected most of the pedagogical and professional attitudes (Shuterland 1963), (Ahuja, Coons 1968), (Stiny 1986), (Bermudez 1995), (Neiman, Bermudez 1997).

About Reality and Virtually

The transference of design procedures from the drawing table to the screen of the CRT still is controversial, even that advanced CAD systems are able to reproduce images with a sense of hyperrealism, nevertheless the physical materiality implicit in the architectural fabric it is practically impossible to be represented in a digital mode (Bermudez 1997).

Cyberspace, the word coined by the science fiction novelist (W.Gibson 1984) set up a new world of digital procedures that open a new cosmo-spatial system of exchange information of all kinds.

Virtual reality procedures are also able to offer the perception of spatial parameters but are unable to deal with the reality of the matter.

There is again a new challenge for architects, designers and artists to deal with a set of questions as a result of virtual interactions generated by computers, (Quintrand 1985), (Maldonado 1992), (Polistina 1995).

The affinity of the students to deal with virtual information start very early with 3 types of CRT screens as result of 3 different types of thematic networks, first the videogames, then continue with the information provided by the TV screen, changing again into the screen of the PC and returning to the first one, these means they have a great experience to "self-learning all kinds of information" (Montagu 1997).

Also they have experience understanding "segmented information" as the videoclips are, which allows to combine knowledge in a "non-secuencial" manner as is provided today by "multimedia" procedures through the usual hypertextual structure.

The new pedagogical tools provided by computers and information networks will open new pedagogical procedures in all the stages of the curricular systems. (Negroponte 1995), (Papert op.cit.). Both authors believed that it will be a growing interaction with these tools as a result of a massive diffusion of computer technology, therefore we must be aware of how we deal with this situation.

Antecedents of the Actual Web Sites and the Initial Principles of "datarq" .

Before the development of the actual set of communication protocols TCP/IP, the idea of establishing a real time interaction procedure was set up in 1969 to be used by scientists related to the "defense areas", but since 1984 the NSF (National Science Foundation of USA) established the NSF NET for share the power of the emerging communication systems with the academic world.

In Latin America the expansion of the Internet network begin in the educational environment just in the beginning of the 90's.

In our case the "CCC" (Centro de Comunicación Científica) (Dunayevich 1994) of the University of Buenos Aires established in 1994 the network "RIU" as the Center of the National Universities Network which connects all the Universities of the country through TCP/IP protocols.

The University of Buenos Aires has 180.000 students and the Faculty of Architecture, Design and Urbanism has 16.000 students.

In our library there are 5 books per period of Le Corbusier and there is a similar proportion with the other publications.

Working in a school of architecture of 16.000 students since 1983, it was necessary to envisage not only new methods of teaching design at massive level if not how to communicate and exchange ideas among teachers and students.

Also since 1984 we decided to teach CAD systems by the method of drawing prototypical 2D and 3D models of the masterworks of the architects mentioned before; we have now approximately 300 of these models in our files.

"datarq" has been started in 1995 with the objective to offer to architectural teachers, and students and public in general (Open University procedures UK 1985), and alternative access to information that normally exists in university libraries.

There are Schools of Architecture around the world with a great number of students, like the case of many countries in Latina America, Asia, Africa and Europe (the case of Italy), where the number of students exceed the possibilities of the number of books available, therefore "datarq" offers a complementary and a synthetic written description of the main masters works of Le Corbusier, Frank L. Right, Mies Van der Rohe and also those master works of contemporary architects as Norman Foster, Renzo Piano, Tadao Ando, Mario Botta, etc.

At the moment there is in the WEB site near 100 models and it will raise to 150 models at the end of 1998 and it will be another 100 models during 1999.

Since the files in the beginning were prepared by the students which means 25% of the overall task, each model has been post-processed by the research group using a set of exchange files (HPGL, CRL, JPG, VRML,HTML) which allow us to set up not only the WEB site if not also the files for printing or producing a CD ROM.

This models can be downloaded from the "datarq" WEB site for several purposes an in fact, "datarq" was inserted in the WEB at the end of 1997, and at the moment has several thousands of entries from different parts of the world and from a interesting variety of users.

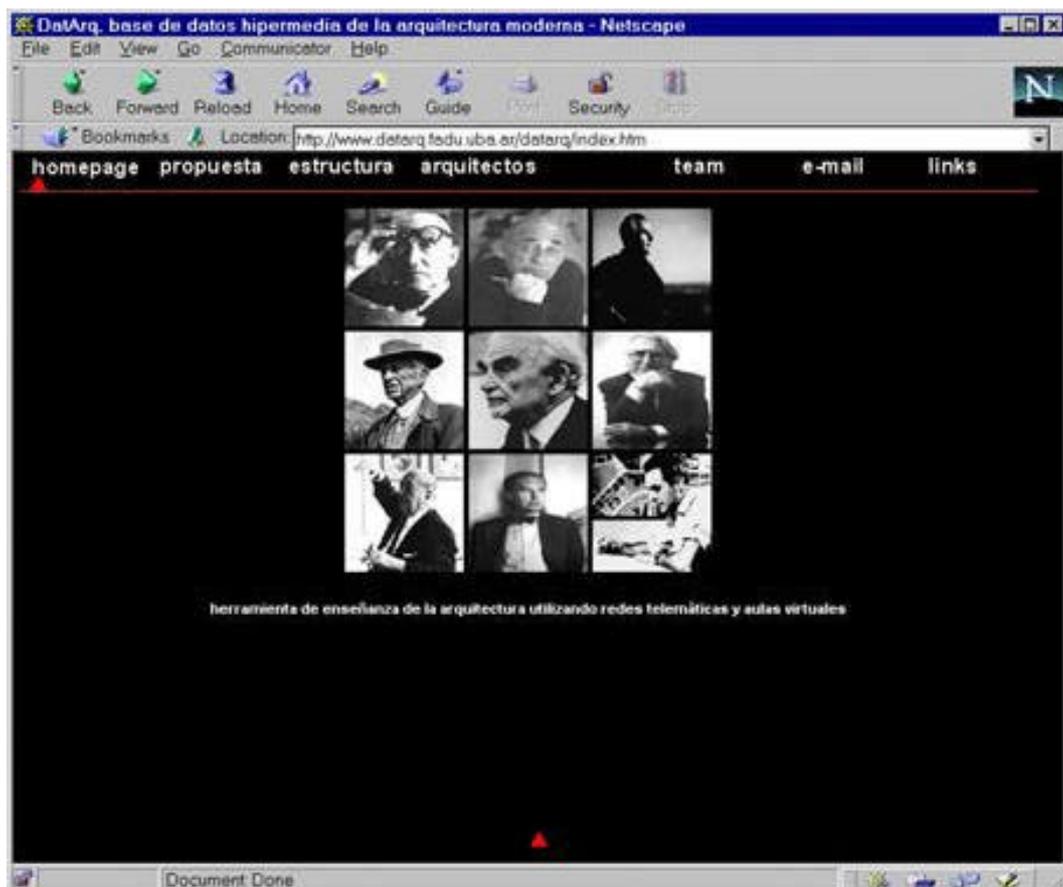


Figure 1: Screen view

About Design Methodology Related to "datarq"

The most diffused way to teaching architectural design is the "tutorial" system due to the heuristic content that the design process has in it (Breyer 1964), (Broadbent 1974), (Lawson 1980).

We assume that today, professors at the architectural studios in most of the architectural schools are combining tutorials methods with a set of continuous references of architectural ideas and design concepts that are continuously under a dialectical change.

We assume also that manual operations still are used extensively together with CAD systems at different stages and with different strategies of the design process (Neiman, Bermudez op.cit), (Montagu 1998)

The combinations of this factors: "heuristics-tutorials-architectural references-manual operations-CAD systems-IT", with the "datarq" WEB site offer the possibility to have "on-line" a system that can be interfaced as a "reference architectural files" for segmented imagery of modern and contemporary architecture.

We are dealing also with the idea that each application of "datarq" can be send to us

with the objective to develop a parallel survey to analyze further adaptations of the system or to enlarge the WEB site according the evolution of architectural movements.