Spring 2017

Challenging the Pattern

Gary Thurston

CHALLENGING THE PATTERN

GARY THURSTON

“...the most wonderful places of the world were not made by architects but by the people.”[1]

Christopher Alexander, et al
A Pattern Language

THE THESIS

Christopher Alexander and Yona Friedman suggest the architect is necessarily limited in his or her ability to construct the built environment for all people, or should be limited in favor of participation of the non-architect.

While I agree that all parties of the world should take part in design and construction, I assert that architects through their training are better equipped to design and construct our built environment and in this sense, I am directly challenging the claims made by Alexander, et al.

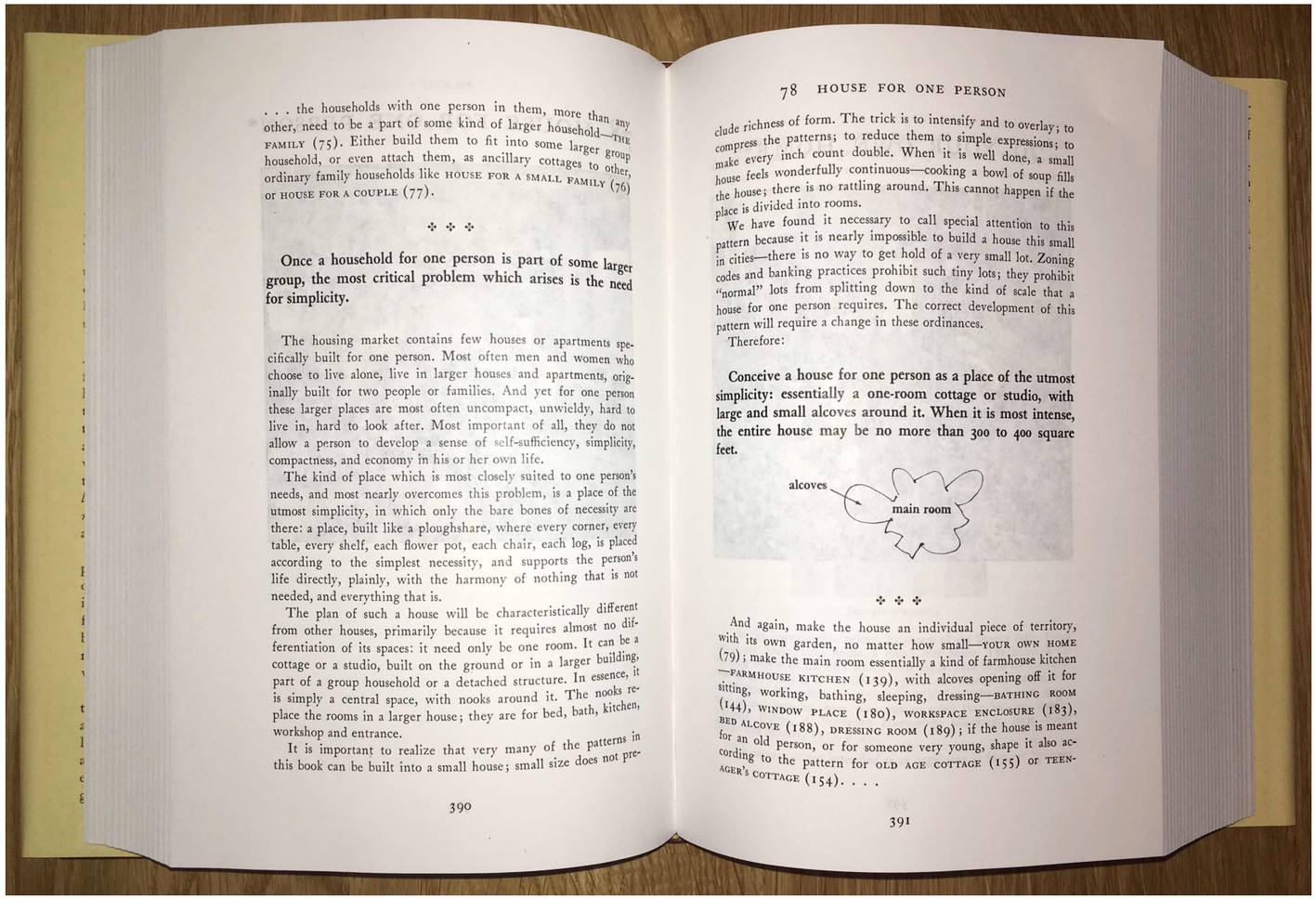
PRECEDENT STUDIES

A PATTERN LANGUAGE
CHRISTOPHER ALEXANDER

Christopher Alexander's book, *A Pattern Language*, uses a complex computational system distilled down to an easily recognizable system of patterns and instructions. It was designed to allow the novice to design their homes and neighborhoods while only relying on the system.

The system contains 253 various patterns that are intended to aid in the development of towns, buildings and construction.

Alexander and team envision a world of inclusive architecture designed and built by all people, not just architects.



. . . the households with one person in them, more than any other, need to be a part of some kind of larger household—THE FAMILY (75). Either build them to fit into some larger group household, or even attach them, as ancillary cottages to other, ordinary family households like HOUSE FOR A SMALL FAMILY (76) or HOUSE FOR A COUPLE (77).

✣ ✣ ✣

Once a household for one person is part of some larger group, the most critical problem which arises is the need for simplicity.

The housing market contains few houses or apartments specifically built for one person. Most often men and women who choose to live alone, live in larger houses and apartments, originally built for two people or families. And yet for one person these larger places are most often uncompact, unwieldy, hard to live in, hard to look after. Most important of all, they do not allow a person to develop a sense of self-sufficiency, simplicity, compactness, and economy in his or her own life.

The kind of place which is most closely suited to one person's needs, and most nearly overcomes this problem, is a place of the utmost simplicity, in which only the bare bones of necessity are there: a place, built like a ploughshare, where every corner, every table, every shelf, each flower pot, each chair, each log, is placed according to the simplest necessity, and supports the person's life directly, plainly, with the harmony of nothing that is not needed, and everything that is.

The plan of such a house will be characteristically different from other houses, primarily because it requires almost no differentiation of its spaces: it need only be one room. It can be a cottage or a studio, built on the ground or in a larger building, part of a group household or a detached structure. In essence, it is simply a central space, with nooks around it. The nooks replace the rooms in a larger house; they are for bed, bath, kitchen, workshop and entrance.

It is important to realize that very many of the patterns in this book can be built into a small house; small size does not preclude richness of form. The trick is to intensify and to overlay; to compress the patterns; to reduce them to simple expressions; to make every inch count double. When it is well done, a small house feels wonderfully continuous—cooking a bowl of soup fills the house; there is no rattling around. This cannot happen if the place is divided into rooms.

We have found it necessary to call special attention to this pattern because it is nearly impossible to build a house this small in cities—there is no way to get hold of a very small lot. Zoning codes and banking practices prohibit such tiny lots; they prohibit "normal" lots from splitting down to the kind of scale that a house for one person requires. The correct development of this pattern will require a change in these ordinances.

Therefore:

Conceive a house for one person as a place of the utmost simplicity: essentially a one-room cottage or studio, with large and small alcoves around it. When it is most intense, the entire house may be no more than 300 to 400 square feet.

✣ ✣ ✣

And again, make the house an individual piece of territory, with its own garden, no matter how small—YOUR OWN HOME (79); make the main room essentially a kind of farmhouse kitchen —FARMHOUSE KITCHEN (139), with alcoves opening off it for sitting, working, bathing, sleeping, dressing—BATHING ROOM (144), WINDOW PLACE (180), WORKSPACE ENCLOSURE (183), BED ALCOVE (188), DRESSING ROOM (189); if the house is meant for an old person, or for someone very young, shape it also according to the pattern for OLD AGE COTTAGE (155) or TEENAGER'S COTTAGE (154). . . .

PRECEDENT STUDIES

VILLA SPATIALE
YONA FRIEDMAN

Freidman's Ville Spatiale concept is a space-frame construct at varying scales, but mostly represented at city-scale. Within this framework, users can configure their own spaces, fitting their homes within to create an expansive, user-driven community.

"Inhabitants will be free to decide how their dwelling should look. To get to a balanced combination that would serve to avoid conflicts [Friedman] invented a model for communication."[2]

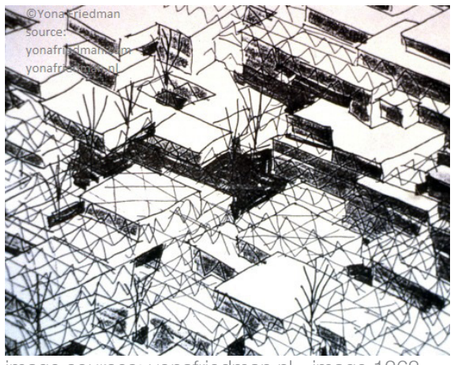
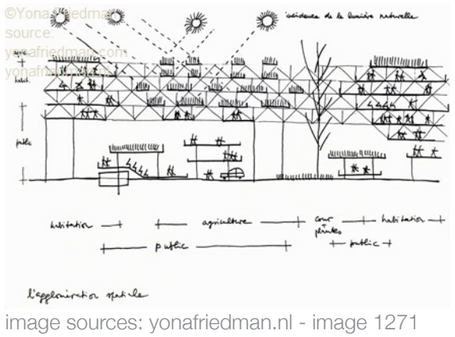


image sources: yonafriedman.nl - image 1262



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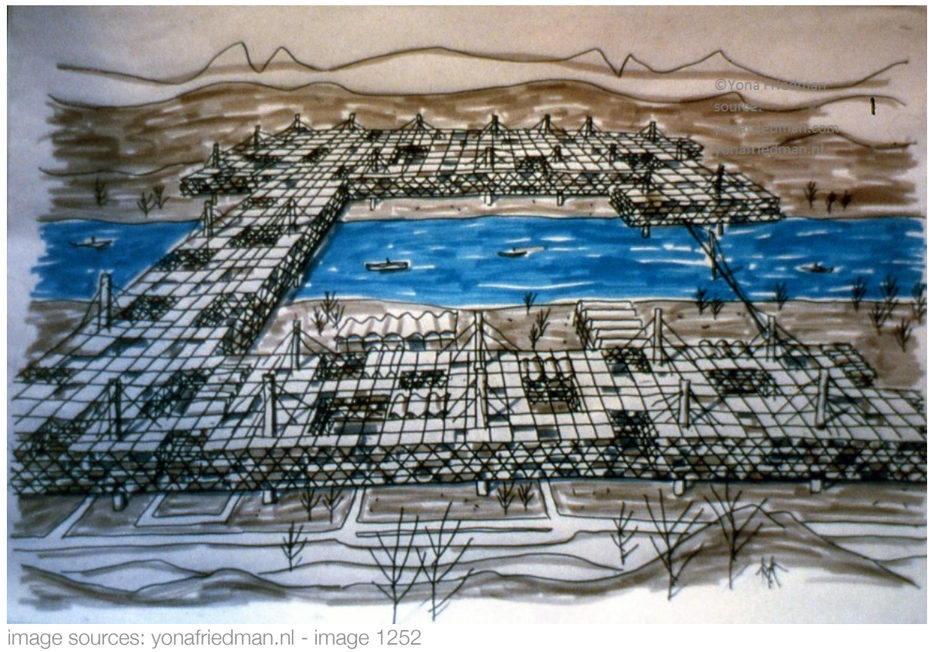

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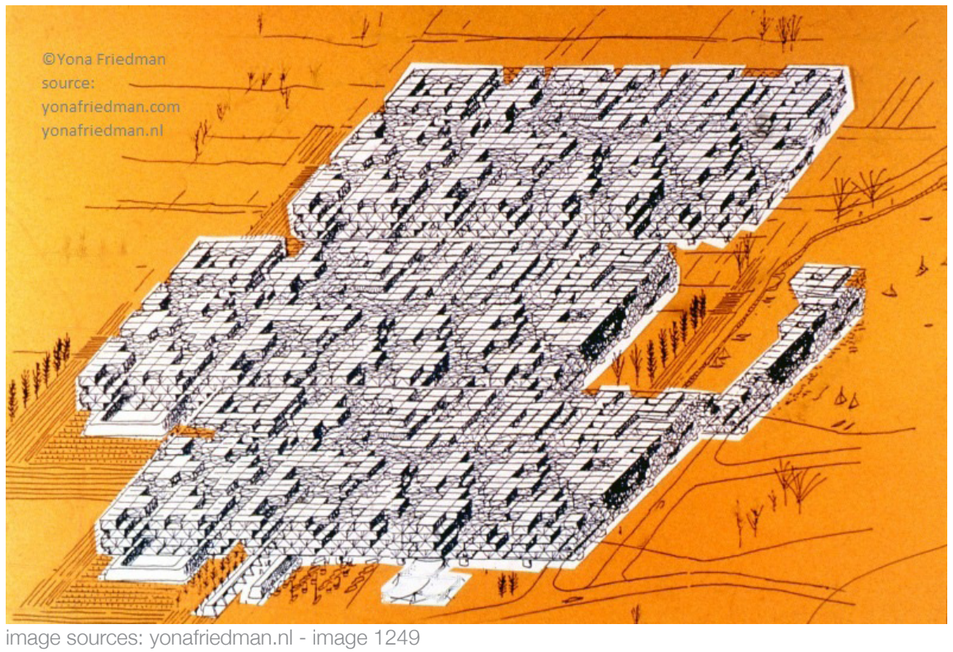

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PRECEDENT STUDIES

FLATWRITER
YONA FRIEDMAN

Along the lines of A Pattern Language, Flatwriter was software conceived by Yona Friedman to allow the non-architect to redesign their neighborhoods with relative ease. Prior to and as a companion to flatwriter is a comic book-like instruction manual, what Friedman calls his 'manuals.'

"The individual must have an adequate level of know-how in order to be able to make his own decisions. To impart knowledge in a form that could be easily digested, Friedman developed a vehicle for communication, which he calls his 'manuals'. These are handbooks in the form of a comic book that explain, step by step through text and drawings, issues and choices in architecture and urban planning."[3]

These manuals would be the basis for his invention of flatwriter, which as it sounds allows users to design their flats.

image source: yonafriedman.nl - image 468

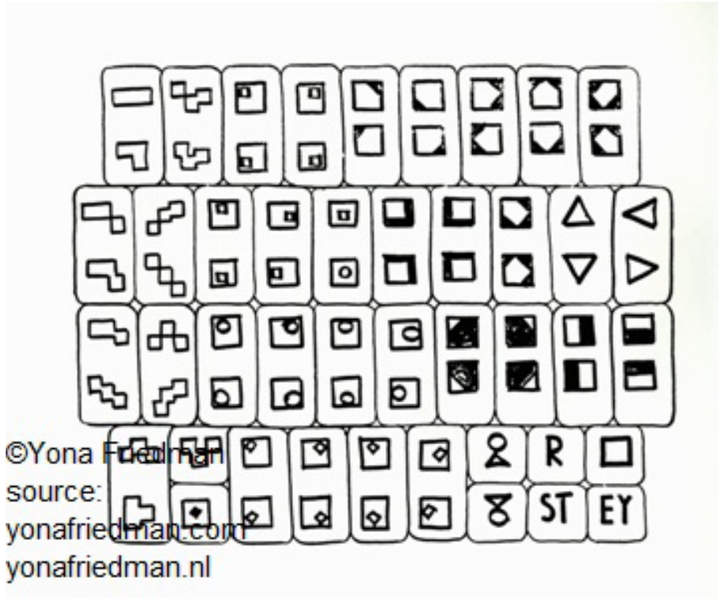


image source: yonafriedman.nl - image 230

TECHNOLOGY

HOME DESIGN SOFTWARE

Home design software comes in many flavors, pictured is the “Expert Version” of 3D Architect Home Designer by Elecosoft.

What comes with free versions from the same software developer and in similar software is a clunky tool with a steep learning curve; likely steeper for those untrained in building design and production. Unlike more elegant software like Sketchup, it does offer rudimentary material take-offs to establish pricing baselines. However, the software exists as a pattern language of its own; further study regarding the implications of technology is a goal of this thesis.

Image source: https://www.3darchitect.co.uk/

Image source: https://www.homedesignersoftware.com/products/home-designer-pro/

LIMITATIONS

As noted by Friedman, the end user must be capable of managing the technology and built environment autonomously; this assumes the end-user understands building practices, how to fabricate complex assemblies and can do so safely.

Alexander offers a system of patterns to accomplish that end but ultimately the pattern system is a tool for training the non-architect. At what point does the non-architect become an architect?

Ultimately the question of the architect arises. Does training define the architect? Does building or some other subjective or objective metric? Through the hypothetical process of end-user training, adaptation and construction, does the user not become an architect of sorts?

THE KIT OF PARTS

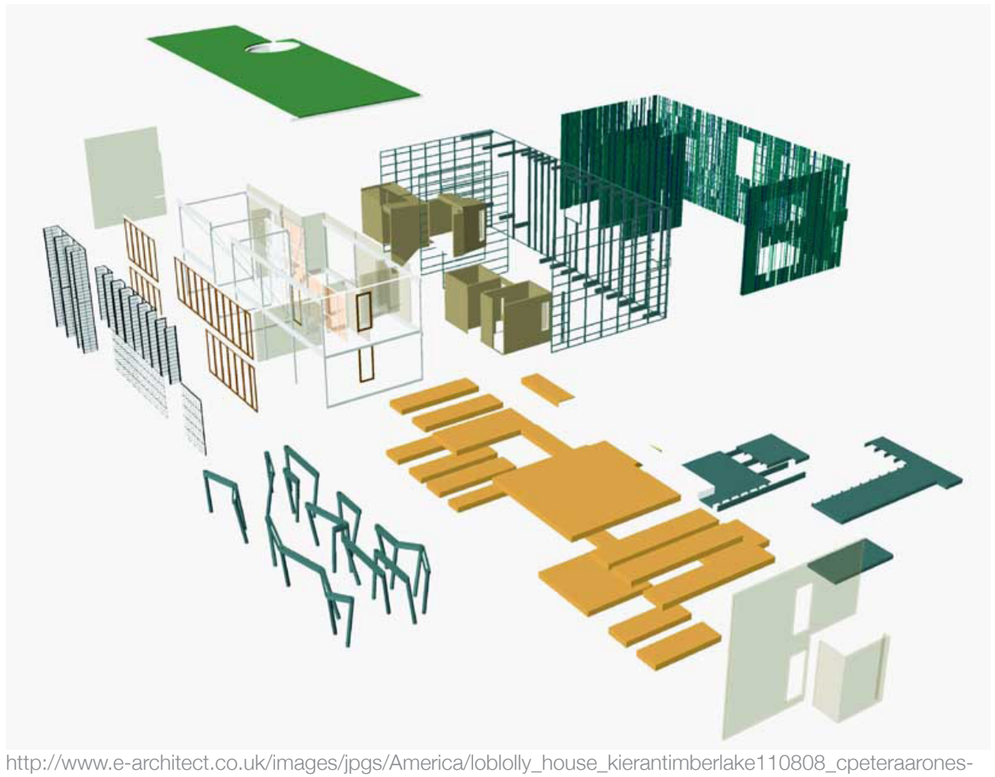
LOBLOLLY HOUSE
KIERAN TIMBERLAKE

Kieran Timberlake took the kit of parts approach to an extreme outcome, however highly custom. The system designed was intended to become a system that was reconfigurable.

Kieran Timberlake studied mass-production methods extensively, citing OEM design philosophy and aerospace production (with performative goals being the primary driver of design) not unlike attempts by architects like Le Corbusier.

Additionally, Kieran Timberlake payed particular attention to aesthetics and end-user needs as well as context, tailoring the home for the resident, the site and avoiding the one-size-fits-all approach of the modernists.

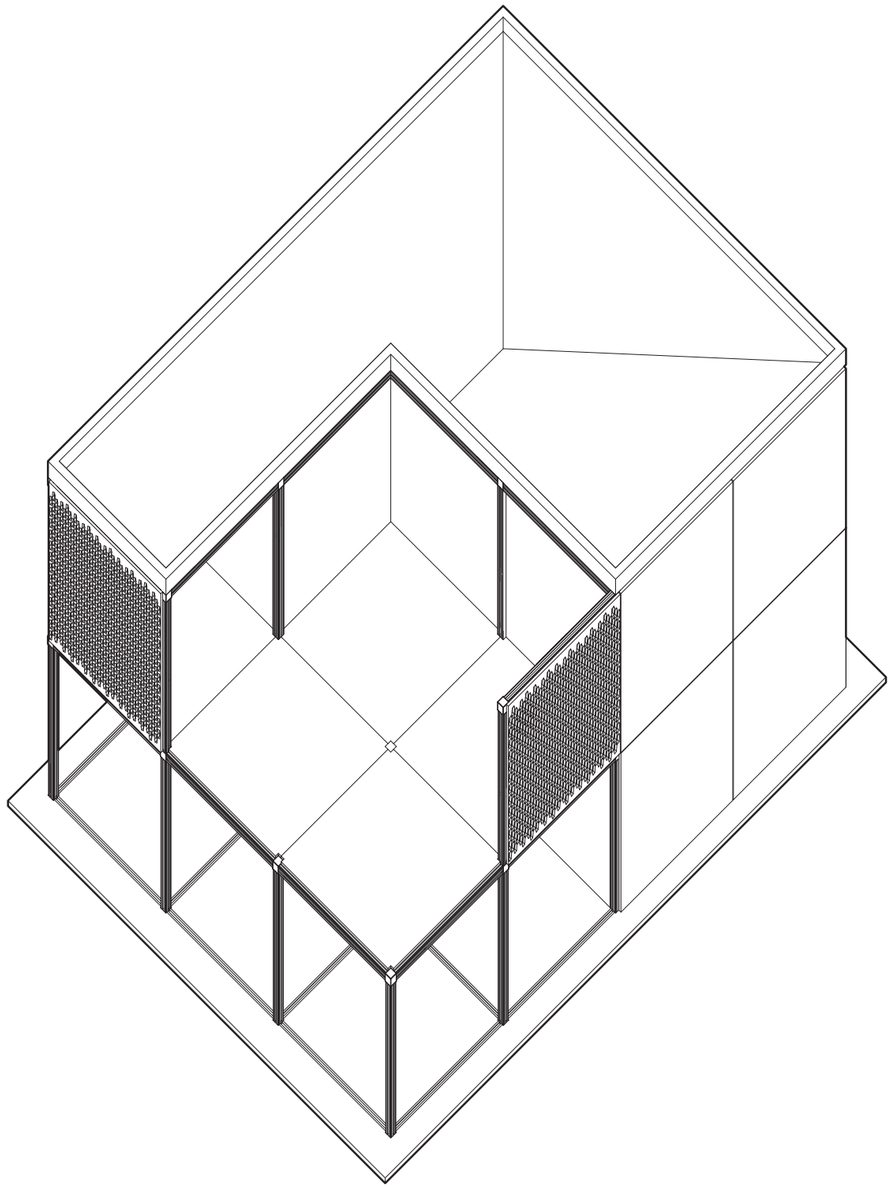
http://www.kierantimberlake.com/pages/view/20/loblolly-house/parent:3

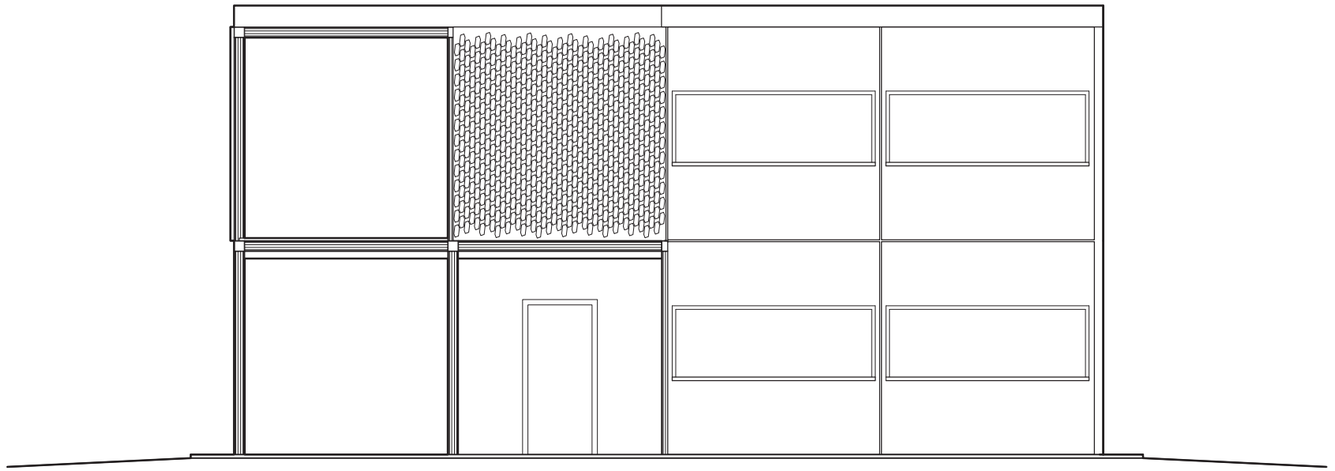


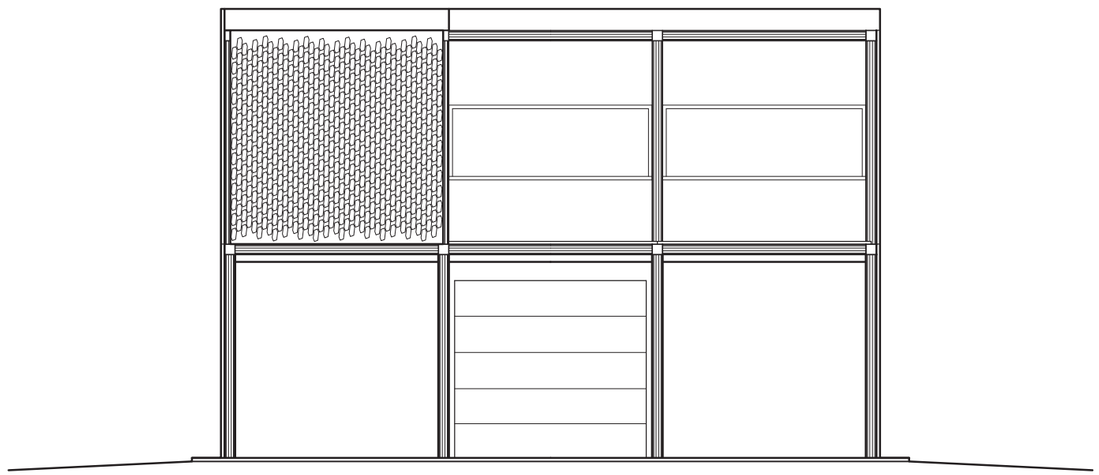
http://www.e-architect.co.uk/images/jpgs/America/loblolly_house_kierantimberlake110808_cpeteraarones-to_halkin1.jpg

PROJECT INSPIRATION

The inspiration for the thesis comes from my midterm project in studio; a regular gridded system intended to be modified and encourage an ad hoc build-out. This system would be abandoned later in studio but establishes how I might follow through with this thesis.







THE EXPERIMENT

In an effort to test my thesis against Alexander and Friedman's theories regarding novice architecture, I have devised a simple, not scientific experiment.

Volunteers will be provided a kit of parts, a set of tools as well as a basic pattern language as to how to assemble those parts, but not are provided an exclusive set of instructions. Ideally participants will begin to push the limits of the instructions. Users will be made aware the project is an experiment in architecture and encouraged to "think outside the kit" using only kits parts and produce something, anything in a thirty minute time frame within the bounds of their 12" x 12" base board. Data will be recorded in the following ways:

A video recording of the activity of assembly.
Notes taken to assess the process and progress.
The final models will be collected, rendered permanent with glue and then recorded in Rhino.
The final output of each trial will be a model as built by the participant, an axon, plan and two elevations.

This experiment doesn't seek to identify an ideal architecture, only determine if there is a difference between the novice and professional in producing what amounts to a basic sculptural form. I am not trying to perform a demographic analysis beyond that, it is intended to be inclusive of all people.

The vast majority of trials will take place over the summer months in preparation for the beginning of the Fall Semester.

EXPERIMENT PRECEDENT

STUDFINDR
BESLER & SONS

Studfindr is a software project by Besler & Sons that generates wall stud solutions for complex geometries. These geometries are hand-drawn on a touchscreen and the solutions are rapidly generated by the software into a three dimensional wall. The software then catalogs the design. Using this solution, a builder can then precisely reproduce the wall from dimensions from the software.

“StudFindr, a project by Besler & Sons in collaboration with ATLV, is cataloging and compositing digital models of user designed rooms together to create a new design, which will one day be built”[4]

Besler & Sons + ATLV (Los Angeles, United States). The Entire Situation, 2014-2015. Photo Tom Harris, © Hedrich Blessing. Courtesy of the Chicago Architecture Biennial. http://www.archdaily.com/774876/15-must-see-installations-at-the-chicago-architecture-biennial

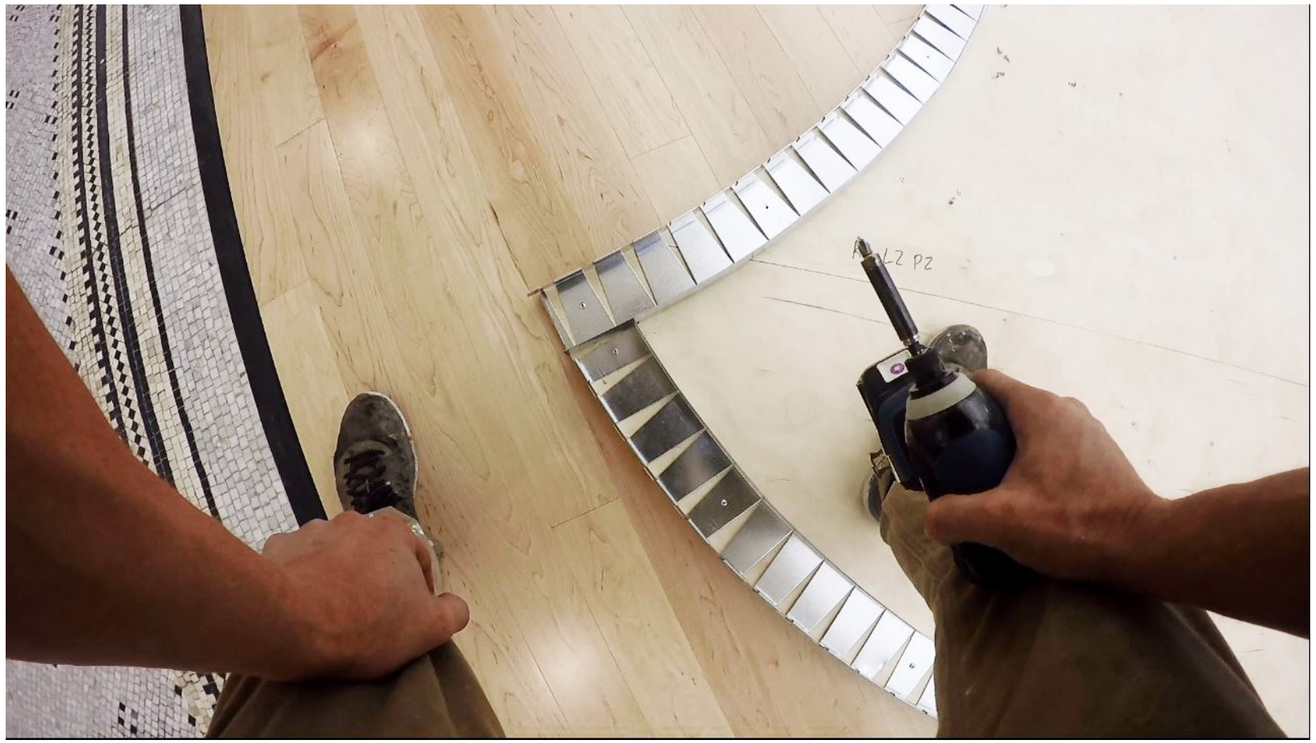


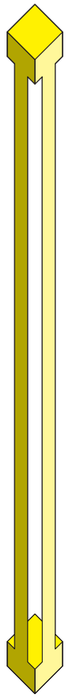
Image source: http://www.beslerandsons.com/news/

THE KIT

Kit of Parts Provided

x 8

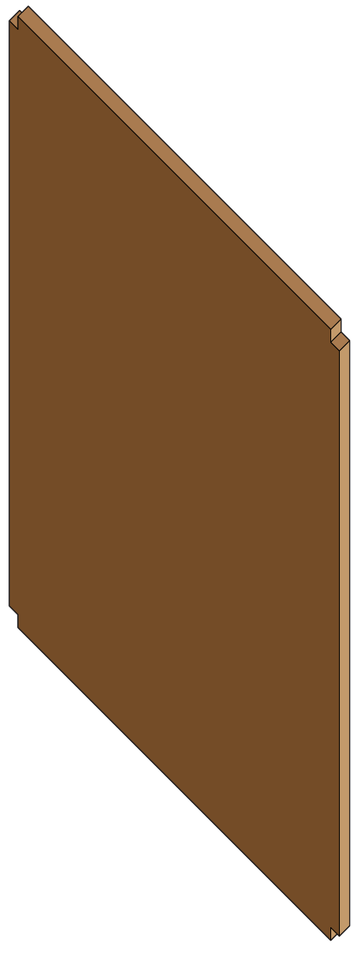
x 6



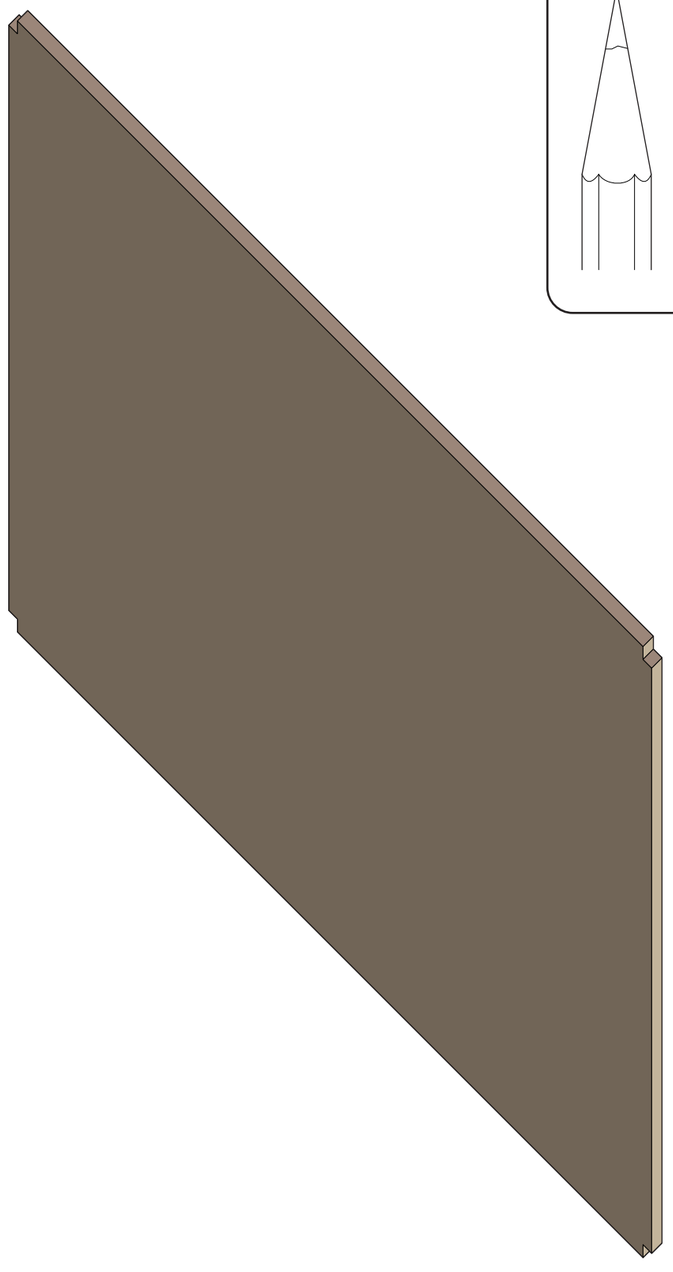
x 4

x 4

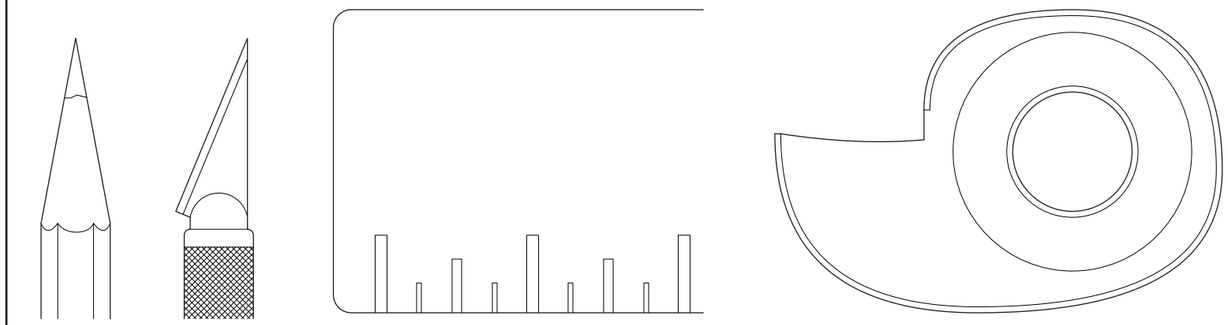
x 4



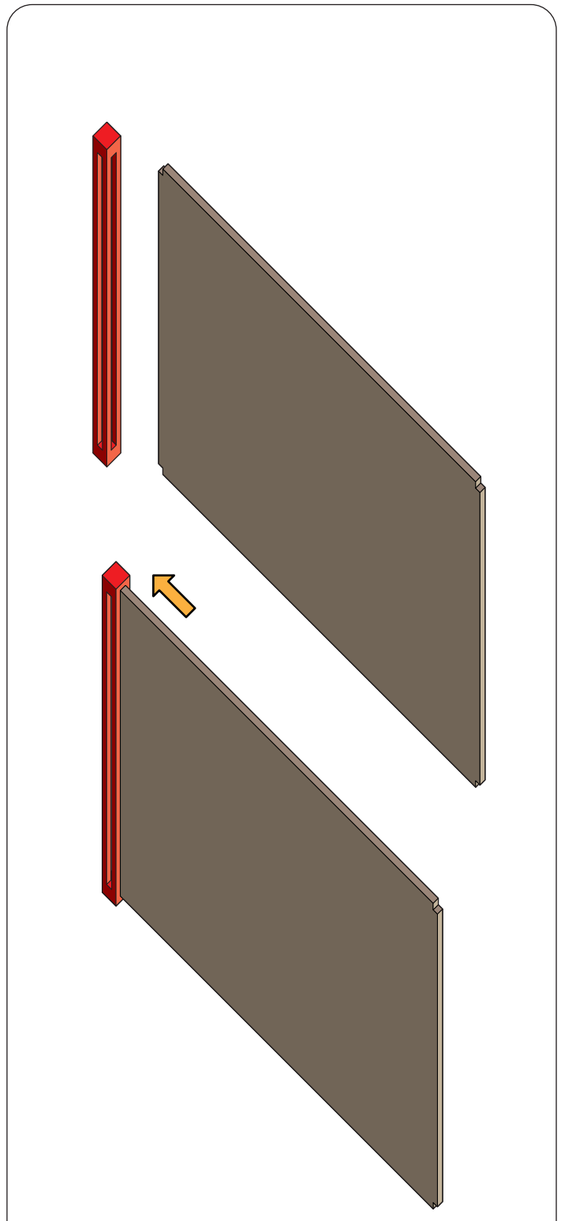
x 6

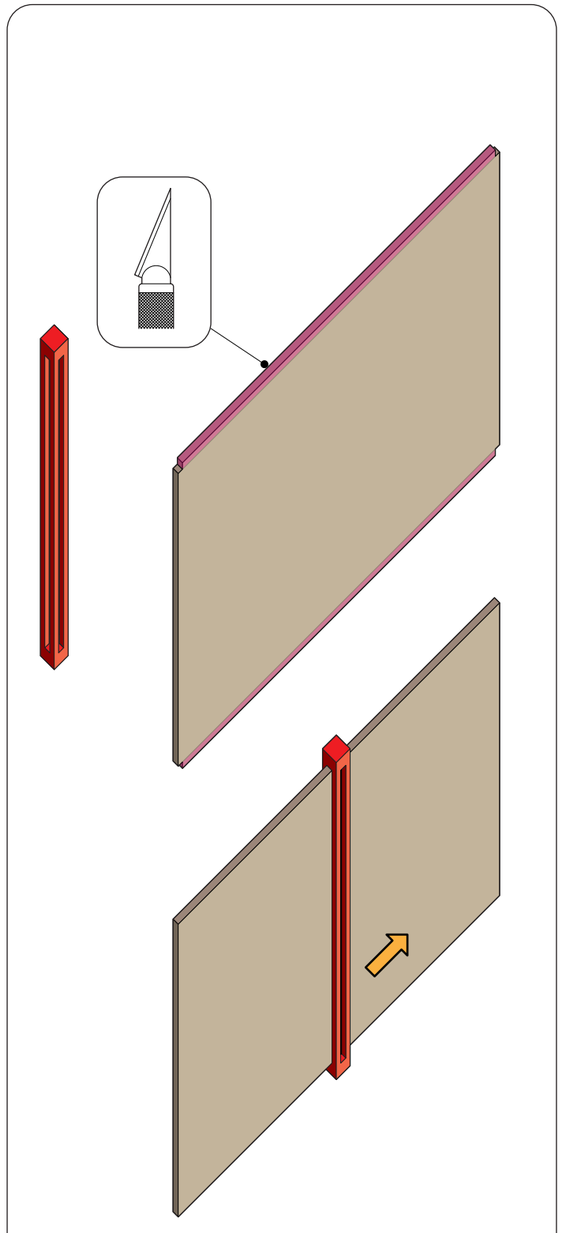


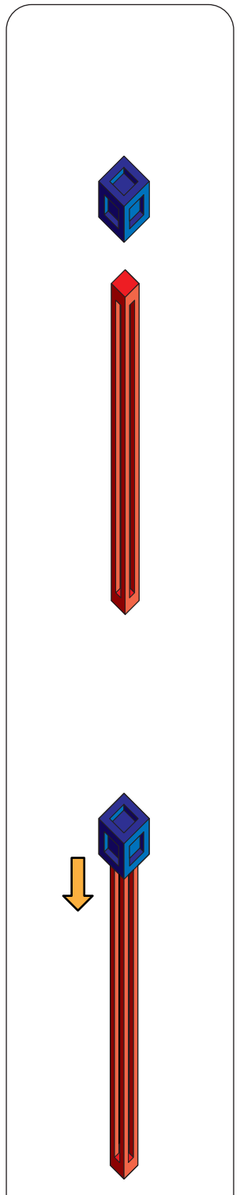
Tools Provided

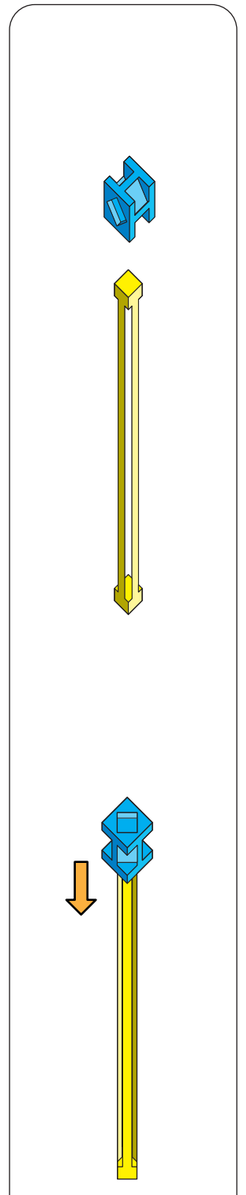


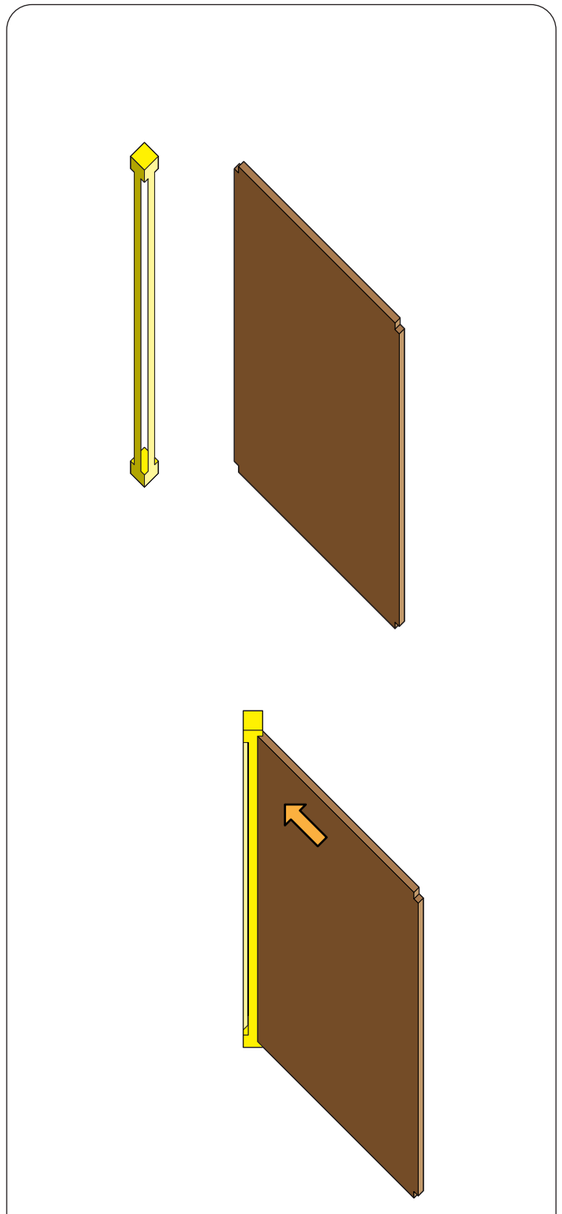
x 1 - 12” x 12” Base



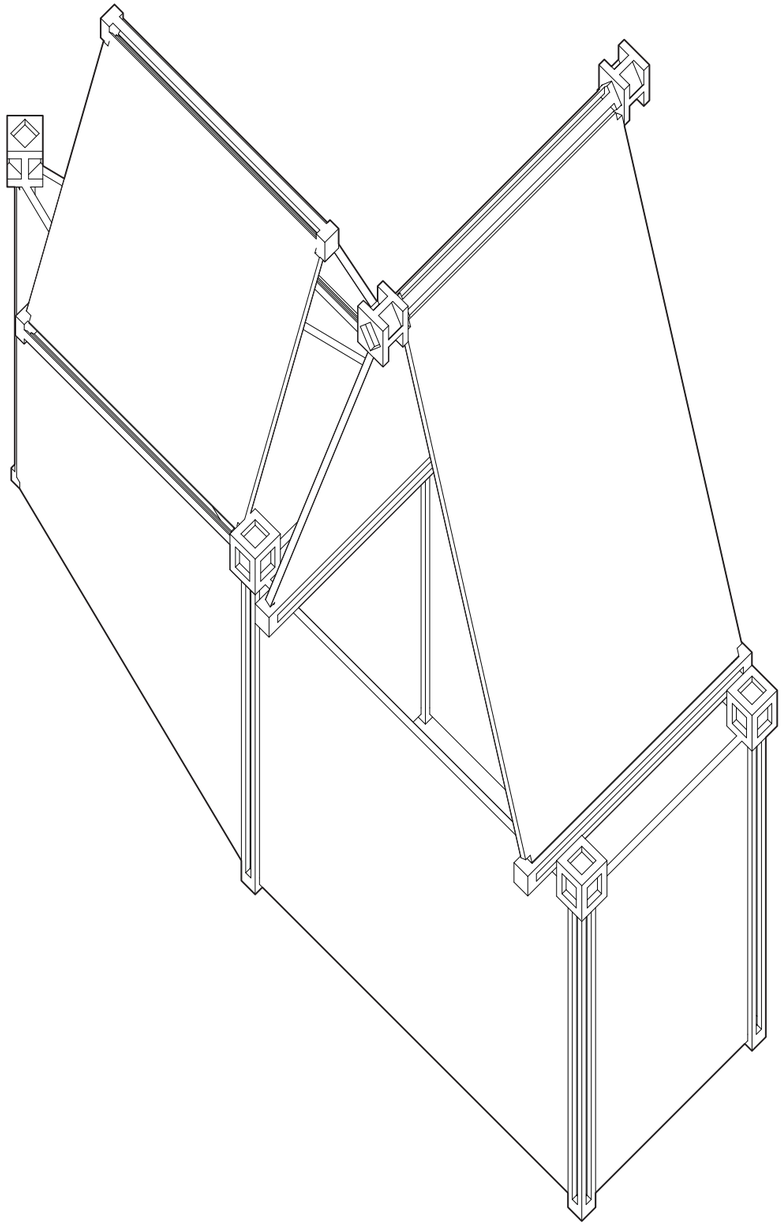


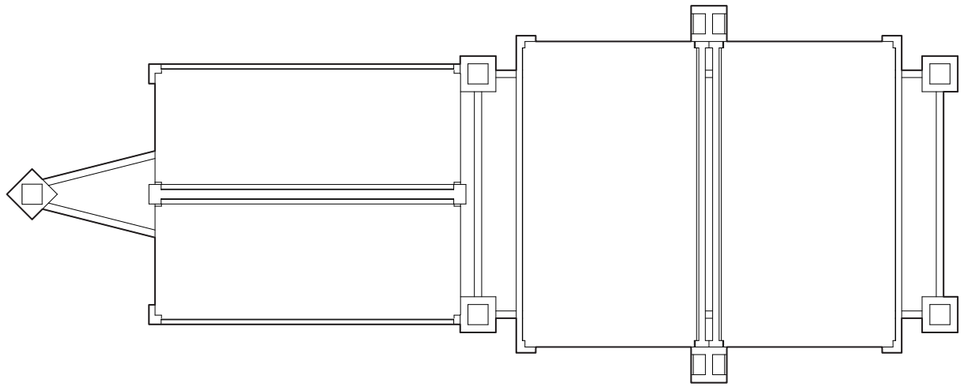


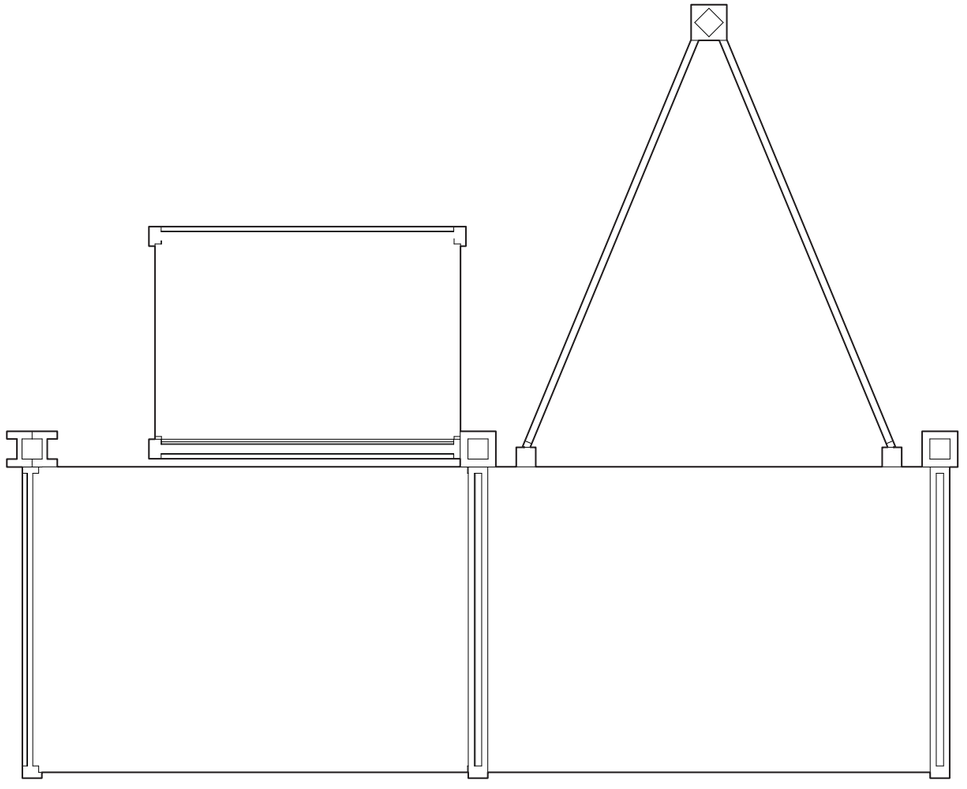


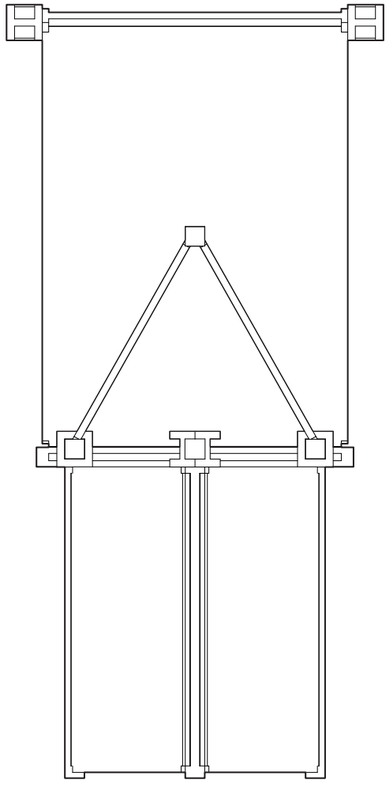


INSTRUCTIONS *THESE ARE SUGGESTED OPERATIONS BUT NOT EXCLUSIVE









TRIAL 01
NOVICE

05-07-2017

CHALLENGING SUBJECTIVITY

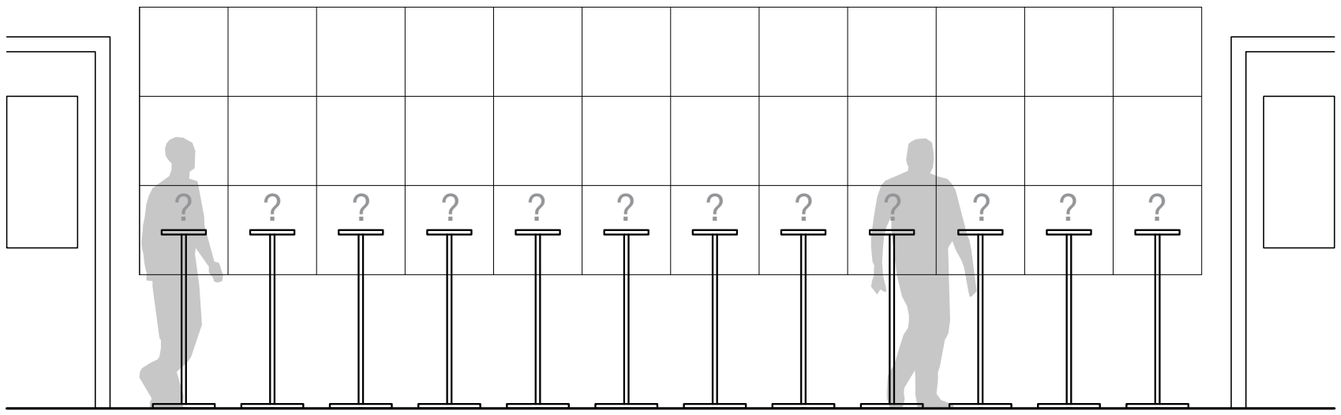
An undesired outcome of this experiment is single-perspective subjectivity. Objectively assessing the outcome is important to the success of this thesis.

To avoid my singular subjectivity, some precautions will be taken starting with the collection of a large dataset per trial and inviting outside input in assessment.

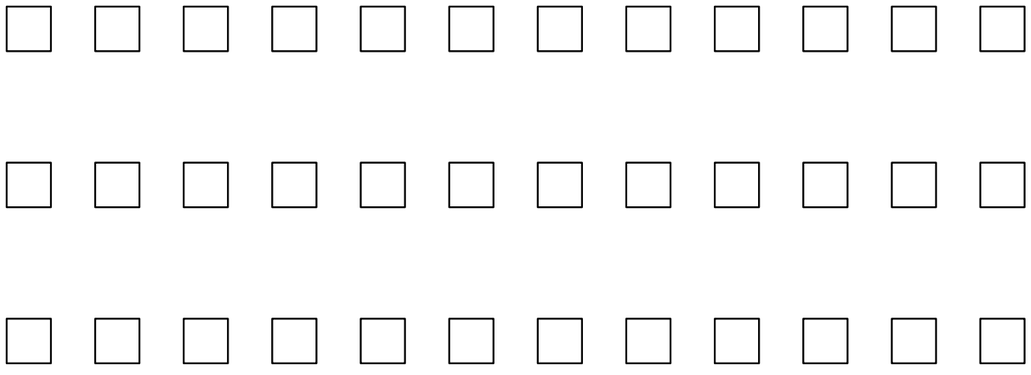
Ideally, the outcome of the experiment will take place in a curated gallery format with outputs displayed anonymously, encouraging participation of anyone to share their analysis of the outcomes in a balloted format.

Should my theory be correct, the jury will identify trained users through their outputs.

THE EXHIBIT



ELEVATION N.T.S.



PLAN N.T.S.

FUTURE STUDY

Distilled down, there are two possible but equally interesting outcomes:

1. My thesis is proven correct and the model outputs of trained architects are identified by the jury. From there, my goal would be to assess whether off-the-shelf technology has the potential to blur the lines between architect and novice.

2. My thesis is unresolved by the experiment, to which I will have the opportunity to study Alexander's pattern system in a different way, by treating each output as a separate pattern in a larger assemblage.

"It is possible to make buildings by stringing together patterns, in a rather loose way. A building made like this, is an assembly of patterns. It is not dense, it is not profound. But it is also possible to put patterns together in such a way that many many patterns overlap in the same physical space: the building is very dense; it has many meanings captured in a small space; and through this density, it becomes profound."[5]

CONCLUSIONS

While Yona Friedman and Christopher Alexander have developed intensive systems of language intended to be accessible by all, there are some problems. Their systems offer knowledge of architecture to a much broader audience, but in doing so invariably create architects by experience.

Through challenging the application of this pattern language in a more simplified format, this thesis hopes to delve into the possibilities, first by identifying whether there exists a difference between the professional and novice, and then to assess how far that difference may go through the introduction of technology.

SOURCING

1. Christopher Alexander, Sara Ishikawa and Murray Silverstein, A Pattern Language. New York: Oxford University Press. 1977.

2. “Principles Ville Spatiale.” Yona Friedman. http://www.yonafriedman.nl/?page_id=396. Accessed 3-28-17.

3. “Self-planning.” Yona Friedman. http://www.yonafriedman.nl/?page_id=393. Accessed 3-28-17.

4. “Studfinder.” Besler & Sons. http://studfindr.org/about.html. Accessed 3-27-17.

5. Christopher Alexander, A Pattern Language, page XLI.

POST-REVIEW ADDENDA

The experiment as structured for Thesis Preparation final review privledged professional users over the novice and the first output using the protoype kit seemed to verify this. In an effort to determine the differences between groups without ensuring these differences, several steps will need to be taken.

The kit itself will need a major revision or series of revisions since it is the fulcrum from which this thesis pivots. As well, revisions to the instructions are necessary as they are the pattern language through which the kit becomes activated.

As offered by the committee, a multiphased approach should taken using different kits. Agility in the design and implementation is necessary to accomodate unforseen outcomes as they happen.

The best approach might be a first phase to determine the validity of the language with a simpler kit. The second phase could be to verify the kit itself with an eye on the spatial relationships that can be developed.

Rather than a ballot system to identify the outputs from different users, the gallery depicted in these pages could be set up to form a dialog between groups and discuss the value of the language and kit; rather than try to form a discourse between participants, the kit and language system would be on trial through the dialog, so-to-speak. Alexander and his team developed their Pattern Language over eight years, while this thesis will attempt to engage it in discourse in less than eight months.