

Unconventional visualization method wins jury prize at media festival

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Collaborative work performed by the Remote Data Analysis and Visualization Center (RDAV) and University of Tennessee (UT), Knoxville, artist Evan Meaney that examines the interplay of data, information, and knowledge has won the jury prize for the Distributed Microtopias exhibition at the 15th Annual Finger Lakes Environmental Film Festival (FLEFF).

The RDAV–Meaney collaborative project, entitled "Null_Sets," is a collection of artwork that visualizes the size and structure of data. The artwork was created using an open-source script developed at RDAV with which whole bodies of text, from classic literature to HTML to [genomic data](#), can be exported as [digital images](#).

"In a gallery, we can analyze these data sets side by side and consider the differences between, say, Moby Dick and an X-chromosome," Szczepanski said. "Our method relies on an encoding that represents the changes in pixel color and intensity, and might be adapted to explore how values in a dataset change."

"Null_Sets explores the gap between data and information," Meaney said. "This project makes it possible to visualize both the size and architecture of large-scale data sets through an aesthetic lens."

The novel use of encoding employed by Null_Sets coincides with the focus of this year's FLEFF, the exploration of what it terms "Distributed Microtopias" and defines as projects that "run across distributed

networks like the Internet to provoke and educate from remote locations on a sustainable scale, expand knowledge rather than contain it, invite participation and exploration, and unhinge familiar habits of thinking to envision new possibilities for historical and cultural clarity."

The project took shape in the spring of 2010 when Szczepanski, searching for digital media artists with whom RDAV could collaborate, contacted Meaney under the advice of UT's visual arts committee.

After discussing Null_Sets and the theory behind it with Meaney, Szczepanski wrote the initial code, and then a student assumed the task. As project designer and director, Meaney suggested revisions to the code to improve the work, chose the texts, handled tasks related to producing physical images, made submissions to shows and festivals, and printed catalogs, Szczepanski said.

"The techniques we developed in this project laid the groundwork for a larger [project](#) that will likely use the Nautilus supercomputer in the future," she said.

Nautilus is managed for the National Science Foundation by the National Institute for Computational Sciences (NICS).

Provided by National Institute for Computational Sciences

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