"...in the long run, no really subtle, deep and far-reaching problems can be solved in any field whatsoever, except by people who are able to respond in an original and creative way, to the ever changing and developing fact by which they are confronted."

- David Bohm, On Creativity
The Interstitial Installation project was a challenge, undertaken by a fourth year studio in the School of Architecture at the University of Arizona, to design and build an installation to revitalize the interstitial spaces located on the second and third floor stair landings between the two buildings that comprise the college facilities. The existing spaces are exposed to the elements and serve as the principal means of vertical and horizontal circulation between and within the buildings; with lofted spacious landings overlooking a lush garden landscape to the south. The building to the east [Jones Studio, 2007] is rendered in glass, weathered steel and permeable decking that filters light and projects ephemera on white stucco walls. The building to the west [Atkinson, 1965] is of masonry and concrete; vestiges of its altered past bind the area. The existing space was fertile with programmatic and aesthetic potential but was under utilized and uninspiring; furnished with one piece of conventional outdoor furniture and used to store custodial bins. The studio, comprised of 11 students and one assistant professor, was given $6000, seven weeks and the use of the school’s material laboratory facilities.

Nature of Design Build Agenda: The profession of architecture is rapidly evolving and adapting to new project delivery methods, design and fabrication technologies, and an increased accountability in terms of social and technical performance. The architectural academy is responsible for cultivating future architects that are prepared to navigate the difficulties and responsibly exploit the opportunities posed by these constantly evolving conditions. The academy is further charged with the traditional challenges of contextualizing hypothetical conditions, abstract procedures and theoretical propositions. The pedagogy employed in this project empowers students to negotiate project-based experiences that are analogous to professional practice, challenging students to engage in anthropological and evidenced-based pre-design research, and work collaboratively to develop designs in response to real world conditions and constraints. Students subsequently develop budgets, schedules, construction and shop drawings, proceeding with fabrication and construction. The project is not merely an opportunity for students to build, but to assume ownership and transform the ideal into reality, where the only acceptable outcome is for the poetic and the pragmatic to become one.

Student Learning and Benefit: The students in the studio have experienced an architectural curriculum that has a strong laboratory tradition; encouraging experimentation with principles, materials and fabrication through building technology, studio and elective courses. In the context of this project, simply making things was not novel or intimidating; every student had some experience working with wood, steel and concrete; some more skilled than others. The learning and benefit to studio participants can be categorized in four areas: 1. The importance of actual conditions and constraints in clarifying objectives and boundaries, within which creativity can be concentrated. 2: The importance of anthropology, surveys and the value of having an actual user group for which to design; adding the dimension of reality to a design experience that has here-to-fore been based on hypothetical conditions and speculative designs. 3. The importance of collaboration; the students each served as leader and follower on various components of the project. The project could not be successfully delivered with the studio acting as a collection of egocentric individuals nor timid individuals afraid to have skin in the game. 4. The consequence and risk of design; because the studio was undertaking a project to be used by their peers and faculty, the students would therefore be held accountable, subject to praise or shame, based upon their performance.

Sustainability: The Interstitial Installation enhances the culture of the college community by providing an effective environment, adjacent to circulation, for socializing and working in small and large groups; providing an additional venue for interdisciplinary exposure and interaction. The product fosters the culture of a design school by demonstrating compelling, performance based design practices. The design is rendered entirely of steel which is continuously recyclable (2010 US steel recycling rate 87.9%, Steel Recycling Institute) and has great durability and longevity. The design incorporates powder coated bench and tabletops that can be easily removed for refinishing.
Existing Conditions

- **East Interstitial Space:**
  - South Elevation of Interstitial Space
  - Plan Interstitial Space
- **West Interstitial Space:**
  - North/South Section, East Facing, Thru Interstitial Space
  - East/West Section, Facing South, Thru Interstitial Space
  - East/West Section, Facing South
Pre-design Observations | Community Survey | Ergonomic Studies
objectives

1. Universality: Facilitate multiple interpretations and uses [individuals, multiple small groups and large groups] + [ergonomic versatility]

2. Adaptability: Enhance stationary elements through a satellite element

3. Abstraction: Dissolve perception of installation as conventional “seating area”; encourage users to explore and discover intended and unintended uses

4. Specificity: Adapt abstract geometric concept [spine / inverted pyramids] to the conditions of specific site [overlook, vertical surfaces, circulation paths, standpipe, permeability]

5. Oneness: Unify potentially disparate programmatic dimensions [ergonomics, materials, structure, seating/work surfaces] such that each is critical yet compatible with the others
Synthesis and Development

Consolidation | Modeling | Mock-ups
spectrum: functional | aesthetic

dialectical negotiation

formal derivation

magnetic pin-up board

chalkboard

adoption

material considerations

1/8" steel plate

draw and cut

cut details

split

paint

**Dialectical Negotiation**  *Chalkboard: Function + Aesthetic*
composition

architecture undergraduate [2+3]

architecture graduate [3]

planning [3]

landscape architecture grad [3]

3rd floor preferences

2nd floor preferences

Final Design  |  Composition |  Color

cotton candy

sunflower

cheddar

kraft dinner
Final Design Use
Final Design  Physical Dimension  |  Components and Details

stationary bench

satellite bench

table
Shop Drawings Excerpts
170 1.3# 2" dia. steel spheres

580 lin. ft. 1" steel tube

30 corner bends 1.75" steel tube

210 lin. ft. 1.75" steel tube

36 laser cut panel terminations

70 laser cut supports

2603# of steel
22 powder coated panels removable for refinishing

456 sq. ft. powder coated surfaces
Schedule and budget were critical factors; influencing decisions on design, details, materials and methods of fabrication. The primary design gesture, modest in comparison to the potential of the studio’s imagination, was tempered by the logistical reality of 7 weeks and $6000. The structural frames for the stationary benches, tables and satellite benches are undulating spines of inverted pyramids comprised of 1” steel tubes connected via weld to 2” steel spheres. This detail is coarse in comparison to other details we conceived that required precision bending and cast components that were beyond the capabilities of our in-house shop facilities and budget. But this detail afforded us expedience and the flexibility necessary for a student team negotiating relatively complex geometries rendered in a thermally sensitive material such as steel. The studio was respectful of these constraints during the project and appreciative in the end.

Designing for a community of design students and professionals is an opportunity and a risk. The opportunity lies in a user group that is invaluable as an informed and diverse resource for establishing performance criteria and offering feedback during the design process. The risk lies in the evaluation of the product by that same user group that is also opinionated, group that is so critical in the context of a community of design. The project and the studio participants’ reputations are subject to scrutiny, from the perspective of aesthetics and more importantly performance. The installation has transformed an under utilized and uninspired interstitial space into a stimulating nexus, subject to constant use and interpretation. Since completion, the studio has received universal accolades from the college community and visiting design professionals.

Conclusions

Schedule and Budget

Schedule

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<th>Week</th>
<th>Pre-Design</th>
<th>Schematic Design</th>
<th>Design Development</th>
<th>Shop Drawings</th>
<th>Fabrication</th>
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Budget

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Credits

STUDIO PARTICIPANTS: Nada Al Qallaf, Javier Alvarez, Raphael Ambeliz, Levi Van Buggenum, Brian Carstensen, Joey Felix, Aracely Lencinas, Stewart Malcolm, Andrew Schaffner, Jaime Sevilla, Heddi Walker | FACULTY: Chris Trumble, Assistant Professor

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SUB-CONTRACTORS: CAID industries [laser-cutting], Perfection Industrial Finishing [Powder Coating]

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DRAWINGS: Jones Studio [page 3], all others by studio participants

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