

Nothing exists in a vacuum

I once viewed design as the creation of discrete objects of intrinsic value. Over the course of my career, I have grown to understand design as the curation of relationships within systems.

A lamp, a desk—any designed object is a system of components and materials which exert constraints on the design. At the same time, all objects exist within an environment, such as a room, and are defined by their relationships to other objects in that environment.

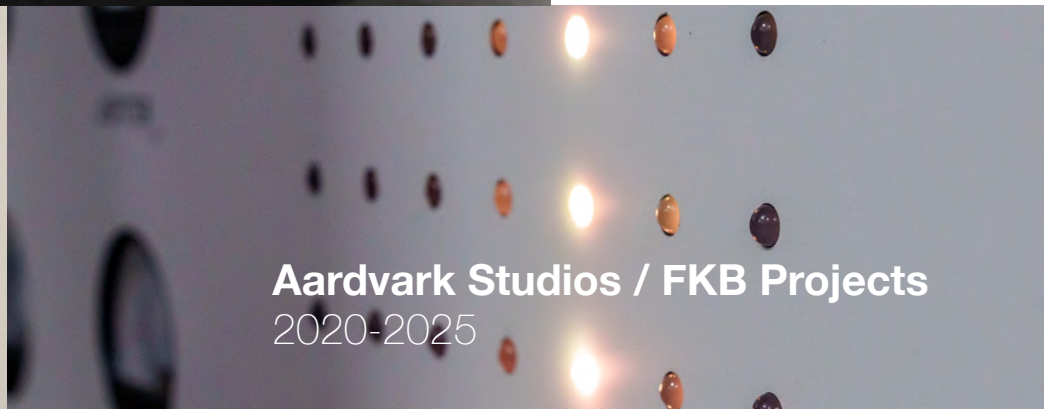
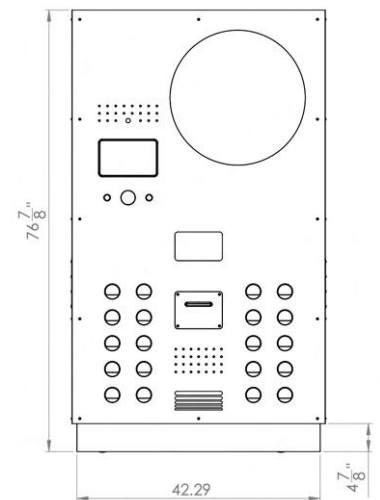
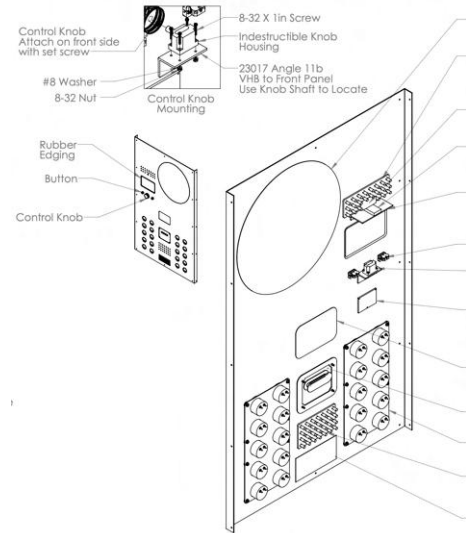
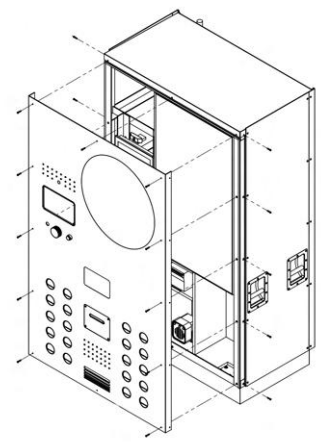
Each room is a subsystem of a home, or an office, or a school, and the overarching needs and goals of these institutions define the purpose of the environment and the objects within it.

Feedback loops ripple up and down these hierarchies of systems—I now see design as the tuning of these feedback loops.



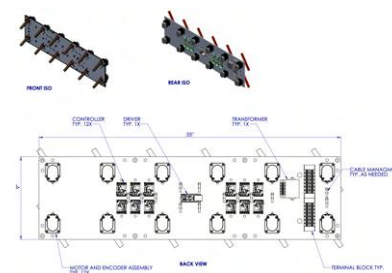
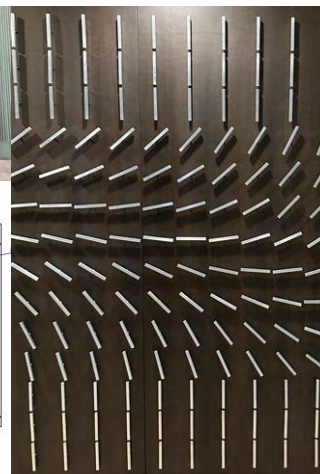
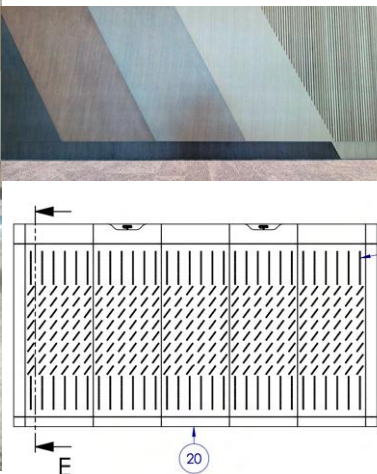
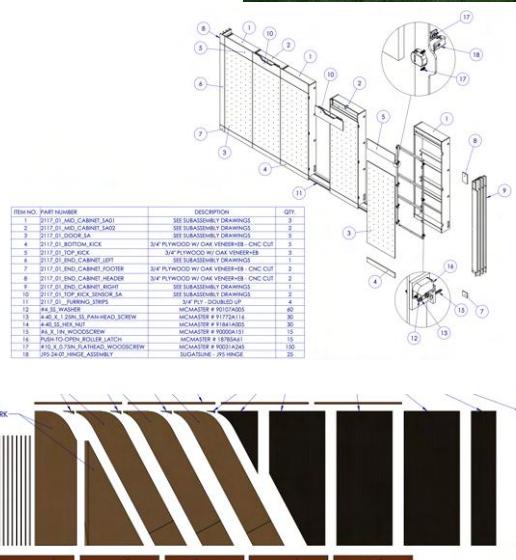
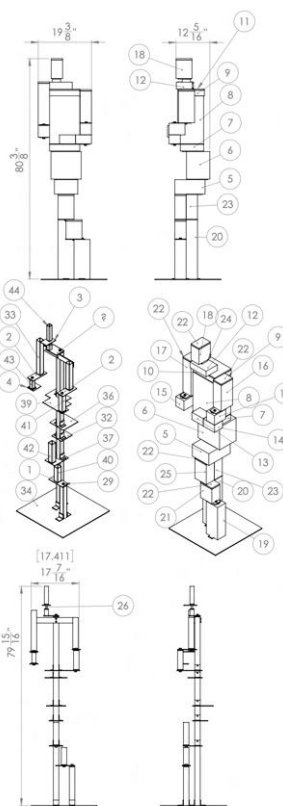
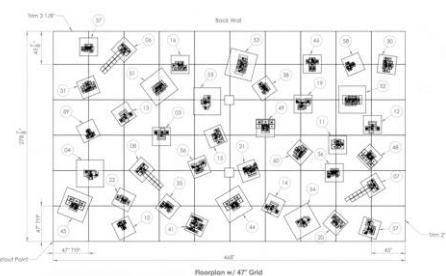
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Aardvark Studios / FKB Projects
2020-2025

for Aardvark Studios / FKB
2020-2025



Various Projects

for Aardvark Studios / FKB
2020-2025

Background

Aardvark Studios (formerly FKB) is a custom design–build studio specializing in large-scale experiential installations, interactive exhibits, sculptural environments, and branded activations. Projects ranged from technically complex museum installations to fast-turn event builds, retail pop-ups, architectural elements, and multi-stop touring environments.

The work combined industrial design, engineering, fabrication, and integrated technology—often requiring novel solutions that blended structural logic with electronics integration, unconventional materials, and highly refined visual aesthetics. Clients included museums, cultural institutions, marketing agencies, and national brands.

Role

As Design Engineer (and later Director of Design Engineering), I worked across a wide spectrum of project types, translating conceptual designs from both in-house designers and external creative partners into fully engineered, buildable systems. My responsibilities included developing fabrication logic, creating parametric SolidWorks models, producing fabrication and assembly documentation, and coordinating closely with fabrication, technology, and project management teams.

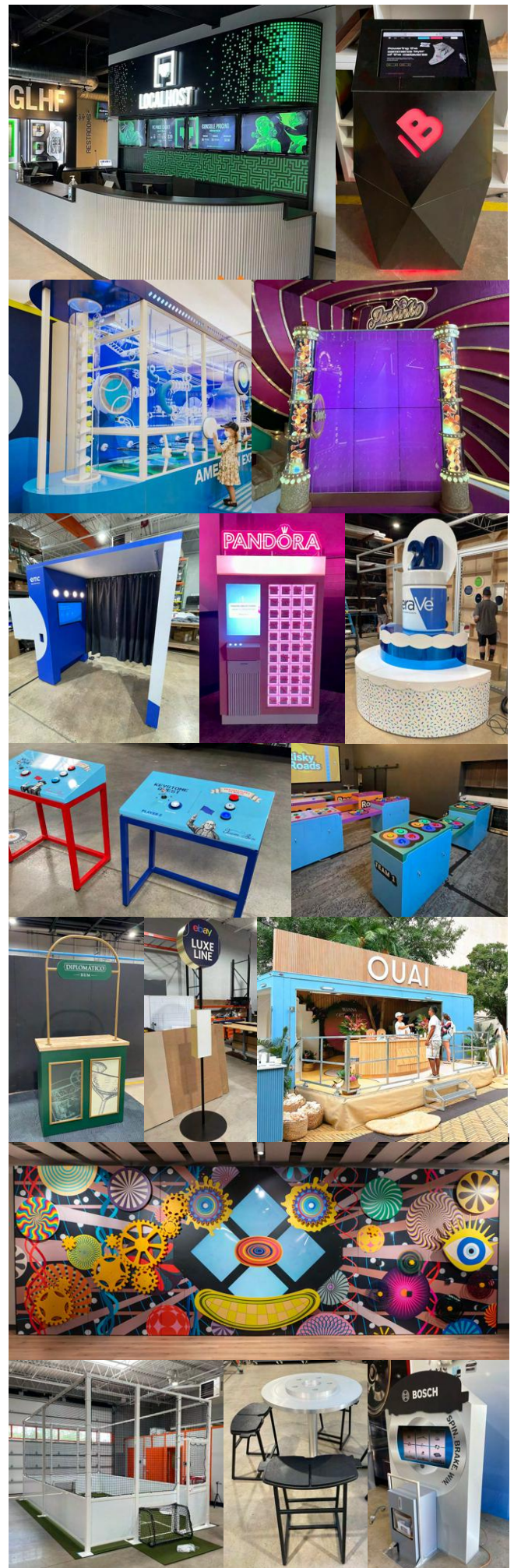
I engineered steel, wood, and composite assemblies; integrated lighting, sensors, screens, and other interactive components; and ensured that all elements could be fabricated, shipped, installed, and serviced within real-world constraints. Projects varied widely in scale, duration, and complexity, but consistently required careful balancing of design intent, manufacturability, budget, and installation logistics.

Images

From top left: Nerd Street Reception Desk, Bitsky Kiosk, AMEX US Open Game, Evolution Pachinko Game, EMC Photo Booth, Pandora Kiosk, CeraVe Cake, America 250 PA Game Consoles, EMC Game Consoles, Diplomatica Rum Bar, Ebay Sign, OUA! Trailer, IDEA Museum Interactive Mural Wall, Impulso Mini Soccer Pitch, Bosch Furniture and Game.

Previous page: JP Morgan Chase - The Waiting Workforce, Vanguard Windwall.

Cover page: CoStar Machine.





IDEA Museum – Maker's Forest
2025

IDEA Museum – Maker's Forest

for Aardvark Studios
2025

Background

The Maker's Forest is an interactive centerpiece for the IDEA Museum's idea Lab—a small grove of three sculptural "trees" incorporating digital and tactile experiences. Each tree housed an embedded tablet, an animal character with an internal display, RFID-triggered sound effects, and tactile alcoves. A lighting and sound kiosk nearby allowed visitors to influence the environment above the installation.

Design Brief

The designers provided conceptual SketchUp models describing the desired forms and interactions. The trees needed to appear seamless and futuristic, conceal substantial technology, withstand heavy use, and break down into sections that could be shipped and installed within tight building constraints.

Role

I developed the complete fabrication and engineering system for the trees. Starting from the conceptual models and interaction descriptions, I created the structural logic, parametric geometry, internal assemblies, outer skins, access strategies, and all provisions for tech integration. After establishing the system, I handed defined parametric components to another engineer to create variations for the three trees.

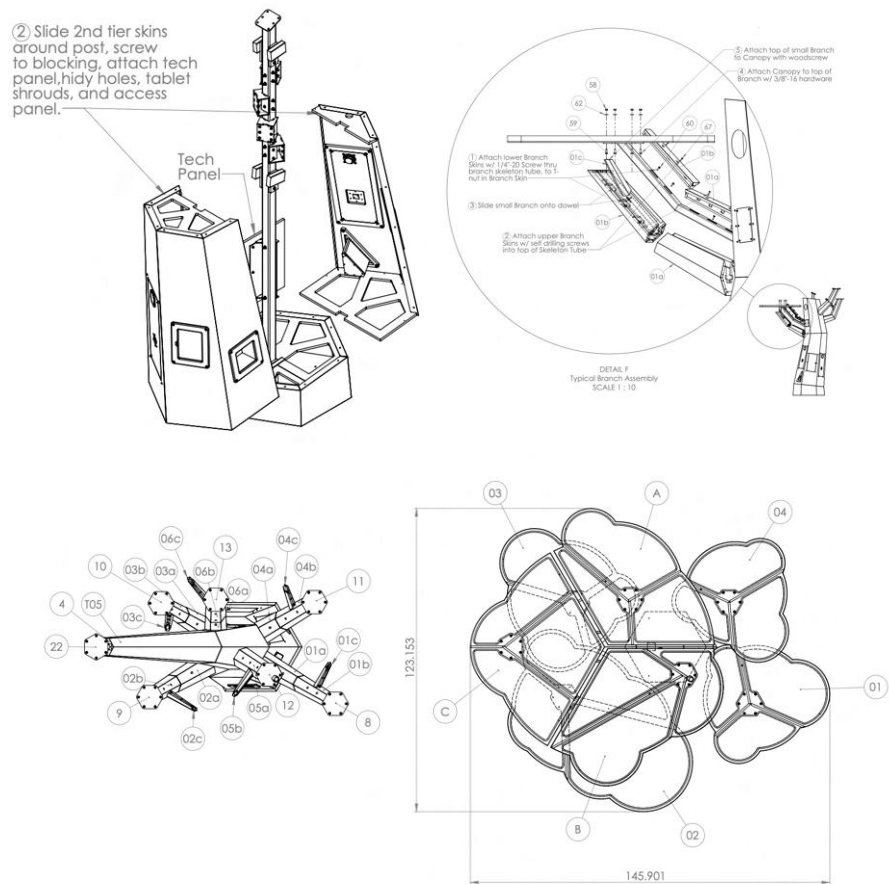
Process

I designed a hybrid construction method combining welded steel, CNC-cut plywood, and CNC-scored MCM skins. A parametric model controlled the faceted geometry and generated corresponding internal plywood ribs and skin panels. Removable access points and concealed connection locations minimized visible hardware.

Interactive components were engineered into the structure: tablets mounted inside the trunks; and 3D-printed animals modified to accept embedded screens. RFID sensors were positioned beneath graphic markers, with speakers and electronics integrated into removable panels.

Resolution

Each tree was divided into shippable sections, with the largest lower trunk assemblies pre-skinned and pre-populated with most tech components. These sections were bolted to custom pallets that secured them at both base and top, allowing the entire assembly to be laid on its side, moved by forklift, loaded on a truck, and brought through museum doors without disassembly. On-site, the trees were erected, bolted to the floor, and completed with upper trunk, branch, and canopy sections following a defined sequence to maintain access to internal components.





Milder Office Projects
2015-2020

Various Projects

for Milder Office
2015-2020

Background

Milder Office is the design/build studio of designer Jonas Milder, focused on furniture systems for work and learning environments. The Milder system originated in the late 1980s as an exploration of modular construction, initially using film-faced birch plywood and standard electrical conduit. Over time, the system evolved into a highly refined, parametric furniture platform incorporating custom-extruded aluminum tubing, machined aluminum and formed steel hardware, and a range of finished plywood surfaces including UV-coated and inkjet-printed panels.

Projects were developed for a wide range of contexts, including K–12 schools, libraries, and universities such as Parsons School of Design, Tulane University, Syracuse University, and the Maryland Institute College of Art (MICA). Additional work included office environments for organizations such as Pret a Manger and the Tenement Museum, as well as trade show and retail furniture for brands including Kikkerland.

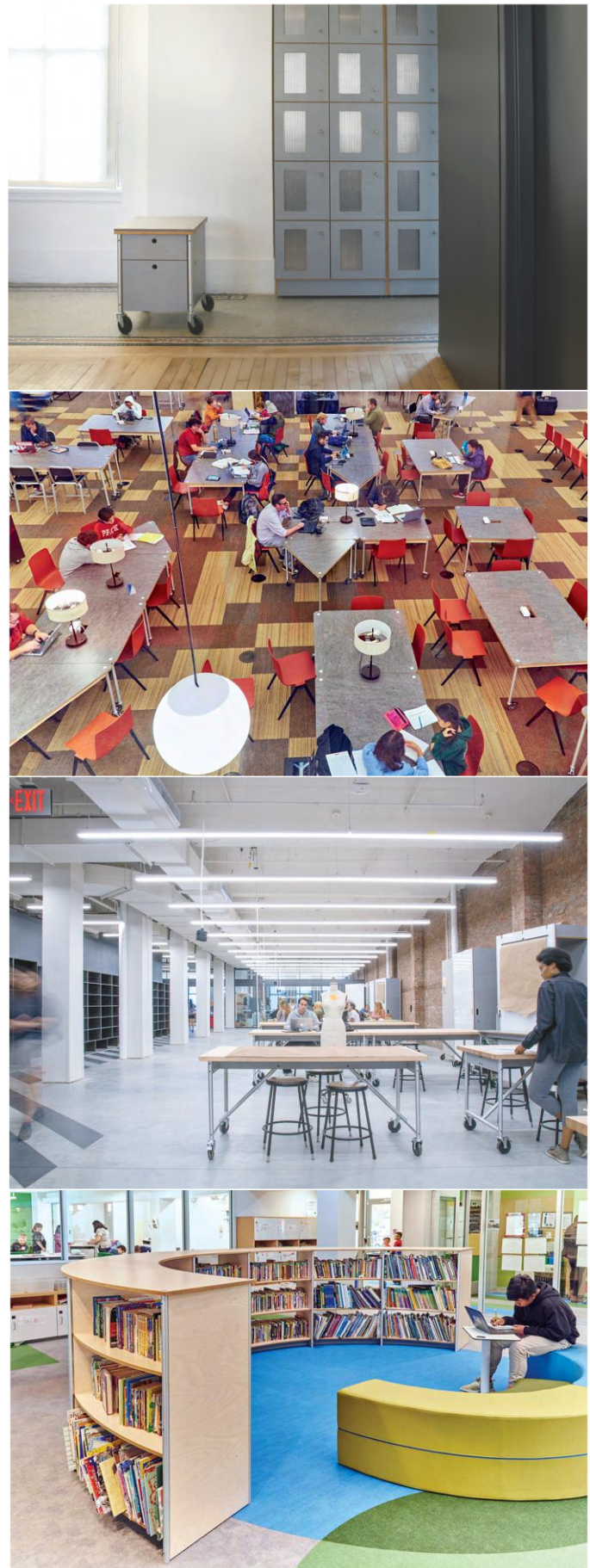
Role

As Senior Designer and Project Manager, I led the design and execution of multiple projects simultaneously while overseeing a team of junior designers, freelance collaborators, and interns. I managed projects from initial proposal through fabrication and installation, serving as the primary point of contact for clients, architects, interior designers, furniture dealers, and institutional stakeholders. My responsibilities included developing furniture designs within the larger Milder system; refining and expanding custom hardware components; producing detailed fabrication, assembly, and installation documentation; and coordinating with vendors and fabricators to ensure quality, schedule, and cost targets were met. I also conducted site surveys, reviewed field conditions, and managed on-site installations.

Images

From top: Lockers and Mobile Pedestal for the New School, Tables for the Westport Library, Butcher Block Tables and Mobile Storage Partitions for the Parsons Making Center, Curved Shelving Unit for Eden Park Elementary School.

Previous page: Mobile Storage Partition.



Convertible Library Carrel
2019



Convertible Library Carrel

for Milder Office
2019

Background

Milder Office designed study carrels that transformed into flat tables for the MIT Stratton Reading Room several years before I joined the studio (top images). They were well received but had stability issues and could feel shaky.

Design Brief

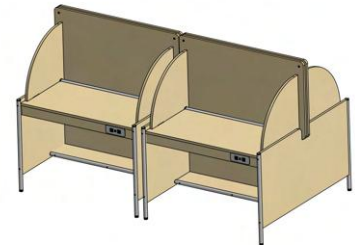
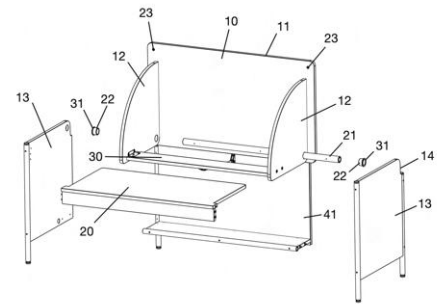
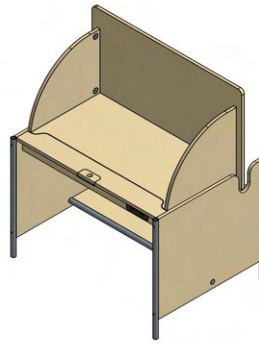
There was a fair amount of interest in a product with this functionality, especially from libraries, so we resolved to create a new design with better stability. Primarily these would be used in multifunction rooms. The carrels would lay flat for group activities or presentations, and open to allow privacy for individual work such as test taking.

Process

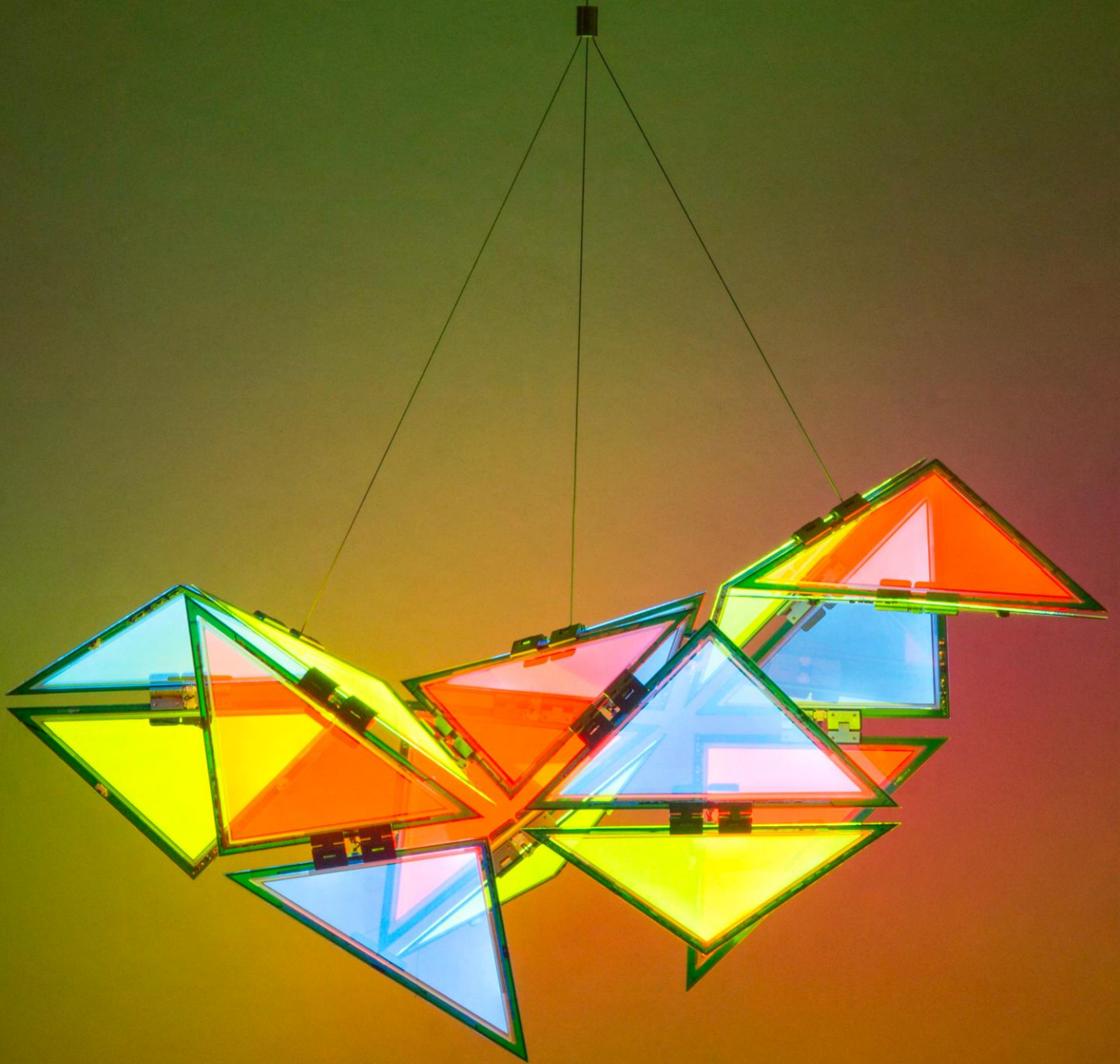
In the original design, the table top in the “closed” position became the back of the carrel in the “open” position and a new top swung up from underneath. This provided very little opportunity for lateral connections between the sides, causing the stability issues. For the new design we quickly resolved to have two tops, a lower static top to allow for more connection points, and an upper top that could be raised to become the carrel back. Many different rotary dampers, linear dampers and gas springs, as well as off-the-shelf and custom designed latches were experimented with for lift assistance, holding the privacy panels in place in the “open” position, and providing dampening to keep the carrel assembly from slamming shut when closing.

Resolution

We ultimately found gas-springs made by Bansbach with built-in dampening on the down stroke. Working with their engineers, we were able to fine-tune both the push force and dampening to eliminate the need for a latch. After lifting the upper top a few inches the gas springs would take over and fully open the carrel. Likewise, closing the carrel was as simple as pulling on the back and letting the dampened springs smoothly drop the upper top into place. We added a small notch to the underside of the upper top to indicate where a user could lift to open.



UDC Projects
2008-2015



Various Projects

for Universal Display Corporation
2008-2015

Background

Universal Display Corporation (UDC) is a research and development company focused on advancing organic light emitting diode (OLED) technology. While the company is best known for licensing OLED materials and processes to display manufacturers, a significant portion of internal research explored applications of OLED technology in the lighting industry.

Many of these efforts took the form of experimental lamps and lighting objects designed to investigate the unique properties of OLED panels—including thinness, lightness, flexibility, transparency, and color behavior. These projects functioned as both conceptual studies and working prototypes, helping to visualize and communicate the possibilities of OLED lighting to researchers, partners, and external audiences.

Role

As an OLED Prototype Designer, I designed and built a wide range of lighting concepts and functional prototypes. My work included developing lamp forms, designing custom housings and structures, creating works-like models, and collaborating closely with scientists and engineers as panel technologies evolved.

The design work generated both physical artifacts and intellectual property. I am listed as an inventor on more than twenty granted U.S. patents related to OLED fabrication methods, lighting systems, and device architectures, many of which grew directly out of these exploratory lighting projects.

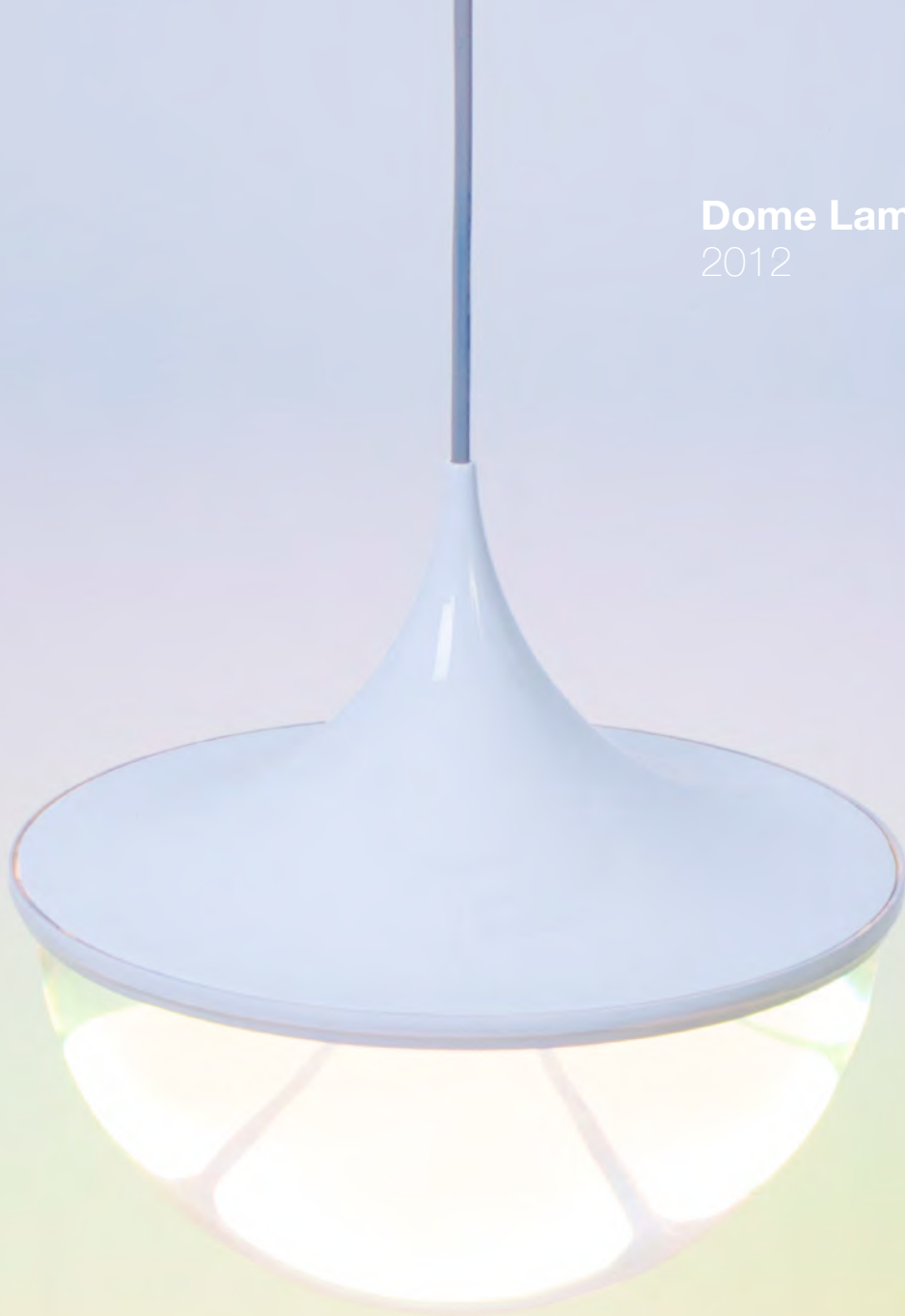
Images

From top left: OLED Desk Lamp, TLO, Neo Lamp, Wireless Lamp, Ribbon Lamp, OLEDay Panel, Flexible Wrist Display, Undercabinet Lighting

Previous page: TLO 2



Dome Lamp
2012





Dome Lamp

for Universal Display Corporation
2012

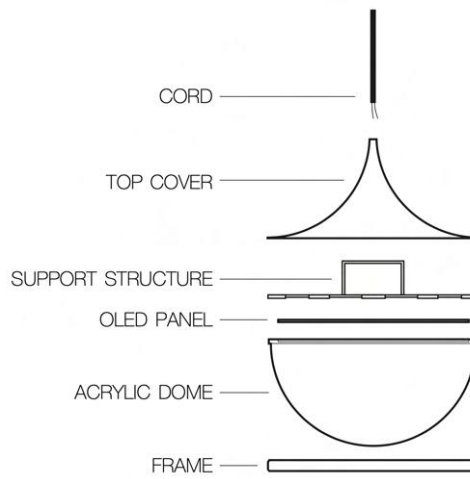
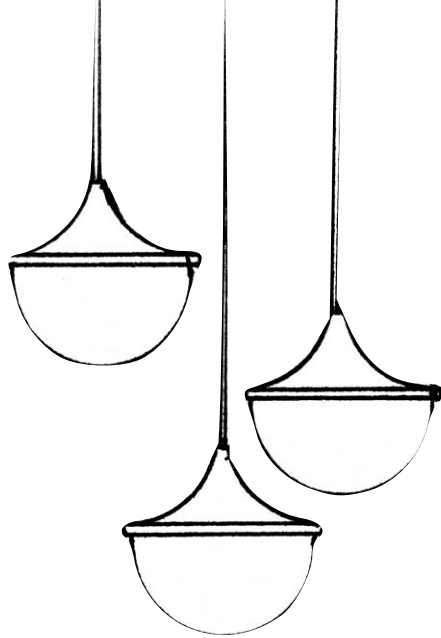
Background

More than half of the light an OLED produces can become trapped within its glass substrate due to the different indexes of refraction in the OLED structure, the glass, and the air. A great deal of work in the OLED lighting industry is focused on finding ways to free this trapped light. While the goal is to find methods that add only minimal thickness to the panel, in the lab researchers often place a large glass hemisphere against an OLED panel as a simple way to extract the trapped light for testing.

Design Brief

Almost all of my other work at UDC revolved around celebrating unique characteristics of OLED lighting panels: thinness, lightness, flexibility, or transparency. This would be a chance to do something different, design a lamp using the light-extraction hemisphere as inspiration.





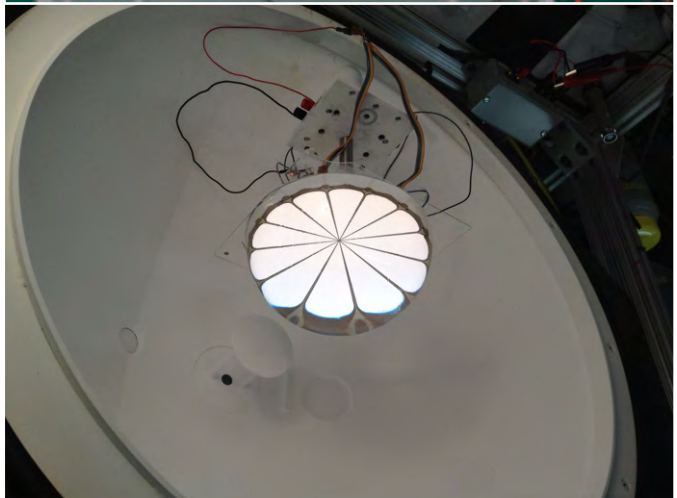
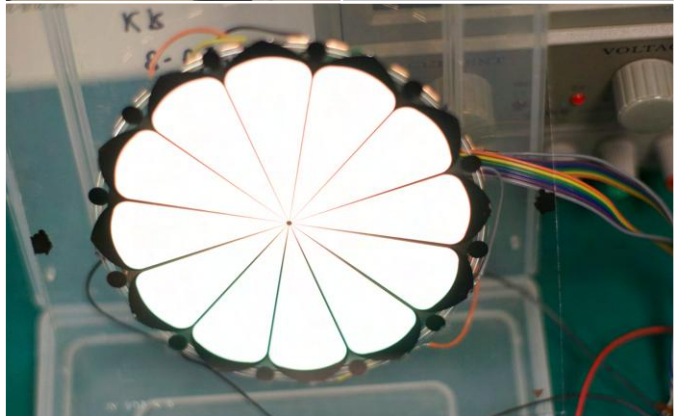
Dome Lamp, continued

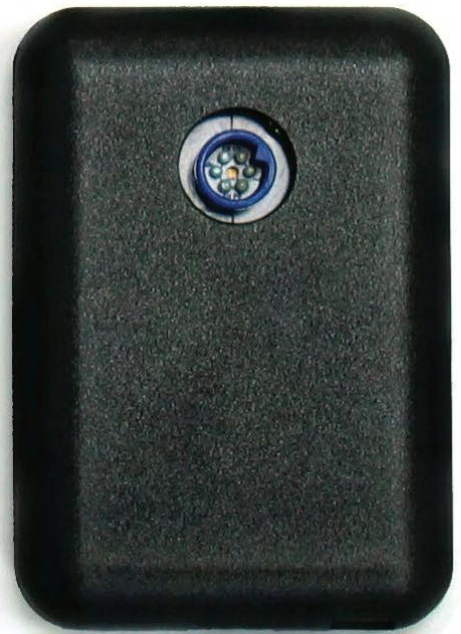
Process

I quickly settled on creating a droplet shaped pendant lamp, with the form of upper housing describing the inverse curve of the dome, allowing the shapes to play off of each other when hung in clusters. I then moved on to designing the lighting panel. This would be the first round panel we produced at UDC. To create a panel that was simply an uninterrupted disc of light would require depending entirely on transparent conductor materials, which are not very efficient; therefore I needed to create some type of pattern using metal bus-lines. I also knew the dome would have a highly distorting effect on the panel. While developing patterns I ran rendering simulations to see what effect the distortion of the dome would have.

Resolution

The final design of the panel was inspired by the Petal Table by Richard Schultz and by Indian mandala patterns. The rendering simulations proved to be accurate in predicting the distortion of the dome. However, I was not expecting the slightly prismatic effect it had, which cast a subtle rainbow onto surfaces illuminated by the lamp.





Current Designs Projects
2005-2008

Various Projects

for Current Designs
2005 - 2008

Background

Current Designs specializes in creating MRI-safe computer input devices for use in neuroscience research studies. Typically in these studies, subjects lie in an MRI machine while looking at a projected computer screen and perform tasks such as answering multiple choice questions. The input devices are entirely plastic based and use fiber-optics to prevent interference in the imaging data. Because the market for these devices is extremely small, most mass-production methods were impractical. Everything was designed for production with CNC machines or very simple low-volume molding.

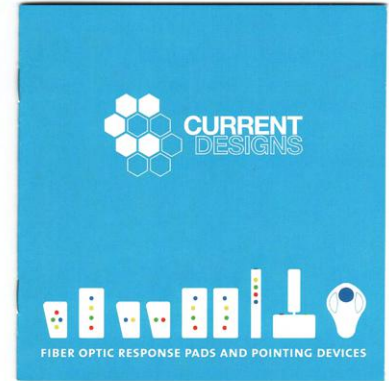
Role

Along with designing response pads and other input devices, I created a graphic identity system for the company and designed marketing materials and user guides.

Images

From top left: Business Card and Graphic Identity, Catalog Cover, MRI Safe / Not Safe Stickers, Game Controller Models.

Previous page: 3-button Response Pad and fiber-optic control box.



Josh Owen LLC Projects

2000 - 2005



Various Projects

for Josh Owen LLC
2000 - 2005

Background

Josh Owen LLC is the design studio of industrial designer and educator Josh Owen, whose work spans furniture, consumer products, and experimental objects for international manufacturers. During my time at the studio, projects ranged from exploratory design concepts and limited-run objects to products developed for commercial production, often balancing formal experimentation with practical constraints.

The studio environment emphasized iterative design, hands-on prototyping, and close collaboration with manufacturers, providing exposure to a wide range of materials, processes, and production scales.

Role

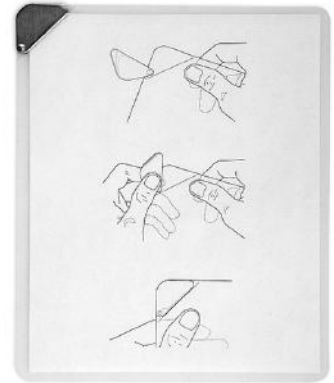
As Designer and Studio Manager, I was involved in all aspects of the studio's work, from early ideation through prototyping and production documentation. My responsibilities included sketching, CAD modeling, building physical models, producing design control drawings, and coordinating with manufacturers and clients.

In addition to design work, I managed day-to-day studio operations, supervised interns, and supported project scheduling and communication. The role required flexibility across creative and technical tasks, and provided foundational experience in translating conceptual design into physical objects through close engagement with materials, fabrication processes, and manufacturing partners.

Images

From top left: Moneypig Bank, Tissue Box Cover, Don't Ashtray, Flip Clip, XOX Table, Magneto Salt and Pepper Shakers, Knockoff Lamp, Horseshoe Doorstopper, Stash Bottle Opener

Previous Page: Monroe 8125 Calculator,



Emory Krall Design Projects

2002-2008



Various Projects

for Emory Krall Design
2002- 2008

Background

Emory Krall Design is an independent design practice through which I have developed projects for a wide range of clients and contexts. The work spans product design, packaging, graphic design, and web design, supporting small manufacturers, startups, and established brands.

Projects varied widely in scale and duration, from short exploratory engagements to longer-term collaborations. The studio functioned as a flexible platform for applying industrial design thinking across disciplines, adapting to differing client needs, constraints, and production realities.

Role

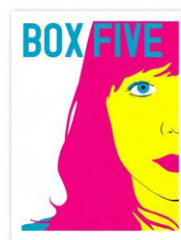
As Principal, I was responsible for all aspects of the work, including concept development, design execution, client communication, and coordination with external partners. My role often involved translating broad goals into clear design direction, developing detailed solutions, and seeing projects through to completion.

The practice provided ongoing opportunities to work across materials, formats, and industries, and to refine a versatile design approach informed by both technical rigor and contextual awareness.

Images

From top left: Flat Pack Friends (business cards); Travel Mugs for CDI International; Mile High Kit, Mile High Mini, and Packaging for Oro Design; Concert Posters for Box Five, Grid-Scale Energy Storage Concept for EOS.

Previous page: Flat Pack Friends.



Firmilab Concept
Single Stack with Inverter

