

How information design eases our understanding of the world

June 25 2013, by Jason Kornwitz



Information design and data visualization lend meaning to complex problems ranging from levee breaks to Mars landings, according to experts in the field who spoke at a daylong symposium held at Northeastern last week. Credit: Thinkstock

"How do you land a 2,000-pound rover on a planet 100 million miles away from Earth without controlling it in real time?" asked Mark Davis, an Emmy-winning producer and director of science and technology documentaries for PBS, National Geographic, and the Discovery

Channel.

Davis answered that question in his documentary on [NASA's](#) Curiosity Mars Rover, using [digital models](#) to explain how the craft managed to land smoothly on the [red planet](#) after traveling some 13,000 miles per hour through the solar system.

"Animation is very restrictive," Davis explained, "but digital models will give you as realistic a representation of a landing as possible."

Davis spoke at a daylong symposium at Northeastern University last week titled "Information Design and [Data Visualization](#): Boston 2013." The conference, sponsored in part by the Northeastern Center for the Arts and the College of Arts, Media, and Design, convened many of the field's leading theorists, researchers, and practitioners to explore the principals of information design and the challenges presented by "big data."

The symposium aligned with Northeastern's effort to serve as the educational leader in understanding big data through information design. This fall, Northeastern will launch a Master of Fine Arts in Information Design and Visualization, a two-year interdisciplinary program focused on the analytical communication of information. Gallery 360 is currently hosting an exhibition [showcasing the graphic design principles developed by the pioneers of Swiss Style](#), which is characterized by clear, functional, and highly crafted [visual communication](#).

Nathan Felde, professor and chair of the Department of Art + Design, underscored the importance of data visualization in his opening remarks, noting that we use information to forge relationships with each other and the world.

"Like Galileo's telescope, data visualization lets us see things that were

previously invisible to us," added Peter Wiederspahn, CAMD's associate dean of academic and faculty affairs.

The symposium's speakers spanned a range of fields, from journalism and photography to computer science and social entrepreneurship.

Casper Harteveld, an assistant professor of game design and interactive media at Northeastern, presented a compelling case for teaching people to identify, assess, and avert environmental risk through the use of serious videogames.

He led the design of the 3D videogame Levee Patroller, which trains inspectors to identify and respond to levee failures. Those who played the game were much more likely to accurately identify failures in the real world than those who did not, he said, adding that novices transformed into experts in recognizing levee susceptibility after only three weeks of play.

"Games are experiential and safe," he explained. "You can fail without suffering the consequences." The key to designing a good serious game, he added, is "finding a balance between fun a realism."

Gershon Dublon, a research assistant in the Responsive Environments Group at the MIT Media Lab, described his effort to organize spatial data in order to analyze the activities, systems, and relationships in a complex, sensor-rich environment.

He designed a real-time virtual representation of the Media Lab using building-wide sensors that capture data about the space and its inhabitants. Users can explore sensor data visualizations within the lab, wherein icons such as musical notes represent audio levels and blue flames signify cold rooms.

"New tools are needed to organize and synthesize disparate sensor data for human consumption and exploration," Dublon explained in a video on the project's website.

Provided by Northeastern University

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