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WHAT HAVE WE DONE?!? DESIGN MEDIA AND PROCESSES IN THE CREATION OF CYBRIDS

Dace A. Campbell, Panel Moderator
ACADIA '99 Panel Presentation, Salt Lake City, Utah

Panelists:

Mark Farrelly (Scenarist) UW HIT Lab, USA; Susan Tamney (Interface Designer), UW HIT Lab, Carl Tully (Architect) NBBJ Architects, USA

Introduction

This panel will discuss the use of design media and processes in the generation of recent *cybrid* design projects. These projects, realized by teams of experts in various design and technical fields, represent the forefront of thought in the creation of hybrid physical-virtual solutions to design programs.

The panel members are experts in architecture, interface design, and dramatic scenarios. The panelists were asked to define their positions for the discussion by answering four questions. Below are excerpts from their replies to these questions, which will be expanded upon in the panel discussion.

1. Why are cybrids a valid or necessary solution to design problems of the 21st century? By what rationale do you decide what components are physical, virtual, or both?

Architect:

The evolution of cybrids is necessary to raise the cognitive consciousness of culture to the embedded impact virtual worlds currently have within the world view of the average participant of popular culture. The rationale for the cybrid is to define both elements of physical composition and virtual composition such that both are absolute and the average individual is convinced of the truth and necessity of their existence.

Interface Designer:

In the 21st century, humans and computers will work together to solve problems in a symbiotic relationship. As human computer interfaces evolve from the monitor and keyboard to allow more natural spatial human-computer interactions, interface design solutions must integrate virtual and physical components to promote ease of use and satisfaction. A cybrid solution ensures care and attention to building a holistic experience.

Dramatic Scenarist:

Working in the theatre has always been about combining the real with the illusory—about choosing which components are real and which are virtual. In cybrid architecture, a virtual component can provide a level of flexibility and interactivity providing a virtual space within a physical structure where design components can change and introducing a world with tremendous narrative potential that can be populated by virtual “characters.”

2. What media do you use to design cybrids? How are they similar or different to media you use to develop physical solutions to design problems?

Architect:

Narrative, graphics, computer generated simulations. They are similar in the sense that they are used to create both physical and virtual end products. The difference is that the tools used to create the cybrid often live on as part of the end product.

Interface Designer:

For cybrids, both traditional hand-craft and digital media are used. Scenarios and storyboards telling the story of the users and activity in the cybrid setting help to unify the vision for the experience as well as flush out technical and conceptual issues early in the process. Flipbooks with simple interactions are created using code such as html, java, and visual basic that enable user testing. Industrial design prototyping tools are used, such as blue foam models, to evaluate hardware choices within the environment. Digital models are used to illustrate the relationship between the physical and virtual aspects of the cybrid solution as well as testing interactions. Simulations of user activity can be run in the models to test design assumptions and acceptance criteria, such as usability.

Dramatic Scenarist:

Though the theatre design and architecture have a shared history, theatre has been charged with a different mission than architecture—to provide an ephemeral *experience* for an audience. Those responsible for bringing a theatrical production to the stage are charged with combining lighting, physical design, costumes, sound, and acting skills to tell a story in a temporary and constantly changing environment.

3. Compared to physical design solutions, to what degree do design media/processes impact the construction of virtual components of cybrids?

Architect:

The degree in which process is involved between virtual and physical design solutions is the same. Media however, is distinctly different. Media on the physical side attempts to emulate, project and synthesize the end product. The cybrids that are developed in the process generally have a very short half-life. Media for the virtual component to a much higher degree is an integral part of the process and the end product.

Interface Designer:

For all designs the process, tool, and medium chosen will impact the final product. For example, different development software has different opportunities and limitations for integration with electronic documentation. The cybrid solution will vary depending on software infrastructure, supporting hardware devices, and physical setting.

Because the physical and the virtual are combined to form one experience it is imperative that the two be developed in tandem. This poses many more issues for cybrids than physical structures alone. It is important that the physical and virtual components be flexible to respond to mutual design changes.

4. Why are experts from multiple design and technical fields necessary in the creation of cybrids? What unique

challenges, conflicts, and solutions have you encountered when working with specialists in disciplines different from your own?

Architect:

Cybrids are in their infancy, their development is currently limited. For cybrids to take the evolutionary leap, the art and functionality defining the purpose of cybrids must be discovered and invoked. A design team comprised of many disciplines holds the greatest potential for turning the key to this defining moment.

Interface Designer:

In a collaborative team with a number of experts, often knowledge and roles overlap. Often opinions are in conflict. What we have learned, is that we are not the user. We create experiences and places for people. Based on research, analysis, and assumptions, we can project user needs, task requirements, tools, and propose an appropriate setting. The more options to test, the better. In the end, the user decides.

Dramatic Scenarist:

To create these cybrid environments requires a new methodology from its creators, one that includes (but is not limited to) the skills of architects, as well as playwrights, scene designers, actors, computer technicians, filmmakers, and game designers. A team with these skills would be able to create an interactive experience that places participants in a vibrant, media rich, spatial experience, and incorporates them as the protagonists of their own stories.

Dace Campbell is Virtual Architect at the Human Interface Technology Laboratory at the University of Washington. He also works for NBBJ and is an Associate member of AIA.



Images of the physical and virtual components of a cybrid set design from the "flight of the Phoenix" project.