

Almost Useless Invention

by Norwood Viviano

Student Project by Meghan Hindenach

In the fall semester at Grand Valley State University, I teach Introductory Digital 3D Computer Modeling to junior-level fine art majors from sculpture, graphic design, illustration, and metalsmithing. The Digital 3D Curriculum at Grand Valley State University provides an introduction to computer 3D modeling, drafting, and rapid prototyping within an Art and Design Department. The studio projects range from simple wire frame renderings, schematics for larger fabrication projects, rapid prototyped objects, and animations. Students learn basic skills with **form•Z** that are applied to their studio projects in various areas of study: sculpture, metalsmithing, ceramics, graphic design, illustration, printmaking, painting, art education, and art history. The classroom environment is part computer lab, part lecture hall, and part sculpture workshop. This means that students have the ability to work within an instructional and experimental environment, to attain the desired results.

The Almost Useless Invention is the second major project in a 15-week semester. Students are instructed to create a virtual almost useless invention using **form•Z** as a design tool. As part of this project students are expected to support the design work by creating a poster in Adobe Illustrator or Adobe Photoshop. To help set the context for multipurpose objects, we talk about the relationship between function and design, and about the absurd. Much of the discussion and source concepts are based on the book **101 Unuseless Japanese Inventions: The Art of Chindogu** by Kenji Kawakami. To further frame the conversation, we discuss artists like Andrea Zittel and Joseph Beuys and architects and designers like Buckminster Fuller and Kosuke Tsumura. We explore the process a product goes through before it lands on

a store shelf: design, prototyping, manufacturing, marketing, and distribution. During our discussions, I emphasize that we are framing this investigation within a fine art context.

Some familiar products advertised on late night television are used to introduce the assignment. For example, the Ginsu Knife and the Clapper are products with a level of absurdity in their design and marketing that are discussed during the course of the assignment. Rather than technology, it is the simplicity, the price and the novelty that sell the Ginsu Knife and the Clapper. On the other end of the invention spectrum, we discuss Dean Kamen's Segway human transporter, which is an incredible piece of technology. Kamen's first remarkable invention, the iBot, reinvented the wheelchair and individual mobility; however, the Segway is still searching for its market. All of these inventions have longevity primarily because of strong and memorable marketing strategies.

Meghan Hindenach, currently a Grand Valley State University metalsmithing major, incorporates the absurd by embracing the multipurpose or convertible object. Hindenach's almost useless invention is the Ponchtent, a dark green poncho that converts to a tent. Made from waterproof canvas, it incorporates short copper poles that can be adapted for a decorative collar. The Ponchtent functions both as an article of clothing and a dwelling. Since it is designed to fit the body, we can visualize the scale of the shelter it creates when set up as a tent. It is a shelter for one, made for the occasional emergency. To allow for change in fashion tastes, the Ponchtent fabric can be updated and the tent hardware readily reused. If one moves to a drier climate or no longer needs the poncho, it can function solely as a tent.

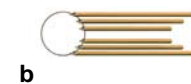
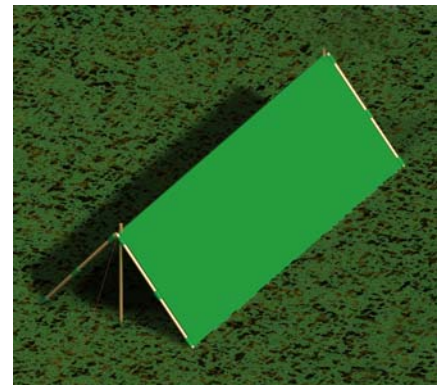


Figure 1: Ponchtent computer model (a) set-up as a tent and (b) with decorative tent pole collar (unfolded).

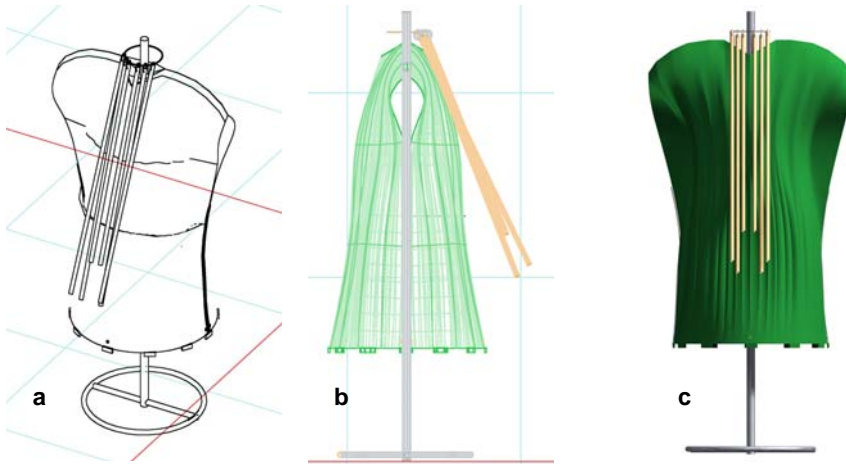


Figure 2: (a) Ponchtent hidden line rendering. (b) Ponchtent wireframe rendering. (c) Ponchtent renderzone rendering.

At this point, it is worth noting, that Hindenach is working on a sculpture assignment. Efficient and cutting edge design is not her goal. The Ponchtent references nomadic culture in direct contrast to the technology used to create it. Hindenach's work comments not only on fashion using an obvious historical reference, but also she discreetly incorporates every necessary part of both functions into the Ponchtent. In doing so, she plays with the boundaries of the functional object crossing into that of narrative object and visual art. Since we discuss this project as a piece of art rather than a formal design assignment, it is the narrative that occurs between the Ponchtent and the viewer that pushes this object to transcend function and allows the imagination to soar. The viewer wants it to work and, in the process, he thinks of alternatives and additional functions for the piece.

We find this dialogue throughout Contemporary Art. Well-known artists like Joseph Beuys and Kosuke Tsumura reference the potential of multipurpose objects through the creation of art pieces and clothing exploring survival strategies. In his edition of the piece Sled, Beuys outfits each sled with a survival kit. The survival kit contains a flashlight, felt blanket, and a hunk of animal fat (much of Beuys's art work references the time he was shot down over Crimea and almost died in World War II, but was saved by nomadic Tartars after being wrapped in felt and animal fat). [1] In Final Home, Kosuke Tsumura creates clothing and accessories that become the "ultimate shelter." Tsumura's, Final Home uses industrial and recycled materials to create a range of objects that aid in the survival of urban life, for example, the formal

black wool buttoned blazer that easily reverses into a waterproof nylon jacket with zippers and snaps. [2] In our critique of Hindenach's Ponchtent, we discuss artists like these and question whether the art object that references multipurpose objects is compromised by its duality.

The Ponchtent poster harkens back to advertisements for products found in early Sears Roebuck catalogs or to plans that were found in the back of a post-World War II era Popular Mechanics. It is the black and white image, the typeface, and descriptive information that remind us of the history Hindenach is referencing. Multipurpose products have long

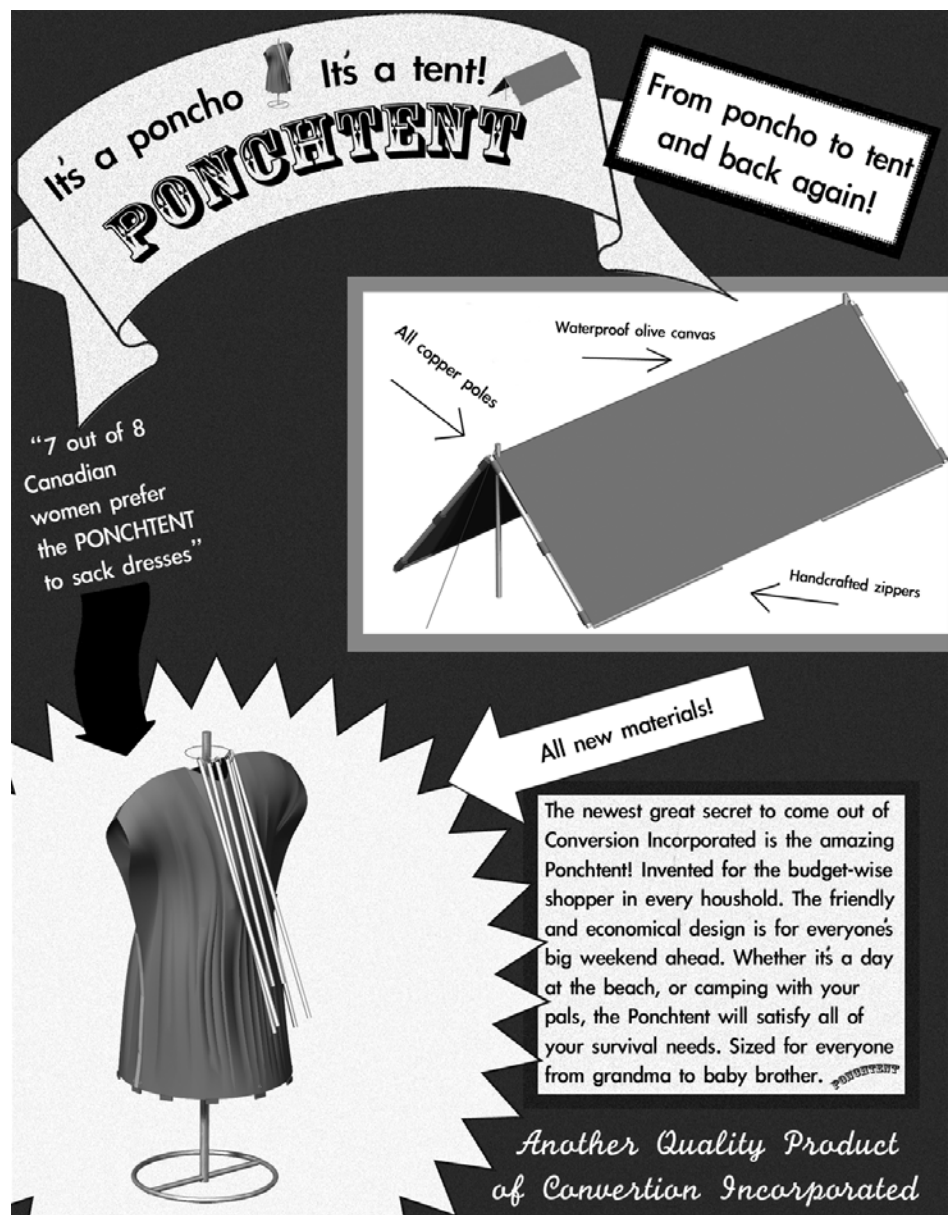


Figure 3: Ponchtent poster created in Adobe Photoshop using form•Z models.

been popular because they conserve space, emphasize utility over form, are cheaper than purchasing numerous individual products, and are often very clever. During the evolution of Ponchtent we discussed how this project embraces an era that precludes 3D computer modeling, and at the same time emphasizes the many strengths of **form•Z**.

My primary goal in teaching **form•Z** to fine art majors is to accelerate the visualization process for a 3D concept in sculpture. In the case of Meghan Hindenach's Ponchtent, it was designed and rendered in the computer 3D modeling course before she considered fabricating the project in the Advanced Sculpture course. Computer 3D modeling allows one to conceptualize an idea that is not yet bound by the physical world. Unlike traditional drawing, computer models have the ability to exist in virtual space, allowing for exploration of concepts and formal elements as well as quick editing before the final design and concept are acceptable.

During my three years of teaching **form•Z** and using it as part of my own creative process, I have found each edition to be more and more user friendly. The newer Nurbz tools made Hindenach's Ponchtent project possible for a beginning student. The poncho portion of Ponchtent was created by using the contours of the body to derive control lines for the creation of the Nurbz surface. The Merge Nurbz tool allowed the front and back sections of the poncho to be assembled seamlessly. Even though the Ponchtent fabric is a simple rectangle, it was useful to explore it in a complex way with Nurbz in **form•Z** to better understand how it fit on the body. Other tools that played a significant role in Hindenach's project are the Sweep tool, and various surface styles to make the product feel more real in the poster. **form•Z** is a powerful software package on its own; however, it works seamlessly

with other image-based programs like Adobe Photoshop and Adobe Illustrator. It is this relationship to other programs that allows **form•Z** to work well within a fine art context.

As the Principal Investigator and Assistant Professor of Sculpture, I find **form•Z** to be extremely versatile. The program allows my sculpture students to find new approaches to drawing, idea generation, and problem solving. It also is a powerful rapid prototyping tool. My students' projects vary considerably based on the goals of my fine art majors. Meghan Hindenach's project *Almost Useless Invention*, *Ponchtent*, demonstrates how students can explore the potential of **form•Z** as a sculpture and fabrication tool.

Notes

[1] Hannah Andrassay, "Just do it," *things magazine*, Winter 1999-2000. <http://www.thingsmagazine.net/text/t11/justdoit.htm>. Accessed: January 2, 2007.

[2] Julia Szabo, "Wear House," *Yeohlee*, May 1999. <http://www.yeohlee.com/article4.html>. Accessed: January 2, 2007.



Figure 4: **Fabricated Ponchtent**
(a) set-up as a tent, (b) on stand, and (c) on Meghan Hindenach.



Norwood Viviano is an Assistant Professor of Art and Design at Grand Valley State University in Allendale, MI. He joined the faculty at Grand Valley State University in August of 2002 as a Visiting Assistant Professor. Viviano has a Bachelor of Fine Arts degree from the N.Y.S.C.C. at Alfred University (NY) and a Master of Fine Arts degree from Cranbrook Academy of Art (MI). He has also taught sculpture at The School of the Art Institute of Chicago (IL) and Alfred University (NY). Viviano received the Emerging Artist Award from the Glass Arts Society, Kiki Smith Endowed Scholarship and Alfred University Partnership Scholarship from the Pilchuck Glass School and has participated in residencies at the Royal College of Art, London (UK), Sculpture Space (NY), and a PONCHO Artist in Residence at the Pratt Fine Arts Center (WA). Solo exhibitions of his artwork include the Garibaldi-Meucci Museum (NY), Lemberg Gallery (MI), McMaster Gallery (SC), Esther Claypool Gallery (WA), and Spaces Gallery-SPACELab (OH). Group exhibitions include: Revolution Gallery (MI), Soil Gallery (WA), Spaces Gallery (OH), Fort Wayne Museum of Art (IN), and Review Magazine (MO). Viviano's current research focuses on projects that explore mapping, metaphor of materials, computer 3D modeling, and rapid prototyping technology.