

### Program Summary:

The project addresses issues of sustainable design and affordability in the context of urban, inner-city America. Influenced by vernacular traditions and a specific cultural landscape the project seeks to create experiential delight out of a small-scale design opportunity.

### Program Statement:

Often overlooked, or looked down upon, prefabricated mobile and modular housing constitutes an important housing typology that serves a wide range of American citizens. Beginning in the mid-1900's, prefabricated homes have been produced in an attempt to provide basic shelter across the urban and rural landscapes of America. In doing so, several important factors that transform a house into a home were discarded, with predictable psychological, behavioral and social consequences. Unimaginative aesthetic and spatial design combined with inefficient energy strategies and poor construction techniques define the common shortcomings.

Through the adaptive reuse and application of existing cultural and spatial traditions this prefab design seeks to augment and enhance this much maligned building typology by improving it's spatial, experiential, and material quality. At the scale of the individual building the project features sustainable and unique construction techniques, along with passive, energy conservation strategies. Inside, the light- and air- filled interiors utilize an open floor plan, high ceilings, and attention to detail to challenge typical notions of affordable housing. These aspects of the project suggest an attitude toward shelter that moves beyond mere provision in search of a more equitable and expansive notion of dwelling for people of moderate means. At the urban scale the project reexamines the role of the front porch as a model for social interaction and urban propriety. In pushing the envelope of urban infill and sustainable urbanism, the project promotes affordable architecture with a social and environmental conscience.

Building Area: (sf)  
**1260sf**

Cost per Square Foot:  
**\$100/sf**

Construction Cost  
**\$126,000 + sweat equity**

Date of Completion:  
**July 1, 2010**



## MODERN VERNACULAR

Focused on the seemingly incongruent combination of affordable modular housing and site-specific design the project combines vernacular precedents, old and new construction methods, and landscape integration in an effort to propose an alternative, contemporary design that responds to the local climate and culture.

Located in an underprivileged, but vibrant, neighborhood the project incorporates lessons discovered in the surrounding context. Porches, a prevalence of wood construction, verdant plantings that provide shade and privacy, modest scale, orientation to the public street, and elevated front entries characterize the neighborhood and define the prevailing urban fabric.

Attention to this context provided the basis for reinterpreting local traditions associated with form, function, and materiality. The result is a thoroughly modern house that incorporates the fundamental elements of the neighborhood while avoiding mere mimicry.





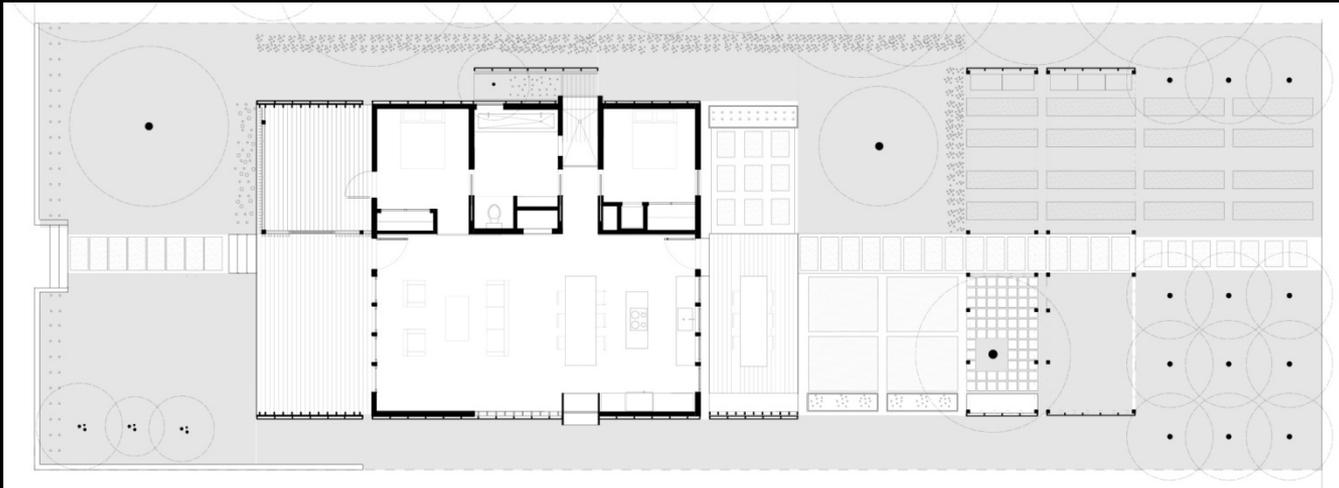
SW Elevation



## DESIGN PROPOSAL

The project incorporates a site strategy that links indoor and outdoor space through placement and circulation. The resulting interwoven sensibility replaces the narrow, cellular character often associated with modular houses and results in a surprisingly generous sequence of large, open spaces. The main public interior space containing the Living Room, Dining Room and Kitchen measures 20ft x 38ft.

The unobstructed procession from the street and through the house to the rear courtyard celebrates the symbiotic relationship between the interior and exterior. A series of subtle thresholds mark transitions and modulate the formal procession from the more public character on the front, west side to the relatively private space of the rear, east side.



TOP:  
West Elevation

BOTTOM:  
Site Plan



## INTERIOR ORGANIZATION

Conceived as an open, loft-like interior oriented toward a series of outdoor living spaces the project privileges experiential conditions that elevate the rituals of everyday life.

The house is a modest 1200sf, but the open plan, attention to detail and spa-like bathroom subvert conventional notions of modularized affordable housing and result in a house that feels much larger and more gracious. The expansive interior extends out to define and incorporate a variety of exterior living spaces including a front porch, screened porch, back patio and courtyard. Programmatically, this extension takes advantage of the temperate climate to expand the visual and functional limits of the home into a cohesive domestic landscape.



## CLOCKWISE FROM TOP:

01: LR to Southwest

02: Back Patio

03: Screened Porch Interior

04: Front Porch Looking South



## CLEAN + SIMPLE

The kitchen features concrete countertops, Ikea cabinets and a custom-built pantry system surrounding the refrigerator bay. The white surfaces serve to maximize daylighting strategies and reduce the need for electric illumination.

Interior wall surfaces are made of composite wood panels that negate the need for moldings and incorporate a series of doors for that remain concealed when closed.

The bathroom features a large, luminous shower. Framed by walls of translucent glass and lined with white mosaic tile the shower marks one side of the north/south cross axis through the house. A concrete sink measuring 8ft long accommodates two people and can be used as a baby bathtub.



## CLOCKWISE FROM TOP:

- 01: View from DR looking Northeast
- 02: Translucent Shower Wall
- 03: Concrete "Trough" Sink
- 04: "Spa" Shower



## STANDARD + CUSTOM

Throughout the project modest, off-the-shelf materials are used in combination with considered details and careful articulation to create an environment of affordable, minimal elegance.

All of the square-head, stainless steel screws on the exterior are turned the same direction and the electric meter is housed within the cedar rainscreen. Electrical outlets, light switches, the crawlspace access panel, mechanical systems, and utility connections are similarly minimized.

The custom concrete sink in the bathroom and the kitchen countertops were fabricated in the warehouse for the same cost as laminate counters and mid-range American Standard sinks.

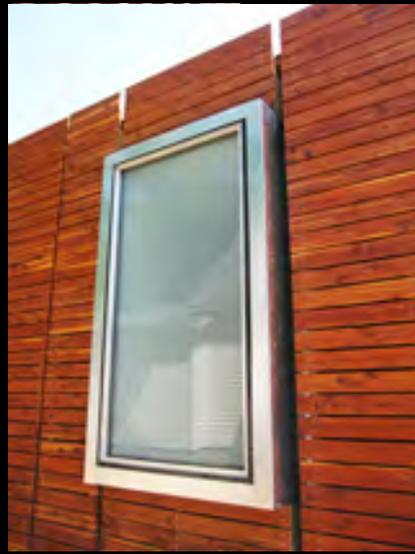




## PASSIVE STRATEGIES

Extreme climatic conditions exert unique, often uncompromising, demands on inhabitation. When temperature and humidity levels hover consistently in the 90's ambivalence toward shade, orientation, and breeze is not an option. The challenges posed by high levels of heat, humidity, rain, and sun have inspired inventive vernacular solutions. For instance, the familiar dogtrot and shotgun houses imported from Haiti and the West Indies exhibit evolutionary, pragmatic wisdom in their cross-ventilation and shading strategies which developed in response to the blunt realities of a particular time and place.

In this project deep overhangs, shade trees, translucent glass, louvers and an exterior rainscreen of Eastern Cedar combine with abundant cross-ventilation to minimize cooling loads and maximize the benefits of daylighting. Soy-based spray foam insulation and high efficiency glazing augment these passive methods.



CLOCKWISE FROM TOP:

- 01: Day-lighting along South Wall
- 02: Translucent Shower Window
- 03: Slats Shading the South Wall
- 04: Eastern Cedar Rainscreen



## LANGUID TRADITIONS

Thus, the functional primacy of the front porch spawned a cultural tradition of social gathering in or adjacent to, the public space of the street. In other words, the cultural traditions linked to community and social life are built upon the spatial, vernacular response to specific climatic contingencies.

This project seeks to recapture the spirit of southern porch-life through the provision of an expansive outdoor room measuring 12ft deep and 35ft long. Subdivided into an open, public space adjacent to the front door and a smaller, private screened space adjacent to the MBR this spatial porch stands in direct contrast to the metonymic symbolism common to Postmodern gestures.





## FABRICATION PROCESS

Eighty percent of the construction took place in a warehouse in a different city. This included all of the framing, interior finishes, roofing, windows and doors, plumbing, and electrical work as well as the majority of the exterior skin. Exceptions included the interior and exterior finishes at the joints between the modules and the foundation which was prepared on-site.

The house is composed of the three interior modules and one porch module that all measure 35ft in length. Three of the modules, including the porch, are 12ft wide and one is 14ft wide.

The long, unobstructed 20ft span in the main living space required some unique structural framing. To provide adequate lateral stability the 2x6 studs extend into the floor and roof structure where they are sandwiched between 2x10 joists. Openings in these end walls were minimized with the exception of the large translucent panel in the south Living Room wall. In that condition cable cross-bracing was deployed within the stud wall and enclosed between the two layers of glass.



## TRANSPORTATION LOGISTICS

Over two days the four modules were prepared for transit, rolled out of the warehouse and loaded onto trailers. On the third day all of the modules departed at 6:45am for the 210 mile journey to the site where they were installed by crane on a site-built CMU stem wall.

Installation was completed at 3pm and there was no damage to any component or surface.





TOP:  
East Patio + Outdoor DR

BOTTOM:  
East Elevation

Project Name:  
PORCH\_housePrefab

Project Location:  
1519 Commerce St.  
Little Rock, AR

Owner/Client:  
Scott Grummer, Executive Director Downtown  
Little Rock Community Development  
Corporation (DLRCDC)

Design Team:  
Michael Hughes, AIA

University of Arkansas Design-Build Studio  
Craig Peacock, Lianne Collier, Jack Doherty,  
Kevin Hayre, Kelly Jackson, Nick Walker, Brad  
West, Ryan Wojcicki, Ben Bendall, Elizabeth  
Beall, Stephanie Foster, James Swann, Addison  
Bliss, Jerome Tomlin, Josh Matthews, Chase  
Pitner, Enrique Colcha, Long Dinh, Eric Hobbs,  
Cesar Larrain, Michael Lyons, William Masino

Consultants:  
Nabholz Construction, Prospect steel,  
Razorback Concrete, Jeffrey Sand + Gravel,  
Witsell, Evans, Rasco Architects, Modus Studio,  
Andy Paddock Structural Engineer, L+L Metal,  
Rogers Group, Darragh Company, Hugg + Hall,  
RSC Rental, Brundage Bone, Meeks Lumber,  
ABC Block, BioBased Insulation, Ace Glass,  
Barbee Cranes + Rigging, Grubbs, Hoskyn,  
Barton & Wyatt Geo Tech, 3GD, Inc., Airtech,  
Univ. of Arkansas Facilities Management

General Contractor:  
Page Wilson

Photographer:  
Nancy Nolan

## Project Identification Slide

This slide will not be seen by the judges.

Please fill out the information requested to the left. As with other slides please set the correct Entry Number above; OK to leave slide# as "x"

Some of this information will be added to the slides when used for the Awards Presentation at the AIA Arkansas State Convention.

Note: on this slide if you run out of space please adjust font size as necessary or move more information to the second column.

Please deliver your completed PowerPoint file to the AIA Arkansas Office on a CD. Also include this identification information in a sealed envelope bearing only the code number on front.