In 2016, the Gulf Coast Design Lab partnered with Camp Aranzazu for an intensive ten-week public interest design project. The camp aids healing and inspires growth through inclusive exploration of the environment, fostering a greater appreciation of the natural world and the campers’ role in it. We worked to design a bird blind for the new wetland education campus which met the unique needs of campers and camp leaders. After much research with birders and camp counselors, our concept focused on an oversized Venetian blind screening system which maximized natural breezes and shade. The open screen design is based on research that shade is sufficient to obscure the movement of observers to wetland birds.

**Instructor** Coleman Coker, Gulf Coast Design Lab

**Design Team** Adolfo Moreno, Allison Walvoord, Amy Witte, Charles Beckendorf, Daniel Montalvo, Eric Mattson, Joel Sterling, Kuan-Ying Chiu, Li Xinmei, Sara Ramirez
Our ten-week schedule was divided evenly between design and construction. The design process happened in parallel with a number of site visits and stakeholder activities that helped us to understand use cases and important considerations for the bird blind. The blind was then fabricated in modular components in Austin before being driven four hours to the coast for the final two weeks of construction. The most important consideration which emerged from site visits and stakeholder meetings was the harsh climate conditions in the wetlands during peak camp times and the undue stress this could put on certain camping groups with special needs. In response to this concern, my primary role on the project was to develop our shading system and test it against solar simulations to ensure we were maximizing comfort and shade with passive techniques. This was accomplished using extensive computer modeling and solar simulations which helped to balance competing demands of constructability, shading, and cost.
After discussions with counselors, we set a goal of achieving 95% shade cover in the blind during expected use hours which for the camp was April through September, 9 am to 4 pm. Scripting allowed us to test each of those 36,000 unique solar vectors against our design and quickly calculate the percentage of shade over the entire summer season. The other main factor in our passive cooling scheme was to maximize the natural sea breezes on site. Elevating the blind by as little as two feet greatly increased the wind speed experienced in this coastal wetland environment and provided children a better vantage for bird watching.

Once a scheme was developed, a new Grasshopper script helped us to refine, randomize and estimate cost. Below is a small portion of the more complex script which parameterized all dimensional inputs, randomized a screen pattern, and finally exported construction documentation and material schedules along with the solar shading percentage.
Chicago has long served as the heartland for food production, processing, and distribution due to its prime location as the gateway to the east and west. By creating a center of gravity for food and manufacturing, a unique urban experience materializes, tying together past, present, and future. The core of the development revolves around the co-evolution of modern manufacturing, education, and a productive landscape. As the development takes root, it resourcefully meets the needs of Chicago today and evolves to meet the needs of Chicago tomorrow. ROOTED creates a uniquely gritty, transparent, and adaptable urban community where both residents and visitors alike can make, learn, and grow.
ROOTED re-imagines Chicago's strong food and manufacturing history in an industrial marketplace community, enabling the retooling of the workforce and healthy lifestyles. This project not only imagines the localization of the food production chain, but stitches together surrounding communities once separated by the sites Planned Manufacturing District zoning. The proposal also serves to reconnect Wicker Park and Lincoln Park to the east and west, long separated by Kennedy Highway and the underutilized North Branch of the Chicago River. Filling the void creates a common ground for established neighborhoods to gather and experience food, manufacturing, and industry on a new stage.

Multi-modal accessibility and connectivity to the site are dramatically increased with the relocation of the Clybourn Metra Rail Station to North Besly Court and West Wabansia Avenue. This strong rail linkage provides a quick, efficient, and convenient connection to both the suburbs and downtown Chicago. West Wabansia also becomes a key pedestrian corridor for both visitors and residents. With street level retail, transparent industrial activity, and a streetscape activated with diverse landscaping, the site becomes a bustling environment at all times of the day.
Localizing the entire food production supply chain at scale requires an integration of ROOTED’S core values at every level of planning. Each of the projects various blocks uses sustainable technology, remediative landscaping and on-site agricultural production to reinforce and brand the district. Food processing is on display showcasing the health benefits of localized food production. Parking decks are designed with adaptive reuse in mind so that as we transition to a less car-centric transit model, parking spaces can also transform into productive urban greenhouses. Even the housing offers a variety of options from large condos with terraced outdoor yards to student oriented affordable housing. The aim is to both lead the way to 21st-century food production while leaving open the door for future adaptation.

This competition called not only for thoughtful urban design but also a compelling and profitable business strategy. Throughout the entire design process, our decisions were being shaped and informed by real-world considerations like zoning restrictions, comparable market data and potential return on investment. This unique competition brought together students from many different disciplines and closely simulated the wide range of considerations demanded in the modern design marketplace. Rooted shows that thoughtful design can respond to the triple bottom line considerations of the 21st-century and simultaneously offer economic, social and environmental returns.
Our design team began by questioning the architectural nature of the urban compound. On our compact site, this prompted explorations of the nature of a vertical compound and how the nested interiorities of a traditional courtyard typology could be translated onto the Z-axis. Our design uses a series of layers to form a gradient of privacy harnessing the power of screens and curtains to provide flexible and varied degrees of security and shelter from the city. From this architectural ambition, we developed an iconic research institute in East Austin, TX, a tower compound which offers a landscape of privacy to meet the diverse needs of the researchers and public visitors.
Instructor Michael Benedikt

Asked to design an expansion to our own school this proposal focused on giving the University of Texas School of Architecture a singular identity and a defining character. Spread among three buildings with no clear front door or central space the school feels disconnected and lacks a clear identity. Centered around a new courtyard this proposal reorients the buildings and their circulation towards a unifying central space and bridges a connection between the three main buildings of the school in a singular central spine. This addition not only forms a gateway into the school of architecture but fulfills the additional program requirements demanded by a growing school.
Drawing from the patterns of simple harmonic motion, (SIN)UOSITY transforms a nondescript overpass into a sculpture that creates both a dramatic pedestrian experience above as well as a landmark to motorists below. Curved ribs create a grand canopy, embracing the bridge and transforming a once noisy, unpleasant crossing into a unique space that sculpts view sheds to the skyline of downtown Atlanta. Subtle variations of simple steel and wood ribs create a sinuous surface which wraps the existing bridge, using minimal intervention to maximum effect. At night the sinuous curves and soaring ribs come alive with strategic lighting which highlights an elegant yet imposing sculpture that celebrates the exciting growth and vibrant future unfolding in Atlanta.
This proposed expansion to a Montessori school in Austin, TX reinforces the unique discovery model of Montessori education with a campus that expands on the existing typology of the school. Developed over time through the acquisition of residential properties the campus has a distinctly suburban feel which has grown organically over the last several decades. Using a generative algorithm that preserves natural elements and maximizes clearings the required programs of large gathering area, library, administration and additional classrooms is designed to harmonize the specialized requirements of Montessori education with the existing fabric of the school campus and surrounding neighborhood.
The final studio project of my undergraduate career was an invitation to explore broadened definitions of architecture and investigate a ‘Chapel of Light and Matter’ to be sited in Chapultepec Park in Mexico City. Born from the typology of lighthouse as beacon and observatory as lens, a chapel is discovered in the midst of a forest, constructed by the viewer as he is drawn into a sunken moment of repose, a counterpoint to the vibrant metropolis, invited to journey down into stillness and cross the final threshold into a sanctuary of metaphysical contemplation whose oculus excites a shiver of the sublime.

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