

## Abstract

This article is a condensed version of a larger study entitled *Design with Computers, Design for Computers, Computers for Design-Enhanced Creativity: Proposal for a Computer Implementation Model for a College of Art and Design*. The plan deals with all areas of education that the Rhode Island School of Design is responsible for: freshman foundation, liberal arts, the library, the museum, and first of all the degree programs in art, design, and architecture. For the purposes of this presentation, emphasis is placed on Computers in relation to art and design. The plan's main ideas are: 1) What Computers can do for design; 2) What designers (and future designers) in the educational environment can do for Computers and computer-aided technology. The characteristics of the College and its relations with nearby Colleges and businesses were carefully considered in light of the state of the art in Computer technology and Software.'

## The challenge

The Rhode Island School of Design (RISD) can and should accept the challenges of post-industrial society because of its advantageous position as an institution highly regarded for past achievements. While faithful to its fundamental values, the School proved adaptable to new exigencies. This is a premise for the entire study. The proposal presents a model for implementing Computers and computer-related means of expression, representation, and communication in an environment which, despite its potential, has received scant attention from the Computer industry and Computer scientists. The College, in its historical, cultural, geographical, and institutional context, is one of the best prepared entities for conceiving and implementing the proposed model, as the following arguments and presentation of directions to be explored will show.

Two issues should be at the core of our concern over the use and study of Computers:

- 1 How will design be changed as a result of the post-industrial revolution, primarily through the extensive use of computers?
- 2 How will design change the world as it influences technology and human relations, especially in the environment of widespread computer-supported human activities?

Although the Rhode Island School of Design is not and will not become a *high tech* institution, it has to commit itself to considering:

- 1 issues concerning Computer use in its various design, architecture, and art programs (liberal arts should not be excluded), as well as issues of present and future education in these fields;

- 2 issues of design for Computers and their future improvement, especially in user interface, Computer graphics, industrial design, and ergonomics;
- 3 issues concerning the design and production of Computers and computer-supported equipment to various design activities, with special emphasis on graphic design, industrial design, architecture, and art applications.

Consequently, during the time this proposal will be pursued, the following will take place:

- 1 progressive introduction of Computers and computer-supported technology in the main programs;
- 2 encouragement of computer-related Student projects and graduate Student research as perceived from the perspective of design and art;
- 3 establishment of an interdisciplinary entity to coordinate the work and interest of faculty, students, librarians, alumni, etc. regarding computer-related and outside research.

For the latter purpose, an Institute for the Semiotics of the Visual, which would coordinate the themes and projects addressed herein, has been considered on the basis of the positive results that semiotic research and instruction has already achieved. The increasing awareness of the role of semiotics in communication (particularly visual communication) and interface has made the Institute a potential center for the elaboration of theory and its application. It would place RISD in the favorable Position of being able to confront complex Computer issues from a broader perspective in view of the fact that the interface (interaction among people or between people and machines) is conditioned by the *real* human subject (as part of a community or as user of tools, designs, products) as well as by limitations in hardware (tools and other devices people use) and Software. This is a *pragmatic* issue that integrates the knowledge of formal structures (the *syntax of design*) and the awareness of content expression in art and design (*semantic issues*). In a College such as RISD, the Institute would concentrate on:

- 1 communicational aspects of computer-aided instruction in the environment of an art and design College insisting on adequate liberal arts education;
- 2 semiotic aspects of man-machine relations, i.e. user interface Problems;
- 3 new applications of Computers in art and design and the development of conceptual knowledge of such applications;
- 4 criteria for evaluation of CAD.

This proposal implies that the support of manufacturers, business, and federal institutions established to aid initiative

and innovation in education, design, architecture, art, and science will be granted due to the merit of our endeavor and to the impact Computer design will have on future *social* and *cultural* developments. Technology can serve as a support for the development of ideals and human values for whose sake technology is conceived and produced. This is why liberal arts education should pay attention to complex social, cultural, and philosophical issues involved in work with Computers.

The model proposed will make Computers accessible to everyone in the School while respecting the alternatives of using Computers in only some creative work, in part of a creative work, or *not at all*. In relation to the RISD community at large, we intend to progressively introduce electronic mail, documentation Services, and information storage and retrieval on the Campus, connect with similar functions at Brown University,<sup>2</sup> and, through teletext Videotext make an opening to the larger community we live in. We intend to offer continuing education courses via computer-supported communication channels, assuming that interactivity can be satisfactorily maintained.

The Library and Museum are fundamental parts of RISD. In the first case, we have to develop a new concept of the computer-supported library, adapted to the reality of a library in which *text and image form a unit* and in which *visual documentation becomes a design tool*. In the case of the Museum, storage and computer-aided retrieval, probably on videodisc, can lead to a *memory* of exhibits and events to be used for educational, cultural, archival, and other purposes accessible to the public. It is essential for the Library and Museum to have Systems for hard-copy, slides, photographs, films, and Videotapes of high resolution and of acceptable quality and retrieval capability. This is why we must consider potential support from the Computer community and from other industries (dealing with photography, film, video, etc.) which are interested in adapting their products to new market demands.

Our point is clear: future artists and designers who will serve in various capacities in many activities should get the best chance to use Computers creatively, in relation to other technological means of expression. This goes beyond computer literacy. Creativity is facilitated by the general context of education and is tested through the independent activity RISD encourages. Creativity is vital to the Computer industry as well as to all industries and businesses that use or will use Computers. Post-industrial Society is characterized by

