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A Modern Craftsman Revival

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A MODERN CRAFTSMAN REVIVAL

E MICHAEL RADER
Craft and design are directly related. An environment is not one entity but a collection of individual elements that are perfectly composed into a harmonious whole. The designer’s material sensibility should be evident in each individual component, both macro and micro, or he will be alienated from the creative process. To compose the grand symphony he must never abandon intent and write with one calculated phrase after another. A craftsman’s hands should find the opportunity to manipulate all components and create harmony to ensure the elements of the space connect with no discord. When the designer and craftsman are one, creativity will be apparent.
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ABSTRACT

The modern Craftsman movement is an attempt to break the contemporary mold, that is, a desire to introduce a younger generation to a level of interior detail that has been lost in contemporary construction and material usage. Components such as drywall tend to envelop all contemporary residential surfaces leaving little room for tectonic expression and opportunities for detailing. Further, a modern revival would re-establish the goals of the original movement and ensure the hand was present in the design of the home, as discussed by Winter & Vertikoff, “all versions were meant to counter the excesses of the Victorian period by returning to a preindustrial past when handicrafts displayed personal involvement in the products of a laborer’s work” (31).

A craftsman by definition is very skilled in a particular trade (Merriam-Webster, 2014). Gustav Stickley, a key founder of The American Craftsman architectural movement, describes a Craftsman style home as being rooted in specific principles that define the home itself. He states, “These principles are simplicity, durability, fitness for the life that is to be lived in the house and harmony with its natural surroundings” (Stickley, 11). To accomplish this ideal the movement required craftsman from many disciplines, such as masonry and carpentry, to create hallmarks of this style in each home such as handcrafted stone facades and custom built-in cabinetry that were very functional while also very beautiful. While these elements were typically time consuming and expensive, reviving the concepts in modern application is possible. By reducing waste and manipulating materials quickly and accurately, certain forms of modern technology such as 3D printing, laser cutting, water jet cutting and CNC construction can provide a cost efficient and time saving process of material manipulation.

The original Craftsman movement utilized bungalow kit homes to bring the cost and accessibility of the style to more homeowners, much like what technology could do for a modern Craftsman revival. Beginning in the early 1900s, the popularity of the bungalow grew immensely, as “helped break down barriers with higher-priced houses” and “symbolized for many the best of the good life” (Winter & Vertikoff, 9). The affordability of the kits (some only $900) trade two artistry and architecture accessible to a wide array of homes. Companies like Aladdin Homes manufactured ready-to-load bungalows designed by Craftsman architects. While mass produced to make the homes accessible to many, the company took immense pride in the quality of the homes, offering a customer’s money back for any flaws found in the finished product (23).

Introducing concepts of Craftsman kit construction to the interior, as well as modern technology to lessen the cost of handcrafted details, opens the possibility to new methods of modular design in which interior units are configured around structural skeletons and central base points that provide supply lines to residential units. One example is Dutch design firm Minale-Maeda’s keystone, a 3D printed connector that holds together any necessary components, like furniture. These keystones can be prised at home and reused and the need to obtain anything but essential components (tools) and the design firm works to create an “ongoing awareness of the possibilities of both mass-production and skilled craftsmanship” (Euro Baleno, 2014). Another interesting example is Dutch design brand Fraaiheid’s Minimal Waste Table, which is created from one piece of laminated plywood with a CNC milling machine which makes for extremely minimal waste (Williamson, 2013). These examples of automation require a craftsman’s hand and mind to create the concept but introduce a modern approach to reducing waste, time and cost.

Richmond’s Fan District provides an appropriate target demographic for the introduction of residential models that are efficient and economical means of residential development. Within the Fan, 44% of residents are ages 20-34, 37% of residents have a bachelor’s degree, and 51% of households are renting (US Census Community Survey, 2012). Sensible materials, local artistry and modern technology form a residential model that is suited for craft patrons and young adults such as the demographic living in the Fan. Evidence of the population’s support and appreciation for art and craft is found in the number of galleries, studios and museums that have thrived in the area for years. Formation of the demographic is needed for affordable housing lines in the significant number of renters who are unwilling or unable to afford the style of housing they desire.
A MODERN CRAFTSMAN REVIVAL

This thesis investigates the parallels between contemporary residential life and that of the original craftsman movement. It explores a modern craftsmen revival that preserves the original Craftsman style in terms of technology such as 3-D printing, laser cutting, and water-jet cutting along with eco-friendly materials to create affordable housing while preserving craft and technique.

PERSONAL RELEVANCE

My undergraduate fine arts degree drives an appreciation for art which escapes commoditization. A recent craft history course deepened my interest further, and brought the idea for the exploration of craft preservation in residential application to light. While affordability and design seemed to be something I thought to always be at odds, I found through researching the American Craftsman movement that they can be one. Many of my friends who are starting their careers have shared concerns about finding well designed, affordable housing. I am interested in exploring how to bridge the gap between these two issues while integrating principles of the Craftsman style.

LOCAL RELEVANCE

Fox Elementary is located in Richmond’s historic Fan District, a fine art and crafts community. The Fan is home to a number of fine arts and crafts galleries, artist studios, and community facilities, such as the Visual Arts Center of Richmond, that form close relationships with the local population, both professionally and academically. Virginia Commonwealth University, home to the top public arts school in the country according to U.S. News and World Report (2012), is only a short bike ride away. The building is also in close proximity to the Virginia Museum of Fine Art, the Virginia Center for Architecture, the Science Museum of Virginia, and the Virginia Historical Society. The building’s location within the educational and creative community allows dwellers to develop a close relationship with the fine art and crafts community.

GLOBAL RELEVANCE

The investigation of the parallels between the facets of contemporary society and the original Craftsman movement may articulate a new template for affordable residential housing. Sustainable materials, local artistry and modern technology could combine to create a residential model that is suited for craft patrons, particularly between their late 20s and 40s. Technology of the modern craftsman era can create a globally relevant, advantageous formula for affordable living. By reducing waste and manipulating materials both quickly and accurately, these forms of modern technology provide a cost efficient method of material use. Artistic detailing, motifs, and colors that are often lost within modern residences due to cost, time or skill level required can be adapted and preserved with new technology.
Children leaving Fox Elementary in September 1955 © Richmond Times-Dispatch
William Fox Elementary was built in 1911 and was one of the many buildings in Richmond, Virginia designed by regional architect Charles M. Robinson. The building is located in the heart of the Fan District, a historically significant neighborhood school and one of the earliest examples of the Arts and Crafts style in the city (Robinson, 2014). The Fan area is young (40% of residents are 20-34), highly educated (37% with a bachelor’s degree or higher), and has a thriving rental market (51% of households) (U.S. Census, 2012). The district’s proximity to universities, dining, art, and entertainment has also contributed to rising property values in recent years. Re-purposing buildings like Fox Elementary for residential purposes strikes a balance between what residents of the Fan value and what they need.

According to the Richmond Public Schools Survey Report, Fox Elementary showcases the rare instance of the influence of the arts and crafts movement among Richmond’s architecture (Robinson, 2014). The building structure has multiple existing features that are conducive for the creation of residential units, providing a large amount of natural light, green space, and high ceilings. A large atrium and spacious common areas within the structure provide an excellent opportunity for public spaces, including a lounge, media room, and reception area. The building’s location within the Fan district of Richmond is ideal, as men and women in their 20s, 30s, and 40s comprise 68.3% of the Fan’s population, according to recent census (U.S. Census, 2012).
BUILDING SECTIONS

1 North Facing Section

2 East Facing Section

Second Floor
First Floor
Basement
**AREA NEEDED**

<table>
<thead>
<tr>
<th>AREA</th>
<th>OCCUPANT LOAD</th>
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<tbody>
<tr>
<td>Reception</td>
<td>100 gross</td>
</tr>
<tr>
<td>Office</td>
<td>200 gross</td>
</tr>
<tr>
<td>Staff Office</td>
<td>40 gross</td>
</tr>
<tr>
<td>Media Room</td>
<td>100 gross</td>
</tr>
<tr>
<td>Lounge</td>
<td>50 net</td>
</tr>
<tr>
<td>Laundry Room</td>
<td>100 gross</td>
</tr>
<tr>
<td>Kitchen</td>
<td>50 net</td>
</tr>
<tr>
<td>Office</td>
<td>50 gross</td>
</tr>
</tbody>
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**DESCRIPTION**

- Reception: A space for visitors, employees, and residents to receive mail, packages, and information for prospective buyers.
- Office: A space for administrative work, including answering phones, mailing, and general office tasks.
- Staff Office: A space for property managers and other building employees to work.
- Media Room: A space for residents to use amenities like computers, printers, and fax machines.
- Lounge: A space for residents to relax, watch televisions, and play games.
- Laundry Room: A space for washing laundry and storing cleaning supplies.
- Kitchen: A space for cooking and preparing meals.
- Office: A space for administrative work, including answering phones, mailing, and general office tasks.

**ACTIVITIES**

- **Reception**
  - Answering phone calls
  - Distributing mail and packages
  - Providing directions and information to visitors
- **Office**
  - Writing reports and correspondence
  - Managing administrative tasks
  - Handling maintenance requests
- **Staff Office**
  - Managing building programs and policies
  - Overseeing general maintenance tasks
  - Handling security concerns
- **Media Room**
  - Providing resources for technology and communication
  - Hosting meetings and events
- **Lounge**
  - Relaxing and socializing
  - Watching movies and television
  - Playing games
- **Laundry Room**
  - Washing and drying laundry
  - Storing cleaning supplies
- **Kitchen**
  - Cooking and preparing meals
  - Storing food and beverages
  - Using appliances
- **Office**
  - Writing reports and correspondence
  - Managing administrative tasks
  - Handling maintenance requests

**CONSIDERATIONS**

- Adequate space for approximately 3 people to work together
- Located on the first floor
- Easy access to the main entrance
- Secured from public view
- Nears proximity to essential facilities

**PRIVACY / SECURITY**

- Office: Secure with access controlled by key / card
- Staff Office: Secure with access controlled by key / card
- Media Room: Accessible to all residents
- Lounge: Accessible to all residents
- Laundry Room: Secure with access controlled by key / card
- Kitchen: Not accessible to the public
- Office: Accessible to the public

**ACCESSIBILITY**

- Office: Accessible to the public
- Staff Office: Accessible to the public
- Media Room: Accessible to all residents
- Lounge: Accessible to all residents
- Laundry Room: Accessible to all residents
- Kitchen: Accessible to the public
- Office: Accessible to the public

**OCCUPANCY / OCCUPANT LOAD**

- Reception: 100 gross
- Office: 200 gross
- Staff Office: 40 gross
- Media Room: 100 gross
- Lounge: 50 net
- Laundry Room: 100 gross
- Kitchen: 50 net
- Office: 50 gross

**ADJACENCIES**

- **Reception**
  - Office
  - Staff Office
- **Office**
  - Staff Office
  - Media Room
  - Lounge
- **Staff Office**
  - Media Room
  - Lounge
- **Media Room**
  - Lounge
- **Lounge**
  - Media Room
  - Office
PROGRAM / CODE ANALYSIS

BUILDING TYPE: TYPE III-B

REQUIRED FIRE SEPARATIONS:
- Stair Wells: 1 HR
- Elevator Shaft: 1 HR
- Elevator Equipment: 1 HR
- Exterior Walls: 2 HR
- Storage Rooms: 1 HR

OCCUPANCY TYPE: R-2
(Residential Occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature.)

OCCUPANT LOAD FOR RESIDENTIAL UNITS:
200 ft squared (includes wall thickness)

GROSS SQUARE FOOTAGE:
- First Floor: 13,723 ft
- Second Floor: 13,753 ft
- TOTAL: 27,476 ft

NET SQUARE FOOTAGE:
27,476 ft x 0.65 (0.65)
TOTAL: 17,866 ft

ACCESSIBLE SPACES:
- Media Room
- Lounge
- Mail Room

LIVABLE SPACES:
- Residences / Condominiums

GRAPHIC PROGRAM

ACCESSIBLE SPACES:
- Media Room
- Lounge
- Reception
- Mail Room

LIVABLE SPACES:
- Residences / Condominiums
PROGRAM / ADJACENCY + CRITERIA MATRIX

SPECIAL EQUIPMENT (MARKED “Y”) AS FOLLOWS:

MAINTENANCE
- cleaning equipment, repair tools, replacement parts

RECEPTION
- office chair, desktop computers (2), small storage space, desk, conference area, task chairs (2)

STAFF OFFICE
- task chairs (2), 5-meetings (formal / informal meetings), printer, file storage, file cabinet, file storage, desk / counter area, task chairs (2)

LOUNGE
- kitchen, table / counter area, microwave, cabinet storage, dishwasher, sink, task chairs (2)

Dining Area
- for exclusive use, task chairs and dining tables

General: plush, comfortable furniture

Entertainment: tables games, large screen televisions, digital projector

MEDIA ROOM
- large format scanner, large format printer, laser printer, desktop computers (6), digital projector, task chairs

CONDOMINIUMS
- kitchen: sink, fridge, stove, microwave, oven, dishwasher
- bath: sink(s), tub(s), / shower(s), washer / dryer
- General: washer / dryer

- 150 ft²
- 900 ft²
- 500-800 ft²
- 800 ft²
- 1,000 ft²
- 1,000 ft² - 1,500 ft²

CRITERIA MATRIX FOR ELEMENTARY M. RAICER
PRECEDE NTS
MIDDLETON INN

ARCHITECT: CLARK and MENEFEE
LOCATION: CHARLESTON, SC

HIGHLIGHTS:
Great example of modular configuration. Stacks of units can be reflected about a common axis. Rooms are connected using a central spine that provides a focal point to each reflected layout.

RELATIONSHIP:
Modular units have the potential to reflect the standardization and configuration of prefabrication craftsman interiors. As depicted in the plan, small windows on either side of the spine allow for the penetration of natural light while providing viewpoints to either side of the structure. The rooms also incorporate a wooden shutter system that can manipulate natural light. Large windows used in Fox will be extremely important in dictating the layout of individual condominiums.

SOURCE:

SITE PLAN
Inn Units
Central Spines

Inn rooms surround central courtyard of lower elevation than perimeter courtyard. A pattern is created using perimeter lines and the reflection of units (in green).
Units are mirrored about central axis / spine that house chimney plumes and placement / power for refrigerators. Units are stacked 3 high against an earth barrier. 2 units are above ground level to right while the bottom units rest on the ground level of the central courtyard to the left.
DIAGOON HOUSES

Hertzberger’s diagrams

**ARCHITECT:** HERMAN HERTZBERGER

**LOCATION:** DELFT, THE NETHERLANDS

**HIGHLIGHTS:**

Presented with “an incomplete framework” or “skeleton” that everyone can complete according to his own needs.

Easily customized for the individual client.

The design utilizes panelized systems and unit masonry that can be configured in seemingly endless ways.

Small changes can be made to quickly and affordably change the use of individual spaces within the residences.

Units can be configured based on the number of occupants and can be reconfigured to accommodate a growing family.

Central cores serve as the spines of the houses and the center for configurations.

**RELATIONSHIP:**

Ability to customize and reconfigure residences may prove to be important within the modern craftsman era.

Residences that are easily customized, utilizing prefabrication techniques, draw on the prefabricated nature of many traditional craftsman houses.

**SOURCES:**

Row Houses: A Housing Typologie, Volume 2
By Günter Pfeifer, Günter Pfeifer (architect.), Per Brauneck

© Images provided by A+C Arquitectura
HOMB MODULAR PREFAB (TAFT RESIDENCE)

ARCHITECTS: SKYLAB ARCHITECTS

LOCATION: PORTLAND, OR

AREA: 4,000 ft²

COMPLETION: 2013

HIGHLIGHTS:

- Prefabricated modular units create one cohesive interior based on 100 ft² triangular modules that can be infinitely configured and expanded upon.
- Units can span from an 800 ft² residence to 40,000 ft² mixed use structures (transition from residential to commercial).
- Units are arranged in connection geometrically.
- Units are ready to assemble on site.
- Triangular modules add an element of interest within overall geometry of modules.
- Sharp angles and different configurations among levels create unique building facades that break conventional flat planes.

RELATIONSHIP:

- Concepts from Skylab prefabricated units can be implicated in Fox Elementary to create an interior method of joining residential units.

SOURCE:

skylabarchitects.com
The Oregonian

Floor plans depicting the configuration of triangular modules
Gensler Architects’ Bangkok office draws on inspiration from local craftsmen and utilizes local materials. Traditional Thai screens were constructed using a strong geometric pattern to help divide the space without impeding the penetration of natural light and completely closing off sub-spaces.

According to Gensler, most all of the materials were locally sourced. This screens were locally sourced at Gensler used fabrics from a local silk market. The local culture is reflected in the space.

RELATIONSHIP:
This is a good case study involving the architectural reflection of local culture, craftsmen, and materials, all of which are extremely important to my thesis.

Each decorative element serves a functional and has a practical quality. The space is responsible in its use of local resources. This may serve as a model for the practice of integrating local craft culture into an interior setting. The use of screens to divide spaces is something that I am extremely interested in as well.

SOURCE:
Contract Design Magazine
MINIMAL WASTE TABLE

DESIGNER: FRAAIHEID
LOCATION: AMSTERDAM, THE NETHERLANDS

HIGHLIGHTS:
A good example of how CNC technology can help tremendously with reducing woodworking related waste. Here, CNC has provided perfect joinery among furniture pieces with minimal waste of materials. The table has been cut using a CNC machine from one piece of laminated plywood.

SOURCE:

© Images provided by Fraaheid

3D PRINTED KEYSTONES

DESIGNER: MINALE MAEDA
LOCATION: ROTTERDAM, THE NETHERLANDS

HIGHLIGHTS:
3D printed connectors such as these could play a roll in constructing furniture for the modern craftsman revival. These plastic connectors could drive down the price of various interior components and hardware. Conponents provide a cheap, quick and efficient means of joinery that can be printed on any 3D printer when construction specs are purchased by the supplier.

SOURCE:

© Images provided by Minale-Maeda
Floor Plan

APARTMENT 65
ARCHITECTS: ATELIER PETER EBNER AND FRIENDS
LOCATION: OBEROSTERREICH, AUSTRIA
AREA: 800 ft²
HIGHLIGHTS: The concept is based on the conservation of the available space using one central spine-like mass to delineate space within the confines of a small residential unit. Components of the central spine can be shifted, pivoted, and rotated to serve multiple rooms and spaces within the apartment.


MODEL APARTMENT
ARCHITECT: SMITH-MILLER & HAWKINSON
LOCATION: NEW YORK, NY
AREA: 1,200 ft²
COMPLETION: 1989
HIGHLIGHTS: This project exhibits the concept of using a central spine-like mass to delineate space within the confines of a small residential unit. Components of the central mass can be shifted, pivoted, and rotated to serve multiple rooms and spaces within the apartment.

CHELSEA LOFT

ARCHITECTS: SCOTT MARBLE & KAREN FAIRBANKS
LOCATION: NEW YORK, NY
COMPLETION: 1994

HIGHLIGHTS:
The pivoting door component that is used in the space, exemplifies a successful method of dividing space while allowing the user to adjust the partitions’ transparency.

The door panels are constructed using a combination of natural and synthetic materials, each serving a different structural and functional purpose while combining to create one uniform aesthetic.

Pivoting doors provide an approach to delineating space within a small footprint.

The size and scale of these pivoting doors can be changed to adjust for privacy concerns, need for natural light, and acoustical needs.

SOURCE:

© Images provided by Peter Paige, Arch Photo Inc., Eduard Hueber
PRIVATE RESIDENCE WITH 13 CABINETS

ARCHITECTS: WEISLEY WEI ARCHITECTS

LOCATION: PHILADELPHIA, PA

COMPLETION: 1995

HIGHLIGHTS:
The project utilizes a number of introduced storage columns in the apartment.

Storage units surround existing columns and service lines and also create new faux columns to enhance the existing structural grid and provide extra storage space.

The inner tectonics or flesh of the columns provide a granis aesthetic all to their own. Painted ash veneer clad the majority of columns while the interiors are composed of wood, aluminum, bronze, acid-etched zinc plate, and glass mirrors.

Storage columns surrounding existing structure and mechanical chases leave room for future adjustments and additions.

“The columns, also functioning as cabinets, visually support the weight of the ceiling while engaging the imagination through the intimate spaces of their cavities” (Oscar, 210).

SOURCE:

© Images provided by Catherine Bogert

Column doors open to expose interior flesh

Columns on place of existing axis within space

Column doors closed along hallway

AXON of Column Cabinets
Image not to scale
The concept of the apartment explores two main architectural systems: the closed system considers the existing space that is traditionally defined by secure walls which dictate volumes and the abstract system that is superimposed on the closed system, defining space without the use of columns, windows, and conventional walls (Oscar 248).

The abstract system is composed of large L-shaped elements that articulate the vertices that create inferred corners and subconsciously divide the interior. The L-shaped elements are constructed using a plywood substructure with a layer of expanded metal nailed to the plywood. Metal edging is embedded within seven outer layers of hand sanded, dyed plaster finish (Oscar 248).

Elements such as these can be used to divide space within small residential condominiums without the use of generic, drywall partitions.

Source:
CONCEPT DEVELOPMENT
CONCEPT COLLAGES
INVESTIGATING A CENTRAL SPINE:
BUILDING OFF OF A FOCAL POINT OR HUB
CONCEPT STUDIES

INVESTIGATING A CENTRAL SPINE:
BUILDING OFF OF A FOCAL POINT OR HUB
CONCEPT MODELS

INVESTIGATING A CENTRAL SPINE: BUILDING OFF OF A FOCAL POINT OR HUB
CONCEPT MODELS

A standard spine is utilized in each model.

The geometric volumes acting on these spines may vary accordingly.
DESIGN PROCESS
Development of Modularity

Evolution of the Spine

Residential wings depicted in green

Natural light analysis suggests that chase walls and supply lines are best positioned between the existing series of glass facades.

Individual residential units divided into triangular modules at center points

Units divided into large triangular modules opening into hallways
Modules are bought and sold among residents, contributing to expansion and contraction of individual units.

Given the rectilinear nature of the structure, existing partition walls are used to create central spines.

Spines, or central chases (depicted in red), are introduced upon which bathrooms (depicted in green) and kitchen areas are reflected.

Plans are depicted in blue, sub axes depicted in green.
Introducing concepts of Craftsman kit construction to the interior, as well as modern technology to lessen the cost of handcrafted details, opens the possibility to new methods of modular design in which interior units are configured around structural skeletons and central base points that provide supply lines to residential units. Standardized modules are introduced to the residential wings to create a reflection about the geometry of the existing classrooms.

Central spines are implemented to allow kitchen and bathroom areas to share a common 8” chase wall while residential units are individually divided. Once individual units are combined as resident’s needs change, spines, along with movable partition walls are utilized to create entirely new environments.
Movable panels attach from a floor grid to a matching coffered ceiling grid that is larger in width and depth.
Modular panel + ceiling system

Embracing tectonic expression

Skeletal panels are constructed of 1" tubular aluminum and are light enough for one individual to carry and two individuals to set in place vertically.

Panels attach to a floor grid consisting of common 3/4" x 1 1/2" lumber and to a coffered ceiling that brings the panel's total attachment height to approximately 12' from grid to coffered ceiling.

Attachment of panels to aluminum frame
STAGGERED PANELS CREATE FINGER JOINTS
Panels are shifted on the aluminum frame according to the thickness of cladding that is used. This assures a flush corner when partitions are attached perpendicularly.

CLADDING POSSIBILITIES
The spine, or central chase allows for more drastic movements and customization within the living unit. The distance that the spine protrudes from the existing wall maintain increments of 3’ to accommodate standard kitchen appliances. From there, storage solutions are fully mobile and can be rearranged as desired. Standard datum lines are established on the kitchen facing wall to assure appropriate counter and clearance heights. Storage above is interchangeable using an attachable grid along the spine’s face. This method of attachment is articulated on the face of the spine to enhance the idea of tectonic expression.
**Project:** Assemble Studio
**Architects:** Assemble
**Location:** Northcote, VIC, Australia

The main feature of the space is the ceiling which is inspired by triangular origami folds. The geometric pattern can be repeated infinitely while allowing for adequate sound absorption.

**Product:** Geometric Wall Panels
**Designer:** John Houshmand

Wall tiles are constructed from wood. These geometric tiles have the ability to be back-lit, illuminating the interior.

---

**Project:** Prefab Cottage
**Architect:** Michael Fitzhugh

Described as a “Modular, Modern Prefab Structure” this home uses unique concealed storage, predominantly under the flooring.

**Product:** Geometric Wall Covering System
**Architecture Firm:** Correia / Ragazzi Arquitectos
**Architect:** Azulejo Czech

These geometric tiles can be endlessly configured to create unique surface textures, patterns, and movement.

---

**Project:** Sipopo Congress Center
**Location:** Malabo, Republic of Equatorial Guinea
**Architect:** Tabanlioglu Architects

Adjacent planes creating geometric rhythm have the opportunity to shift slightly in order to add an element of light within the interior.

**Product:** Macedonia Space Divider
**Manufacturer:** Freedom of Design
**Designer:** Janne Kyttänen

A modular space dividing system composed of glass-filled propylene.

---

**Project:** RoboFold-“Sartorial Tectonics” Facade System
**Designer:** Andrew Saunders

Machine fabricated modular facade system that can be configured in a number of shapes, sizes and densities.

---

**Project:** Hyundai Card Travel Library
**Architect:** Wonderwall
**Location:** Seoul, South Korea

Project demonstrates the successful transition of articulated geometry from a vertical to a horizontal surface.
CUSTOMIZATIONS THROUGH INTERCHANGEABLE SKINS

3/4" Interchangeable floor panels are comprised of a 1/4" synthetic rubber base, 1/2" foam spacer, and a 1/4" top layer that can take on a number of finishes and materials.
A NEW APPROACH TO AGING IN PLACE DESIGN

In addition to reviving Craftsman-era principles, this design also allows for unique flexibility in providing aging in place design solutions. Through the use of spines and movable partitions, residents have the opportunity to expand and contract their living spaces while also having customizable material finishes.


milk-(Design+Milk).
