



The Next Weave

What you can't Google today, you'll Weave tomorrow, says Georges Grinstein '76 (PhD), technical director of a "game-shifting" data visualization tool.

By Karen McCally '02 (PhD)

IMAGINE, SAYS **GEORGES GRINSTEIN** '76 (PhD), that you've graduated from Rochester with your bachelor's degree and you want to move to San Diego—a sensible proposition, perhaps, after four years of lake-effect snowstorms.

Then imagine you're in the market for a place to live. You want to be somewhere safe, and you want to be close to work.

"Right now, if you start searching in Wikipedia or Google, you'll get documents that are somewhat related to what you're looking for," says Grinstein.

But imagine that instead of entering key

▲ **LET'S SEE THE DATA:** Grinstein predicts the data visualization program Weave will help democratize the use of data. The program's interactivity "can spark debate," he says. "You might find some patterns that people haven't noticed."

terms into an existing search engine, you entered them on a web page that would produce for you a customized map—as fast as Google might now serve you up a long list of links. And that map would show you exactly where you might look for your apartment or your house, to meet all of the criteria you've named in your search.

In the next two to four years, you'll be able to do exactly that, says Grinstein. And the program that will allow you to do it is a free, open source application called Weave.

Grinstein earned his doctorate from Rochester in mathematics and is now a professor of computer science at the University of Massachusetts at Lowell. He's also the director of the university's Institute for Visualization and Perception Research, where the Weave project is centered.

Weave is already making an impact among community-based nonprofits that partnered with social scientists at Lowell and with Grinstein—and his team of more

than 20 computer science graduate students—to develop the program. Over four years, the project that started with a few stakeholders grew to include nearly 20 nonprofits around the country—from the Boston Foundation to Metro Seattle to the South Florida Regional Planning Council—that now comprise the Open Indicators Consortium. The consortium members, the Barr Foundation, and the John S. and James L. Knight Foundation are the chief funders of the project.

Charlotte Kahn, the senior director of the Boston Foundation's Boston Indicators Project, calls Weave "a game-shifting technology."

"When people can see it, they can see how valuable it is for their work—especially people who want to use data to drive social change."

The Boston Indicators Project website features an expanding "visualization gallery" of Weave-generated maps, scatterplots, and other visual aids that use a vast array of data sets to answer specific questions about the region: To what extent is public transportation serving the most populous census tracts? Has the population in

your census tract been getting older, younger, or staying about the same?

The most exciting aspect of Weave, Grinstein says, is its interactivity.

“It can spark debate,” he says. “You might find some patterns that people haven’t noticed.” In other words, once Weave becomes widely accessible, it’s possible that entities such as governments, corporations, universities, and nonprofits will determine to a lesser degree the uses of data.

“Georges and his team are working, it seems, around the clock,” says Kahn, with users “all over the country, whose needs are really different.” And by developing the program in partnership with organizations whose needs vary, Kahn says, Weave “literally becomes better every day.”

Private companies are starting to notice, says Grinstein, as are entities such as the United Nations, the Census Bureau, the Department of Commerce, the Centers for Disease Control, and the National Endowment for the Arts, all of whom have approached Grinstein about Weave.

But these are organizations with information technologists on staff. When will Weave be accessible to the ordinary person on the street? By the end of the summer, Grinstein says, the installation of the program will be simplified to the extent that anyone with some data to share should be able to set up a web page using Weave without the assistance of an IT administrator. Grinstein expects it will take another two to four years before the program will reach its ultimate goal of enabling general queries.

The whole project is detailed at www.iweave.org. And although you’ll read there that Weave is an acronym for Web-based Analysis and Visualization Environment, Grinstein confides a more poignant origin of the program’s name. It’s named for his late wife, **Janet Coutu ’76**.

“She was a weaver,” says Grinstein. After earning her degree in geology, she turned to art. “Throughout her career, she did lots of weaving and fiberwork.”

After meeting at Rochester, the couple traveled all over the world, spending two summers in China, where Georges was teaching computer graphics to college students, before they returned to the States and raised four children.

In the coming years, Grinstein expects to hear a lot more about weaving. Already, he says, among the nonprofit users, “Just like people say, ‘I’m going to Google it,’ they say, ‘I’m going to Weave it.’” **R**

Commencement Honorees

As it does each year, the commencement season offered the chance to honor extraordinary achievements and service among the University’s extended family. Five Rochester alumni—honorary as well as degree holding—were recognized in 2012.

ROGER FRIEDLANDER ’56:

CHARLES FORCE HUTCHISON AND MARJORIE SMITH HUTCHISON MEDAL

A retired vice president of Staples and a University trustee, Friedlander was the cofounder of Spectrum Office Products, one of the largest office supply businesses in the Northeast before it was sold to Staples in 1994. From 1996 to 2000, he chaired the board of the Golisano Children’s Hospital, and from 2000 to 2004, he chaired the board of the Medical Center. He’s been a trustee since 1997, and also serves on the executive advisory committee of the Simon School and the Eastman Dental Center Foundation Board.

ROBERT HURLBUT:

HONORARY DOCTOR OF SCIENCE DEGREE

The president of the Hurlbut Trust and a University life trustee, Hurlbut is a leader in the business of providing dignified elder care. In 1968, he founded Vari-Care, which oversaw 24 long-term health care facilities and retirement complexes in several states. In 1994, he created the Hurlbut Trust, which offers financial and consulting services for health care facilities and rental properties. Hurlbut has served as the chair of the board of the Medical Center, vice chair of the Eastman Dental Center Foundation Board, and an inaugural member of the School of Nursing National Council.

ARTHUR MOSS ’62M (RES):

EASTMAN MEDAL

A professor of medicine at the School of Medicine and Dentistry, Moss is one of the nation’s most influential cardiologists. His clinical and scientific research focuses on the treatment and prevention of cardiac arrhythmias (irregular heart beats), heart failure, and long QT syndrome, a rare, genetic disorder that makes the heart particularly susceptible to arrhythmias. He led the first large study proving implantable defibrillators saved the lives of patients who suffered a heart attack and were prone to arrhythmias. His discovery of three genes involved in the disease led to the creation of a diagnostic blood test.

GEORGE WALKER ’56E (DMA):

HONORARY DOCTOR OF MUSIC DEGREE

A Pulitzer Prize-winning composer, Walker has published more than 90 works that have been performed by virtually every major orchestra in the United States and by many abroad. In 1996, he won the Pulitzer Prize in music for *Lilacs for Voice and Orchestra*, which was premiered by the Boston Symphony under conductor Seiji Ozawa. Walker’s most recent work, *Sinfonia No. 4*, premiered in March. He’s a member of the American Academy of Arts and Letters and the American Classical Music Hall of Fame.

GLENN WATKINS ’53E (PHD):

ROCHESTER DISTINGUISHED SCHOLAR AWARD

The Earl V. Moore Professor Emeritus of Music History and Musicology at the University of Michigan, Watkins is a distinguished musicologist whose scholarly impact ranges from his pioneering studies of Renaissance composer Carlo Gesualdo to his influential books on musical modernism and its postmodern consequences. Watkins’s book *Gesualdo: The Man and His Music*, with a preface by Igor Stravinsky, was a 1974 National Book Award nominee.