SeeMore

Sam Blanchard, assistant professor of sculpture, School of Visual Arts, Virginia Tech
Kirk Cameron, professor, Department of Computer Science, Virginia Tech
May 3–18, 2014
Ruth C. Horton Gallery

SeeMore (2014) is intended to demonstrate the importance of parallel computational thinking. The project was inspired by and features the wildly successful Raspberry Pi (RPI), a small, fully functional computer that is inexpensive enough for anyone to reasonably obtain ($35), and more importantly, to tinker with. This exhibition showcases the elegance and significance of parallel computation while simultaneously educating about and inspiring parallel computational thinking. The world runs on parallel computing. Without it, Google, Facebook, Twitter, and Amazon could not provide their services; weather forecasting would be less accurate; and air travel would be less reliable. The 256-RPI’s cylindrical structure is inspired both by early parallel Cray computer designs, as well as the fluid dynamic simulations these powerful computers are regularly tasked with calculating. While an expert may appreciate the subtle beauty of parallel computation, the act of dividing tasks, and distributing and communicating data is hidden from the naked eye. This project translates data movement through a living sculpture that physically represents computation as it propagates and evolves across the surface of the form.

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Nano Pod Project: Interactive Projection Mapping Show

Thomas Tucker, associate professor, School of Visual Arts, Virginia Tech
Tohm Judson, assistant professor of music and digital arts, Winston-Salem State University
May 7–18, 2014
Cube

The Nano Pod Project consists of video projection that maps complex animations onto 3D forms. The results create artificial intelligence sound and various levels of interaction. The exhibition’s 3D forms were created in Maya (3D software) and the data was flattened out using PePaKuRa Designer. After the vector-based data was derived from the software, a laser cutter cut the hard stock paper with the schematics developed by the software. Then the multiple forms were glued together to create the top portion of the unit. The main pod form is fabricated by a CNC machine out of thin plywood and assembled into rough forms much like a model airplane fuselage. The forms are covered with a tight skin of rip stock nylon to absorb the light from the projectors. The Cube is filled with more than 20 laser-cut and CNC-cut units in varying sizes and shapes. Four HD Christie video projectors project complex animations onto the surfaces of the forms using Max/Jitter/MSP and Madmapper software. These animations were rendered in Maya and are composed with interactive sound and videos in Max. Interaction with the exhibition is made possible with several motion capture sensors underneath the forms.