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Visualization

3DS MAX
Unity
Photoshop
Illustrator
InDesign
AfterEffects
AutoCAD
Revit
MicroStation
Rhinoceros
Grasshopper

Computing

Python
C#

Fabrication

Laser Cutting
CNC Machining
3D Printing
Wood Working

Course work

Responsive Mobile
Environments

Real Estate Design &
Development

Themed Entertain-
ment Design

Human Factors

Information Design

Generative Modeling

Paggy Zhu



Education

B.A. in Architecture, minor in Media Design, and Architectural Visualization
Spring 2019, Carnegie Mellon University

Experience

Architecture Intern, McKean Architecture

Summer 2017, New York City
Created design proposals, drafts, and graphic representation for city planning inspection, conducted on-site surveys and communication with contractors

Teaching Assistant, 62-225 Generative Modeling

Fall 2016, Carnegie Mellon University
Held weekly recitations and help sessions on programmatic thinking in 3D modeling and basic Python with rhinoscript library

Projects

Love's Labors Interactive Experience

Fall 2017, 12 weeks, Pittsburgh PA
Complementary interactive exhibition for a play focusing on WWI history, from conception to realization. Visual designer and structural consultant in an interdisciplinary team of 8.

Objects of Memory: Texture

Fall 2018, Pittsburgh
Speculative design that utilizes an Arduino Uno prototype in C to simulate tactile experience sharing.

AquaPavilion

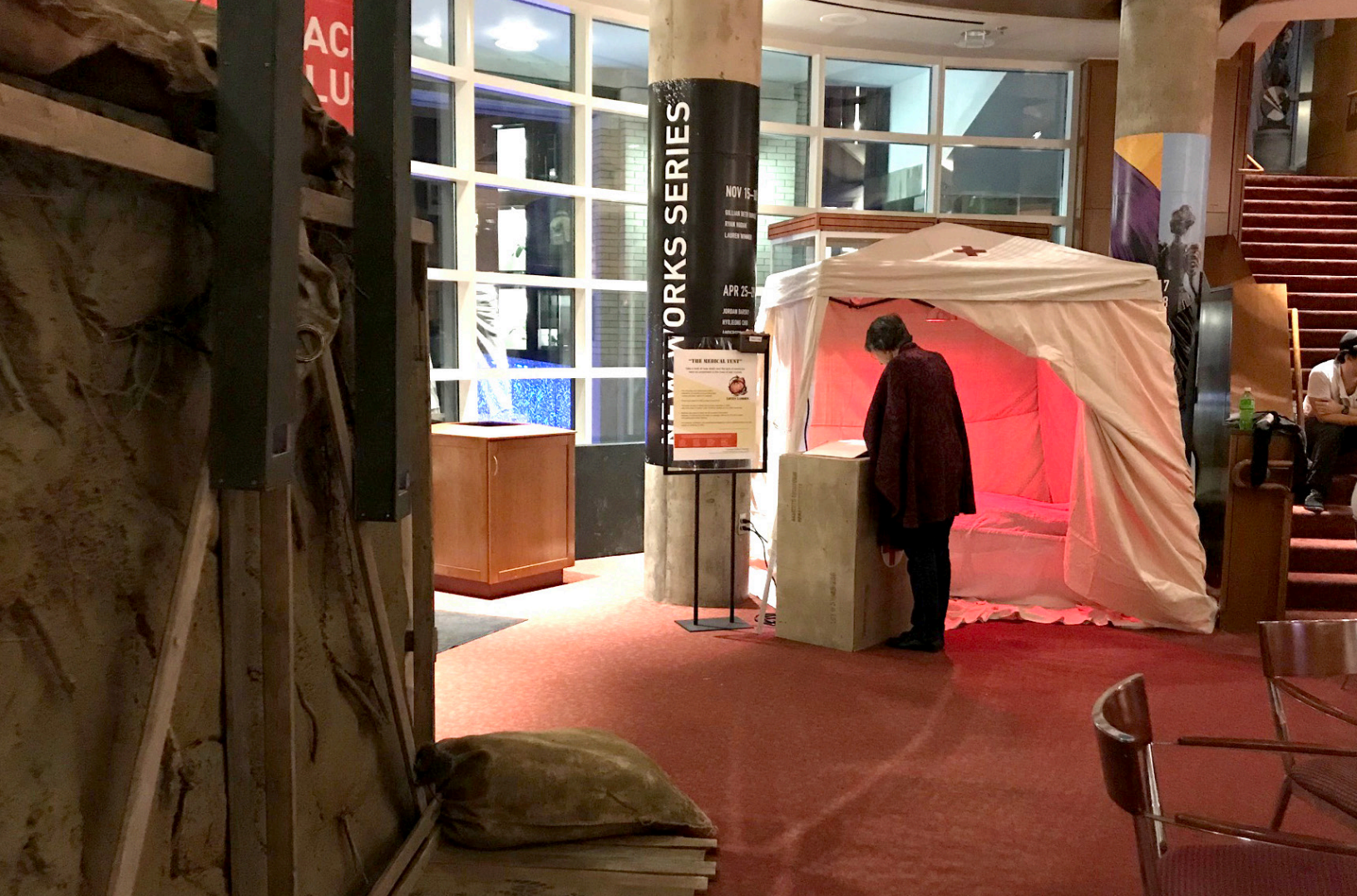
2016-2017, MLK Community Garden by Grow Pittsburgh, Pittsburgh PA
Schematic design, construction documents preparation and custom fabrication
In collaboration with a team of twelve students and one professor

Extracurriculars

Member, AIAS, 2014-2017

Media Manager, CMU Ballroom Dance Club, 2015-2017

Carnegie Mellon University
Design and manage club website, digital media curation and archive, videographer and photographer



Interactive Experience: Love's Labor's Won Companion Exhibit

[Sept 2017] 3 months, built

Design Lead, Fabrication and Structural Design

In collaboration with:

Brynn G. (Content & Playtesting),

Emily N. (Marketing),

Carina C. (Marketing),

Richard A. (Fabrication & Concept Art),

Jason M. (Tech),

and Olivia G. (Producing),

under Shirley Saldamarco, Ruth Comley, and John Dessler.



This interactive experience is designed to lay the groundwork for "Love's Labor's Won", a sequel to Shakespeare's "Love's Labor's Won" set in WWI by Scott Kaiser, Carnegie Mellon University School of Drama. We worked extensively with the play's dramatur, aiming to invoke shock and personal empathy in the audience before they step into the play. The team of 7 handled everything from budget/timeline creation to custom fabrication, with help from the executive producers.

The exhibit consists of three stations: The Home Front, The Trenches, and The Medical Tent. Together through the story of one soldier and his family, it tells the story of all those who suffered from warfare. Though small and contained, reenactments of the medical situations and life-size trench gives the sense of war, along with the personal letters and items shown in the abandoned Home Front.



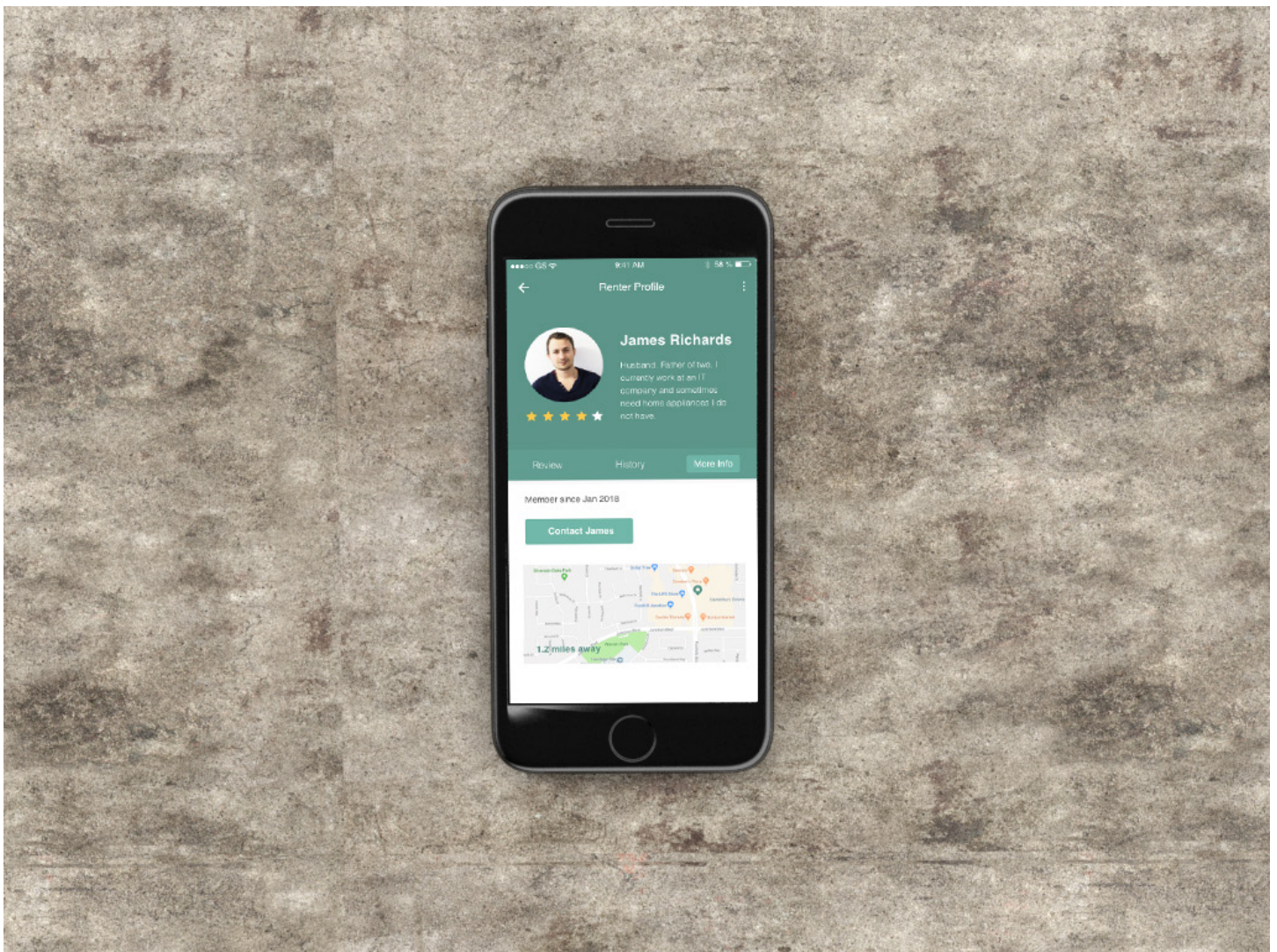
Anecdotes handed out to the theatre-goers reflect the themes explored in the three stations, complete with expanded stories displayed in poster format. These cards describe the lives of real people during WWI, and shed light on their personal struggles during the war. Audiences were very receptive to both the anecdote cards and the team-composed letters at the Home Front station, often interacting with the content in their entirety.

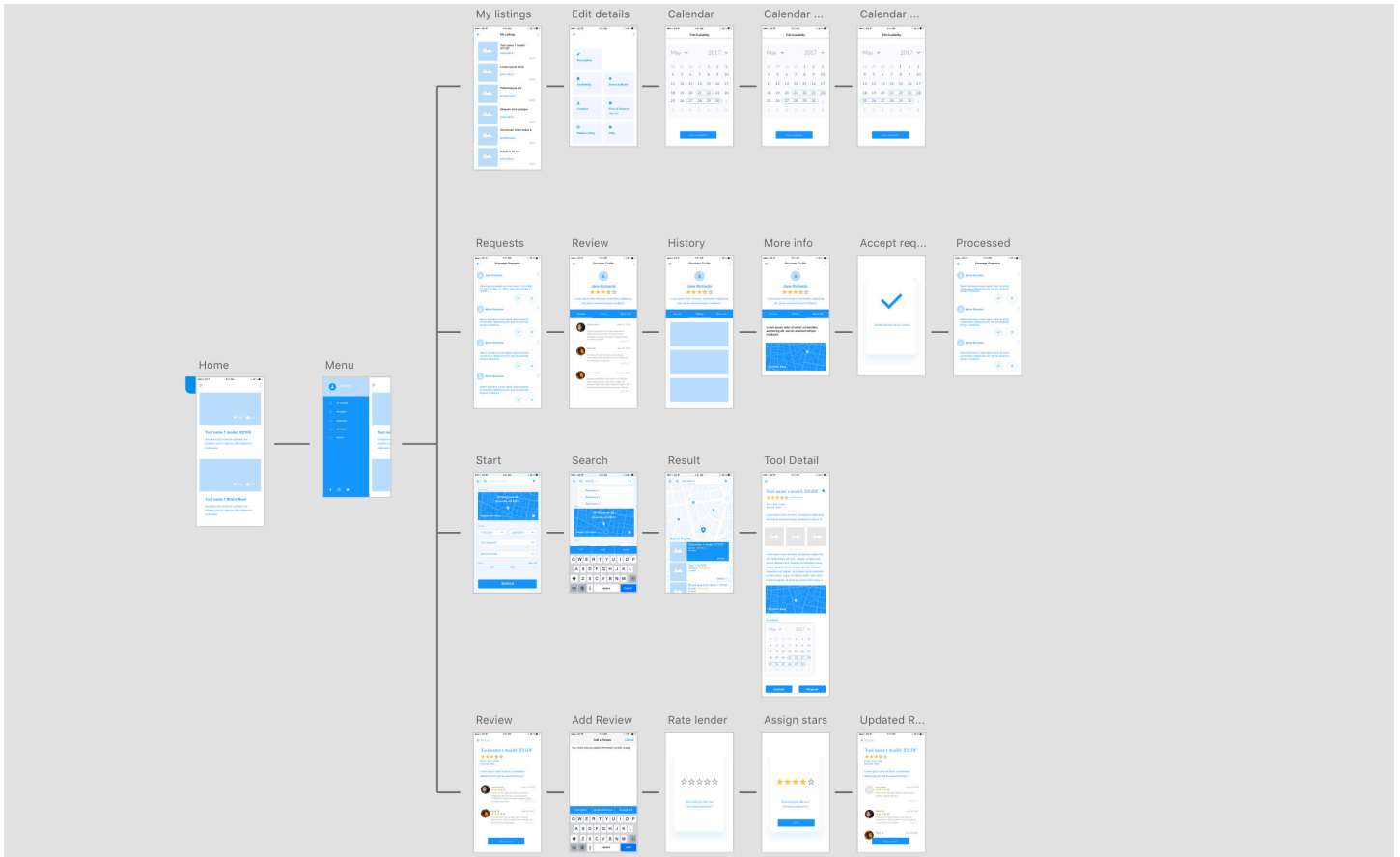




Tool EZ: Tool Sharing App for Peer Economy

[March - April 2018] 1 month, proposal
In Collaboration with Luyao H., Anushka C., and Tianjun M..





Designed to encourage large equipment sharing in the local community, Tool EZ includes features that guarantee the privacy and safety of both lender and borrower. Through market research, safety and incentive to share were shown to be the two largest concerns from users. We address the issue by including features that help establish a sense of community and safety. The app uses a teal color to convey calmness and friendliness, as well as hinting to the sustainable culture of peer economy.



Title

Subtitle

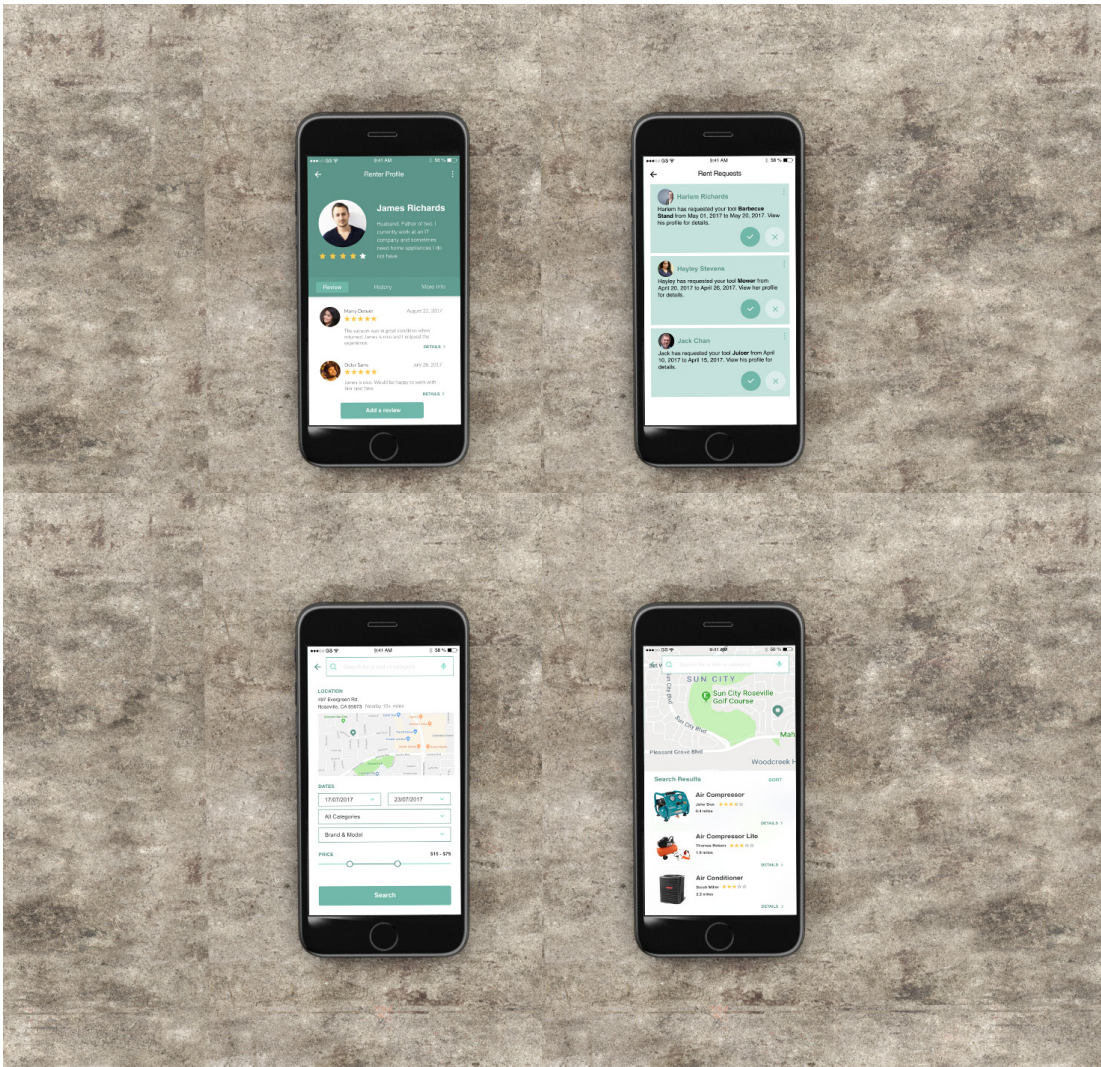


May		2018	
28	29	30	1
5	6	7	8
12	13	14	15
19	20	21	22
26	27	28	29

Emphasis

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We include a deposit and price setting feature that allow healthy competition amongst lenders, and giving lenders incentives to share their tools; we include a review and rating system that allows both lender and borrower to see the publicly displayed transaction history, ensuring the safety of the user and the tool; we include a refund system, where damaged tools would be paid for. Lender and borrower location would not be directly communicated in the app, instead we require users to communicate such details in the in-app messaging portal, making sure the info is accurate and given with consent.

By providing this platform in local communities, we also hope to gather data from the listings and learn about neighborhoods that are in need of certain equipments, and work with organizations to provide these neighborhoodds with those equipments.

Strip District Housing
[Oct - Dec 2017] 2 months, proposal
In collaboration with Caitlin Donnelly

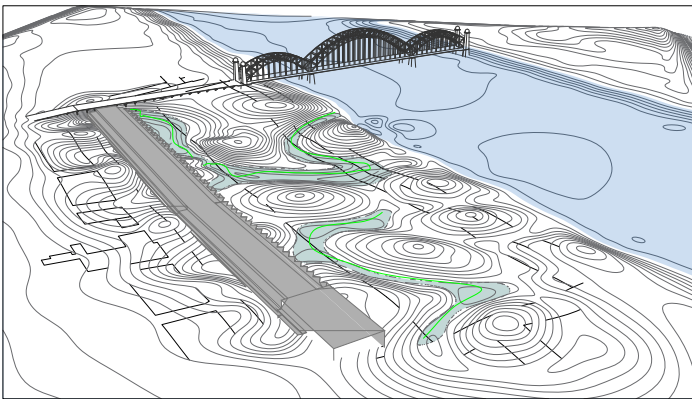
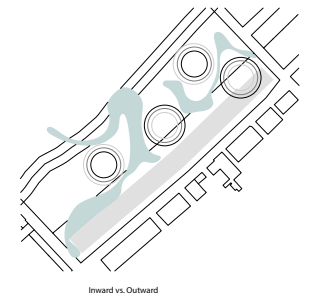
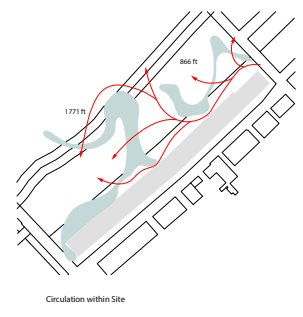
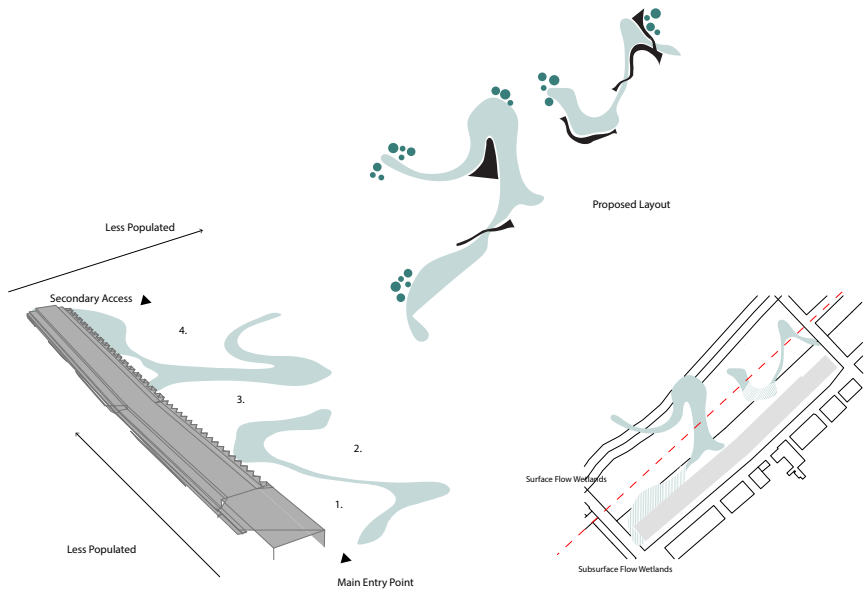
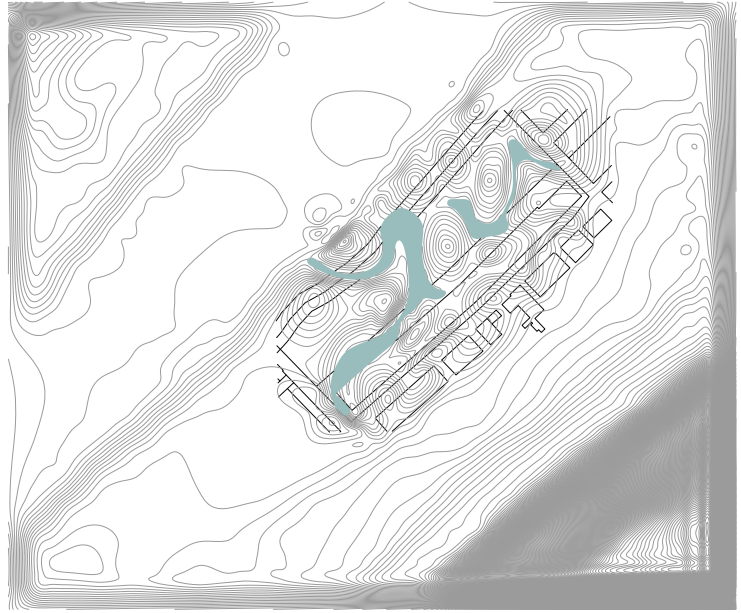
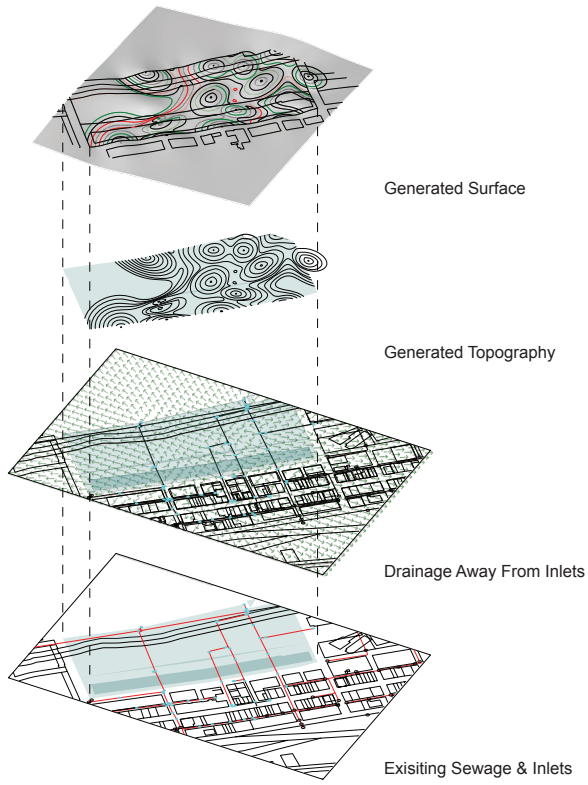


The strip district is located to the north of downtown Pittsburgh at the foot of the Polish Hill.; the site sits on an empty lot next to the once Produce Terminal Building. The housing proposal focuses on the use of bioswales to counter the effects of flooding in this district and provide community housing for young professionals near the downtown and north shore area.

Upon analyzing the flood patterns and sewage system based on GIS data, we were able to parametrically calculate the places most likely to accumulate water on the site. Using those patterns, we generated two bioswales to counteract the flooding problems.

The bioswales were used as spatial organization tools for the rest of the complex, taking into account public access from the rest of the community, and access to the bike trail along the river. Sun path data were introduced to determine the directionality of individual blocks.

The blocks were generated based on the shape of the bioswales and to allow the maximum amount of sunlight into each unit while maintaining a modular design. Using these data, we calculated the best placement of these blocks. Each block also features an automatically adjusted vertical louver facade.



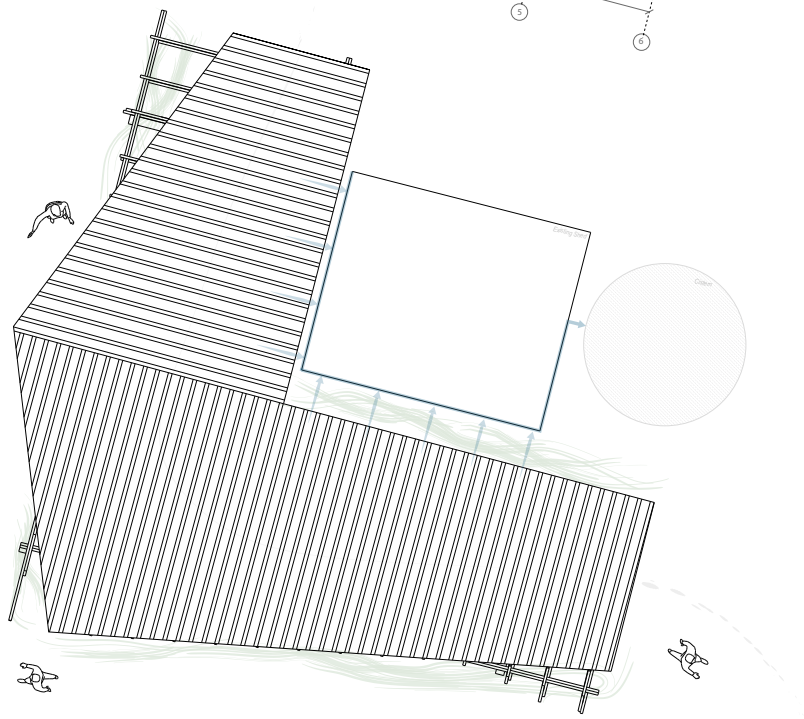
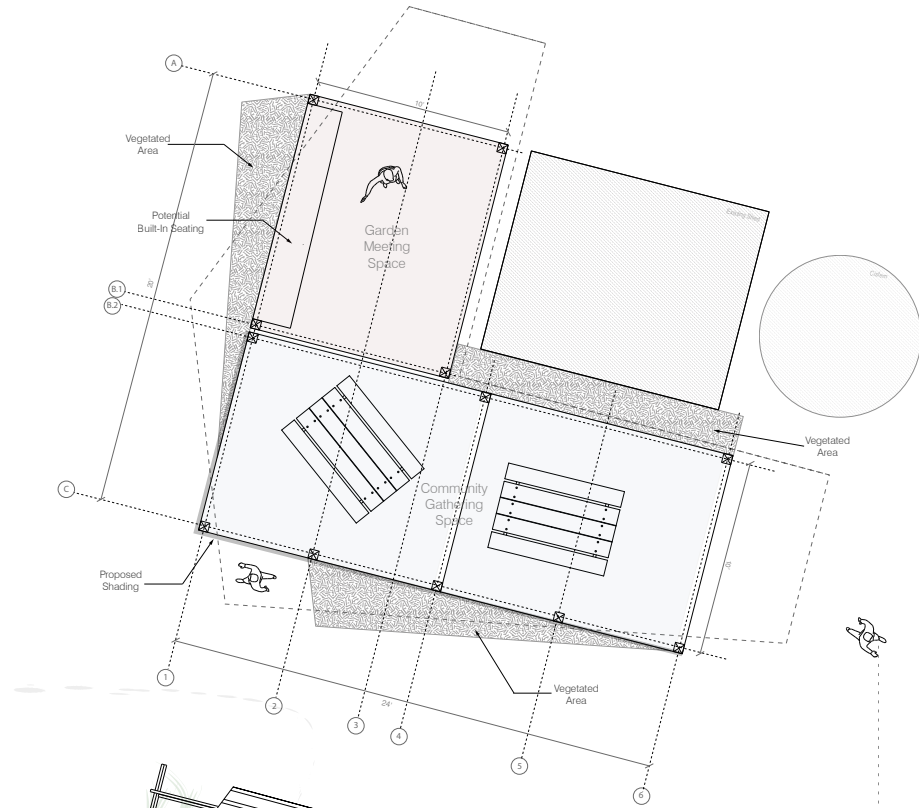




Aqua Pavilion: Watershed for a Community Garden

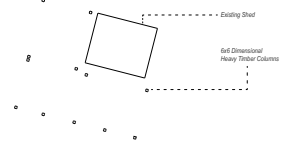
[Oct. 2016] 2.5 months (Construction in progress)
In collaboration with Brandon D., Zain I., Mounica G.,
Yang G., Lexi Y., Caitlin D., Jack F., Veronica W., Zane
B., Anirudh A., Timothy K., Gargi L., Nitesh S., Gunn
C., Matthew R.
Client: Grow Pittsburgh



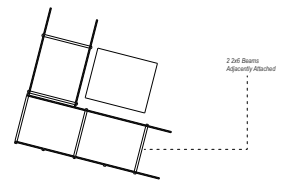


Roof Plan

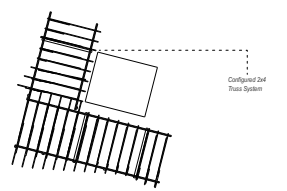
Base Structural Grid



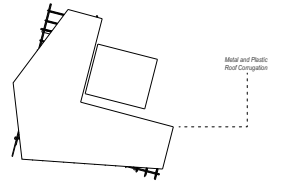
Beams + Columns



Truss System



Roof



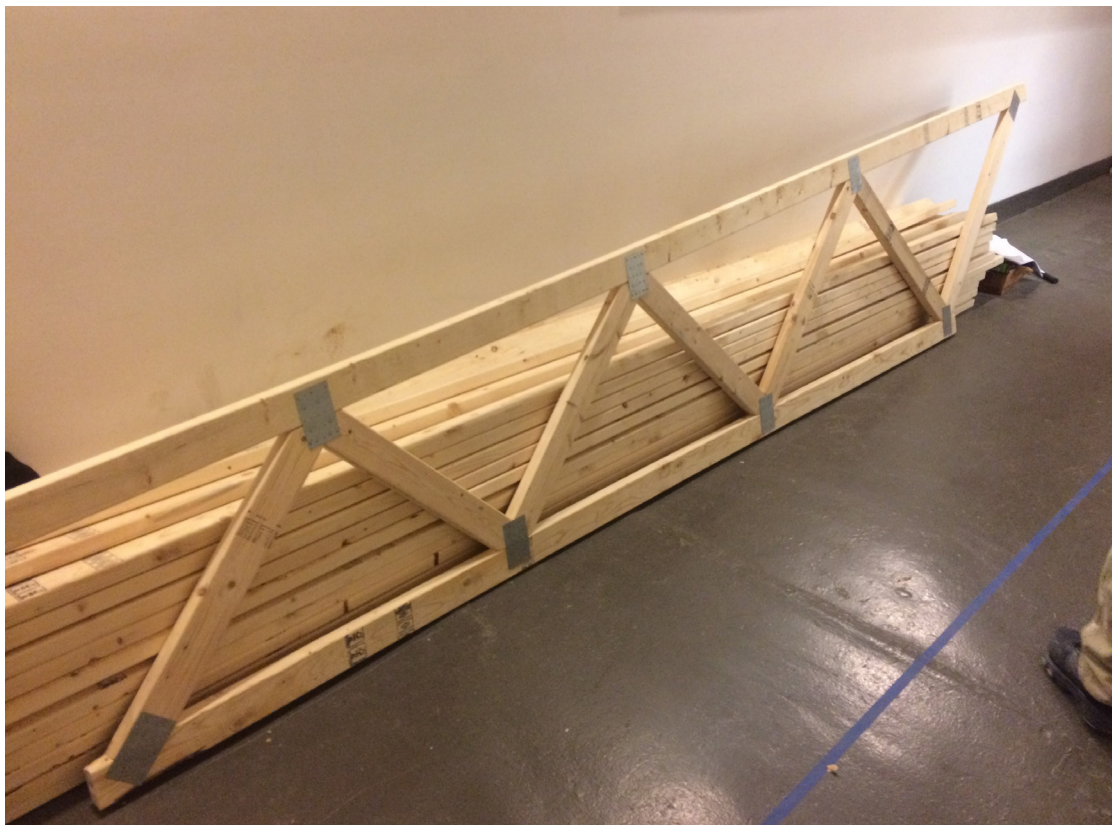
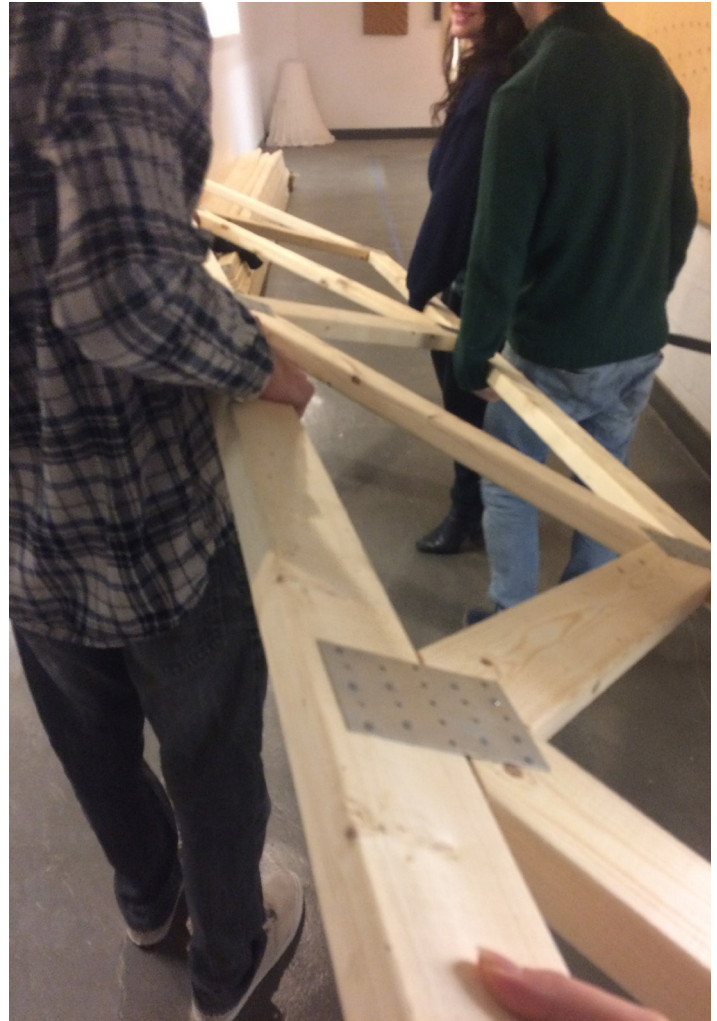
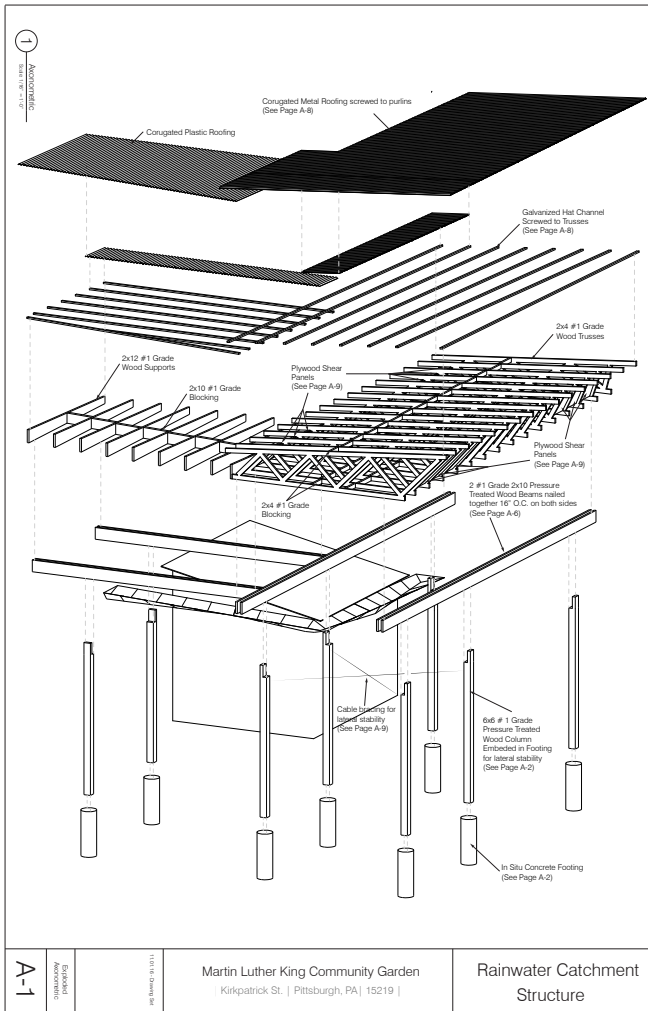
Layering Diagram

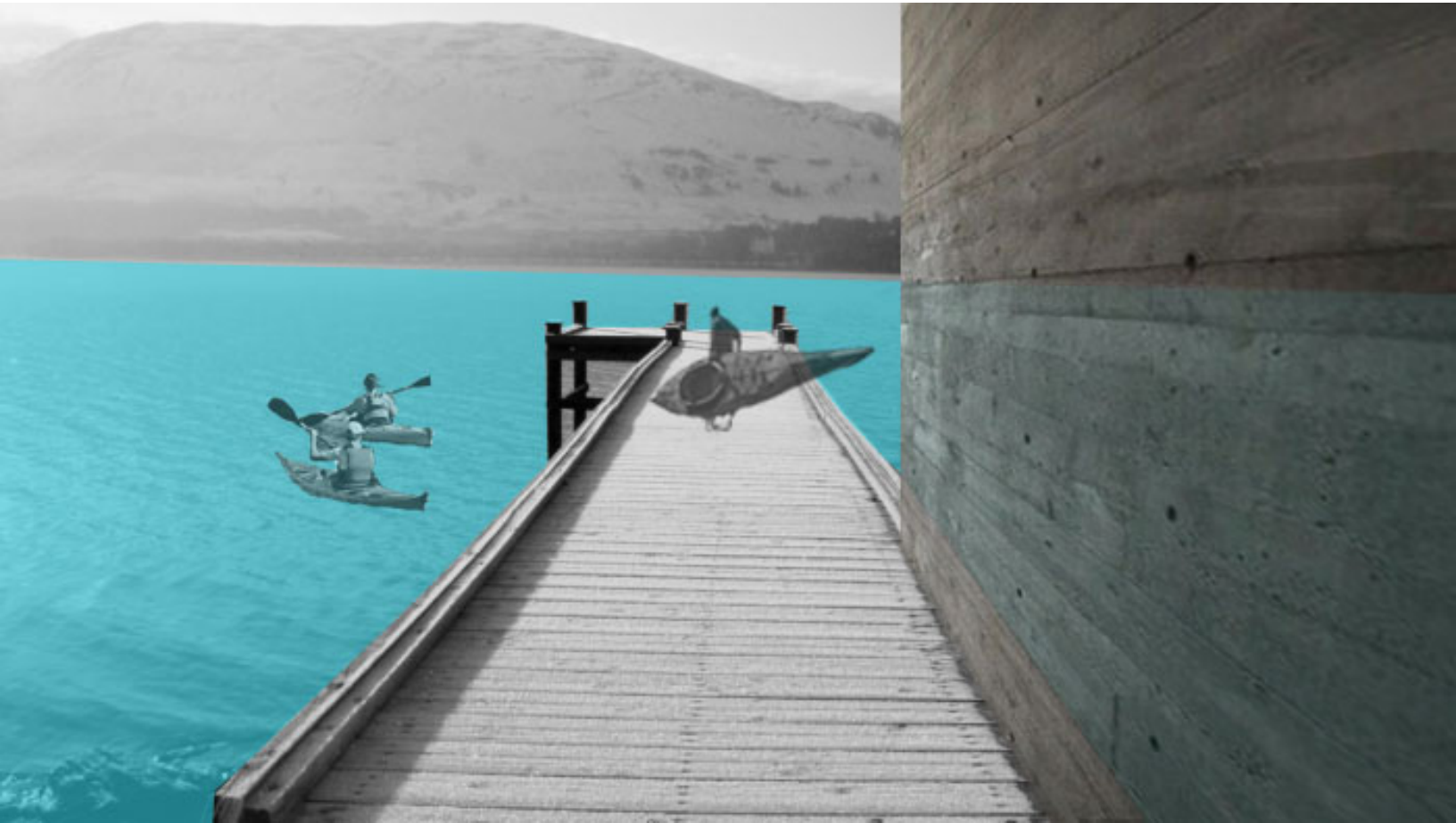
This is the final design from a competition for a water catchment pavilion in MLK Community Garden, Pittsburgh. The pavilion is required to provide shading and harvest / store rainwater for use in the garden. In addition to being a functional piece of infrastructure, the pavilion is to encourage play and learning.

The design balances the need for site specificity and extendability by employing modular structural bays. The design could be replicated in other ballpark gardens in the region with different orientation and/or length of truss system.

This project was presented to the City of Pittsburgh Arts Commission Committee with construction drawings stamped by registered architect Jennifer Lucchino. The construction is done by Grow Pittsburgh contractors; student-fabricated truss pieces and the custom gutter is delivered to Grow Pittsburgh for installation.







Saco Lake Wellness Center

[Jan - Feb 2016] 2 months, proposal

The wellness center is to be located adjacent to Saco Lake and compliment the existing, four-season, Appalachian Mountain Club Highland Center Lodge on route 302 in Crawford Notch New Hampshire. The center will serve as a year round destination and will supplement the various activities found throughout the region. The primary materials associated with the project are predefined and limited to wood and site cast concrete.

In the design solution, concrete was used to represent solid, relatively cold spaces, whereas wood was used to represent porous, warm and generally more welcoming and open spaces. In developing the gradient from dense bathing activity to scattered paths in nature, the spaces were also organized along an axis that represents the slope of the original site slope.

Human experience within the space was used to generate diagrams that aided the spatial organization. The spatial organization of the center focuses on the duration of each activity, contrast between zones and the human perspective from each zone.

Relationship between concrete and wood was considered crucial to the expression of density. Using a pattern developed according to the program organization, the roof transitions from concrete panels to wood panels and eventually to wooden lattices.

The northwest facade faces the main road and the lodging area; the dominance of wood speaks of warmth and openness. The southeast side faces woods, the lakeside, and provides entrance from the Saco Lake trail; the dominance of concrete provides not only retention of earth, but boundary of the wellness center and hints of spaces behind.

