

Temporary Art <> Collapsible Architecture

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The work shown here – *Digital Weave* and *mOcean* – are installations designed for the San Francisco Museum of Modern Art Contemporary Extension (SFMoMA CX). The projects share the constraint of extreme temporality — they are shown for one night only, and must be installed and de-installed in a matter of hours. Because of this time limitation, they were built off-site, dismantled, transported, and reassembled on-site the day of the event. The design research engages in constructional and material investigations on how to create an architecture for such a transitory condition. The projects utilize CAD/CAM techniques and employ off the shelf products as conceptual and constructional strategies to meet these strict restraints. Though limited in scale, the designs also attempt to magnify their perceptual performance by defamiliarizing structural, material and constructional logics.

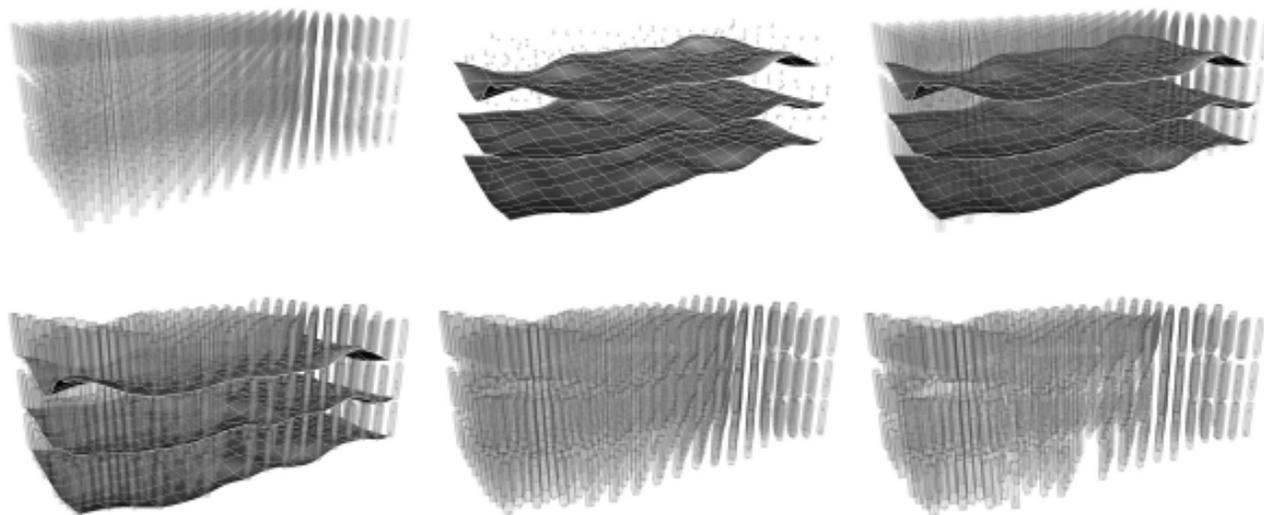
Each year, SFMoMA CX hosts two fundraising events – large parties, geared toward young museum members that use the work of local artists and designers to create the event atmosphere. The first project, *Digital Weave*, was completed as a five-week design-build segment of a graduate studio taught last fall, and shown at the winter 2003 event sponsored by, and held at 'Atmosphere', a modern furniture store. *mOcean* was planned for a larger summer 2004 event held in June at SFMoMA, and is a faculty design and research project. *mOcean* was also shown at the California College of the Arts immediately after its completion. The two projects differ significantly in their final resolution, however, they both engage digital technologies as a means to design, and ultimately convey the ephemeral nature of the projects.



Digital Weave final installation

DIGITAL WEAVE

Digital Weave investigated the phenomenological and constructional possibilities of thick skins. The project developed a systematic and fully collapsible method of construction. Similar to an accor-



mOcean motion capture translation

dion, it could flatten down to a fraction of the size. There were very few programmatic constraints other than that the project help form the party atmosphere. The final design developed into a large wrapped volume, 32' x 18' x 9', that formed two semi-enclosed interior spaces, served as a meandering path through the space, and on the exterior, used projections to activate the bar and dance floor with shadow and light. The intention to create an atmosphere larger than the size of the installation was achieved through these projections. As well, the ephemeral, but intricate nature of the project itself created an intense occupiable atmosphere all its own.

Digital Weave was constructed from a series of uniquely cut ribs made from inexpensive, translucent corrugated sign material, split, woven and riveted together with aluminum plates. The ribs were eventually fastened together in groups of ten for easy transportation and reassembly, and expanded using transparent acrylic tubes as compression rods. To form the overall shape, the ribs slot into a puzzle-like, demountable plywood floor. All the pieces for the design were fabricated digitally using a computer controlled waterjet cutter, and the production precision afforded by this technology enabled the project to fit together smoothly without any mechanical fasteners other than those for the ribs themselves.

Digital Weave Credits: Faculty Instructor
— Lisa Iwamoto

Students — Josh Beck, Aaron Brumo, Kristi Dykema, Mike Eggers, Aaron Korntreger, Ursula Lang, Danny Lee, Li-Chuin Loh, Myrto Milou, Heather Moore, Sam O'Meara, Margaret Sledge, Meredith Weems, Chris Winwood, Yantien Wong, Todd Zima

MOCEAN

mOcean investigated the phenomenological and constructional possibilities of thick space. SFMoMA CX asked that the design form a light source for the large lobby otherwise lit only through spotlights and projections. The summer event, themed *Diamond Dust*, was based on the work and production of Andy Warhol's *Factory*. Drawing from Warhol's *Silver Clouds*, our installation attempted to capture ephemeral movement through design and interaction.

Though the project's final destination was the museum lobby, *mOcean* was also shown after its completion at the California College of the Arts (CCA). It therefore developed two identities — one, a giant luminous chandelier that hovered over the entry at SFMoMA, the other an occupiable 'social



mOcean installation occupied at CCA

space' of sorts suspended just above ground level at the CCA.

mOcean employs digital visualization technologies, off the shelf packaging products and fiber optics for its design and construction. Using real-time motion capture technology (MOCAP), commonly used in the animation and gaming industries to precisely map the position of the body moving in space, we derived volumetric paths similar to a digitized three-dimensional Muybridge chronophotograph. The points not only reveal clear movement corridors, they also describe nuanced positions of the body. We saw these movements as forming wave-like surfaces based on the head/shoulders, elbows/hips/hands, and knees/ankles. The design developed as an intersection of these overlapping point cloud maps — paths through space, and wave-like horizontal surfaces. Once fixed, the points were caught in space using end-glow fiber optics hung from netting with paperclips, and held within translucent inflatable packaging sleeves.

The material choices respond to the strict budget constraints, the necessity for a lightweight, transportable constructional system (the sleeves rap-



mOcean installation at SFMoMA

idly inflate, deflate, and can be packed flat), and echo the Pop nature of the event. Fiber optic strand was used as a light source that could work with plastic as it produces no heat. The strands acted structurally as lines from which the sleeves were suspended, and the lighted ends illuminated the plastic material with a soft glow of slowly changing colors. Inflated, the sleeves formed a kind of poche that allowed the movement paths to be voided and made legible, thereby inviting viewers to engage, navigate, and inhabit the volume. And, while this digitized motion is caught and suspended throughout the project, the design also allowed informal interruptions of the space through random movement produced by wind at SFMoMA, or by moving people at CCA.

mOcean Credits: Project Designers —
Lisa Iwamoto / Craig Scott
Project Team — Josh Zabel, Andrew
Clemenza, Gee Ghid Tse, Anne Kimura
Project Sponsors — CEDR - UC Berkeley,
CCA