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LOCAL

Viewing the world from a new plane

Univ. of Md. computer science professor's treemap exhibit opens in Washington

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A visitor to the exhibition opening looks at one of the pieces.

WASHINGTON — The whole thing started on an old computer in a faculty coffee lounge, and now its products are lining the walls of an art gallery.

Ben Shneiderman is an artist, but his story doesn't read like any typical artistic career. For one thing, he is a computer science professor at this university. His foray into the art scene began as little more than a way to visualize who was using more than their share of the faculty computer's hard drive, he said.

It wasn't until people told him his work looked pretty that he considered the aesthetic merit of his pieces.

On Thursday, the National Academy of Sciences' Keck Center in Washington debuted an exhibit of Shneiderman's work called "**Every AlgoRiThm Has ART in It**." The event coincided with the center's monthly D.C. Art Science Evening Rendezvous discussion forum on the intersections of art and science.

Rather than paints and palettes, Shneiderman opts for data and algorithms in crafting his works. **His pieces are called treemaps** — visualizations of hierarchical, or tree-structured, data as nesting rectangles on a plane, a technique he himself developed that is now used by millions, from *The New York Times* to individual Web users.

Though the treemaps are shaped by numbers and systems, they resemble the paintings of abstract modernists.

“Each one of them is real data and shows real insights about the data,” said Shneiderman, who is also an amateur photographer. “But you really have to read the labels to understand that, and we were just going for aesthetic impact with the color and the layouts and aspect ratios.”

His pieces go by such titles as “The Big Urbans” and “Dazzling Talks.” They measure quantities such as the number of points scored by players in the NBA compared to their number of personal fouls, or the ratio of domestic to international flights at various airports. They use the color palettes of Piet Mondrian, Gene Davis and Hans Hoffman.

Shneiderman’s artistic process is one of shaping up and stripping away. First, he creates these visualizations of real data. Then he chips away the numbers and the figures, and touches up the color and the form.

“Together we gathered data last summer and put them into treemaps,” Shneiderman said, referencing his work with Minhaz Kazi, an information management graduate student. “We removed the labels and numbers and all the extra stuff that’s necessary for analysis and we just tried to make it visually appealing.”

J.D. Talasek, the director of cultural programs at the National Academy of Sciences, said Shneiderman’s work was important both as data analysis and art.

“One thing that Ben Shneiderman said was how creativity and risk go hand in hand,” he said, noting that DASER provided a safe place for discussion of new, unconventional ideas. “This is one of the conflicts in multidisciplinary work. There is risk in doing things differently, but nothing exciting or interesting ever happened from doing things the same way as everybody else.”

Many felt that the placement of the art in a gallery space, as well as its aesthetic value, was enough to classify it as art.

“It certainly is art, because it’s been put into an art context,” said Josephine Durkin, a Texas A&M art professor who was at the event. “Many artists use technology now, and Ben Shneiderman is just another example.”

Ben Bederson, a computer science professor at this university who also has done research with treemaps, said such ways of visualizing data are essential to understanding.

“Treemap, at a high level, you can think of as a general approach towards displaying quantitative information in a space-filling manner,” he said, noting how scatter plots or tables are often used for this purpose. “Sometimes you want a way that’s not only going to make it more visually apparent what are these quantitative characteristics of the data, and it only gets more complicated if the data is hierarchical.”

People want to understand systems like the stock market, Bederson said, but they want to look at how entire industries as well as individual companies are doing, which is difficult to see without treemaps.

“If you just have this high level data, you just miss these details,” he said. “What Ben Shneiderman did is make it pretty easy to represent these kinds of information and understand in a single glance.”

A selection of 12 works are on display in the Keck Center. These 12 have also been donated to the Museum of Modern Art, though Shneiderman said they made no promise to exhibit them, laughing.

These pieces are also on display on the third floor of the computer science building, a fact that Samir Khuller, computer science professor and chairman of the department, said is great for students.

“I think the students have found it quite inspiring to see how digital visualization can be conceptualized as art and based on color choices you can display various things,” he said. “There are very interesting things that he’s looking at with these data sets, and then with the colors he uses it’s actually quite interesting artwork.”

Ben Shneiderman: University computer science professor Ben Shneiderman talks about an image at the opening of his exhibition.

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