Lab makes digital design more PC

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"In a world where information systems increasingly mediate our social and business interactions, we want to be sure that they reflect - not distort - our fundamental values," says Geoffrey Bowker, director of the VID Lab. Credit: Steve Zylius/ University Communications

Anyone who uses a computer knows it can be the Dr. Jekyll and Mr. Hyde of technology. Log on one day and you've got the helpful information resource. Power it up the next and you meet the bully who broadcasts your location and censors your access to data.

Geoffrey Bowker, professor of informatics at UC Irvine's Donald Bren School of Information & Computer Sciences and pioneer in the emerging field of values in design, is out to change all that. In his lab, he brings together researchers and practitioners from computer science, engineering, design, anthropology, philosophy and art to develop techniques for responsible technological innovation.

"Computers are central to our quality of life, and often they act like friends, but sometimes they seem like intruders or bullies," Bowker explains. "They tell people where you are and what you're doing. They filter the information that you get. They punish the disabled. We educate children for years to make them worthy members of society, but with computers we generally just turn them on and hope for the best."

What we get instead, he says, are systems that make some cultures and communities disappear.

A simple Web search on "Cameroon," for example, lists Wikipedia, the CIA and the U.S. State Department as better sources than the African country's own inhabitants. Users who want information from Cameroon must bypass several dozen search results before stumbling upon the nation's top-ranked site, a link to its principal newspaper. This is the kind of discrepancy that troubles Bowker, who early in his career spent two years as a teaching adviser in Cameroon.

"The search engines that provide nearly universal access to knowledge also unwittingly suppress the local knowledge of certain countries," he says. "In the realm of values in design, a good part of my work revolves around the question: Who's being kept invisible in the digital revolution?"

VID scholars are developing a new field that integrates human values – such as privacy, community, trust, dignity, security, respect and freedom from bias – into technological innovation. "In a world where information systems increasingly mediate our social and business interactions," Bowker says, "we want to be sure that they reflect – not distort – our fundamental values."

He came to UCI from the University of Pittsburgh in January to launch the Bren School's VID Laboratory with Judith Gregory and Cory

Knobel, also of the informatics department. They aim to promote the design of information technology products and infrastructure that serve the public good and provide excellent service. Projects will include:

• Courses and workshops to help future Internet architects incorporate social and cultural values in early-stage design;

• European partnerships on policies for creating socially responsible and ecologically sustainable products; and

• A program – modeled after Gregory's successful effort at Chicago's Institute of Design – to bring socially beneficial design into K-12 classrooms in underserved Orange County schools.

Bowker began values-based design work 10 years ago with his late partner and former UCI faculty member, sociologist Susan "Leigh" Star, and New York University professor Helen Nissenbaum. They introduced social theory to students from the worlds of design and computer science and encouraged them to sensitively analyze the social, political and cultural dimensions of the information devices they were using and helping to create. Annual workshops for doctoral students have been held in San Diego, New York and Finland, and UCI will host the next one this summer.

"Many people in charge of producing technology don't have much background in social analysis, and, inversely, those who can analyze often aren't proficient technically," Bowker says. "So we design workshops where groups divide into interdisciplinary teams that produce a values-driven business proposal in about a week."

One team proposed a geocaching system to help Los Angeles-area police and social workers map routes by which kidnapped women are forced into the sex trade. Another devised a way for people to participate in a

community garden via their desktop. A third group, which included Bren School doctoral student Lilly Irani, proposed a unique lending-library setup in which users could register to borrow each other's household appliances and tools.

"The entrepreneurs we invite to judge the proposals are often surprised to find that the projects are not only interesting," Bowker says, "but also socially responsible and commercially viable."

Besides organizing these workshops and establishing UCI's VID Lab, he continues his long-term work on information infrastructure, looking at shifting classification systems in medicine, data-sharing practices and the like. In association with Knobel, he's also completing a Web-based report on how new media – which permit novel forms of expression and collaboration – shape scholarly communication.

"Geof Bowker's arrival further solidifies our department as a leader in the iSchool movement," says UCI informatics chair Andre van der Hoek, referring to a group of academic institutions that study relationships among information, people and technology. "He has a unique interdisciplinary perspective that connects many corners of our campus. I look forward to working with him to make the VID Lab a success."

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