For the love of Architecture and everything it stands for. Its ability to affect change within the built environment. To dignify occupants, and create a positive atmosphere. Because a life well designed is a life well lived. It’s meant to have purpose; don’t settle for mediocrity.

Invest in Yourself
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### Personal Exploration

- Housing Study: Spring 2017
- Form Exploration: Mobius Strip: Spring 2017

### Design + Build

- Design Village 2017 // Videre: Spring 2017
PLAY // Frozen Movement

Concept

Play is an attempt to create an architectural pavillion which attempts to create a visual sense of motion while only using rigid and rectilinear pieces. The overall form is derived from an ellipse which is transformed to create waves in the form of walls. Constructing this piece was achieved by stitching individual pieces of straw together. Dynamic spaces were achieved through the introduction of light into the spaces, allowing the transparency of the straws to produced different lighting conditions.

Evolution of Form

Transforming the ellipse resulted to dynamic openings and shadows. Thus creating complex interior and exterior shapes that allowed for the playful interaction of light.
Movement in architecture plays such a vital role in the programmatic aspect of design. We see the movement of people in and around architecture as a key element of functionality. Space in general is designed to accommodate for the free movement of users. The roof design aims to capture that movement and translates into an architectural language. This kinetic study follows the precedent that if possible, architecture can be reflective of the movement that transpires within its walls. Designed as a bridge the main functionality of the structure is to facilitate the movement of people. The wave form follows the movement of people along the bridge as they pass through.
S.T.E.A.M // Housing Project

Concept
A hierarchy of spaces was used to denote spatial development. Walls dictate usable space and desirable views for prospect, much like how the environment dictates where buildable spaces are located. Units are elevated to increase visibility and are angled such that each unit has a slightly different framed view. Dynamic spaces reflecting the canyon-like experience is achieved through curved walls that lead to a variation of levels. The aim of this project is to provide a housing facility that engages a landscape and assimilates the users with the environment through architecture. The project takes the idea of prospect as elevated views that frame the landscape and creates a visual connection with the environment.
Concept

Old Towne Orange has always had its historic appeal, however, it has since struggled to keep up with the times. With the addition of Chapman University, the demographics in Orange has gotten younger throughout the years. Making Co-living a viable possibility which can stitch together a community. The idea behind Civitas is to promote a sense of community by creating opportunities for social interaction, while also enhancing visual connections. Staying away from typical apartment design, residents must first pass through public spaces which are open to the community before accessing their private facilities. This strengthens the visual connections needed to establish a relationship with a community. Additionally, semi-private greenspaces are found within the residential clusters to encourage residents out of their homes and engage with the community.

View from residential area beside Chapman University.
Site Analysis

- Train Station
- Residential
- Chapman
- Avoided Areas
- Most Accessed
- Public Park

Housing Concept

The idea is to break the traditional grid-like architectural typology. Units start out by following a basic grid pattern which is overlayed to reduce the overall building footprint. The goal was to increase the amount of greenspace that is usually achieved with just stacking the units. Creating different offsets allow for decks on the second level, connecting and stitching the units together.

Massing Concept

The massing study done to achieve the overall form of the facility was derived from how the site interacted with the existing conditions found in the area. Chapman University, which had facilities scattered throughout the city, was one of the primary forces in affecting the architecture to achieve an engagement that allowed both students and residents to interact.
Houston, TX is constantly ravaged by floods and since April of 2016 it has seen 3 dozen major floods. With Houston’s ever growing population and decreasing number of wetlands, floods show no sign of stopping soon. However, locals have built their lives around this major city and relocating just doesn’t seem like a viable option for most.

The design objectives for the project was to provide an alternative design for future and current residents of Houston who have been ravaged by floods. Part of the objective was to design a specific set of components for a house. My project “LIFT”, explores the idea of designing a home which could lift off the ground with the rising flood water, while implementing a series of sustainable practices. Future homes would have a new floating platform as a base, a south facing eco cooler wall and solar panels. Additional requirements like operable louvers would be adjusted to site specific conditions.

**Buoyancy**

1 gal = 4 kg  
55 gal container = 220 kg = 484 lbs  
Avg. weight of a house = 50 lbs/sq ft  
6 sq area x 50 lbs = 300 lbs

**Solutions**

Solar panels  
Operable louvers  
Eco coolers  
Floating raft

---

Concept

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Site Analysis
Orientation and placement of particular components were affected by site specific conditions. Wind from the west determined the placement of operable louvers that when opened allows for direct ventilation.
Legend

**FIG. 0.1**
Operable Louvers are positioned to provide necessary shade for the full height windows and block the direct sunlight coming from the East and West, while still providing visibility to the outdoors.

**FIG. 0.3**
A Floating Raft from recycled water drums allow the platform to float in the presence of a flood. Steel posts on concrete caissons provide a track for the platform to follow without floating away.

**FIG. 0.2**
Solar Panels are south facing and angled between 20-30° for direct sunlight throughout the Spring, Summer, and Fall seasons.

**FIG. 0.4**
Eco Coolers have the ability to decrease indoor room temperature of up to 5° celsius and are positioned at the south side of the house for optimal wind.
CHIDORI // Exploration with Japanese Joinery

Concept
This project, completed with a partner in the class, aims to explore the techniques in designing and fabricating a table without the use of fasteners or adhesives. Inspired by the Chidori joint of traditional Japanese woodworking, we set out to design a possible end table using this technique. Our goal was to put an emphasis on the construction method and how it translates into a larger more uniform design language. Much like Japanese joinery careful attention to detail was put into making sure each piece was a perfect fit for its receiving counterpart. Although simplistic in design, it holds a high standard of elegance in the clean finish it achieves and the complexity of its assembly.
Abstract
This short exercise aims to explore the different architectural conditions achieved by introducing a microclimate to a clustered housing typology. Utilizing a perforated wall and roof system, a clustered system of housing development, which resembles that of duplexes, is used as an example. By altering the position of the perforated panels, new conditions are made and new spaces are either introduced or become more usable. There can either be more outdoor space with the shade extended further outward or better temperature regulation by blocking more of the sunlight that hits the structures.
Abstract

Form plays such an interesting part in the discussion of architectural design, and so, in this study the goal was to analyze a complex form that I found particularly interesting. In this exploration, I set out to understand how a Mobius strip can be translated into an architectural design. It was also a great opportunity to explore new modeling techniques since the overall form was so complex to create.

Complex forms like the Mobius strip usually stand out because of aesthetic means, but what I realized in this study was that there were conditions formed because of the spiraling movement of the Mobius strip that can be interesting architectural spaces. Voids because of the irregularities of the form created dynamic lighting in the spaces and allowed for a variation of occupiable locations.
TRANSFERENCE // Capturing Energy

Concept
The project aims to explore the relationship between users and architecture. The question we first asked ourselves was; Does Architecture have to be inanimate and designed with a fixed purpose in mind, or can it be fluid and flexible to accommodate multiple functions? With this premise we began to design around the idea that we wanted architecture to be reflective of the movement it interacted with. We explored the transference of energy from users to change and effect the architecture. We designed it with a sense of duality within its function.

Evolution of Form

During the day it serves as a seating area or a bench. As users recline, the ribs follow the curvature of the users back to create a better sense of comfort. At nighttime applying a little more force in reclining changes the function of the structure, creating a sleeping space.
**VIDERE // Unity Through Architecture**

**Concept**

Videre, meaning “I see”, was a fitting title for a group installation where I led a team of six students through design and construction. One of the driving principles for the design was to see oneself as part of an entirety. Architecture manifests opportunities for connection and develops spaces for interaction. A radial form visually sets an evident sense of connection and a symbolic presence of unity. This idea is carried throughout the various stages in the design.

First being in the form of a systematic use of ribs that dynamically revolve forming the Mobius strip. Platforms are clustered and unified creating independent pieces to a whole. An even more unified method of construction was also implemented by eliminating the use of fasteners and hardware. The use of joinery with carefully placed notches give the structure its rigidity. Overall the idealistic unity found in architecture is translated to tangible elements of design and fabrication.

**FIG. 0.1**

Notches were used as base connectors and create a rigid frame for the platform.

**FIG. 0.2**

Puzzle pieced connections allow for a smooth, near seamless connection.

**FIG. 0.3**

Platform Detail
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