
Computer Science Colloquium

Towards Cognitive Engineering: Designing to Engage Perception, Cognition and Understanding

W. Bradford Paley
Digital Image Design Incorporated

Wednesday, 7 December 2005

Olsen 311

Refreshments at 2:30, Talk from 3:00-4:00

This will be a two-part presentation: guiltless eye-candy (a survey of work that is attractive and entertaining enough to take a date to; yet exposes how the mind/eye connection works), then yawn-less instruction (outlining a methodology that tries to bring rigor to designing for full engagement of the eye and mind.)

W. Bradford Paley has deployed work in seemingly diverse settings: the Museum of Modern Art, the New York Stock Exchange, NYU Bioinformatics, the Whitney; he has won equally diverse recognition: an ID Design Distinction award, Grand Prize in Tokyo's international arts festival, engineering tool awards for input devices, fellowship in the New York Foundation for the Arts. The same principles drive all of this work: if you engage the eye, you can engage the mind – if you “know the protocol,” and keep the message consistent. Both the colloquium and seminar will describe a knowledge acquisition pipeline: a designer/engineer's abstraction of visual, cognitive, and semantic protocols that engage seven distinct layers of the visual thinking processes. The colloquium will give numerous examples of how Mr. Paley's work is informed by these protocols, while the seminar will detail a step-by-step design methodology for this type of work.

The Structuralist text analysis tool TextArc was “mistaken for art” and won the Tokyo prize, and the Whitney-commissioned CodeProfiles has been mistaken for a debugging tool. When tools, art, and toys are just convenient definitions – based more on the viewer's categories than the design itself, we've accomplished for knowledge work what every craftsman takes for granted: a close coupling of the clarity needed to keep ideas flowing and the sensual information in the materials. These things were tied by evolution for craft: our ancestors were selected for an ability to effortlessly think with the eyes and hands in the natural world. These lectures will explore how we can tap into the same evolved capabilities by making tools for abstract work both concrete and richly expressive.