Connected: Exploring Automation to Activate Aging in Place
Success

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Design is transformative. As a designer, I hope to be an authentic synthesizer, bringing together the needs and ideas of others and the needs and demands of a space, to create the highest levels of function + beauty, adding ease and joy to daily life.

I value respect—of the human condition, of the environment, of innovation, of tradition.

I value resourcefulness—of time, of materials, of teamwork.

I value collaboration—with locals, with experts, with culture.

I value simplicity—mastering the details to minimize the superfluous while embracing identity, creating deceptively modest + simultaneously luxurious surroundings for any and all.

I value joy— I will strive to add in process, in concept, in program, in both the finished and unfinished.

I value rhythm— create it in practice, in design, in discovery through harmonious sequences, correlations + patterns.

I value risk—embrace failure or forfeit fantastic.

Remain a perpetual student of the craft, of the world, of people—continuous improvement, always.

— Luis Barragán
ABSTRACT

Connected: Exploring Automation to Activate Aging in Place Success

MOTIVATION:
There's no place like home. Technological advances are now allowing us to live and work from anywhere. Spatial divides are disappearing through remote connections, creating a dispersion of the nuclear family, traditionally the prevailing caregivers for seniors. Older adults are projected to outnumber children under eighteen by 2034, a first in U.S. history (Census Bureau, 2019). This is not specific to America; “globally the population is aging. Since 1980, the number of people aged over 60 has more than doubled in size and is projected to do so again by 2050 to 2.1 billion” (United Nations, 2017).

ISSUE:
There exists a clearly overlooked opportunity to address this desire to age in place and the coming caregiver shortage: interior design. Often a liaison between architects, builders, and clients, interior designers could be the missing advocate for integrated technologies automating activities of daily life for meaningful environmental, financial, health, and social implications as this demographic shifts into their later years offered by longer life expectancies. Automation allows for more time to engage in meaningful physical activities, self care and relationships to encourage successful longevity while mitigating many of the risks of living alone into old age.

APPROACH:
This investigation will focus on human-centered smart technologies specific to a person, a home, and a community in combination with adaptable building solutions to allow a house to safely support independence as long as possible. Creating a scenario for seniors to remain active contributors in their lives will continue “helping retain connections to the past, and obtain enhanced relational wellbeing in later life and nourishment from place” (Creaney, R., Reid, L., & Currie, M., 2021).

RESULTS:
A “Smart Inn” will be developed to explore smart technologies aiming to alleviate hesitations through first-hand experiences and shift the focus towards an approachable adoption of customizable devices. Combined with adaptable, efficient design solutions, guests will be invited to re-imagine their “later years”, leaving with new confidence to integrate automation into their own homes, allowing them to age in place. An educational vacation where the foreign becomes the familiar. The Inn will consist of nine suites with generous common areas designed to encourage neighborliness and interaction with other guests and the surrounding local community. Sited in a notoriously progressive convivial residential neighborhood will allow a safe, supportive environment to try something new: for just a night, a weekend, or an extended stay up to a month. The neighborhood is adjacent to parks, trails, outdoor sports and exercise facilities. Utilizing these amenities in addition to home gym innovations will model healthy habits. The proven benefits and successful use of physical activity interventions to ward off declines that accompany the aging process.

CONCLUSIONS:
The “Smart Inn” will address questions of how artificial intelligence, environmental sensors, and related technologies can optimize social interactions and will best elevate the quality of life for seniors and their caregivers when applied in the built environment and become significant solutions to “the considerable costs involved in the care of an aging population and the perennial shortage of healthcare professionals” (Gochoo, Alnajjar, Tan, & Khalid, 2021).
RESEARCH

AGING IN PLACE + SMART HOME TECHNOLOGY:

Research is showing we are all living longer with life expectancy now approximately fifteen to twenty years past our “healthy years,” and nearly 90% of seniors now preferring to stay in their homes (Bosch-Farré, 2020). The majority of existing homes are not age-friendly, with nearly 80% of seniors in Virginia currently living in homes built before 1970. However, 84% of those homes have broadband internet (91% have a computer connectivity through wi-fi). New smart home technologies could be a primary consideration in home modifications and new residential buildings to accommodate for the growing appeal to age in place. Originally, smart home technologies primarily focused on security and energy savings. More recently, we are seeing a more bifurcated strategy that emphasizes enhancing overall quality of life. Smart residential environments are now designed with an emphasis on engaging older adults and providing positive experiences. “Smart homes increase domestic comfort, convenience, security, and leisure as well as reduce energy use through optimized home energy management” (Hargreaves et al., 2018). There has been significant growth in general technology adoption among baby boomers in just the last ten years (Vogels, 2019). Elderly adults now represent the fastest growing population of adopters to internet and computer technologies [7]. There is clear potential therefore to adapt digital technologies, such as telemedicine and telehealth, to the challenge of enabling active aging” (Robbins, 2018). The pandemic has accelerated this at an even faster rate, which will advance acceptance of smart home devices. Cost and usefulness continue to dominate concerns across all ages, especially the elderly. The vast options available and continuous introduction of new technologies keep many from attempting even small changes that benefit the environment through automated energy management, and
reducing strain on health care organizations + their care teams (family, friends, doctors). Utilizing Artificial Intelligence equipped devices during healthy years allows for a baseline collection of data that will allow for preventative interventions as changes or declines are detected (Dermody, 2019). Given the abundance of options, there are devices for every price point, and fully integrated home systems that allow for unparalleled customization depending on the specific conditions or concerns of the seniors.

THIRD PLACES:

Another important aspect to facilitate aging in place is establishing + encouraging intergenerational third places. Much of one’s social life + identity is intertwined with work, so it is critical to find supportive places in the community to facilitate these void after retirement. “Third places” can be defined as accessible areas to create a home away from home that take form in variety of neutral, approachable spaces such as public parks, bakeries, markets, shops + community institutions (Gardner, 2011). Third places allow the elderly four important activities: setting group limits (social expectations/’accepted behaviors’), entertainment + connection, information sharing and a space to vent. Third spaces allow “participation of those most in need, mostly those who do not want to participate in more institutionalized socialization” (Torres, 2019). These things create what Jacobs + Oldenburg call ‘public characters’, it allows for a sense of ownership of a physical space, which garners emotional investment with the belief that “care taking of place may lead to caring for and helping the people who inhibit these spaces” (Torres, 2020). Research is also showing a declining use + participation in age specific spaces like traditional senior centers, highlighting Baby Boomers new preferences for multi-generational public spaces in more commercial settings.

PREVENTION THROUGH PHYSICAL ACTIVITY INTERVENTIONS:

The World Health Organization (WHO) defines active aging as “the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age” and healthy aging as “the process of developing and maintaining the functional ability that enables well being in older age.” Given physical inactivity is the fourth leading risk factor for death/disease around the world, ahead of overweight and obesity, the WHO are focused on timely promotion + implementation of physical activity preventative programs, especially given the slower adoption rate by older demographics. Europe created the “Blueprint” initiative for fitness + activity, which offers resources + training to help, emphasizing the earlier we can raise awareness and encourage lifestyle changes, the better; targeting the robust + pre-frail populations before age-related limitations or declines arise is critical so our health care systems are not overwhelmed (Active Aging, 2019). A major source of health costs in the elderly is falls, injuries + fractures from co-morbidities; 50% reduction in risk when doing moderate intensity activities, with effective programs to incorporate strength training with aerobic exercises for varying levels of function (Bauman, 2016).

There are specific proven benefits for physical activity effects on physiology of aging, including chronic disease prevention/risk reduction (general mortality, heart disease, diabetes, stroke, fractures, colon + breast cancer, weight, blood pressure + falls). Functional outcomes include muscular strength, bone density, quality of life, cognitive + physical functioning along with improved psychological + well-being benefits through reduction in anxiety, depression, stress, and greater long-term well-being + life satisfaction. Studies have shown physical activity improved self-esteem, sleep + social outcomes (community involvement, social networks/support + intergenerational activities). All of these benefits are important aspects to aid in successful aging in place scenarios.
The First Unitarian Church of Rochester (FUR) served as a direct reference for the First Unitarian Universalist Church (FUU), in materials, form + diffused light. Built a few years prior in 1968, it allowed Louis Kahn to experiment with his ideas on light and form. The building is characterized by its straightforward geometries, that were analyzed for intention and reference for scale. The clerestory windows were examined for placement + function to illuminate the sanctuary space, which had no other windows. In the current FUU, the clerestories serve as light “walls”, defining different spaces along the main axis. How will this play into programming to maximize their impact for certain activities? Given the similar program for the current use of FUU also allowed for a comparative analysis on adjacencies + tried understanding how those could translate into hospitality program.
FIRST UNITARIAN CHURCH OF ROCHESTER

Built in furniture for seating + storage to take advantage of smaller spaces and flexible areas using wall cleats to move larger furniture + create unique spaces for certain circumstances.

Materials; this room off the lobby is the only wood ceiling feature throughout the building, creating additional warmth + more intimate/personal space for socializing. The wood ties into the built in benches + trim, connecting the person to the building to the sunlight.
THE INN AT MIDDLETON PLACE

W.G. Clark (then of Clark + Menefee) was the lead architect; the project was built in 1987 and received the AIA’s Honor Award.

Building precedent; scale, proportion, site/ nature/city connection with past through details to unify (ex: historical Charleston colors blending with new modern structure).

Programming precedent; the scale is larger, but similar amenities + activities will be important considerations for comparisons.

The structure and site are also of interest; screening was to preserve the look of the original surrounding gardens without stopping the progression of natural surroundings. Details of prior mill use remained and added charm to the more modern structures. Adjacencies of common areas + placement on site were studied.

PRECEDENTS

MIDDLETON INN

AMENITIES

| # of guest rooms: | 55 |
| total square feet: (meeting + exhibit space): | 4651 |
| distance from the airport: | 10 miles |
| # - meeting rooms: | 3 |
| # of breakout rooms: | 3 |
| # of largest meeting room: | 3000 square feet |
| ceiling height: (largest meeting room): | 14 feet |
| classroom style capacity: | 130 |
| theater style capacity: | 300 |
| reception capacity: | 250 |
| banquet capacity: | 200 |
| # of 10x10 booths: | 10 |
| # of king rooms: | 16 |

QUANTITY

restaurant - open daily for lunch + dinner
farmer's market pet friendly
in-room “get fit kit” rental
riverside swimming pool
horseback riding
bicycle trails
kayaking tours
walking trails
garden tours
Riverfront Lodge access (towels, drinks, movies, lawn + board games)
Art Exhibits (ongoing + often free to public)
“Cocktails + Camellias” - seasonal mix + mingle (4:00pm - 6:00pm | $75)
Wine Tasting + Tours (monthly | $25 - $35)

PROGRAMMING

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VOID FORMS

dynamic elements will shift the entire space
- red highlights the solid plan/masses
- orange the void spaces
- third column overlaps the two

vertical movement is very effective enhancing compression and release at various platform positions
- creates different usable horizontal areas
- small, multi-functional space enhanced by fixed elements surrounding platform

translate apparent obstacle (mobility of paralyzed client) with new perspective; challenge becomes central focus for creative design solution (3-story)

STRATEGIC VIEWS

1 — exterior image of porthole windows + plan from Metalocus annotated to show movable walls + pivoting doors on top floor
   - children’s area in comparison with the static, rigid geometric walls in the parent’s area

2 — back-lighting strategies; layers; diffusion; patterns (on all planes)

3 — THREE DIAGRAMS by EVAN SHEN
   - sections coordinate to plan around three facades
   - elevations explain height placement for each porthole to allow for specific views for the specific person in specific action (sitting/wheelchair / lying down, standing, walking)
   - a. relative holes
   - b. dynamic holes
   - c. revealing holes
PRECEDE NTS | MAISON BORDEAUX

CURTAIN “WALLS”

adaptable to climate + seasons
- warm light vs cool light
- extra track on southern facade for gray netting (originally jute); used to filter view + sunlight, creating additional in-between space on terrace
- magnify, soften, “diffuse” emotions/feelings
- movable shadows dancing throughout the day given constant motion (breeze), often creating shapes that highlight paths or point towards something specific

literal visual of outside | inside relationship
- the warmth, organic, tactile natural world opposing man-made machine with rigid geometries + disorienting, cold reflective surfaces
- transparent vs opaque; reflective vs matte

contrast of geometries emphasizes differences in floors two + three, and solid/void relationships
- cocooning effectively hugging when closed;
- expansive when open

combination works well to balance sight lines created by geometric walls with softness of fabric

scale in relation to elevation to maximize the particular views intended + proportioned to stairwell, doors, portholes, courtyard, driveway, movable platform
directing circulation, but offering options + choice
- acoustic comfort (considering activities enhanced by silence/privacy or vice versa)

1 — all images + diagrams from Inside Out, the Dutch fabricators of all custom curtains throughout project
PRECEDENTS | MAISON BORDEAUX

CURTAIN “WALLS”

all circular elements in house are movable or stairs = moving circulation
- circular design language enhanced with curved track systems
- by nature of curtain function - compression and release - layers of privacy, visually compressed creates pattern and playful curves along implied joints (floor + ceiling); pulled flush - sleek and mimicking the form language of the solid planes
- SURREALIST qualities; light enhances dream world - materials keep you there
- material selection for bedroom terrace curtain; mimicking reflective stairwell, but reinterpreted and further distorting view.
- horizontal slit in light blue + grey lacquer allows for delicate view outwards while penetrating daylight bounces on the curtain’s oily, reflective surface.
- white cotton horizontal slit reflects bright southern light outwards + diffuses inwards
- reflecting sun for light/temperature comfort
- decorative fun
- controlling light
- maximizing impacts - lower views from sitting or laying positions considered as opportunities for unexpected views + decoration through shadow
- client wanted ability to shut out light from changing angles throughout the day

photo via Inside Outside
— all images + diagrams from Inside Out, the Dutch fabricators of all custom curtains throughout project
NEIGHBORHOOD CONTEXT

KEY:

1 - SITE (First Unitarian Universalist)
2 - CARILLON NEIGHBORHOOD
3 - BYRD PARK - Vita Trail
4 - BYRD PARK - Swan Lake
5 - CARILLON MEMORIAL
6 - DOGWOOD DELL
7 - MAYMONT
8 - CARYTOWN
9 - VMFA + MUSEUMS
10 - RETREAT HOSPITAL
11 - CITY STADIUM
12 - FARMER'S MARKET
13 - I-195 DOWNTOWN EXPRESSWAY
14 - HIKING TRAILS

1 - FROM DOUGLASDALE TOWARDS CARILLON
2 - FROM PARKING TOWARDS DOUGLASDALE
3 - ACROSS BLANTON AVENUE TOWARDS VITA TRAIL, PARK + CARILLON MEMORIAL

NEIGHBORHOOD CONTEXT
The Carillon Historic District now compromises nearly 150 acres three miles west of downtown Richmond. Originally gifted by the “founder” of Richmond, William Byrd, to his son, and subsequently changing ownership a few times before a long as an entablature farms in the early 20th century. They remained until the 1880s, when 3-4 acre parcels were sold to developers, whose vicinity with the proximity to Maymont, the James River Park System, and Carytown draw in visitors near and far on a daily basis.

The mid-1870s was transformational to the area; Richmond City built a four million gallon double reservoir and park on the adjacent land to the east of the district. It now totals over 300 acres, three lakes, pedestrian walkways, carriage roads, pump house, sports fields, and more; it was a beacon for visitors and attracted even more since the scenic lanes extended to connect the area in 1872. Throughout the early 1900s, wealthy city dwellers started building country estates; many were strongly influenced by the popular Colonial Revival style, but there are examples of nearly every revival style including Georgian, Italianate, French, Tudor Dutch Revival house shown in image 3, with a few Arts and Crafts and American Four-Square homes. Architectural variety continued throughout the early 1900s, when the streets were woven through the northern end of the district. Later, the most significant was the Carillon Historic District now comprises nearly 150 acres three miles west of downtown Richmond. Originally gifted by the “founder” of Richmond, William Byrd, to his son, and subsequently changing ownership a few times before a long as an entablature farms in the early 20th century. They remained until the 1880s, when 3-4 acre parcels were sold to developers, whose vicinity with the proximity to Maymont, the James River Park System, and Carytown draw in visitors near and far on a daily basis.

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The 1930s saw some slowdown caused by the Great Depression. The 1940s-50s saw the neighborhood’s largest growth with over 250 houses built during the national housing boom upon the return of soldiers from World War II and the GI bill. Popular styles were half Cape Cod and two-story Colonial Revivals made of brick, wood and slate on the northern part of the district (currently French, Greek Revivals, and Italianate Revivals were examples). Civil Rights Movements dominated this decade. John B. Cary Elementary School was built in 1954, a model school that brought new energy to the neighborhood; it stood on the southern part of the block with Ranger Playground (ca. 1940). The Civil Rights Act of 1964 finally outlawed major forms of discrimination against minorities. In 1967, the first African American purchased property in the neighborhood. With the displacement of over 20,000 African Americans through the completion of the interstate and the 1968 Fair Housing Act, several relocated to the house north of Douglasdale. “White flight” was rapid, with over a third of the neighborhood changing races within eighteen months. Tensions were high, but several in the neighborhood rallied together with the mission of getting along. 1968 established Carillon Civic Association (CCA), which continues to play an important role in activism + community. Two non-residential buildings were built in the neighborhood in the 1970s, the current Unity Church, and in 1972, the First Unitarian Universalist church, dedicated first outdoor art show on the Carillon grounds in Byrd Park, known also as “Arts in the Park.” The weekend event was conceived as a way to bring residents together for a joint project, while showcasing the interracial community. The success of the show spurred it return on an annual basis, growing into a national event with artists from all over the country traveling to sell and exhibit their work. They have used the proceeds for neighborhood beautification and established an ongoing philanthropic mission that has supported over 130 local charities and organizations. The Carillon District was one of the few neighborhoods not destroyed, and perhaps slightly benefited by the 1970s construction of the Downtown Expressway (to the north) and the Powhite Parkway (to the west); the interstates created an enclosure in tandem with the southern river border and Byrd Park to the east lending to the quiet, protected nature of the neighborhood. It continues to remain one residential houses—a diverse mix of demographics, social and economic status, occupations, races, genders, and orientations harmoniously together continuing the legacy developed by the early residents who prioritized community, equality, inclusion, and guardianship of their natural surroundings. Arts in the Park continues to thrive, and the lakes, green spaces, sports facilities, and proximity to Maymont, the James River Park System, and Carytown draw in visitors near and far on a daily basis.

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The First Unitarian Universalist Church opened its doors in 1972, where it continues to serve the fellowship and surrounding community today. The site was selected for its prominent location on the edge of the racially mixed Carillon neighborhood after moving from its original location in the Fan. They wanted to continue their progressive missions for equality, and were intertwined with the CCA, offering time, administrative support, and hosted monthly association meetings throughout the seventies. The congregation chose German born, Harvard School of Design educated Modernist architect Ulrich Franzen with the intention of a sleek new home that was representative of their progressive tastes. Franzen also designed the local Philip Morris buildings along with various notable projects across the country, including many residential houses throughout his career.

The church was built during a time when Modernism was being questioned and diverging architecture was beginning to emerge, but it remained true to a Brutalist style through form and materials. The single story (partial basement for mechanical and storage) structure is comprised of twenty large concrete block piers around the exterior (one interior) oriented in an "L" shape, allowing for a central courtyard. The visual weight of the piers lends a sturdy, protective, and private sensibility. This is contrasted with simple storefront walls, angled clerestory windows, and wood beams, offering a straightforward character and lightness to balance the heavy concrete masses. The simple, raw materials and use of functional daylight are clear references to Louis Kahn's strategies explored in his recently completed First Unitarian Church and School in Rochester, New York (1959-1969). There are also nods with the concept of interior service spaces and interior 'served' spaces (meeting rooms, art galleries, children's center) that align with Kahn's work.

The building has undergone small renovations and updates. In 2019, it won the American Institute of Architects' Virginia Chapter "Test of Time" Award which is presented to "a building between 25-50 years old that has served its tenants and the wider community admirably" (O'Keefe, 2019). The AIA referenced the building's strong geometry and clear construction logic to its enduring aesthetic and complimented Quinn Evans Architects for their sensitivity in the recent renovations.

### BUILDING HISTORY

- CMU - 8 x 8 cement block
- wooden beam system (MOP)
- glass (storefront panels, sloped windows, clerestory windows, some doors)
- aluminum (storefront mullions, exterior doors)
- bluestone (exterior courtyard)

### EXISTING MATERIALS

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## AMBIANCE + ACCESS

**PRIMARY NOISE - VEHICULAR**  
(coming from Blanton Avenue + park)

**SECONDARY NOISE - VOICES**  
(coming from park/lawn, playing fields)

**KEY:**
- transportation: VEHICULAR
- transportation: WALK
- transportation: BIKE

## SUN STUDIES

### WINTER SOLSTICE
- **Sunrise:** 7:20am  
  - 8 am: 5.83°  
  - 12 pm: 29.02°  
  - 4 pm: 8.51°
- **Sunset:** 4:55pm

### SPRING/FALL EQUINOX
- **Sunrise:** 7:08am  
  - 8 am: 9.39°  
  - 12 pm: 49.63°  
  - 4 pm: 37.8°
- **Sunset:** 7:25pm

### SUMMER SOLSTICE
- **Sunrise:** 5:49am  
  - 8 am: 23.27°  
  - 12 pm: 68.15°  
  - 4 pm: 51.71°
- **Sunset:** 8:35pm
Birds are visible signs of invisible forces. Universal symbols of independence + freedom, their ability to fly also associates birds as the bridge between heaven + earth.

The peacock’s specific connections to pride, regrowth, integrity, and passion are all perfect parallels to reclaiming the dignity that is often lost as we age. In many cultures, they are considered sacred and worshiped for their inherent beauty + majestic qualities. They are often reminders to let go of the old to make room for the new, as they shed their feathers annually.

Materials and color; their optimized feather structure and golden proportions will inform spatial design solutions to help create an enchanting rhythm that re-energizes the spirit.
**CONCEPTUAL DRIVERS**

### THE BUILDING
1. It needs rhythm through geometric repetition.
2. It needs light to define space and add wonder.
3. It needs simplicity in materials.
4. It wants to be prominent yet unassuming.
5. It wants more interaction with nature.

### THE PROGRAM
1. It needs to balance public and private.
2. It needs to promote movement and relaxation.
3. It wants overlaps and economy.
4. It needs to be autonomous.
5. It needs to promote engagement with self, health, neighbors, and neighborhood.

### THE USER
1. They need to feel safe, secure, and supported.
2. They want to relax, socialize, and enjoy.
3. They need third places and activities.
4. They want to leave optimistic and confident.
5. They want to learn new ways of doing things and be introduced to healthier habits.

### THE DESIGNER
1. I need order and simplicity.
2. I want to engage emotions.
3. I want to streamline for efficiencies.
4. I want to encourage innovation.
5. I need color.

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opposite:
1. Feather concept model iterations using overlapping or void spaces
2. Conceptual drivers
3. Golden ratio studies illustrating connecting irises during mating display + detailed view of golden ratios within the single tail feather to create the striking eye + color transitions within each feather
movement
migration
passage
projection
growth
vogue
step
shift
progression
passage
voyage
stir
regression
evolve
roam
familiar
pattern
expected
density
harmony
scale
proportion
balance
proportion
scale
harmony
unity
hierarchy
balance
harmony
rhthym

opposite:
1 – overlapping geometries to create subdivided spaces looking at negative/void spaces
2 – conceptual drivers, continued
3 – using only proportional squares to towers, layering studies to create 3-dimensional spaces demonstrating idea of “floating” like a feather through central spine
PROGRAM SUMMARY | PRIVATE SPACES

PRIVATE PATIO
- encourage time outdoors for various activities
- relaxing (lounge seating, fire feature, shade)
- biophilic strategies (landscaping); consider gardening
- dining (table with accessible height table - various seating)
- space for yoga

ENTRY
welcomed into open concept living/dining from entry; taking advantage of grand entry with higher ceiling heights + incorporating universal design considerations:
- view out
- lever/key-less entry
- height of fixtures + lighting
- 36” door + path
smart home features:
- camera
- doorbell
- smart door
- key-less lock
- interior smart curtains for layers of privacy + separation between entry + living spaces with more open plan layouts

KITCHEN + DINING
often most used + occupied space in homes, so taking advantage of the natural diffused light from clerestory and higher ceiling height
- universal design considerations:
  - 48” path
  - under counter appliances
  - drawers vs. doors
  - clear under counter sink + cook top access
  - adjustable casework + counters
- smart home features:
  - adjustable casework + counter
  - smart faucet
  - integrated induction cook top
  - smart fridge

LIVING SPACE
built in custom furniture speaking to building language/ideals + also safer to minimize additional harm from movable furniture in event of a fall; meant for socializing + relaxing with open plan concept with kitchen + entry
universal design considerations:
- custom heights + depths best proportioned for seniors with lumbar support
smart home features:
- - smart bed
  - smart curtains
  - ceiling lift (track system)
  - smart lighting
  - smart mirror

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  - smart curtains
  - ceiling lift (track system)
  - smart lighting
  - smart mirror

BEDROOM
diffused light from sloped bay windows with views toward landscaped patio
universal design considerations:
- - turning radius
- - built-in furniture + lighting
smart home features:
- - smart bed
  - smart curtains
  - ceiling lift (track system)
  - smart lighting
  - smart mirror

BATHROOM
add natural lighting to interior space through skylight; wet room to minimize transitions + increase ease of everyday activities
universal design considerations:
- integrated grab bars
- - built in seating (in shower)
- - under counter clearance
- - right height switches, fixtures + full length mirrors
- walk-in tub (where applicable)
smart home features:
- - mirror
  - scale/scanner
  - faucet
  - toilet
PROGRAM SUMMARY | PUBLIC/SHARED SPACES

CAFE + DINING PATIO
indoor or outdoor seating; potential for more formal "table service" on patio, but generally very informal coffee shop/cafe for the park + neighborhood to create a third place; some built in seating + some movable pieces with varying levels of shade. Surrounded by half height green fence for some privacy while maintaining views toward Carillon + shared courtyard. Ceiling height emphasized through custom light fixture with acoustic sheers and skylights to create "feather" shadows with bamboo dropped ceilings for more intimate spaces that continue to draw your eye out.

KITCHEN + BACK OF HOUSE/OFFICE
ordering counter on interior mirrored on exterior in Blanton Avenue alcove (walk-up/pick-up window); more storage + refrigeration necessary given nature of offerings - does not require full commercial kitchen as food prepared off-site through local vendors.

SHARED COURTYARD
extension of the interior lounge space, encouraging customers and renters to spend time outdoors; variety of seating (soft/lounge seating, with additional flexible desk/dining/counter height tables for working or snacking). Northwest corner offers flex space for small yoga classes to expand outside or possible for occasional live music or demonstrations. Green fence used to screen for visual + acoustic privacy from adjacent Blanton Avenue, a main thoroughfare.

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GYM + YOGA SPACE
given the importance of physical activity for this demographic, an entire wing of the building is dedicated to fitness. Progressing from small group yoga studio, private yoga studio, open gym with smart equipment, and terminating with the swim spa. Accessible restrooms + changing rooms placed with convenience + privacy considerations.

RECEPTION + SHOWROOM
two reception areas flank the interior corridor at Garrett Street + Douglasdale Avenue to orient cafe + rental patrons from either entrance with built in seating. Douglasdale entrance adjacent to two-bedroom suite, which can flex as a complete model home for exposure to the most smart home devices + aging in place solutions; additional space in proximity available for a true retail "showroom" for smaller devices to compare brands.

BATHROOMS + STORAGE
important to have generous clearances + universal/ADA principles driving restroom spaces, using finishes + ceiling heights to elevate design. Important to have ample outdoor storage space, so two towers have been dedicated (one adjacent to patio, one adjacent to courtyard) to ensure proper tools and storage are nearby.
<table>
<thead>
<tr>
<th>Program Area</th>
<th>Primary Occupancy</th>
<th>Secondary Occupancy</th>
<th>Primary Accessibility</th>
<th>Secondary Accessibility</th>
<th>Space Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communal Living/Lounge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Communal Gym/Yoga</td>
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<tr>
<td>Kitchenette/Dining</td>
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<tr>
<td>Console/Organization for Keys</td>
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<tr>
<td>Entertaining (External Users - Family, Friends, etc.)</td>
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<tr>
<td>Guest Use (Swim?), Weights (Dumbbells, Body Weight, etc.)</td>
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<tr>
<td>Business/Cafe Kitchen + Office</td>
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<tr>
<td>Apt Bedroom</td>
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<tr>
<td>Bath - Master</td>
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<tr>
<td>% of Total Program Area</td>
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<tr>
<td>Program Net Area</td>
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<tr>
<td>Lavatories - Restroom Sinks</td>
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<tr>
<td>Number of Lavatories per Gender</td>
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<tr>
<td>Primary Occupancy:</td>
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<td>Secondary Occupancy:</td>
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</tr>
</tbody>
</table>

**Notes:**
- Please refer to the final programming document for specific considerations and clarifications.
- Do not include in the final net area calculations.
existing building had very straightforward plan; after several parti studies, found golden ratio relationships as a primary strategy for design decisions by the architect:

- placement of doors
- placement of windows
- placement of walls
- scale + repetition of established modules
- creating rhythm throughout building
- proportions of windows to walls
- proportions of mullions
- wall, tower + ceiling heights (proportions to each other)

1 — EXISTING PLAN STUDY
2 — PUBLIC SPACES: café + courtyard mirror study to help establish main entrance through central tower from Blanton Ave
3 — BUILDING study with private + public joined together to help inform wall, fixture + furniture placements for the apartments
PRIVATE SPACES

1 – plan iterations finalizing room + furniture placement with ada considerations

opposite:
2 – apartment perspectives working through wall placement for kitchen to improve function + views
3 – apartment patio + exterior entry development trying to finalize shaped window bay adjustments + built in furniture to enhance indoor/outdoor living concept
PUBLIC SPACES

1 — plan development with golden ratio informing courtyards furniture placement
2 — cafe patio perspective with lounge chat groups adjacent to Garrett Ave, near Carillon + dining seating with pocket doors into cafe
3 — line drawing with cafe bar seating groups with view towards cafe patio to right
4 — EXTERIOR ELEVATION - from parking; using idea of camouflage from concept - main function of feathers to blend in with park

opposite:
1 — plan development with golden ratio informing courtyards furniture placement
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ARONSON WOODWORKS
CUSTOM PARSONS TABLE
ash | pitch claze finish
LOCATION: cafe dining

JANUS ET CIE
INLAY STOOL/SIDE TABLE
limestone + periodite
LOCATION: cafe, lounge + courtyard

JANUS ET CIE
BRANCH SIDE CHAIR
powder coated aluminium + poly fiber straps
LOCATION: cafe patio, cafe + courtyard

JANUS ET CIE
GIGI DINING CHAIR + COUNTER STOOLS
woven synthetic fiber + powder coated steel
LOCATION: cafe, courtyard

ARONSON WOODWORKS
CROSS BASE DINING TABLE
ash | pitch claze finish
LOCATION: cafe dining

VANGUARD FURNITURE
BRANDT SOFA
ash [film noir finish]; inside out rollo black fabric
LOCATION: cafe lounge
ACOUSTIC CEILING FEATURE WITH INTEGRATED COVE LIGHTING + CARNEGIE FABRICS SINFONIA ACOUSTIC SHEERS

layout references golden ratio curves filling space above dropped ceilings flanking south/north glazed walls + taper towards central skylight over live tree

100% Trevira CS Polyester; slight sheen will graduate up multi layered drops in conceptual colors towards skylight, similar to the Perkins + Will project shown above left, but will have more layers + more dramatic height variations. LED cove lighting tunable to variety of saturated colors for events.

MANUFACTURER: ESTALUZ
STYLE NAME: OBS-T-2225 + OBS-T-2226 LAMP
MATERIAL/FINISH: matte gold (91) | matte white (75)
LOCATION: interior circulation corridor + café
NOTES: adjustable height, dimmable LED indirect

MANUFACTURER: DELTA LIGHTING
STYLE NAME: SPLITLINE TRACK SERIES
MATERIAL/FINISH: matte black
LOCATION: apartments - throughout + gym/yoga
NOTES: multiple direct fixtures compatible with recessed configurable track

MANUFACTURER: ARTERIORS HOME
STYLE NAME: ASHBURN PENDANT
MATERIAL/FINISH: wicker | java
LOCATION: cafe dining + lounge area
NOTES: scale + texture to create layered volume

MANUFACTURER: ESTALUZ
STYLE NAME: PARMA SERIES
MATERIAL/FINISH: matte black metal
LOCATION: exterior walls
NOTES: indirect/direct light

LIGHTING FIXTURES

REFLECTED CEILING PLAN

0' 4' 16' 32' 1

1/16" = 1'-0"
MATERIALS – PUBLIC SPACES

A – ARONSON WOODWORKS
ash | pitch finish
location: cafe dining tables

B – PORTOLO PAINTS
roman clay finish - shining
location: cafe + corridor

C – PORTOLO PAINTS
limewash finish - wellfleet
location: apartment bedroom walls

D – IDYLLUM
montenapoleone - calatorao intenso
location: public space counter tops

E – FARROW + BALL
acid drop | modern emulsion finish
location: gym, bathroom accents

F – CARNEGIE FABRICS
Sinacoustic
location: custom ceiling fixture (cafe)

G – BAMBOO REEDS
natural
location: cafe dropped ceilings

CAFE PERSPECTIVE – towards cafe patio entrance + garrett street beyond
1 — **CAFE PATIO** - from Garrett St towards side entrance with more formal dining seating; continuous flooring from cafe patio + indoor through to courtyard; fixed curtain walls with minimal mullions to maximize view + less energy required to condition interior space referencing existing fixed glazing.

2 — **COURTYARD** - from cafe entry/exit towards Douglasdale Rd with variety of hard + soft seating configurations; surrounded by live green fence for acoustic + visual privacy + plantings.

3 — **FITNESS WING** - from yoga towards swim spa (frosted glazing not shown to illustrate spaces beyond)

---

**POWER PLATE**

Medically-certified harmonic vibration plate; engages osteoblasts to stimulate bone building; reducing fall/fracture risk; more efficient than traditional exercise; amplifies benefits with smaller movements + without weights for safer workout; improves circulation, posture, balance, muscle strength + lean muscle mass.

**PELOTON**

Low impact cardiovascular + added strength benefits; improved joint mobility + kinesthesia (awareness of position/movement of body in space); variety of fitness levels + senior specific classes offered online.

**THE MIRROR**

No weights or equipment required, it streams more than 70 live classes per week ranging from yoga + barre to cardio boot camp + kickboxing; its two-way camera for one-on-one personal training sessions.

**TONAL**

Magnets and electricity to simulate a weight-lifting experience with up to 200 pounds of resistance prevent injury for someone who isn’t as used to working out; online classes + personal trainers available to help build strength remotely.
1 – APARTMENT INTERIOR
ENTRANCE – with view towards courtyard, wall color + change in lighting fixture to help with wayfinding

2 – TRANSVERSE SECTION – from garrett avenue [private patio, apartment, corridor, cafe, blanton avenue entrance]

1 – APARTMENT PATIO + EXTERIOR
ENTRY – from parking lot with green fence, paved pea gravel continuous surface + built in seating that transitions from the indoors out

2 – APARTMENT PRIVATE - clerestory with diffused northern light through kitchen + living space
MATERIALS – PRIVATE SPACES

A — WELLBORN + WRIGHT
white oak | Aalborg finish
location: cabinets/casework

B — WELLBORN + WRIGHT
white oak | Harrison finish
location: bedroom millwork

C — PORTOLO PAINTS
limewash finish - wellfleet
location: bedroom walls

D — SMITH + NOBLE
hambrin - flint
location: bedroom sloped shades

E — FLOOR CARPET TILE
hambrin - flint
location: bedroom floor

F — JOYSLUM
calacutta aureo duoma ceramic
location: countertops

G — AMORIM WISE CORK FLOORING
realistic cork
location: living, kitchen, circulation

1 — view from interior entrance hallway towards kitchen island, living room, through towards private patio
2 — fluted tambour lazy susan detail with accessible height counters (can be used for storage or additional knee space for accessible height seating)
3 — kitchen perspective towards laundry closet
opposite:
1 — KITCHEN SECTION - stand detail
   towards entry + living space
2 — KITCHEN SECTION - wall detail
   from entry + living space

48” H max mounting height
34” H max counter height
23” H clearance under cooktop + sink

1 1/2” recommended countertop thickness

KITCHEN FF+E NOTES - SMART DEVICES + ACCESSIBLE SUGGESTIONS

A — adjustable height countertops:
   — Linak baselift
   — adjustable height countertops
   — Linak baselift
   — adjustable height countertops

B — under counter refrigerator + freezer appliance drawers drawer + allow for the
   add 9” toe-kick for accessibility

C — custom sliding tambour style lazy susan storage (or leave open for more
   knee space at accessible counter height)

D — underlayment smart sensors
   — Shaw Sole SensFloor; unobtrusive connected technology to track
     movements, fall alerts, activate automated lighting

E — movable shelving:
   — Granberg
   — Vert; lowers shelves vertically down
     without opening doors (or open shelves as shown; mechanism hidden with decorative
     wooden slats here), allows workspace in
     front of shelves on counter when lowered

F — movable storage/casework:
   — Granberg
   — Diago 504; lowers entire cabinet
     diagonally downwards + forwards to front of
     worktop

G — Fisher + Paykel single drawer under
   counter dishwasher - easier to load/unload; water/energy efficient to run more
   frequently with smaller loads

H — smart faucet; temperature + volume
   with motion or voice controls; can work
   in tandem with smart sensors to detect leaks
   (with 5-6” sink depth for accessibility)

I — InvisiCook; Integrated Induction
   cooktop to reduce burn risk, easier
   cleaning + more counter work surface in
   smaller kitchens

J — tambour door fronts [side sliding self storing for open knee space below
   cooktop + sink]

K — pull out counter beside oven (at or
   near counter height); wall mounted ovens
   should be placed with most used shelf
   aligned with counter height)
1 — bedroom perspective with custom millwork towards closet + bathroom door

2 — BEDROOM SECTION - towards storage wall with details for ceiling lift

opposite:

3 — enlarged 2-bedroom plan detail

4 — sloped window bay detail with smart curtain + view towards private patio

---

A — smart shades (multiple manufacturers): wide variety of materials, styles + applications that can be connected for automated schedule, adjustable to maximize light + weather changes for more efficient heating/cooling of space

B — custom millwork: in coordination with recessed track system for portable ceiling lift; ergonomic fluted detail of millwork allows for unobtrusive easy opening if not using actuator to eliminate injury hazards on cabinet pull

C — Granberg Butler 720: height adjustable wardrobe rail; clothes rail lowers and raises in an arc movement, and features an anti-collision safety stop feature. discreet and very quiet; ideal for seated users, or for those with limited reach ranges.

D — Samsung Airdresser: steam closet to reduce ironing hazards such as burns, trips + fires; sanitizes for better hygiene

E — Quai Smart Mirror: automated dimmable + tunable LED sidewalls with automated nightlight, anti-fog feature, smart glass with calendar, weather, reminder functions - full integration with alexa assistant + most smart personal hygiene items

F — smart faucet (many manufacturers): motion or voice activated faucet with connected features for temperature control + remote use

G — Kohler EIR or other bidet/smart toilet: self-cleaning function uses UV light and electrolyzed water systems to automatically clean the wand surfaces, automatic deodorization system, seated seat with adjustable temperature settings, motion-activated, hands-free opening/closing of cover, quiet-close elongated comfort height seat, LED lighting illuminates the bowl to serve as a nightlight

H — Withings BodyScan: smart scale with handle allows the user to get much more accurate body composition measurements. It also enables segmental body composition for which users get fat & muscle mass of each body part: torso, legs and arms. The handle also contains the electrodes needed to record the 6-lead ECGs
I have been so humbled these past few years by the unrelenting dedication of all of my professors + classmates alike. Each has embodied me to redefine my values + reshape my purpose. The final thesis presentation felt like a new beginning. There was thoughtful + personal dialogue as many professors seemed to relate, whether serving as caregivers or looking towards their own future plans. Questions about ease of use and maintaining or updating ever-changing technologies arose; reminders about how critical the introduction + welcome moments would be to minimize any negative feelings that often accompany the unfamiliar. There were talks of staging versus a more integrated invitation to engage with the smart devices, and how wayfinding could help further address this. We also discussed the relevance of smart home innovations while noting the fleeting nature of any commentary on technology; this project was out of date as soon as it printed, but it can still serve as a timestamp for early automation investigations, specifically to benefit this demographic.

When getting into specifics, Camden touched on my biggest obstacle, which held the entire project back. I didn’t look past small code requirements or look back to my building when making adjustments to the sloped window bays, which wreaked havoc on my big idea + the overall space planning in the apartments. I wasn’t satisfied with the solutions shown here, which kept me away from fully realizing many ideas + the current renderings hardly illustrating my intentions. But, a small question about a door allowed the fundamentally simple question of ‘why not?’ to be expanded upon so eloquently:

“Give yourself the latitude to ask the fantasy questions... (then go figure them out)!” - Camden Whitehead

This lasting guidance will forever reinforce the importance of simultaneously trusting my intuition while addressing any and all things with a beginner’s mind.
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panini Side Chair</strong></td>
<td></td>
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</tbody>
</table>

**MANUFACTURER**: Janus Et Cie


**DESCRIPTION**: Woven back side chair with herringbone central spine pattern over metal frame

**MATERIAL | FINISH**: Powder coated aluminum + polyethylene fiber; Palladium/Limestone, Bamboo/Limestone

**LOCATION**: Private apartment patio

**SUSTAINABILITY**: Fibers are colorfast, UV- and stain-resistant + 100% recyclable; good choice for humid environments, and installations in a range of temperatures for longest life cycle

**NOTES + RATIONALE**: References concept with exposed frame + ventral spine with layering pattern; higher seat height for ease of use; sturdy, but movable if needed

---

| **Arbor Square Dining Table** |

**MANUFACTURER**: Janus Et Cie


**DESCRIPTION**: FSC certified, but for its durability—its very high oil content prevents rotting + insect infestation; their teak oil is water-based eco friendly formula to add years to life

**MATERIAL | FINISH**: Teak | Espresso

**LOCATION**: Private apartment patio

**SUSTAINABILITY**: Wood finish coordinates with interior apartment finishes for cohesive aesthetic across both indoor + outdoor spaces

**NOTES + RATIONALE**: Wood finish coordinates with interior apartment finishes for cohesive aesthetic across both indoor + outdoor spaces
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>MANUFACTURER</th>
<th>WEBSITE</th>
<th>DESCRIPTION</th>
<th>FINISH</th>
<th>SUSTAINABILITY</th>
<th>NOTES + RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>idylium</td>
<td><a href="https://www.idylium.com/projects/calacatta-aureo/">link</a></td>
<td>honed white mineral stone with grey, tan + charcoal marbling + veining throughout</td>
<td>calacatta aureo, honed</td>
<td>incredibly durable for extended life cycle; 100% biodegradable oxides, clays and feldspars</td>
<td>as cooking hobs with integrated burners, scratch + stain resistant, more hygienic as high-compact non-porous surface can’t host bacteria + fungi</td>
</tr>
<tr>
<td></td>
<td>Montenapoleone Mineral Stone</td>
<td>idylium</td>
<td><a href="https://www.idylium.com/projects/calatorao-intenso/">link</a></td>
<td>calatorao intenso, honed</td>
<td>incredibly durable for extended life cycle; 100% biodegradable oxides, clays and feldspars</td>
<td>enhanced durability to scratches, stains + heat + environmental factors with UV protection; free of porosity that often host fungi + bacteria</td>
</tr>
</tbody>
</table>

- **Duomo Mineral Stone**
- **Montenapoleone Mineral Stone**
**STYLE NAME | #**

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>Farrow + Ball</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL</td>
<td>FINISH</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Neutral white - not too warm or too cool with matte finish to diffuse glare + high contrast; washable, scuff-proof + protected against mold</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Most walls + ceilings (public + private spaces)</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>Contains zero VOCs</td>
</tr>
<tr>
<td>NOTES + RATIONALE</td>
<td>Due to its high pH, lime wash also acts as a mild fungicide, contains zero VOCs; locally sourced materials (&gt;30 miles of la) to minimize carbon footprint</td>
</tr>
</tbody>
</table>

**STYLE NAME | #**

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>Portolo Paints</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEBSITE</td>
<td><a href="http://www.portolapaints.com/lime-wash/wellfleet-lime-wash">http://www.portolapaints.com/lime-wash/wellfleet-lime-wash</a></td>
</tr>
<tr>
<td>MATERIAL</td>
<td>FINISH</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Nautical vibrant east coast blue</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Cafe lounge area</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>Due to its high pH, lime wash also acts as a mild fungicide, contains zero VOCs; locally sourced materials (&gt;30 miles of la) to minimize carbon footprint</td>
</tr>
<tr>
<td>NOTES + RATIONALE</td>
<td>Dries to a lush suede-like finish with subtle movement + natural color variation; traditional lime based coating used for centuries; can be sealed for wipe-able surface</td>
</tr>
</tbody>
</table>
**STYLE NAME | #**

**Exterior Eggshell**

| MANUFACTURER | farrow + ball |
| MATERIAL | exterior paint |
| LOCATION | cafe lounge area |
| SUSTAINABILITY | contains zero VOCs |
| NOTES + RATIONALE | used outdoors, makes for a subtle color that mirrors the green of any surrounding foliage; dark tone primer recommended |

**DESCRIPTION**

chine green - no. 35

- used outdoors, makes for a subtle color that mirrors the green of any surrounding foliage;
- dark tone primer recommended

**RATIONALE**

- contains zero VOCs

---

**STYLE NAME | #**

**Modern Emulsion**

| MANUFACTURER | farrow + ball |
| WEBSITE | https://www.farrow-ball.com/archived-paint/acid-drop |
| MATERIAL | lime green interior matte finish with performance |
| LOCATION | shared restroom accents, gym + yoga |
| SUSTAINABILITY | contains zero VOCs |
| NOTES + RATIONALE | bright, energetic citrus shade; matte finish scatters + diffuses glare; washable, scuff-proof + protected against mold |

**DESCRIPTION**

acid drop - no. 9908

- bright, energetic citrus shade;
- matte finish scatters + diffuses glare;
- washable, scuff-proof + protected against mold
## Style Name | #

### White Oak

**Manufacturer**

Wellborn + Wright

**Website**

https://wellbornwright.com/products/wood-flooring/
spring-2020-collection/kodiak/

**Material | Finish**

White oak | Kodiak finish - Matte

**Description**

White oak fronts cedared black oak with natural grain visible even on reed + fluting details

**Location**

Kitchen cabinets + some custom millwork

**Sustainability**

Local manufacturer in Richmond, VA in partnership with local custom cabinet manufacturer (Martin Stan) to fabricate custom cabinets with

**Notes + Rationale**

Local, customizable, sustainable hardwoods for durability + warmth

---

## Style Name | #

### EcoMax

**Manufacturer**

Eco Surfaces

**Website**

https://ecosurfaces.com/Products/Wellness/

**Material | Finish**

Mr. Slate

**Description**

Black + white recycled rubber flooring

**Location**

Gym, Yoga

**Sustainability**

Up-cycling is the process of taking a material at the end of its life and converting it into something better instead of throwing it away - a step further than recycling

**Notes + Rationale**

Force reduction + slip resistant to reduce falls, easier on joints + energy restitution with great durability + quick drainage + acoustical
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wise Cork Flooring</td>
<td></td>
</tr>
</tbody>
</table>

| MANUFACTURER | amorim |
| WEBSITE | https://www.amorimwise.us/products/cork/inspire-700/traces-natural-17 |
| MATERIAL | cork | FINISH: traces natural |
| DESCRIPTION | natural cork floors |
| LOCATION | apartment living, kitchen + public circulation |
| SUSTAINABILITY | completely natural raw material, biodegradable, renewable + recyclable; carbon negative with thermal performance properties for less energy loss |
| NOTES + RATIONALE | softer under feet, but easy to maneuver wheelchair or walker; natural material adds to biophilic strategies + acoustic performance |

<table>
<thead>
<tr>
<th>Sole with Sensfloor Technology</th>
<th></th>
</tr>
</thead>
</table>

<p>| MANUFACTURER | shaw |
| MATERIAL | powder coated steel, janusfiber (polyethylene) | reed (tan) + smoke (dark) |
| DESCRIPTION | capacitive sensor underlayment connected to |
| LOCATION | all private apartment units |
| NOTES + RATIONALE | unobtrusive under floor technology membrane; compatible with all shaw contract products (hard + soft surfaces); integrates with smart phones and other smart data hubs |</p>
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>inDiego</td>
<td></td>
</tr>
</tbody>
</table>

**MANUFACTURER**
granberg

**WEBSITE**

**MATERIAL | FINISH**
metal + plastic

**DESCRIPTION**
Shelving unit placed inside cabinet; opens cabinet doors when lowering unit diagonally downwards + forwards to front of worktop

**LOCATION**
apartment kitchen + closet

**NOTES + RATIONALE**
prefer inDiego to allow for fixed undercounter lighting, which is critical for this demographic

---

<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Burner</td>
<td></td>
</tr>
</tbody>
</table>

**MANUFACTURER**
invisacook

**WEBSITE**
https://invisacook.com/the-invisacook/

**MATERIAL | FINISH**
stainless steel

**DESCRIPTION**
Under counter two burner induction cooktop

**LOCATION**
Private apartment kitchen

**SUSTAINABILITY**
Induction cooktops are more energy efficient + less residual heat to offset than gas (open flame) or electric (indirect - exposed heating element) cooktops; they eliminate harmful indoor air pollutants emitted by gas stoves (nitrogen dioxide, carbon monoxide, formaldehyde)

**NOTES + RATIONALE**
safer (no open flames or heating elements to minimize injuries or house fires); easier cleaning (no grills/grates - smooth, integrated surface - or more traditional glass cooktops available)
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandt Bench Seat Sofa</td>
<td></td>
<td>curved back with exposed hardwood frame details on outback with upgraded seat cushion for 21” overall SH</td>
</tr>
<tr>
<td>Fritz Chair</td>
<td></td>
<td>curved frame with woven rattan details + exposed hardwood frame with blend down cushion in performance fabric</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>WEBSITE</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
<th>SUSTAINABILITY</th>
<th>NOTES + RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>vanguard furniture</td>
<td><a href="https://vanguardfurniture.com/styles/sku/V866-2S">https://vanguardfurniture.com/styles/sku/V866-2S</a></td>
<td>ash</td>
<td>film noir - inside out performance fabric</td>
<td>cafe lounge area</td>
<td>lean domestic manufacturer (within 500 miles) that recycles all post manufacturing waste, solar panel power, greenguard gold certified fabric, fsc hardwood frames</td>
<td>custom size, finishes, + COM fabric for unlimited customizable options to fit space</td>
<td></td>
</tr>
<tr>
<td>vanguard furniture</td>
<td><a href="https://vanguardfurniture.com/styles/sku/V1103-CH">https://vanguardfurniture.com/styles/sku/V1103-CH</a></td>
<td>rattan mesh, maple solids</td>
<td>handwoven layered rattan with Rattan Mesh exposed supports referencing concept; heirloom quality + made in America (within 500 miles for LEED)</td>
<td>cafe lounge area</td>
<td>life cycle heirloom quality construction back by lifetime warranty; natural materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Custom Parsons Table

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>cafe dining</td>
<td>ash</td>
<td>pitch or white iron</td>
</tr>
</tbody>
</table>

**NOTES + RATIONALE**
- custom size, finishes - dining + counter heights for same style to unify space; the weight + geometrics reference building, while wood grain references body feathers of peacock
- bench made, heirloom quality to last generations; fsc hardwoods sourced locally with low VOC finishes

### Cross Base Dining Table

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>cafe dining</td>
<td>ash</td>
<td>pitch or white iron</td>
</tr>
</tbody>
</table>

**NOTES + RATIONALE**
- custom size, finishes - dining + counter heights for same style to unify space; the weight + geometrics reference building, while wood grain references body feathers of peacock
**Gigi Bar + Counter Stools**

**MANUFACTURER**
janus et cie

**WEBSITE**

**MATERIAL | FINISH**
powder coated steel, janusfiber (polyethylene) | maple (tan) + java (dark)

**DESCRIPTION**
curved back with exposed steel frame supporting outback + feet with woven sculpted seat

**LOCATION**
cafe dining + courtyard

**SUSTAINABILITY**
JANUSfiber (high density polyethylene); fibers are colorfast, UV- and stain-resistant, and 100% recyclable. These fibers are a very good choice for humid environments, and installations in a range of temperatures for longest life cycle

**NOTES + RATIONALE**
natural materials with exposed supports similar to layers of feathers over central spine; adds warmth, texture + lightness to juxtapose building + heavier tables

---

**Fibonacci Anda Lounge Chair**

**MANUFACTURER**
janus et cie

**WEBSITE**
https://www.janusetcie.com/products/fibonacci-anda-lounge-chair-736-82-112-02-00/

**MATERIAL | FINISH**
powder coated steel, janusfiber (polyethylene) | reed (tan) + smoke (dark)

**DESCRIPTION**
curved back with exposed steel frame supporting outback + feet with woven sculpted seat

**LOCATION**
courtyard area

**SUSTAINABILITY**
JANUSfiber (high density polyethylene); fibers are colorfast, UV- and stain-resistant, and 100% recyclable. These fibers are a very good choice for humid environments, and installations in a range of temperatures for longest life cycle

**NOTES + RATIONALE**

---

**STYLE NAME | #**

**Gigi Bar + Counter Stools**

**WEBSITE**

**MATERIAL | FINISH**
powder coated steel, janusfiber (polyethylene) | maple (tan) + java (dark)

**DESCRIPTION**
curved back with exposed steel frame supporting outback + feet with woven sculpted seat

**LOCATION**
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**SUSTAINABILITY**
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**Fibonacci Anda Lounge Chair**

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https://www.janusetcie.com/products/fibonacci-anda-lounge-chair-736-82-112-02-00/

**MATERIAL | FINISH**
powder coated steel, janusfiber (polyethylene) | reed (tan) + smoke (dark)

**DESCRIPTION**
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**LOCATION**
courtyard area

**SUSTAINABILITY**
JANUSfiber (high density polyethylene); fibers are colorfast, UV- and stain-resistant, and 100% recyclable. These fibers are a very good choice for humid environments, and installations in a range of temperatures for longest life cycle

---
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scoop Lounge Chair</td>
<td></td>
</tr>
</tbody>
</table>

**MANUFACTURER**  
janus et cie  

**WEBSITE**  
https://www.janusetcie.com/products/scoop-lounge-chair/  

**DESCRIPTION**  
curved barrel back sculptural lounge chair  

**MATERIAL | FINISH**  
polyethylene | matte anthracite (black) | matte eggshell (white)  

**SUSTAINABILITY**  
extrusion and molding, polyethylene and polypropylene’s strength make them highly valuable materials in creating durable furniture  

**NOTES + RATIONALE**  
soft curves but mass references building; lower seating for younger kids or more casual conversations  

<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tao Round Dining Table</td>
<td></td>
</tr>
</tbody>
</table>

**MANUFACTURER**  
janus et cie  

**WEBSITE**  

**DESCRIPTION**  
cast concrete; each is unique offering softness to the mass + perfect geometries; they will age and change over time.  

**MATERIAL | FINISH**  
lighted concrete | wenge (dark) + linen (light)  

**SUSTAINABILITY**  
high durability; any blemishes will weather to add to imperfect charm, giving it longer life cycle than items where cracks or dents would require replacement  

**NOTES + RATIONALE**  
suitable for indoor + outdoor use; each piece is intended to look unique and be placed in a long-standing environment. As such, fissures, texture, and color variations will evolve.  

**LOCATION**  
cafe dining + patio  

**LOCATION**  
outdoor area  

**MANUFACTURER**  
janus et cie  

**WEBSITE**  

**DESCRIPTION**  
cast concrete; each is unique offering softness to the mass + perfect geometries; they will age and change over time.  

**MATERIAL | FINISH**  
lighted concrete | wenge (dark) + linen (light)  

**SUSTAINABILITY**  
high durability; any blemishes will weather to add to imperfect charm, giving it longer life cycle than items where cracks or dents would require replacement  

**NOTES + RATIONALE**  
suitable for indoor + outdoor use; each piece is intended to look unique and be placed in a long-standing environment. As such, fissures, texture, and color variations will evolve.
### Branch Stackable Side Chair

**MANUFACTURER**
janus et cie

**WEBSITE**
https://www.janusetcie.com/products/branch-stackable-side-chair-735-05-061-12-12/

**DESCRIPTION**
curved back with exposed hardwood frame details on outback with upgraded seat cushion for 21” overall SH.

**MATERIAL | FINISH**
powder coated aluminium, polypropylene + fiberglass | wenge (dark), linen (light) + white

**SUSTAINABILITY**
cafe dining, patio + courtyard area

**NOTES + RATIONALE**
custom size, finishes, + COM fabric for unlimited customizable options to fit space.

### Vino 3-Seat Sofa

**MANUFACTURER**
janus et cie

**WEBSITE**
https://www.janusetcie.com/products/vino-sofa-3-seat/

**DESCRIPTION**
curved back indoor/outdoor sofa open geometric frame to simulate “floating” aesthetic for concept; finish options

**MATERIAL | FINISH**
powder coated aluminum + janusfiber ( ), glass (or cushion) top | lava (dark) + nimbus (light)

**SUSTAINABILITY**
durable materials with green guard gold certified indoor/outdoor fabric for extended life cycle

**NOTES + RATIONALE**
courtyard area
<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>#</th>
<th>MANUFACTURER</th>
<th>WEBSITE</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
<th>SUSTAINABILITY</th>
<th>NOTES + RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tao Square Cocktail Table</td>
<td></td>
<td>janus et cie</td>
<td><a href="https://www.janusetcie.com/products/tao-cocktail-table">https://www.janusetcie.com/products/tao-cocktail-table</a></td>
<td>lightened concrete</td>
<td>wenge (dark) + linen (light)</td>
<td>curved square tops with squared corners; lightness of top balanced by mass of base; can be nested to create rectangles</td>
<td>cafe lounge area + courtyard</td>
<td>life cycle</td>
<td>suitable for indoor + outdoor use; each piece is intended to look unique and be placed in a long-standing environment. As such, fissures, texture, and color variations will evolve. Part of the beauty of these pieces is that they will age and change over time. Hairline cracks and small chips add to the patina.</td>
</tr>
<tr>
<td>Vino Side Table</td>
<td></td>
<td>janus et cie</td>
<td><a href="https://www.janusetcie.com/products/vino-stool-side-table-round-57/">https://www.janusetcie.com/products/vino-stool-side-table-round-57/</a></td>
<td>powder coated aluminum</td>
<td></td>
<td>open geometric round side tables</td>
<td>cafe lounge + courtyard area</td>
<td>long life cycle</td>
<td>various sizes + finishes; offers lightness + woven aesthetic to coordinate with concept; can order cushion top separately to double as a stool with additional flexible seating</td>
</tr>
<tr>
<td>STYLE NAME</td>
<td>#</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cone Side Table</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>janus et cie</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL</td>
<td>polyethylene</td>
</tr>
<tr>
<td>FINISH</td>
<td></td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>round occasional table with tapered base</td>
</tr>
<tr>
<td>LOCATION</td>
<td>cafe lounge + courtyard area</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>high density polyethylene is 100% recyclable + inherently scratch resistant</td>
</tr>
<tr>
<td>NOTES + RATIONALE</td>
<td>minimal maintenance and can be sterilized</td>
</tr>
</tbody>
</table>

| Inlaid Side Table/Stool | |

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>janus et cie</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL</td>
<td>limestone + peridotite</td>
</tr>
<tr>
<td>FINISH</td>
<td></td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>contrasting geometric pattern on solid drum form</td>
</tr>
<tr>
<td>LOCATION</td>
<td>cafe lounge + courtyard</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>durable materials for all climates for longer life cycle</td>
</tr>
<tr>
<td>NOTES + RATIONALE</td>
<td>indoor/outdoor + flexible table or stool; weight will help stand up to weather</td>
</tr>
</tbody>
</table>
### Fibonacci Anda Lounge Chair

**MANUFACTURER**
Janus et Cie  

**WEBSITE**
https://www.janusetcie.com/products/fibonacci-anda-lounge-chair-736-82-112-02-00/

**MATERIAL | FINISH**
powder coated steel, JANUSfiber (polyethylene) | reed (tan) + smoke (dark)

**DESCRIPTION**
curved back with exposed steel frame; supporting outback + feet with woven sculpted seat

**LOCATION**
courtyard area

**SUSTAINABILITY**
JANUSfiber (high density polyethylene); fibers are colorfast, UV- and stain-resistant, and 100% recyclable. These fibers are a very good choice for humid environments, and installations in a range of temperatures for longest life cycle.

**NOTES + RATIONALE**
custom size, finishes, + COM fabric for unlimited customizable options to fit space

### Single Sink Smart Mirror

**MANUFACTURER**
QAIO

**WEBSITE**
https://www.myqaio.com/qaiomirror/

**MATERIAL | FINISH**
glass

**DESCRIPTION**
connected smart features + automated dimmable + tunable LED lighting

**LOCATION**
private apartment bathroom

**NOTES + RATIONALE**
also has automated nightlight, anti-fog feature, smart glass with calendar, weather, reminder functions - full integration with Alexa assistant + most smart personal hygiene items)
## EIR Comfort Height Toilet

<table>
<thead>
<tr>
<th>Style Name</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturer</strong></td>
<td>Kohler</td>
</tr>
<tr>
<td>**Material</td>
<td>Finish**</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Comfort height, floor mounted, smart toilet for restrooms</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>Self-cleaning function uses UV light and electrolyzed water systems to automatically clean the wand surfaces, automatic deodorization system, seated seat with adjustable temperature settings, motion-activated, hands-free opening/closing of cover, quiet-close elongated comfort height seat, LED lighting illuminates the bowl to serve as a nightlight</td>
</tr>
<tr>
<td><strong>Notes + Rationale</strong></td>
<td>Automated water savings</td>
</tr>
</tbody>
</table>

## Double Sprinkler

<table>
<thead>
<tr>
<th>Style Name</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturer</strong></td>
<td>Oto</td>
</tr>
<tr>
<td><strong>Website</strong></td>
<td><a href="https://otolawn.com/">https://otolawn.com/</a></td>
</tr>
<tr>
<td>**Material</td>
<td>Finish**</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Smart sprinkler for private patios</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Solar powered, precision zoning reduces water waste, smart systems react to weather in real time to adjust for humidity, wind, temperature, and precipitation</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>Less invasive and more reactive than in-ground systems; can help simplify gardening, allowing outdoor space to thrive</td>
</tr>
<tr>
<td><strong>Notes + Rationale</strong></td>
<td>Solar powered, precision zoning reduces water waste, smart systems react to weather in real time to adjust for humidity, wind, temperature, and precipitation</td>
</tr>
</tbody>
</table>

---
The SHARP® Smart Convection Microwave Drawer™ Oven (SMD2499FS) is the most eagerly anticipated kitchen innovation by Sharp. Over 65 convenient and simple voice commands help you make the most of what this smart convection microwave oven has to offer. Have an Echo device? Just ask Alexa, “Alexa, defrost 1 pound of ground meat.” How easy is that? Our wide selection of Alexa commands, Sensor Cook, and Auto Defrost menu items take the guesswork out of cooking. Download the Sharp Kitchen app and pair with Alexa to enable the smart features1.

The dual convection fans and dedicated heating elements in the SMD2499FS provide turntable-free baking, roasting, grilling, and air frying. Bring a meal to the table even faster with three Speed Cook modes that mix convection and microwave heating for delicious results in less time. Dishwasher safe porcelain cooking dish and metal upper and lower racks are included. The two racks can be used in all modes and combined for single or multi-level cooking or warming up for up to two 9x13 baking dishes.

The SHARP Smart Convection Microwave Drawer™ Oven (SMD2499FS) features “Easy Wave Open” for quick, touchless opening of the drawer. The built-in airflow control allows flush-mounting while safely redirecting the ventilation away from walls or cabinets. With all of this power and flexibility, the SMD2499FS simply plugs into a standard 120V/15 amp household outlet for a fast installation. That is Simply Better Living.
### AirDresser

<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>MANUFACTURER</th>
<th>WEBSITE</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
<th>SUSTAINABILITY</th>
<th>NOTES + RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AirDresser</td>
<td>samsung</td>
<td><a href="https://www.samsung.com/us/home-appliances/air-dresser/air-dresser-clothing-care/">https://www.samsung.com/us/home-appliances/air-dresser/air-dresser-clothing-care/</a></td>
<td>curved back with exposed steel frame supporting outback + feet with woven sculpted seat</td>
<td>mirror finish</td>
<td>replaces need for toxic dry cleaning; AI technology allows for smarter cycles to use only as much energy is necessary</td>
<td>bedroom closet</td>
<td>avoid dangers of ironing; option to sanitize clothes + home items (pillows/sheets/blankets) to keep sanitary; more confidence with odor removal</td>
<td>avoid dangers of ironing; option to sanitize clothes + home items (pillows/sheets/blankets) to keep sanitary; more confidence with odor removal</td>
</tr>
</tbody>
</table>

**NOTES + RATIONALE**
- **NOTES**
  - Avoid dangers of ironing; option to sanitize clothes + home items (pillows/sheets/blankets) to keep sanitary; more confidence with odor removal
- **RATIONALE**
  - Replaces need for toxic dry cleaning; AI technology allows for smarter cycles to use only as much energy as necessary

### BodyScan

<table>
<thead>
<tr>
<th>STYLE NAME</th>
<th>MANUFACTURER</th>
<th>WEBSITE</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
<th>SUSTAINABILITY</th>
<th>NOTES + RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BodyScan</td>
<td>withings</td>
<td><a href="https://www.withings.com/us/en/body-scan">https://www.withings.com/us/en/body-scan</a></td>
<td>black (available in white)</td>
<td></td>
<td>connected smart scale with handles; The handle also contains the electrodes needed to record the 6-lead ECG</td>
<td>private bath (gym changing rooms?)</td>
<td>connected “health station”, bridging the gap between access to breakthrough metrics + integrated support from coaches and health professionals, with new technology such as Sudoscan, assessing small nerve activity in the feet with instant feedback to track changes. handle allows more accurate body composition measurements; enables segmental body composition for which users get fat &amp; muscle mass of each body part</td>
<td>connected “health station”, bridging the gap between access to breakthrough metrics + integrated support from coaches and health professionals, with new technology such as Sudoscan, assessing small nerve activity in the feet with instant feedback to track changes. handle allows more accurate body composition measurements; enables segmental body composition for which users get fat &amp; muscle mass of each body part</td>
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GRAZIE MILLE!

“They have the ability to awaken within us our own flights of magic.”
- Ted Andrews
“Design is never done.” Iris Apfel