Move over pie charts, here come FatFonts

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University of Calgary computer science professor Sheelagh Carpendale helped develop FatFonts which aligns the two aspects of data—numeric value and visual representation. You can both read the numbers and interpret the data visually. Photo by Riley Brandt

(Phys.org) -- Researchers in the computer science department at the University of Calgary have developed a new font for numbers that represent their relative value. Unlike the usual numeric typefaces, the amount of ink—or dark pixels—used for each digit in FatFonts is proportional to its quantitative value.

Miguel Nacenta, formerly a post doc (now an assistant professor at University of St Andrews in Scotland), came up with the idea and worked with Sheelagh Carpendale, a computer science professor and Uta

Hinrichs, a PhD student specializing in Computational Media Design.

Nacenta presented the work at the important Advanced Visual Interfaces (AVI) conference last week in Naples, Italy.

The core idea of FatFonts is to align the two aspects of data—numeric value and visual representation. "We use numbers to represent exact data values; but when something more visual is needed then we transform this data into graphs or pie charts," explains Nacenta. "The problem is by transforming data into visuals it makes it more difficult to access the actual data values."

Carpendale (left) and PhD student Uta Hinrichs showcase FatFonts presenting data of wave size predictions of the devastating tsunami that took place on the eastern coast of Japan in 2011. Photo by Riley Brandt

With FatFonts, the amount of ink used for each digit is related to the value of the digit it represents. "The digit '3' uses three times the amount of ink than digit '1,'" says Hinrichs. "When you put FatFonts in a grid,

they work like a table where you can read the numbers but also as an image that you can interpret visually."

Scientists can use FatFonts for large numeric data sets where it's important to see both individual data values and an overview of the information—for example, most data that's represented as a heat map can be represented via FatFonts. "They're particularly interesting to use on large high-resolution wall displays or large posters," says Nacenta, "stepping back provides you an overview image while walking closer to the display reveals the data values."

FatFonts are getting a lot of attention. Beyond academia, artists, designers and typographers are also interested.

"People have started to use FatFonts for their own visualizations and even created their own FatFont types. We have even heard from artists who want to design FatFont jewelry," says Hinrichs. "We are really excited that the idea is spreading and we're hoping that FatFonts will become common in infographics, data representations and posters."

Provided by University of Calgary

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