



Introduction to Design Process and Programming

Design/Design process



WHAT IS DESIGN?



DESIGN IS NOT AN EVENT



DESIGN IS NOT A PRODUCT



DESIGN IS NOT AN EXPERIENCE

de·sign

/dəˈzīn/ 

Noun

A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is built or made.

Verb

Decide upon the look and functioning of (a building, garment, or other object), typically by making a detailed drawing of it.

Synonyms

noun. plan - intention - scheme - draft - project - purpose

verb. plan - project - scheme - intend - draw - sketch

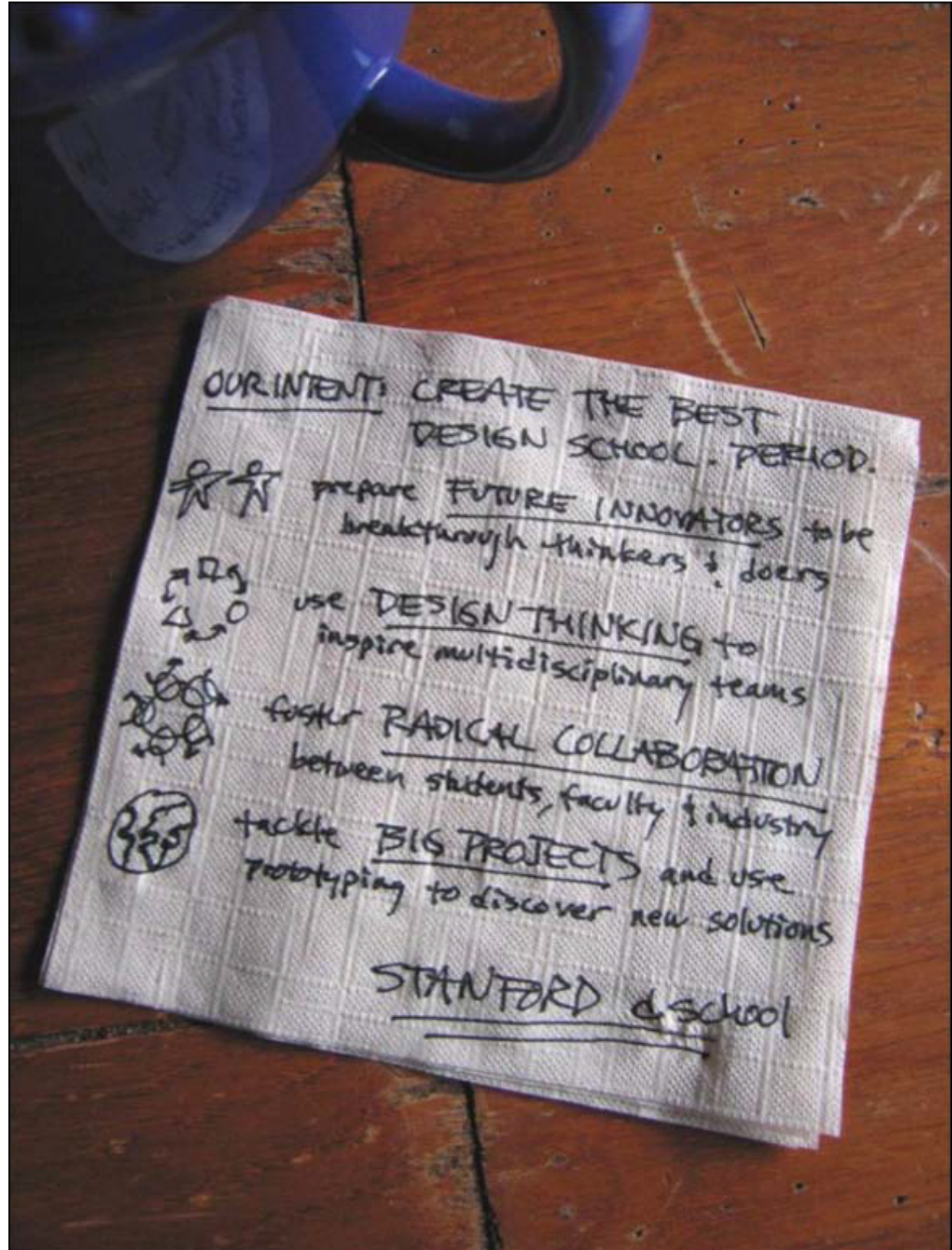
According to Google, "design" is both a noun and verb. But that doesn't help us to know ... because a lot of words are both nouns and verbs.

Its **synonyms** listed here **lean toward the dominant word as "plan"** -- which is also a noun and verb -- but the word "plan" **doesn't quite accurately capture** that look of **despair** on many designers' faces when deadlines loom large and you can hear them all say, "I wished I had planned!!"

What's missing in this definition of "design"?

What's missing in this definition of "design" **is the notion of an emotional connection grounded in aesthetics, narrative, or otherwise joy.**

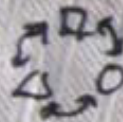
DESIGN IS A PROCESS...



OUR INTENT: CREATE THE BEST
DESIGN SCHOOL. PERIOD.



prepare FUTURE INNOVATORS to be
breakthrough thinkers & doers



use DESIGN THINKING to
inspire multidisciplinary teams



foster RADICAL COLLABORATION
between students, faculty & industry



tackle BIG PROJECTS and use
prototyping to discover new solutions

STANFORD & SCHOOL

**DESIGN IS A
METHOD OF
PROBLEM SOLVING**





**DESIGN IS
CREAT SOMETHING THAT DIDN'T EXIST BEFORE**



DESIGN IS CHOOSING



DESIGN IS TESTING



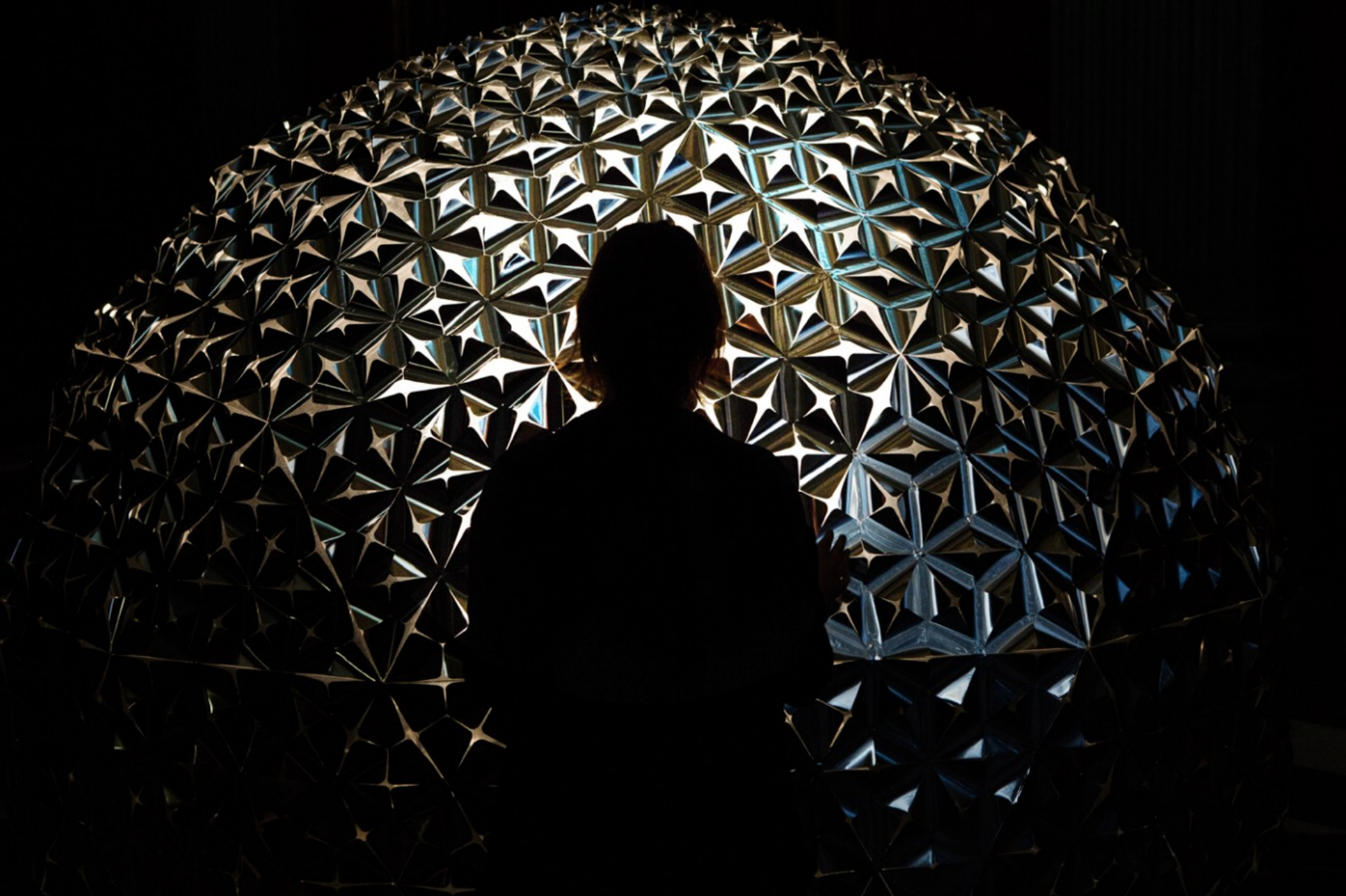
DESIGN IS EXPERIMENTING



DESIGN IS ' MAKING THINGS BETTER FOR PEOPLE'



DESIGN is an activity that translate an idea into a blueprint for something useful



Design is focused first and foremost on human behavior and quality of life



DESIGN IS “ TO MARK OUT ”

A silhouette of a person's head and shoulders is shown in profile, looking through a rectangular opening in a dark structure. The background is a bright, hazy sunset or sunrise, with warm orange and yellow tones. The person's face is mostly in shadow, but the light from the opening illuminates their features.

“A design marks out a **vision for what can be**;
the act of designing is to move with intent to
close the gap between existing conditions
and that vision.”

Todd Johnston



“Design is a hands-on endeavor of the mind, body and soul. It is both playful and thoughtful, and can be highly liberating.” Todd Johnston



Why design is important?

- Design is every where.
- Design is fundamental
- Everything around us is designed



But good design isn't simply about the surface. Aesthetics are important, but only a part of a bigger picture.



Good design begins with the **needs of the user**. No design, no matter how beautiful and ingenious, is any good if it **doesn't fulfil a user need**



Finding out what the **customer wants** is the first stage of what **designers do**.

Good design is...



innovative



**makes a product
useful**



aesthetic



**makes a product
understandable**



unobtrusive



honest



long-lasting



thorough



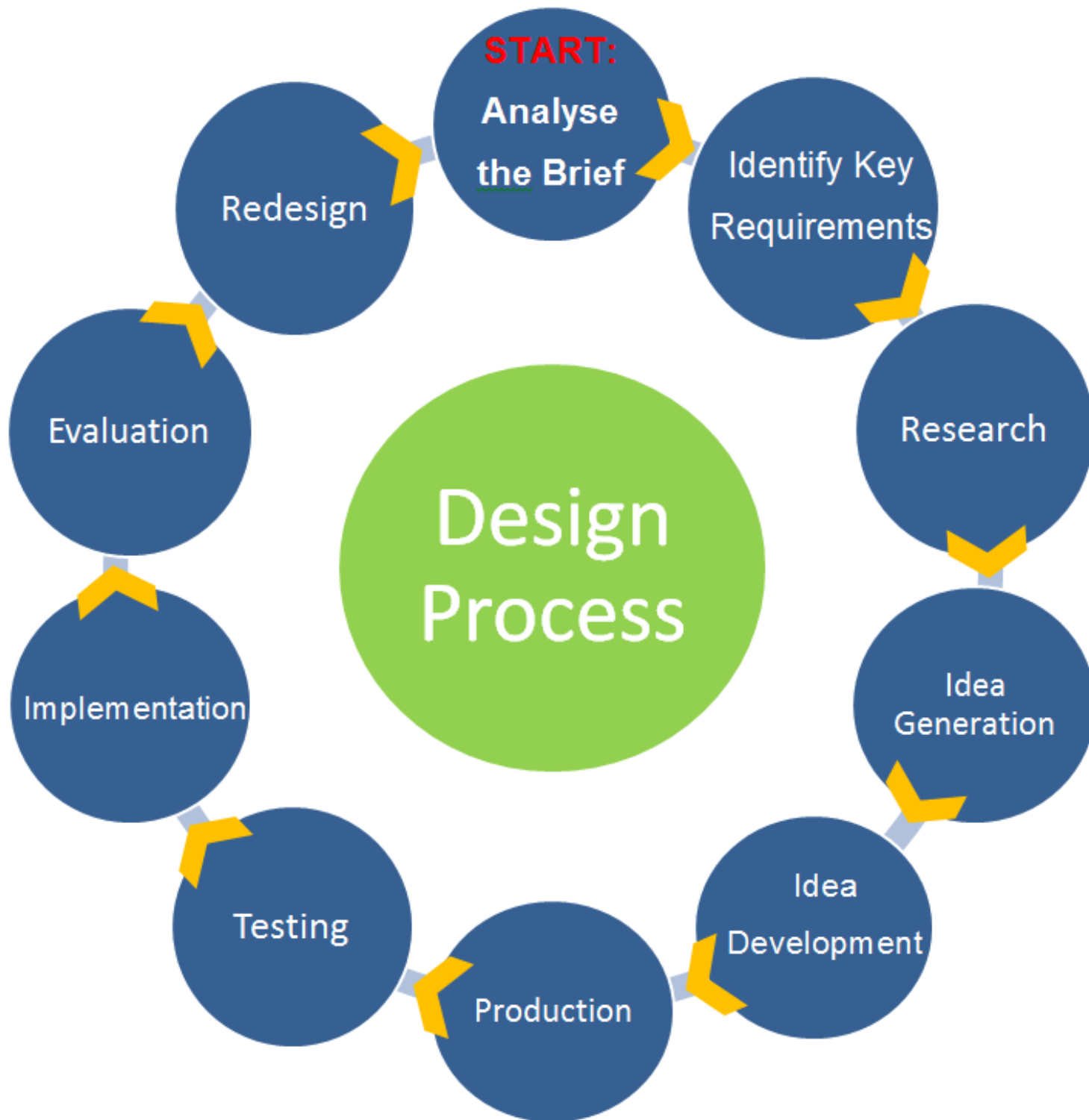
**environmentally
friendly**



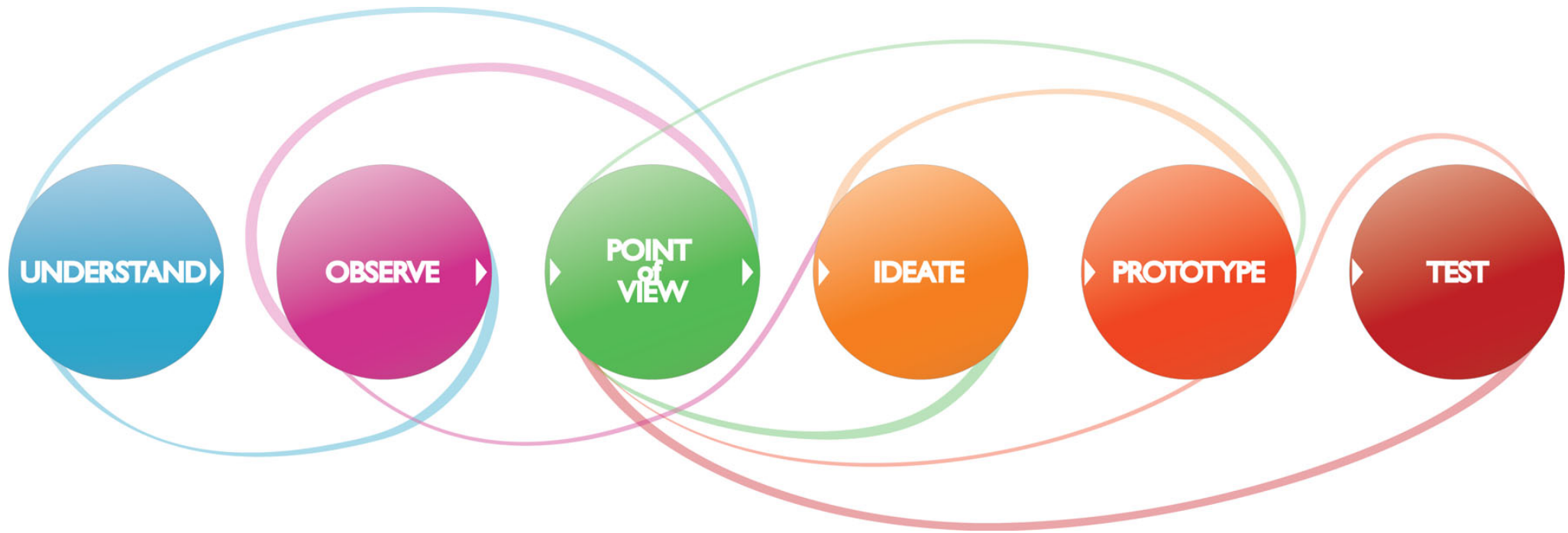
**as little design
as possible**

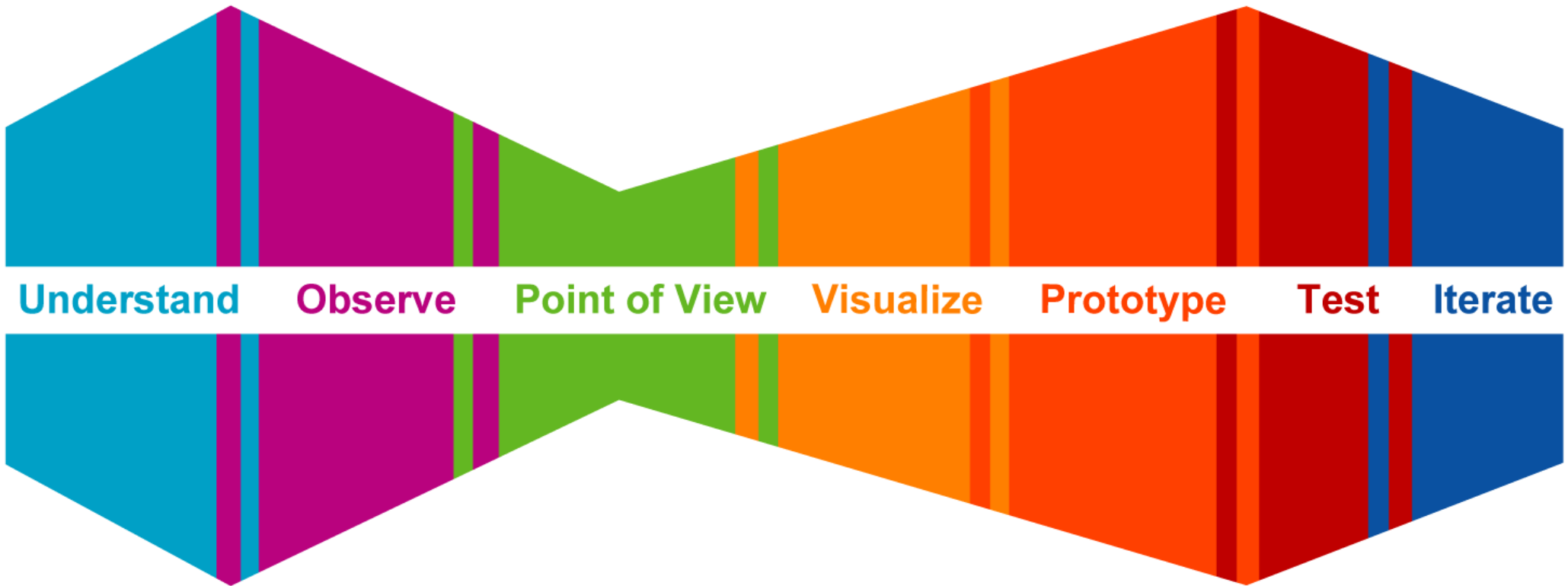
DESIGN THINKING

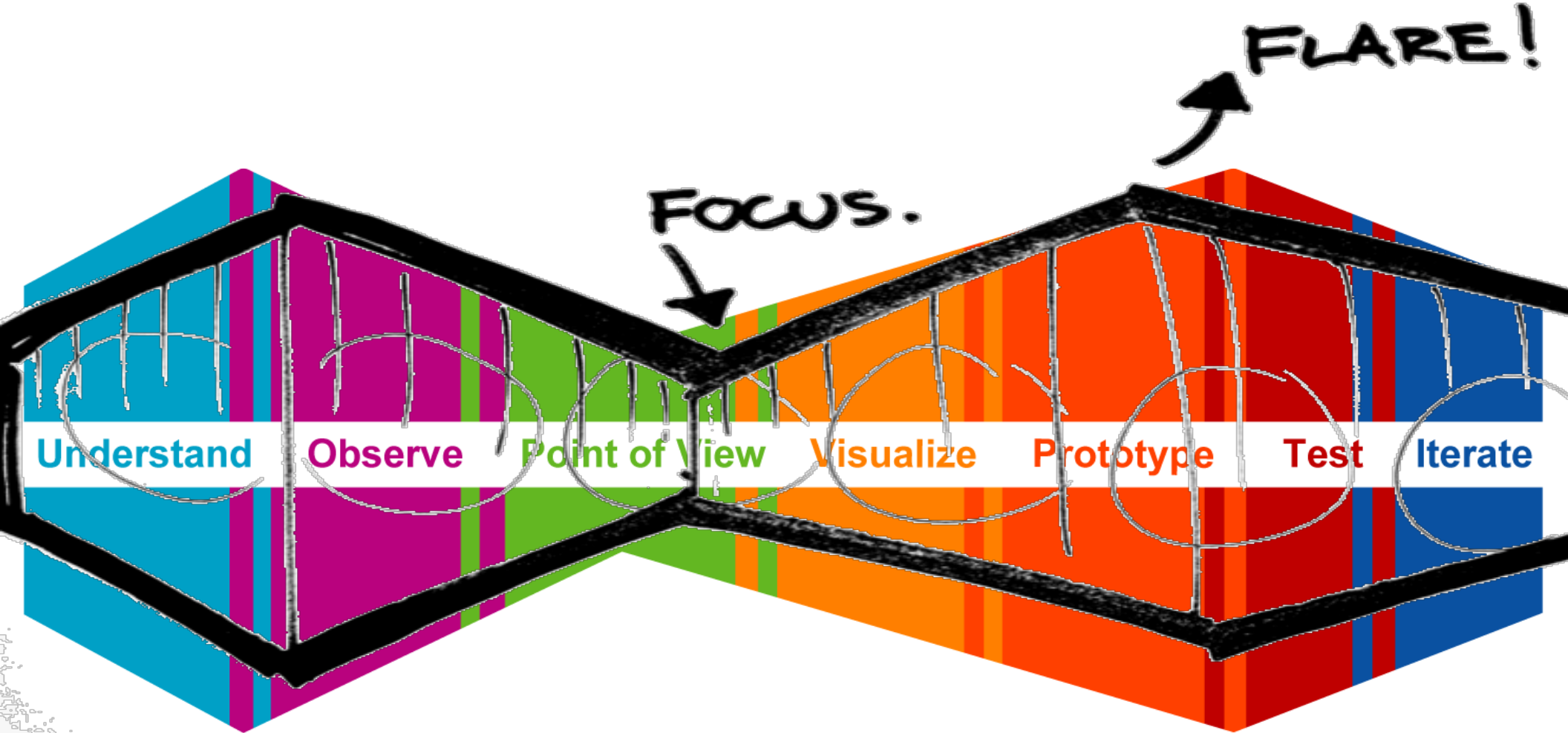




DESIGN PROCESS









FOCUS ON
HUMAN VALUES



SHOW
DON'T TELL



COLLABORATE
ACROSS BOUNDARIES



GET EXPERIMENTAL AND
EXPERIENTIAL



BE MINDFUL
OF PROCESS



CREATE CLARITY
FROM COMPLEXITY



BIAS TOWARD
ACTION

THE PROCESS REFLECTS THESE MINDSETS

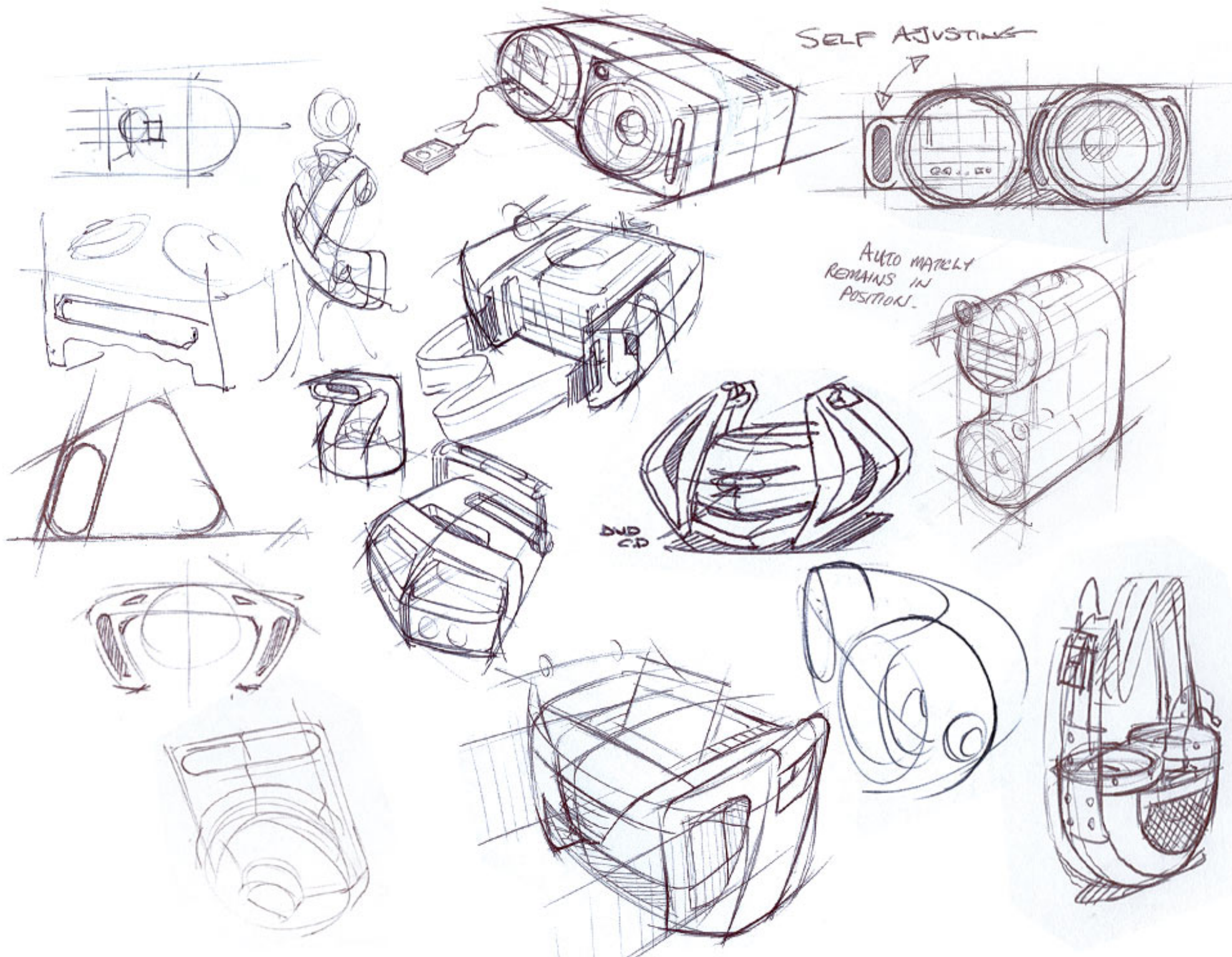
3 concepts.

noter mark



SUN - CAMERA - FLASH.

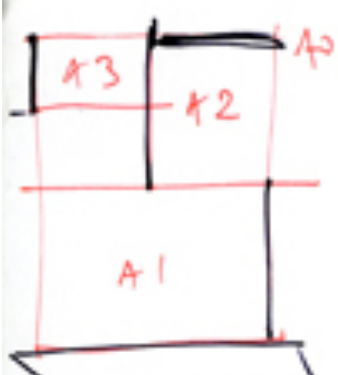




SELF ADJUSTING

AUTO MATELY
REMAINS IN
POSITION.

20
20



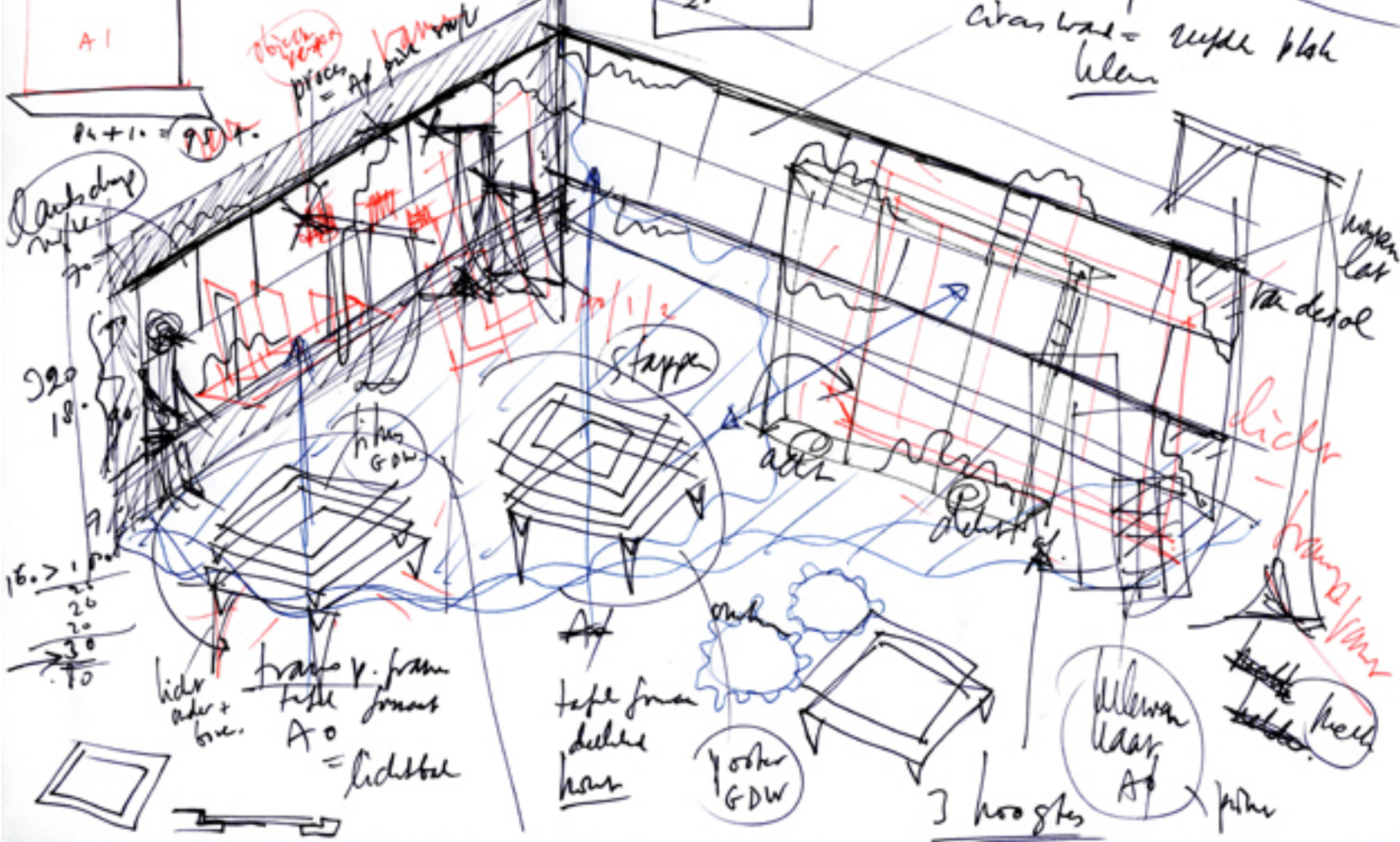
$A_0 = 8_0 + 10 = 90$
 $A_1 = 6_0 + 10 = 70$
 $A_2 = 42 + 10 = 52$
 $A_3 = 2_0 + 1_0 = 3_0$

9.0
 8.0
 5.0
 4.0
 2.0
 2.0
 values
 cm

process & work down ellipse

'circas was' - super block
Urban

84 + 10 = 94
 920
 18.0
 16.0
 2.0
 2.0
 3.0
 1.0



process = Af
 process & work down ellipse

Stappe

adit

dicker

hanga/van

lichtbe
 A0 = lichtbe
 lichtbe
 lichtbe

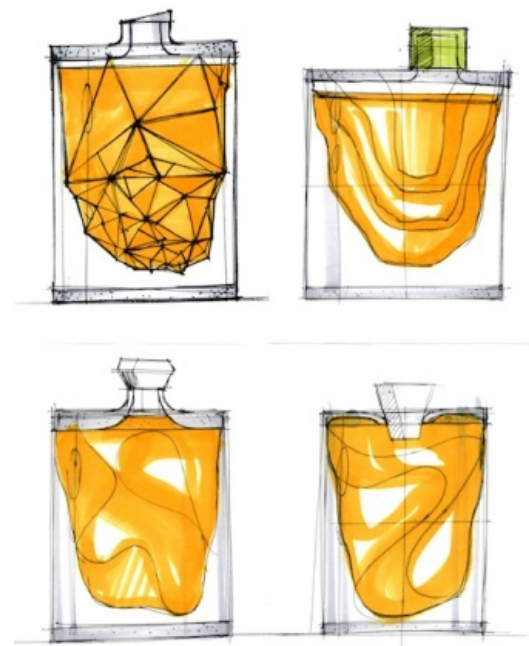
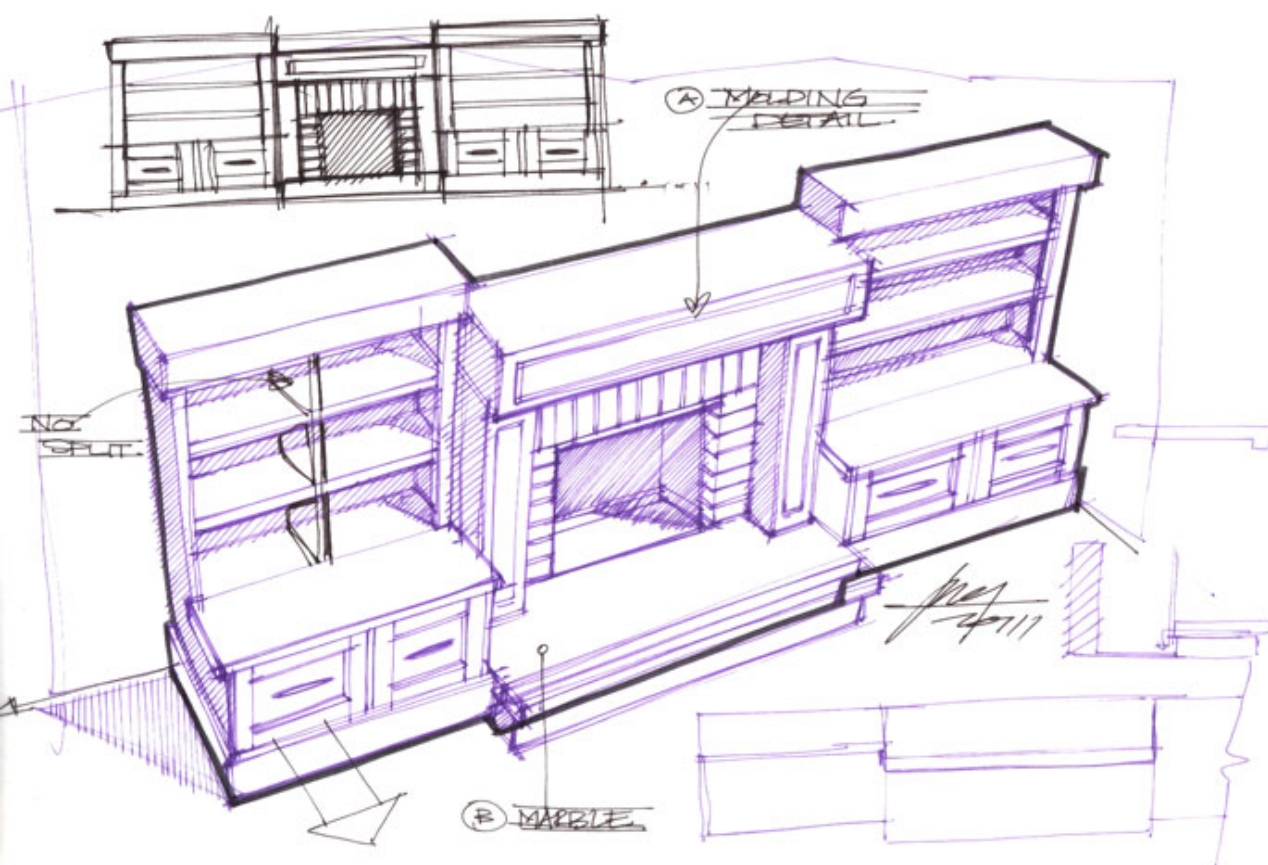
A1
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Yorker GDW

3 hoogtes

lichtbe
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lichtbe
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 lichtbe

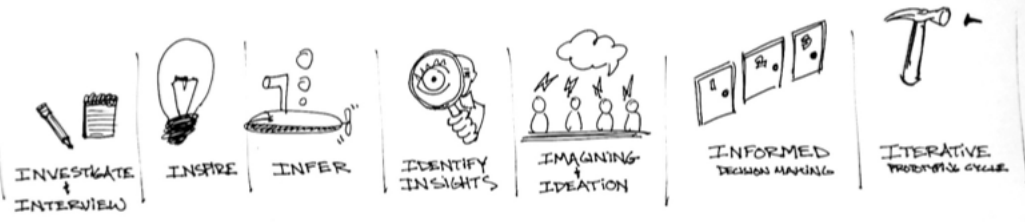


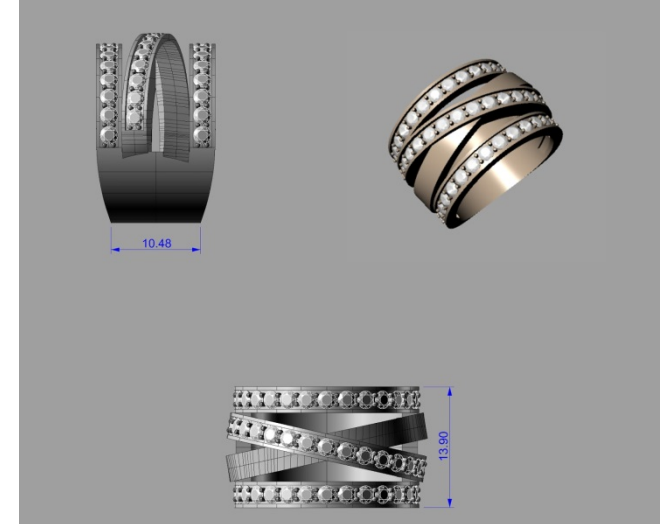
MITV: PROCESS

- LISTEN
- UNITE
- THEME
- CONCEPT
- MEET THE AUDIENCE
- FILTER
- JUSTIFY

HILLMAN
CURTIS

NVEVA I-LAB : 7 INVENTIVE THINKING SKILLS

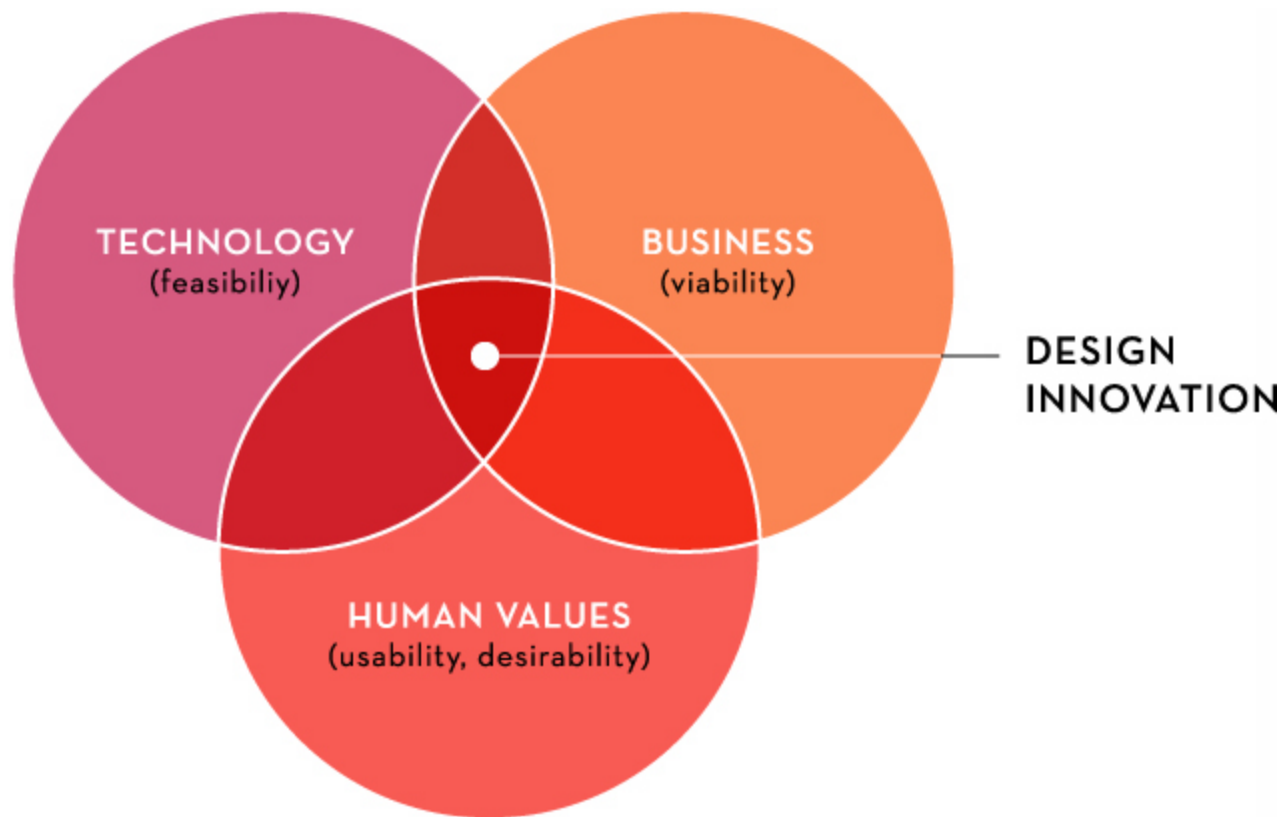






DESIGN THINKING

ANALYTICAL THINKING



IDENTIFY PROBLEM



BRAINSTORM



DESIGN



BUILD



REDESIGN

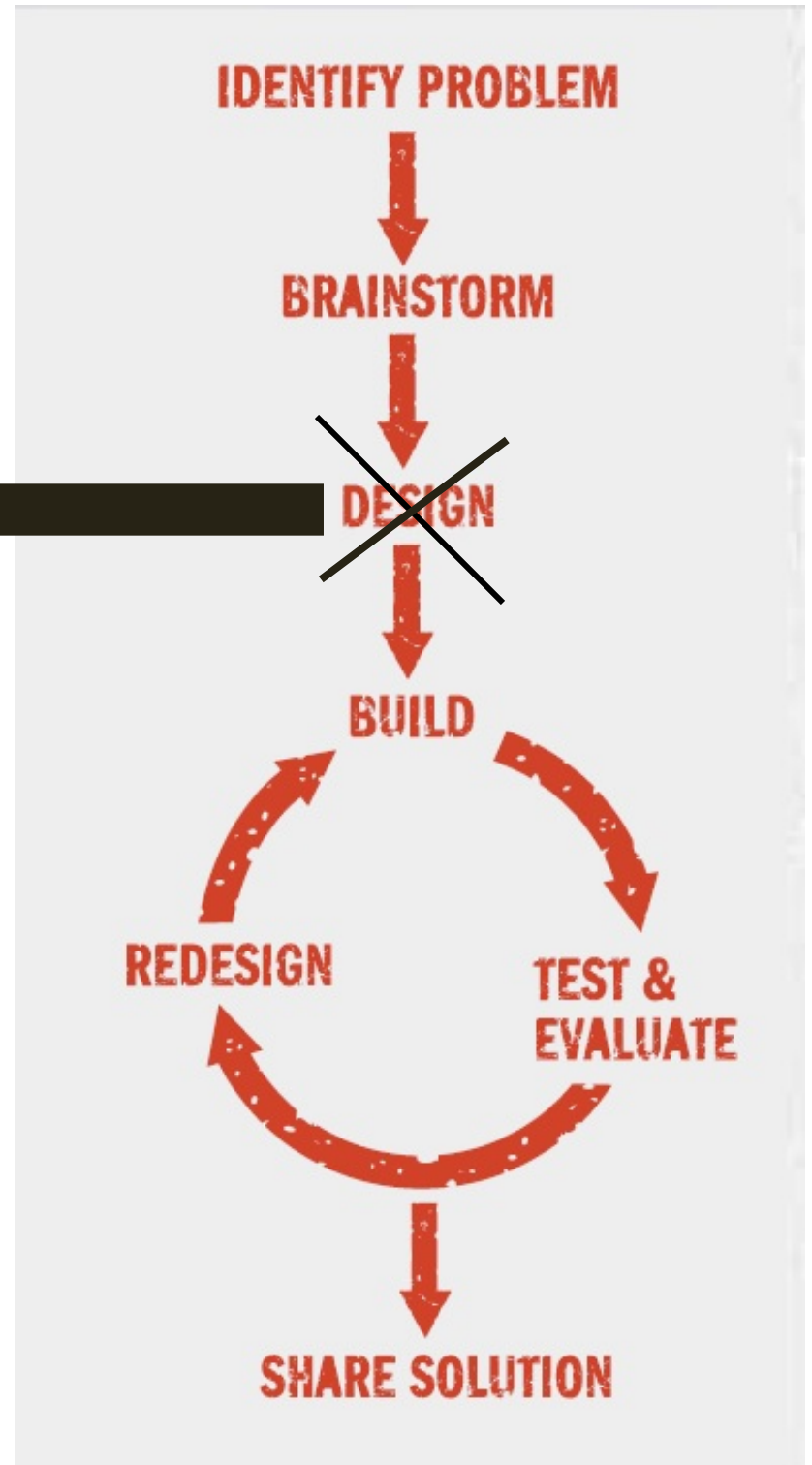
**TEST &
EVALUATE**



SHARE SOLUTION

Design

Idea generation



"All design work seems to have three common traits:

- ❑ **There is a message to the work**
- ❑ **The tone of that message**
- ❑ **The format that the work takes**

Successful design has all three elements"

Frank Chimero





**"Good design adds value
faster than it adds cost."**

Thomas C. Gale

It is a combination of analytical accuracy, synthesis methods & tools, and is based around the "building up" of ideas.

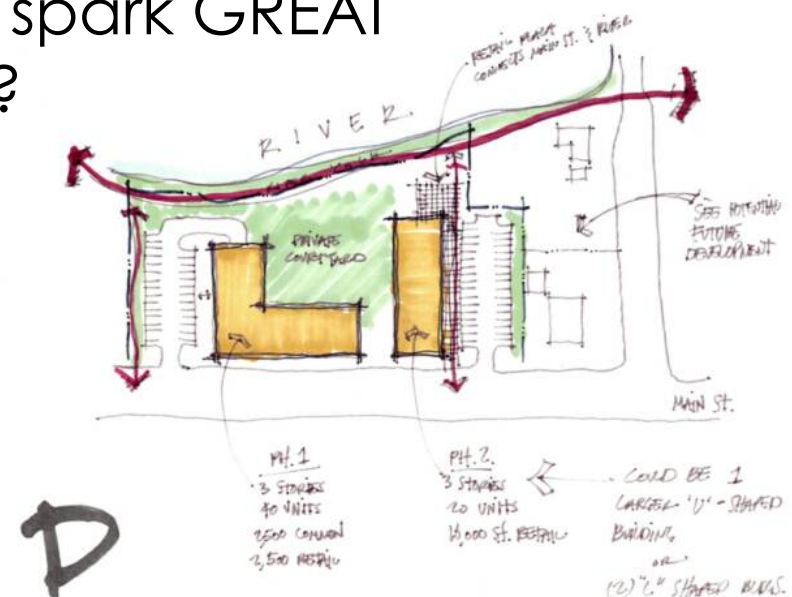


IDENTIFY THE PROBLEM

- ❑ Understanding the **problem** paves the **way for solving it**.

BRAINSTORM

- ❑ Coming up with **many possible solutions** is a powerful way to begin a project.
- ❑ What are some **different ways** to **tackle today's challenge?**
- ❑ **Off-the-wall suggestions** often spark GREAT ideas. How **creative** can you be?



IDEATION

- Now it's time **to choose the best solution** and **plan how to build it.**
- Which brainstormed ideas **are really possible**, given your **time, tools, and materials**?
- What are some problems you need to solve as you build your project?
- How can a sketch help clarify your design?

TEST, EVALUATE, AND REDESIGN

- Once kids settle on a design, it's time to **build, test, and redesign** it.
- Why is it a good idea **to keep testing a design**?
- What specific goal are you trying to achieve**, and how will you know if you've been successful?
- How does the design **meet the criteria for success** presented in the challenge?

SHARE SOLUTIONS

- ❑ Presenting one's work to others is a **constructive way** to **conclude a project**.
- ❑ What's the **best feature** of your design? **Why?**
- ❑ What were the **different steps** you did to get your project to work?
- ❑ What was the **hardest problem to solve?**
- ❑ Did you have to do something **a few times** to get it to work?
- ❑ What If you had more time, how would **you improve** your project?



We start with something that called **Design Research**

1.Design Research:

- ❑ Is to acquire a **view of the world**,
- ❑ To interact with end users in order to **understand their needs and desires**
- ❑ To understand what **opportunities** there are for **design improvements changes.**



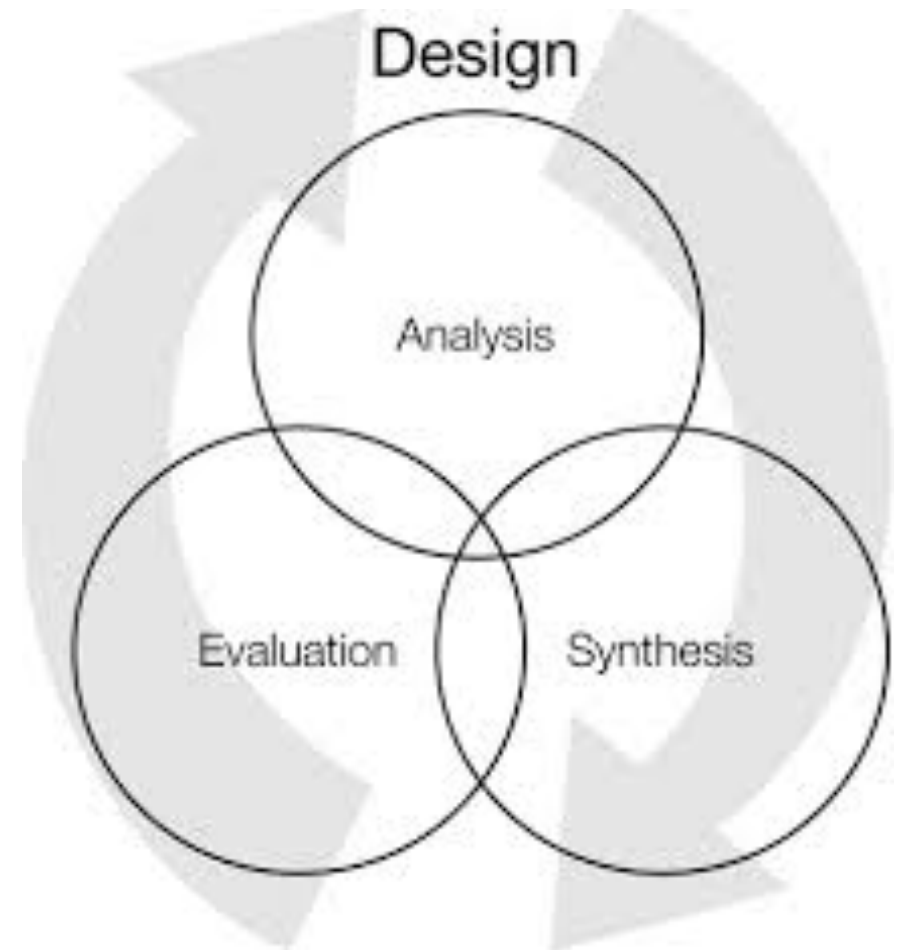
Design Research Could potentially lead to:

- ❑ **The discovery of hidden desires**
- ❑ **potentially vital design insights**



2.Synthesis

After we have gathered a significant amount of data and insights, we then **proceed to synthesis** in order to understand the **relationships within data**, from which we **extract meaningful insights**.



Synthesis is:

- ❑ combination or composition, **in particular.**
- ❑ the **combination of ideas** to form a theory or system
- ❑ **Interpretive**
- ❑ It is to the **individual**
- ❑ Which means that each person who synthesizes the data will most likely end up **with different results**, which is the beauty of synthesis



Design As Storytelling

3. Storytelling in Design

After the synthesis, we continue with **the iterative process** of design where we make things, form **scenarios, stories** in **visual forms**, and **storyboards**.

We **illustrate interaction over time**, how people **grow with the product**, and **how they relate to it**. The purpose of the story is **how time plays a role**.



“Great design is storytelling at its finest; it is insightful, sincere and evokes emotion and change. Design is at the center of the user experience and it is the designer’s responsibility to make the experience remarkable for both the client and their audience.”

Jim Antomopoulos

5.Evaluation

For the last stage, we reach the evaluation, where we **test the things** we have created to understand people behavior and people needs.



Research:

Contextual Design (ethnography), Mapping, Storytelling, Cultural Probes

Synthesis:

Theory of Change, Reframing method, Concept Mapping (zoom Semantic), Insight Combination

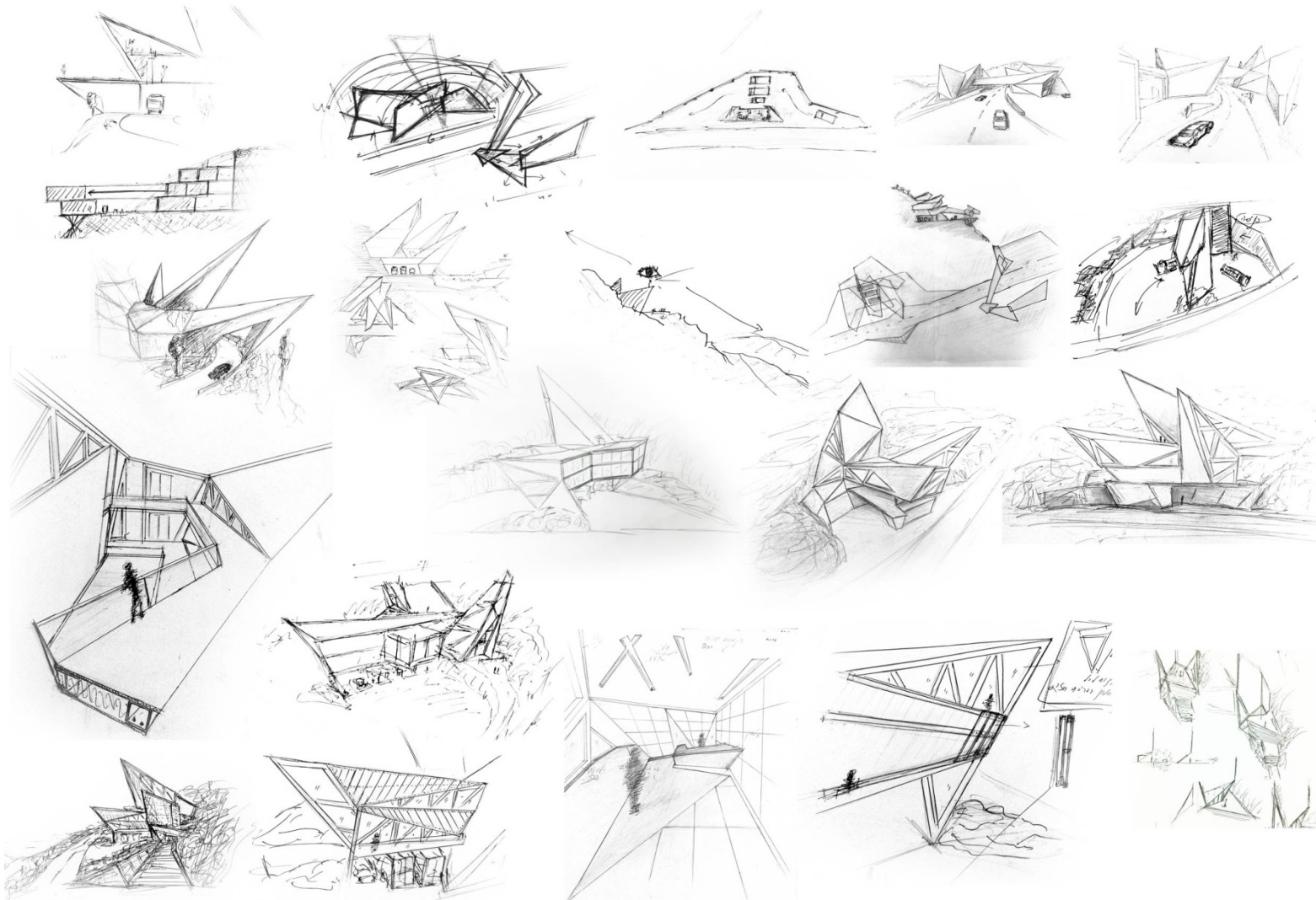
Ideation:

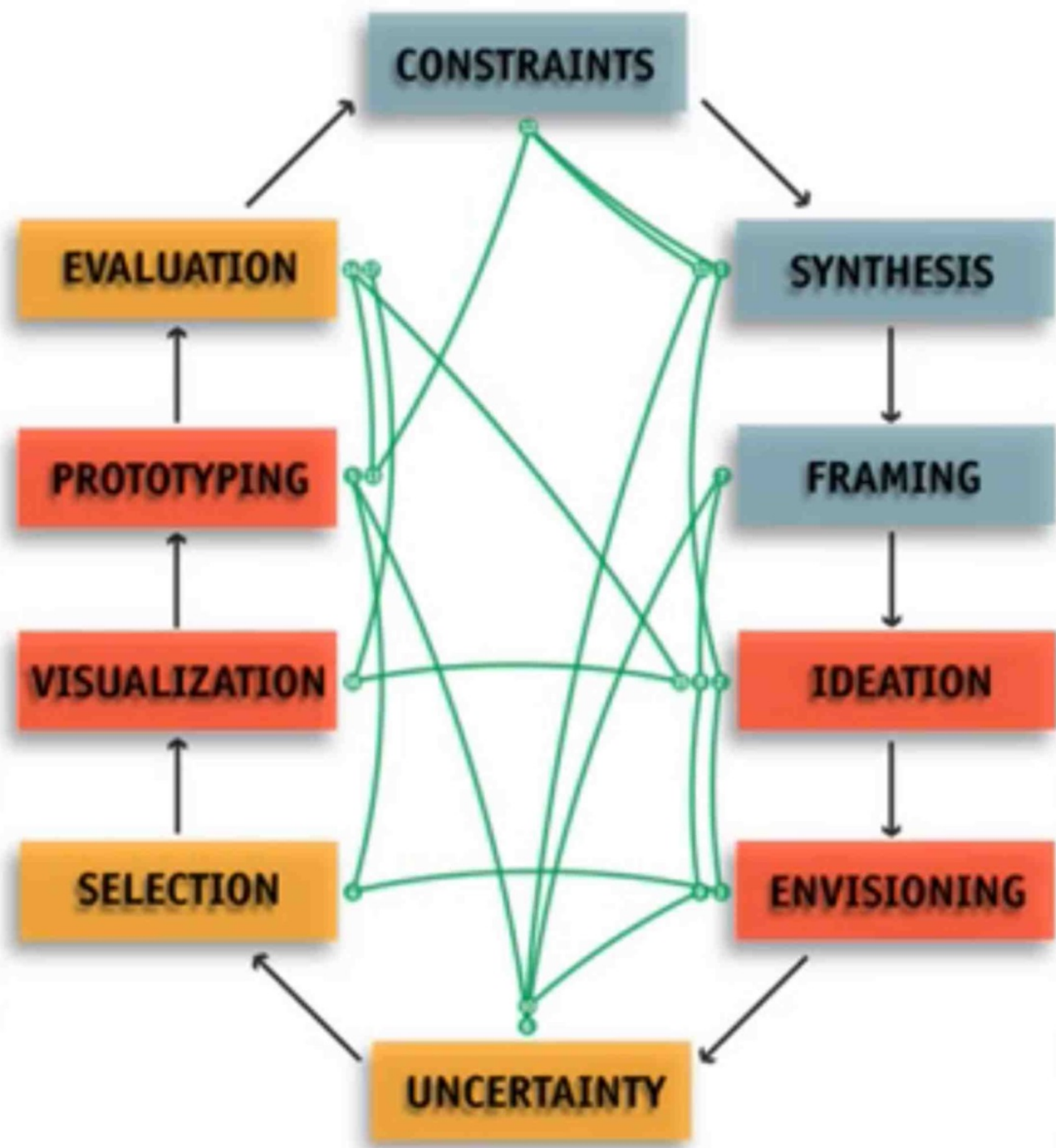
Brainstorming principles, Building up other people's ideas, mapping ideas

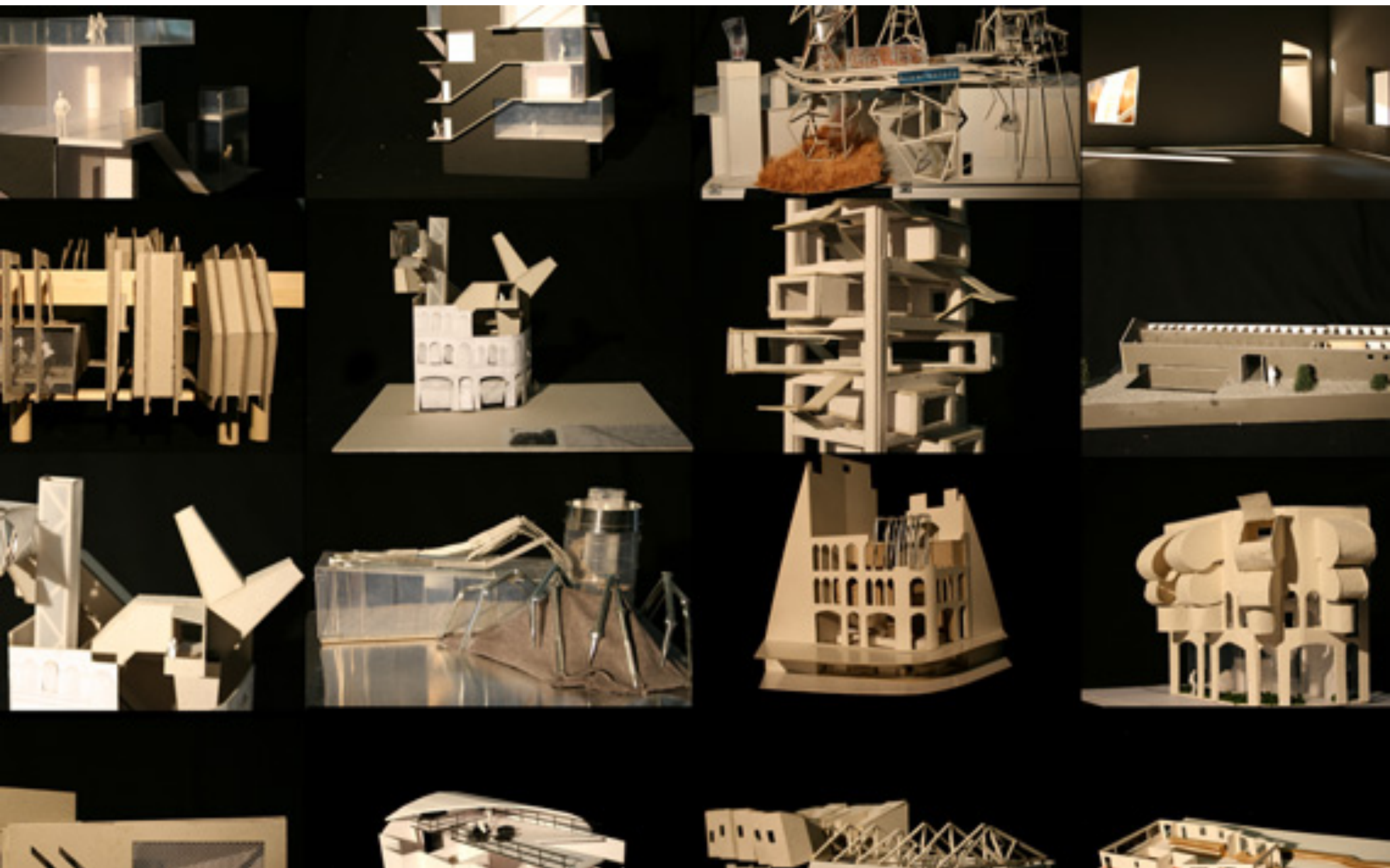
Design & Iteration:

Products Sketches/wireframes, Scenario Planning, Journey Maps, Use Cases, Bodystorm, Service Blueprint

- ❑ Initial ideas
- ❑ Try different ideas
- ❑ Learn from your Mistakes
- ❑ Try again



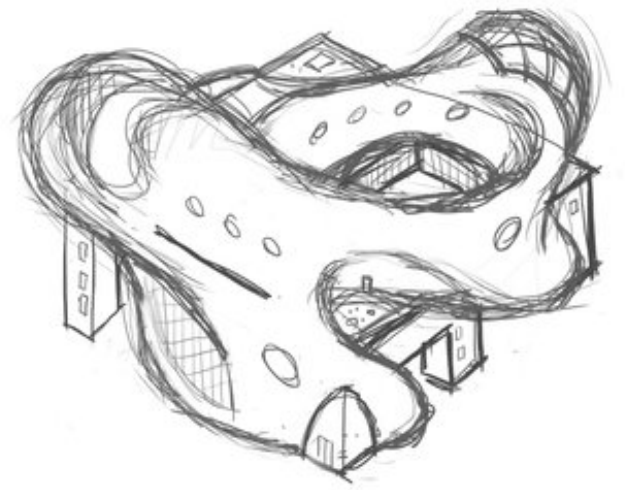
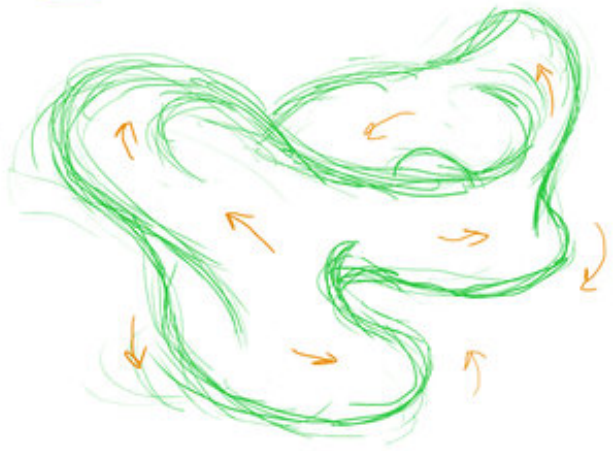
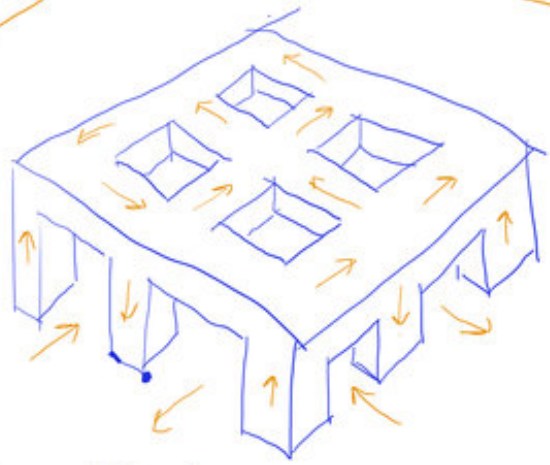




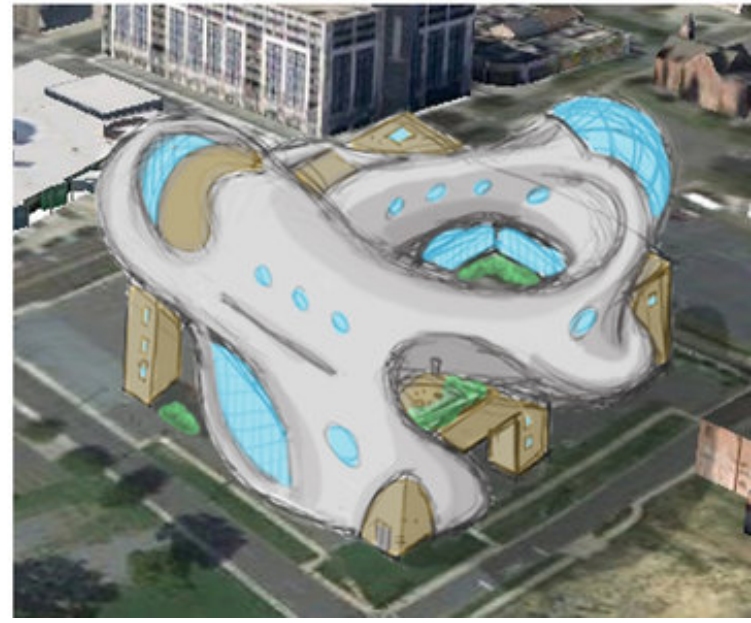
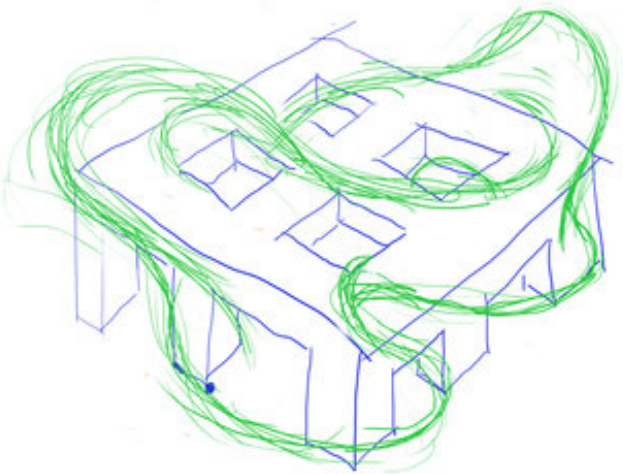
2 PATTERNS OF CIRCULATION MERGED INTO ONE SCHEME ↓

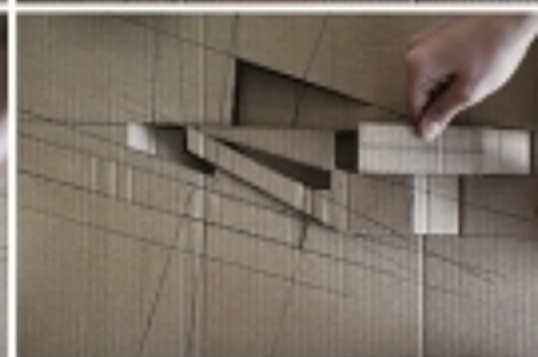
1st FORM : Logical, planned, rigid.

2nd FORM : Chaotic, Random, Organic

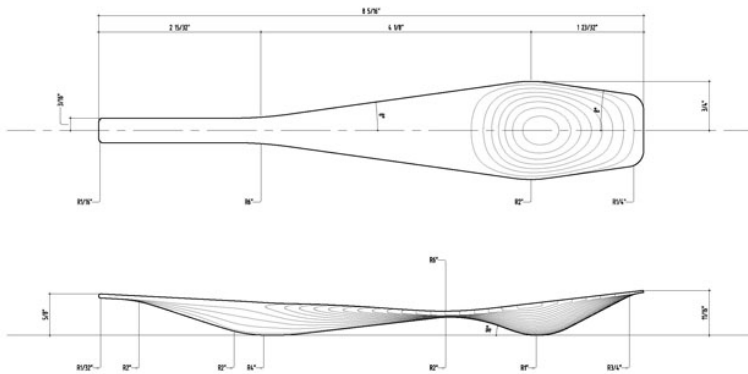
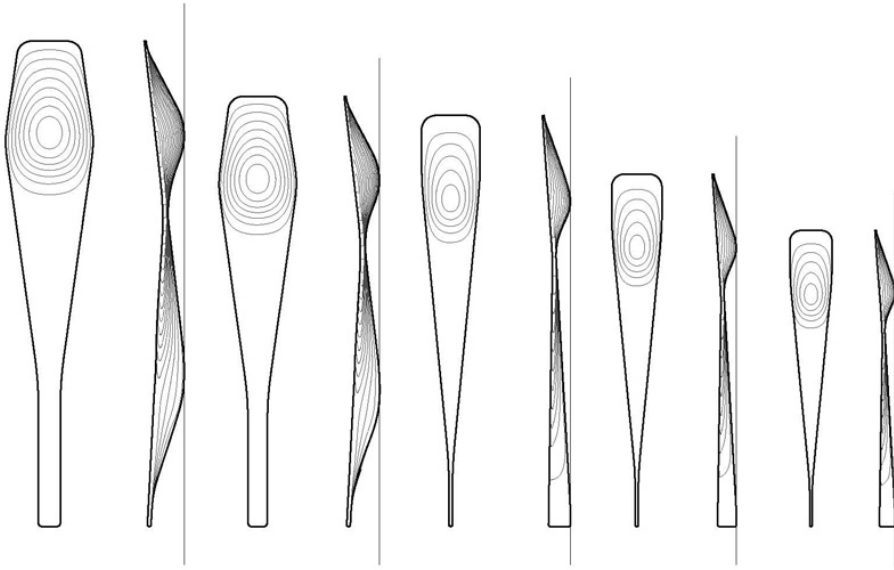


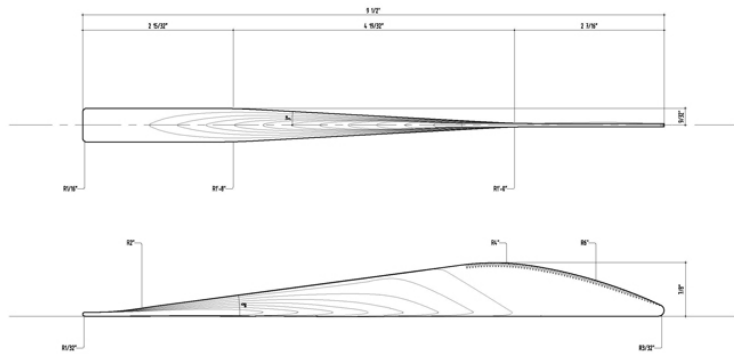
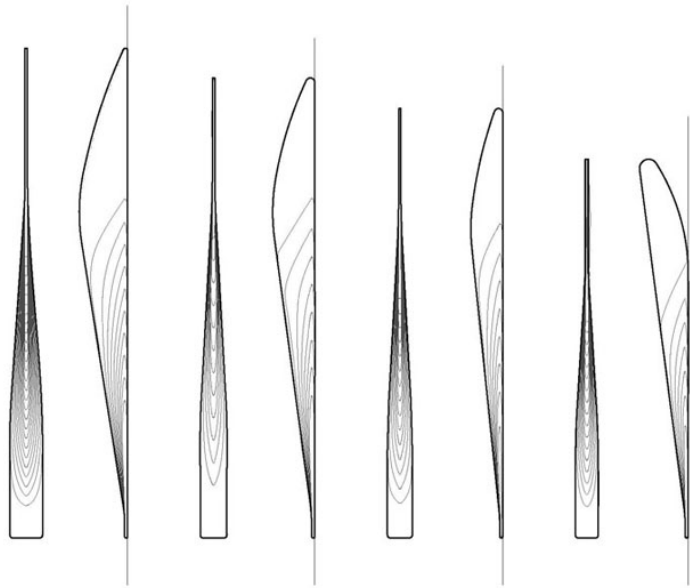
COMBINED :

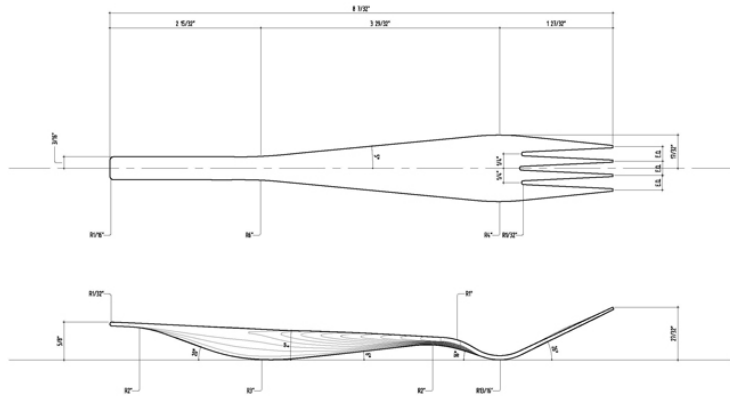
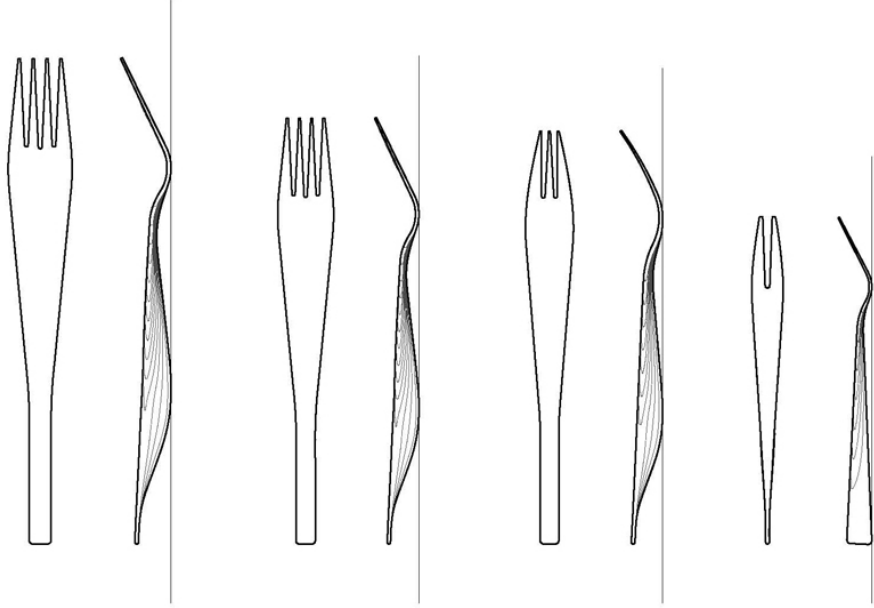




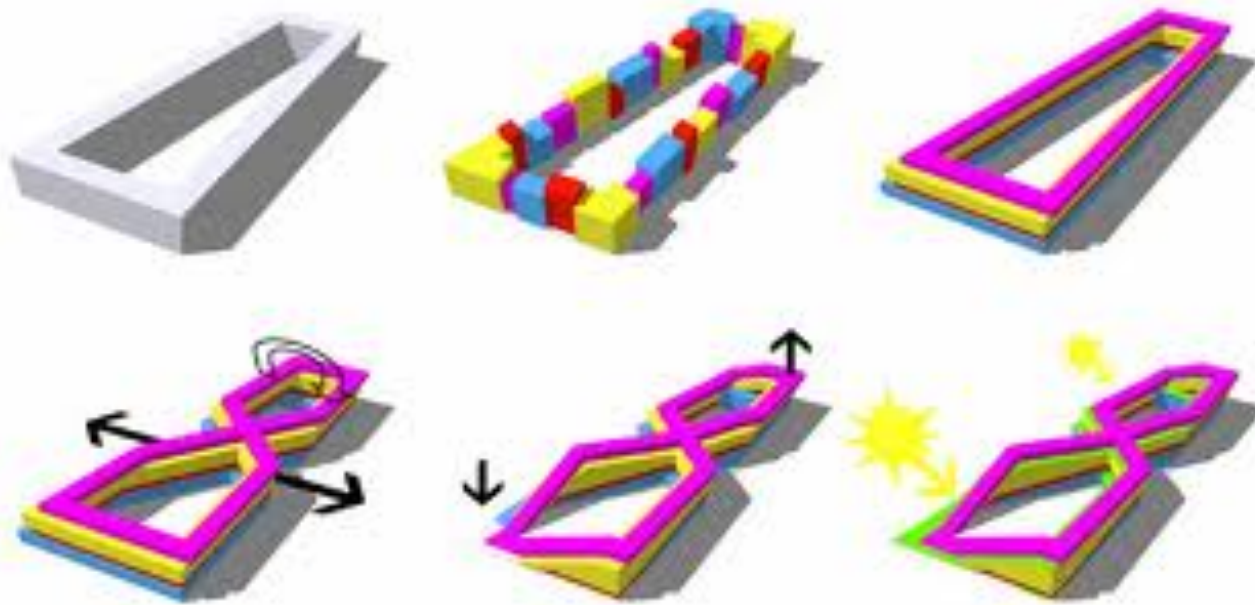
NUM NUM- NADAAA



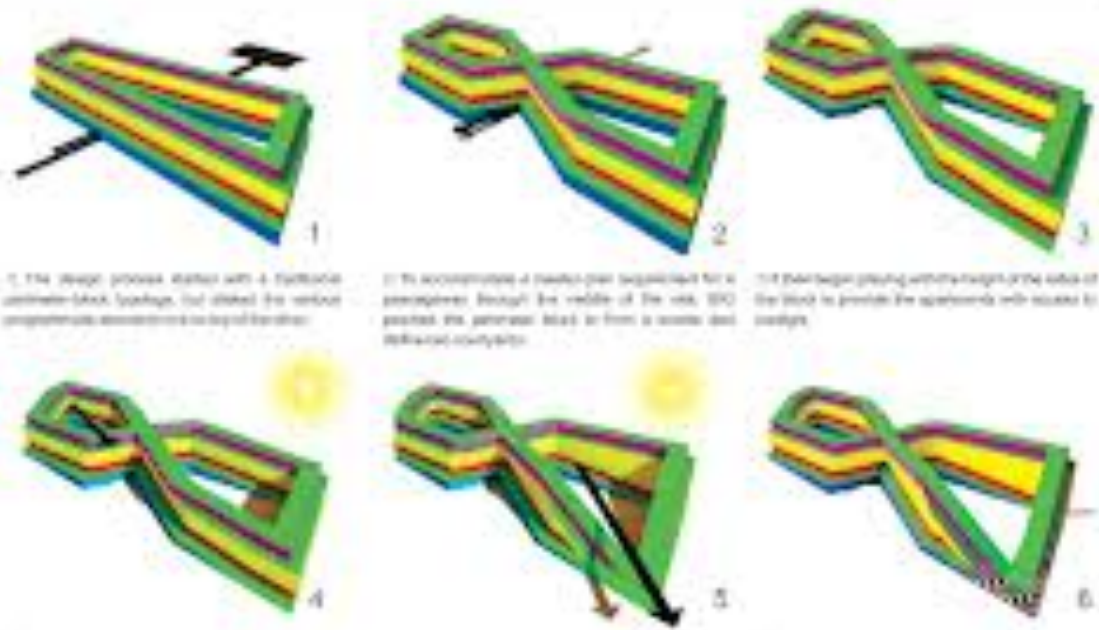








Manipulation of architectural forms through massing & solar studies...



1. The design process starts with a traditional uniform block footprint. But added the vertical programmatic dimensions to equal function.

2. To accommodate a master plan requirement for a pedestrian bridge in the middle of the site, SPD pushed the generous block to form a series of different courtyards.

3. The plan began playing with the height of the sides of the block to provide the apartments with views to outside.

4. By pushing up the southeast corner, this creates a slope that gives residents views of adjacent surrounding courtyards.

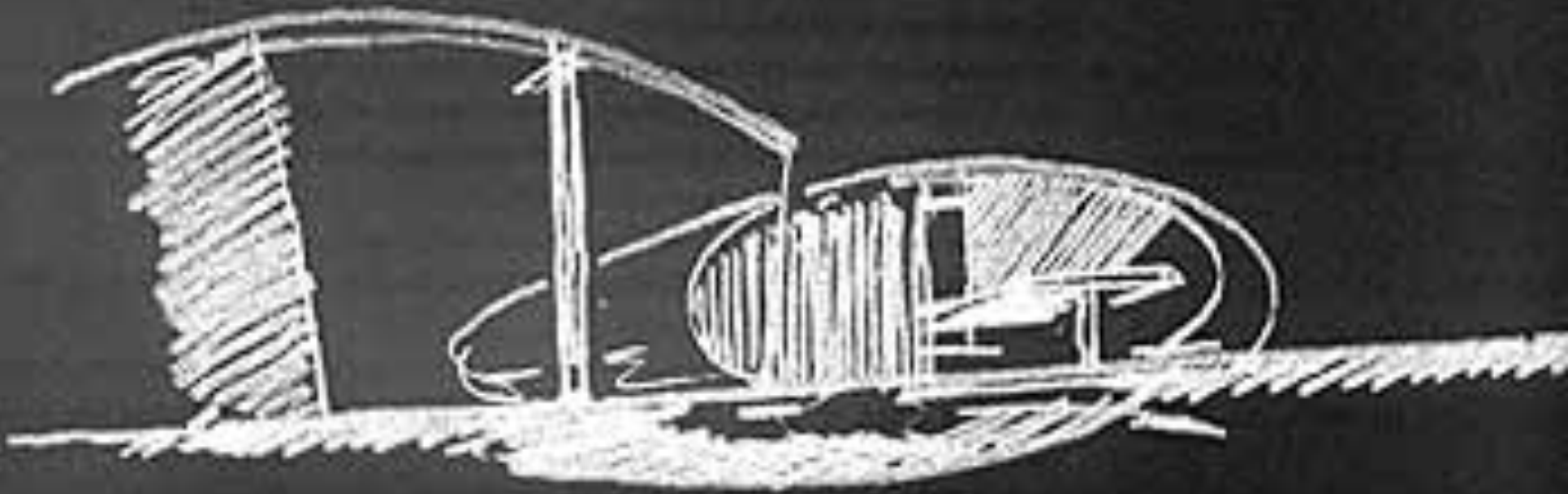
5. Also, by compressing the southeast corner, this creates a slope that gives residents demand adjacent courtyards and parking levels.

6. These adjustments allow for a sloping path that leads across the building, allowing for future right-of-way and parking levels.





concepts, motif, theme





what does concept mean to YOU?

what everything answers to

- doug, interior designer

creative chaos

inspiration. idea generation. not held to real deliverables

- hao, architect

the creative extension of what you learn from the research

visually bringing a story to life

finding the richer, deeper, REAL story

- janice, EGD

the BIG IDEA

the deeper meaning beyond the superficial

the glue that holds everything together

- collin, interior designer

Concepts

- ❑ A **general notion** or **idea**
- ❑ An idea of something **formed** by **mentally combining all its characteristics or particulars**; a **construct**.
- ❑ A directly **conceived** or **intuited object of thought**.



- ❑ A 'holiday' is a concept.
- ❑ A 'seaside holiday' is more specific.
- ❑ There can be yet more detail: a beach holiday, a yachting holiday, a bird-watching holiday, an adventure holiday, etc.



The value of concepts is that we can use them to 'breed' ideas.

- ❑ Concepts **can be categories of functions or an assembly of things or activities.**
- ❑ An 'activity' is a concept.
- ❑ A 'game' is a more specific concept.
- ❑ 'Football' is yet more specific.
- ❑ The match between two specified teams is the **actuality.**



A design concept is an idea for a design.

- ❑ It is a **general idea** for the drawing. it help to know and **identify all the process** under taken in the **design process**.
- ❑ Concepts play a **key role** in the **development** of **innovative design solutions** for many Designers.
- ❑ Concepts are used to **frame** some **general design approach**.



For instance a design concept for a website might sounds like

"It will be mostly dark muted colors with some orange highlights, and use the theme of circles that will be repeated throughout the site".

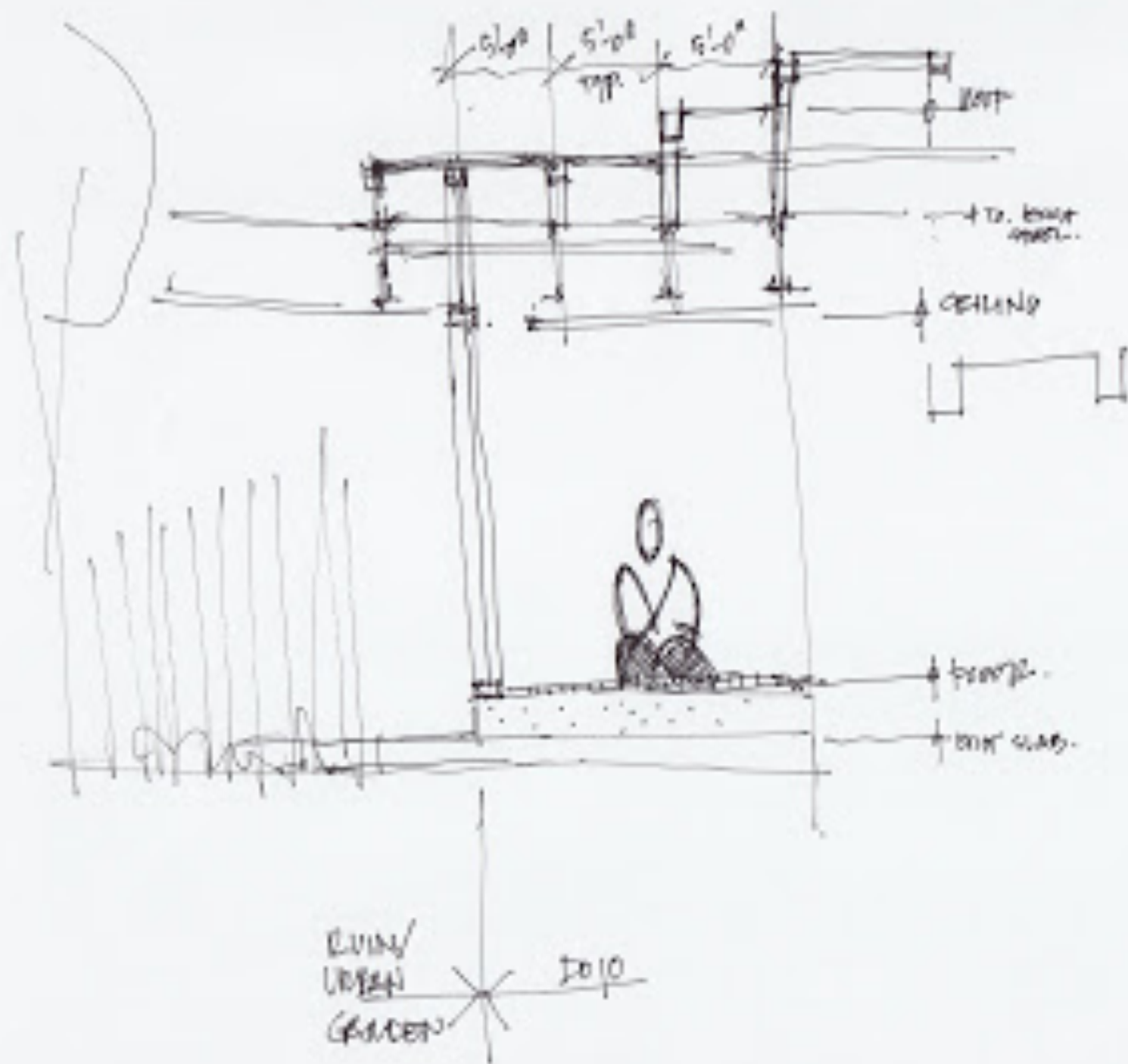


It is usually accompanied with a design mockup, which is a representation of the idea that **isn't fully finished** or **implemented** the way the final product will be.

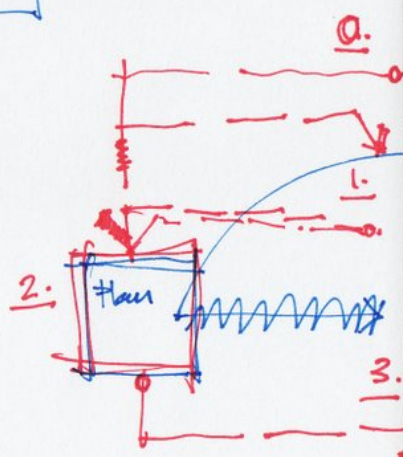
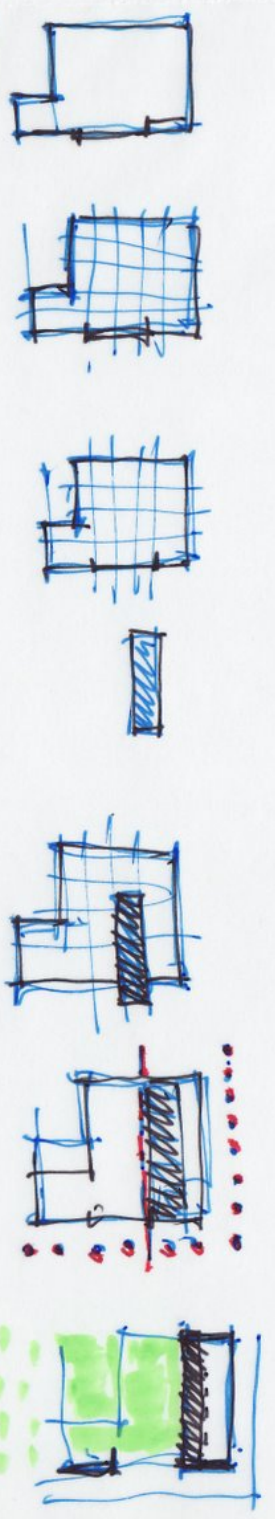
For instance a mockup for a web design might be a **screenshot instead of a rendered webpage.**

A mockup for a business card might be a few versions of the design idea **printed out on a sheet of paper** instead of the final run of printed





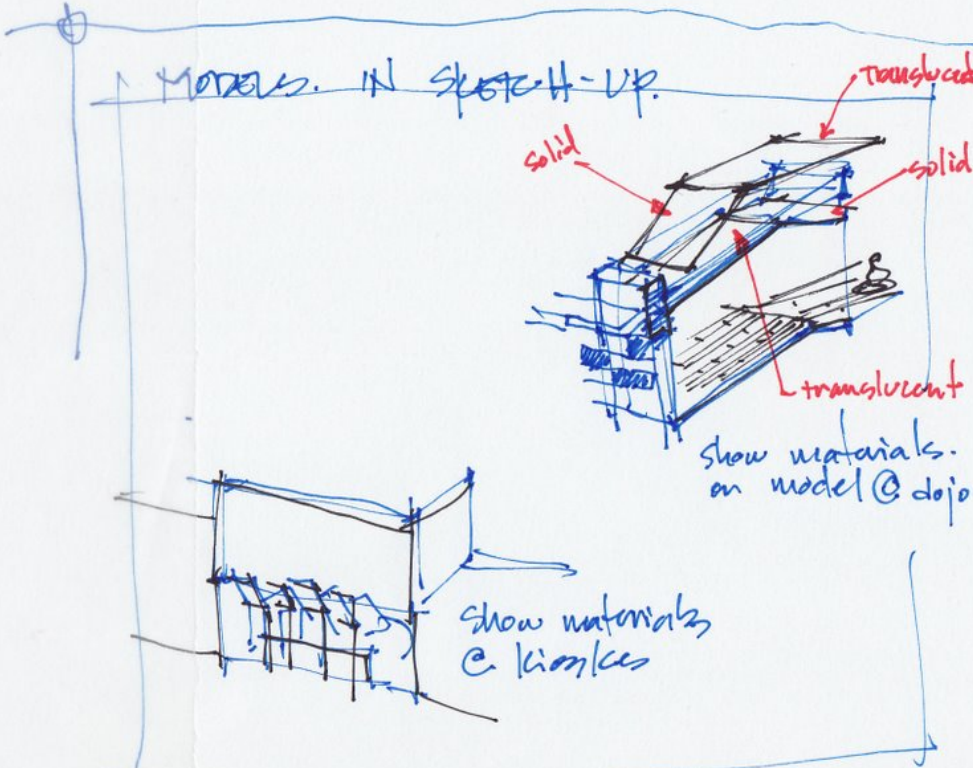
title slide. ?



- 1. DIAG. SITE
- 2. MOTION MAP. ?
- 3. SECTION OVERALLS.
- 4. SECTION detail
- 5. MODELS. WIRE-FRAME ?

PLAN SECTION DIAG.

Materials

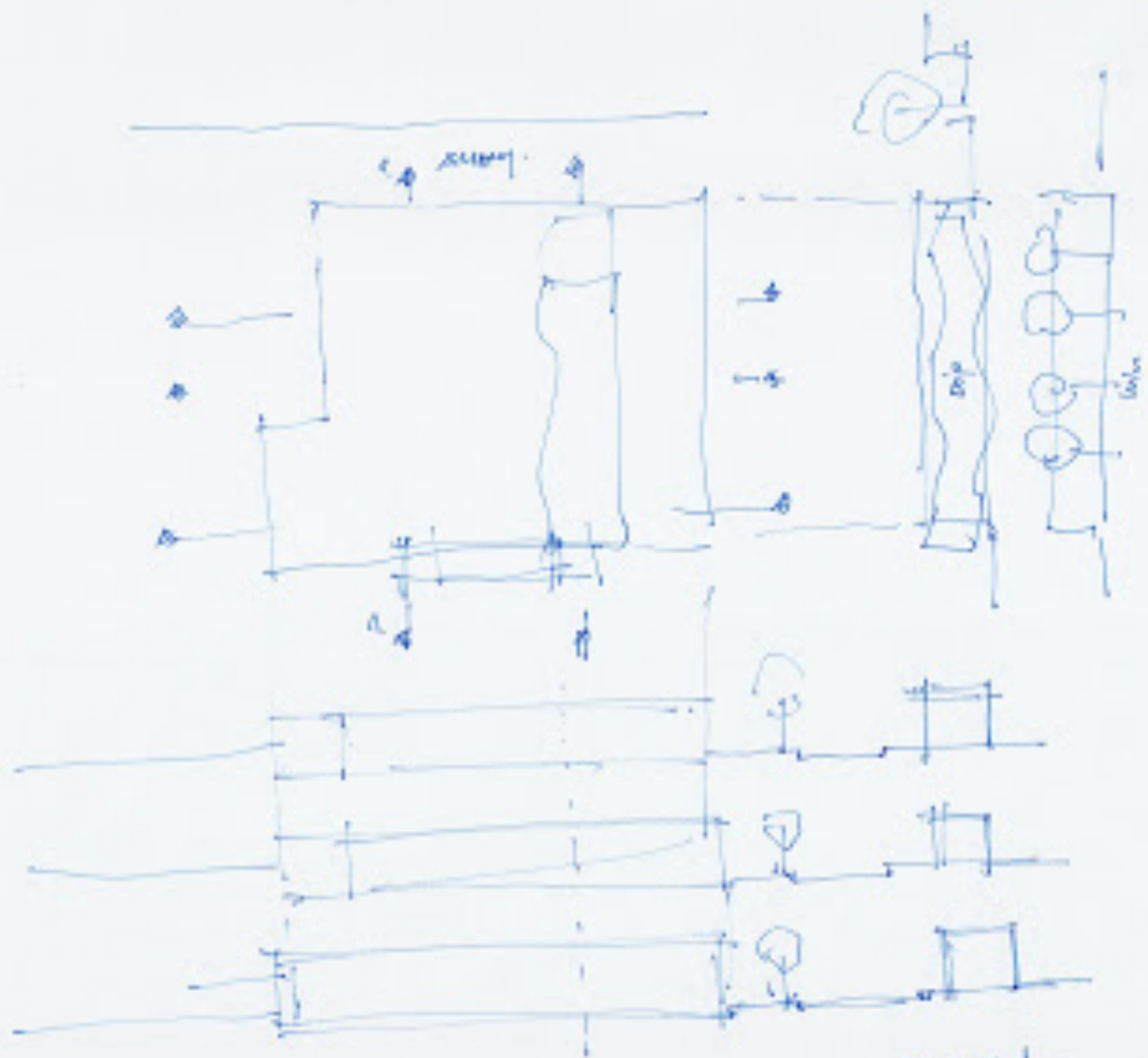


details. panels

5'0" sections

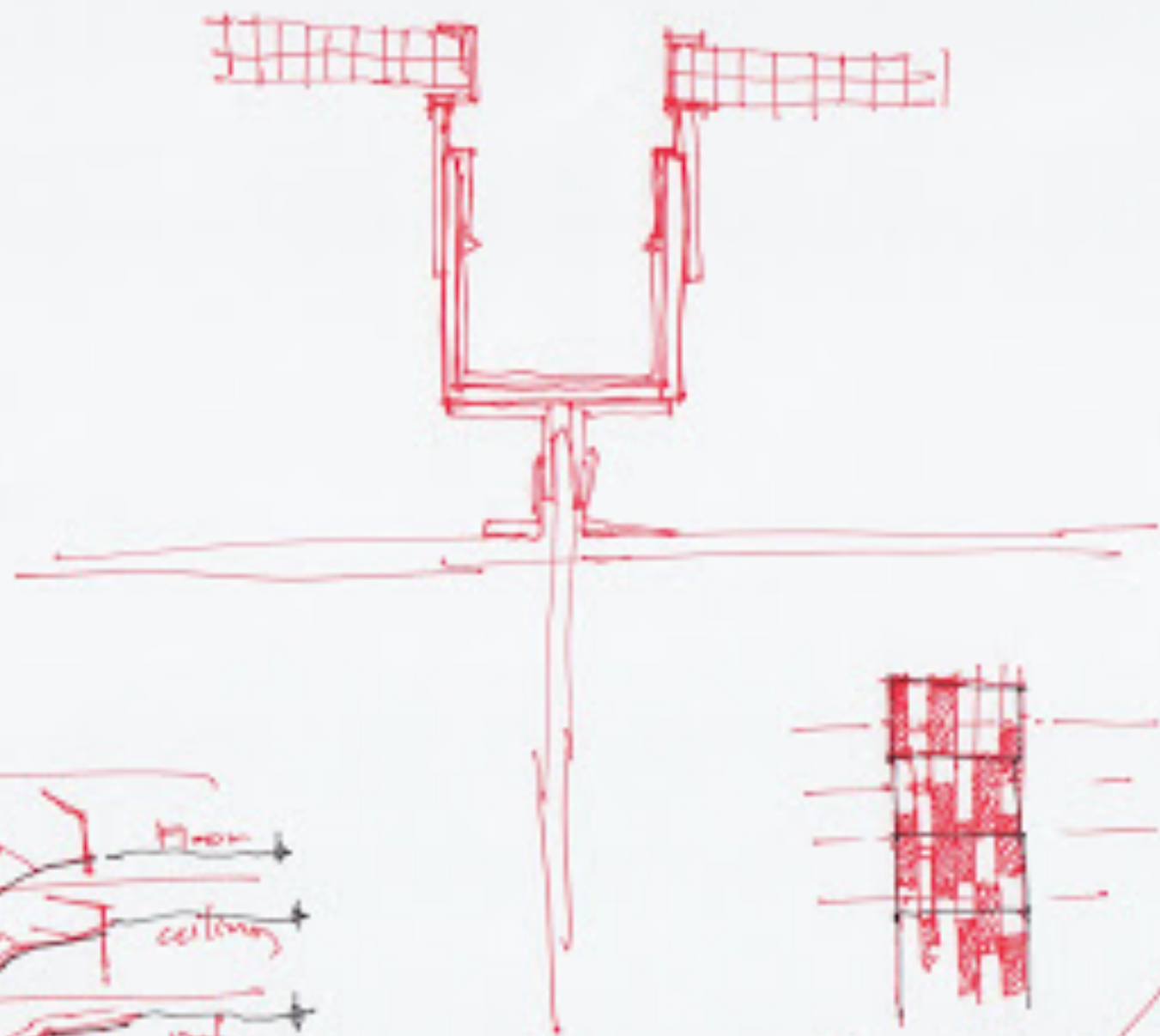
pick bay. floor roof ceiling

5.



flange plate.





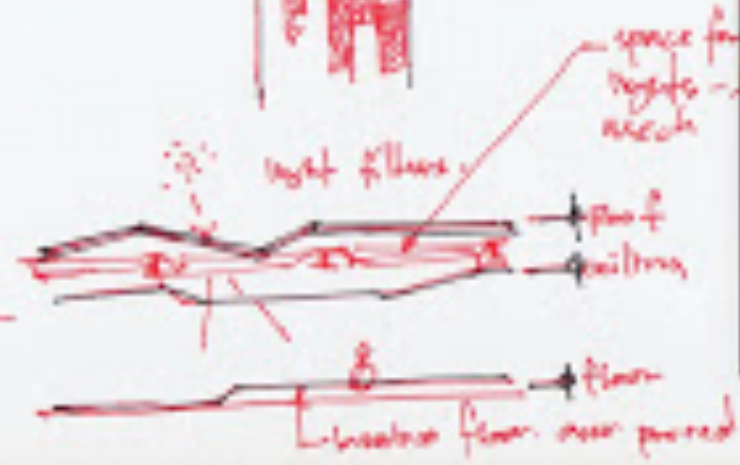
panel details.

know 3 sections

1/2" floor ceiling roof.



para flaps

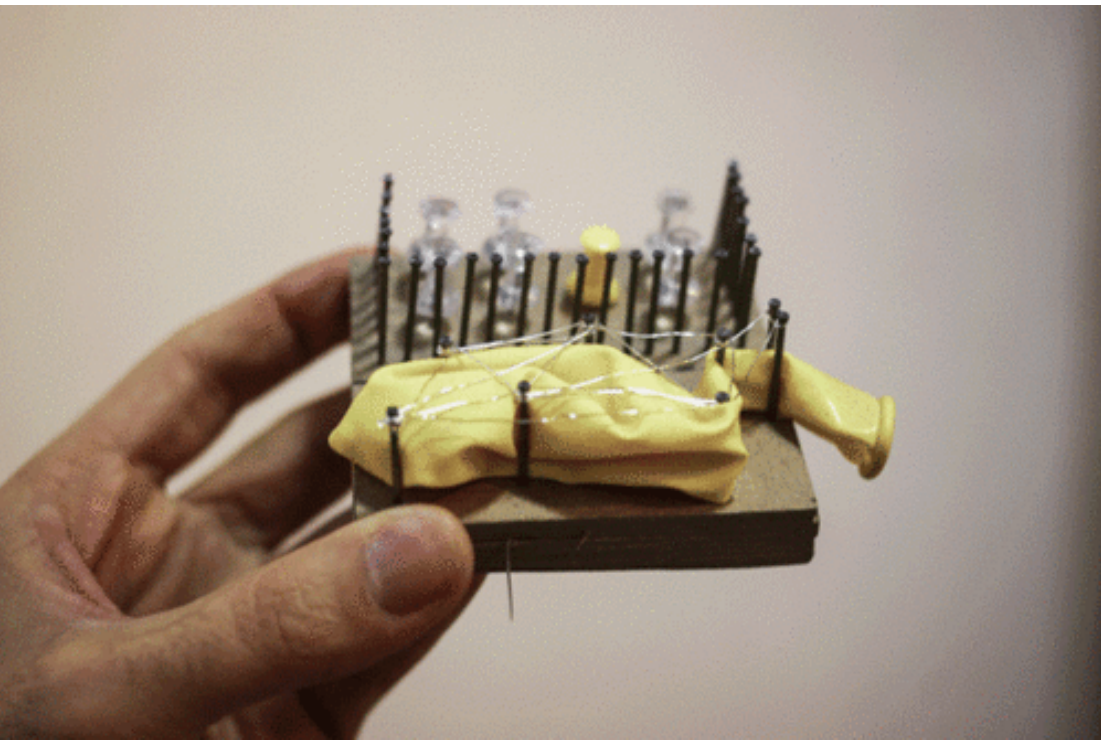
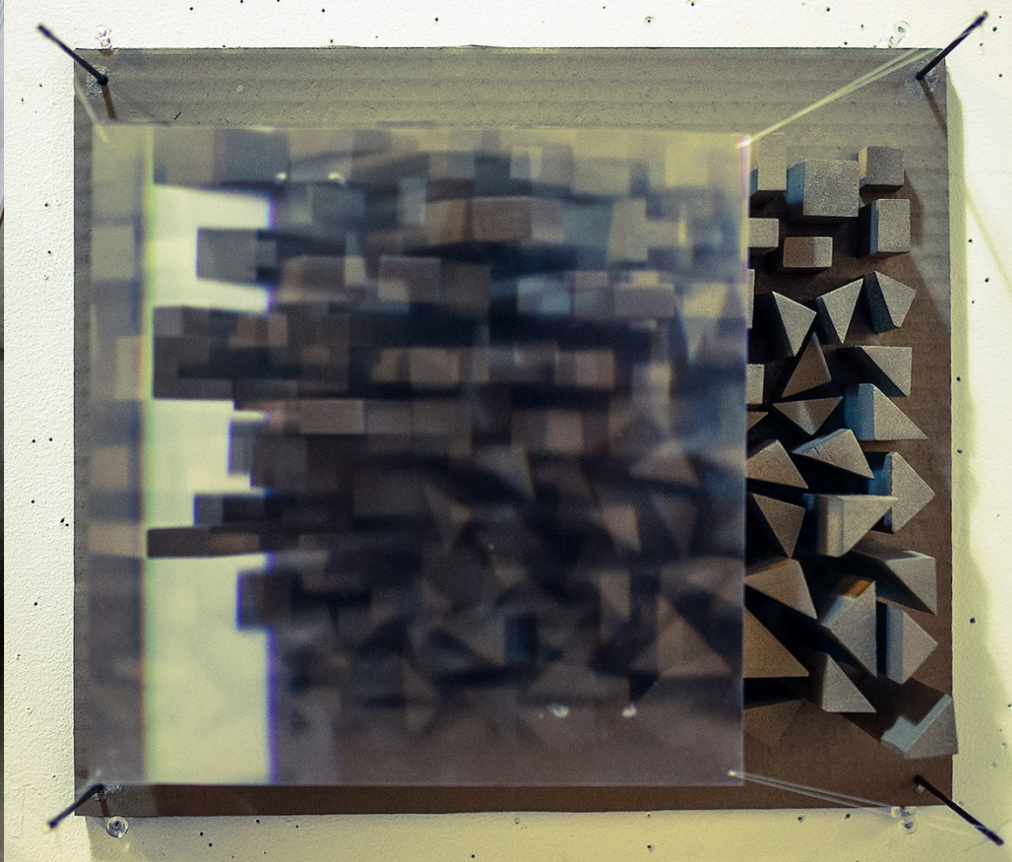
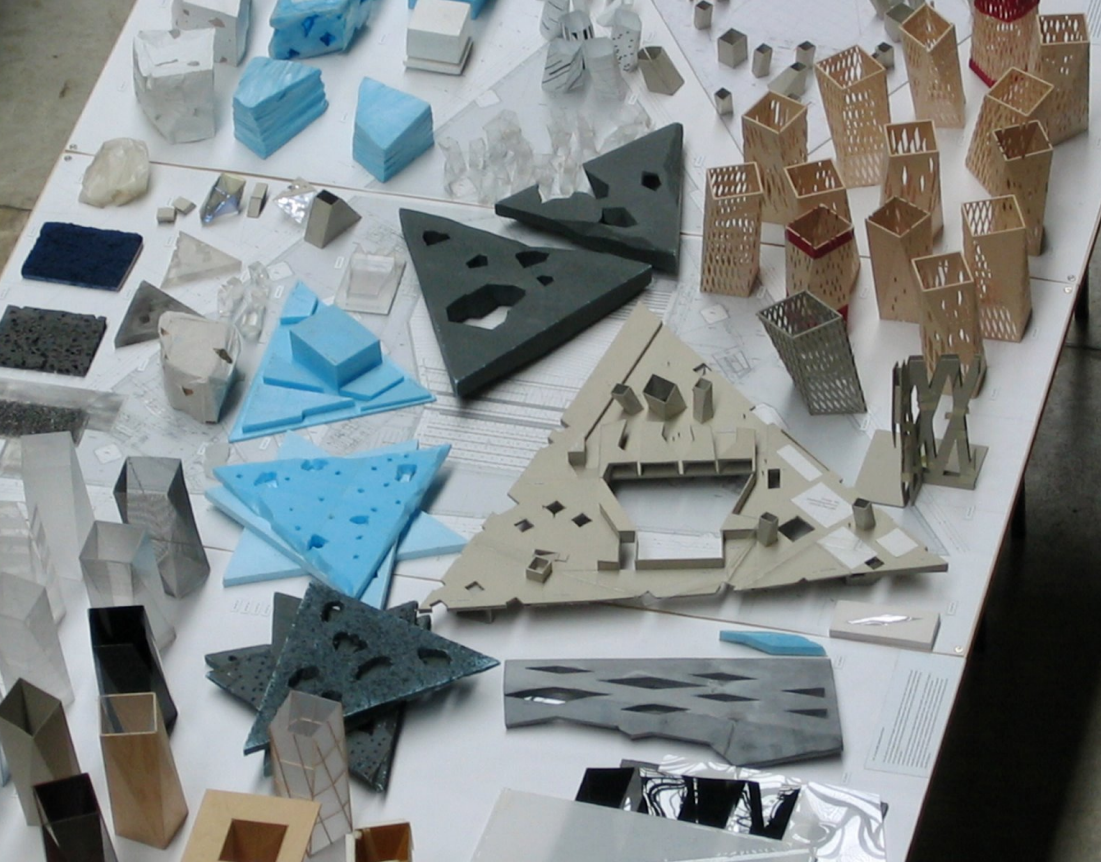


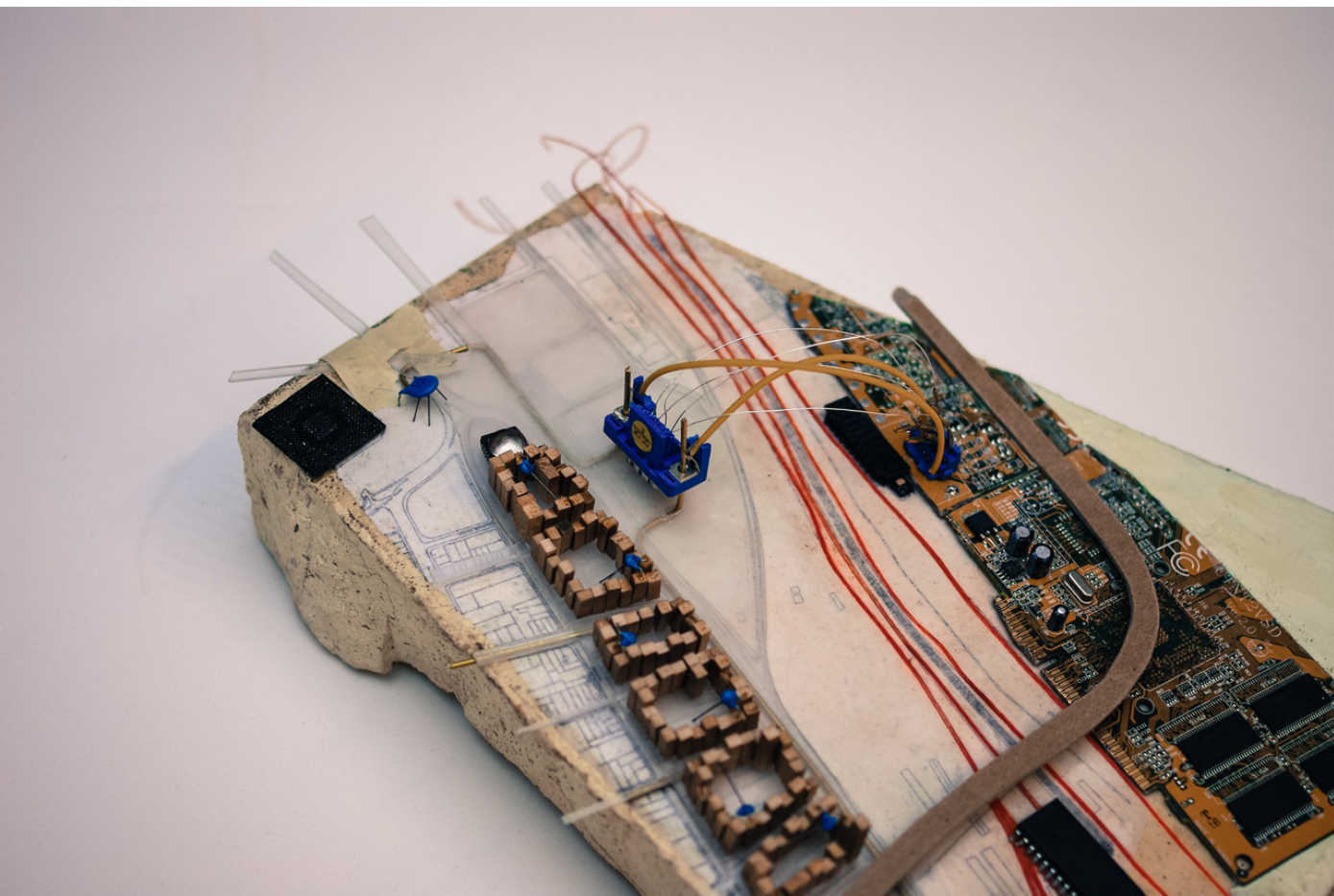
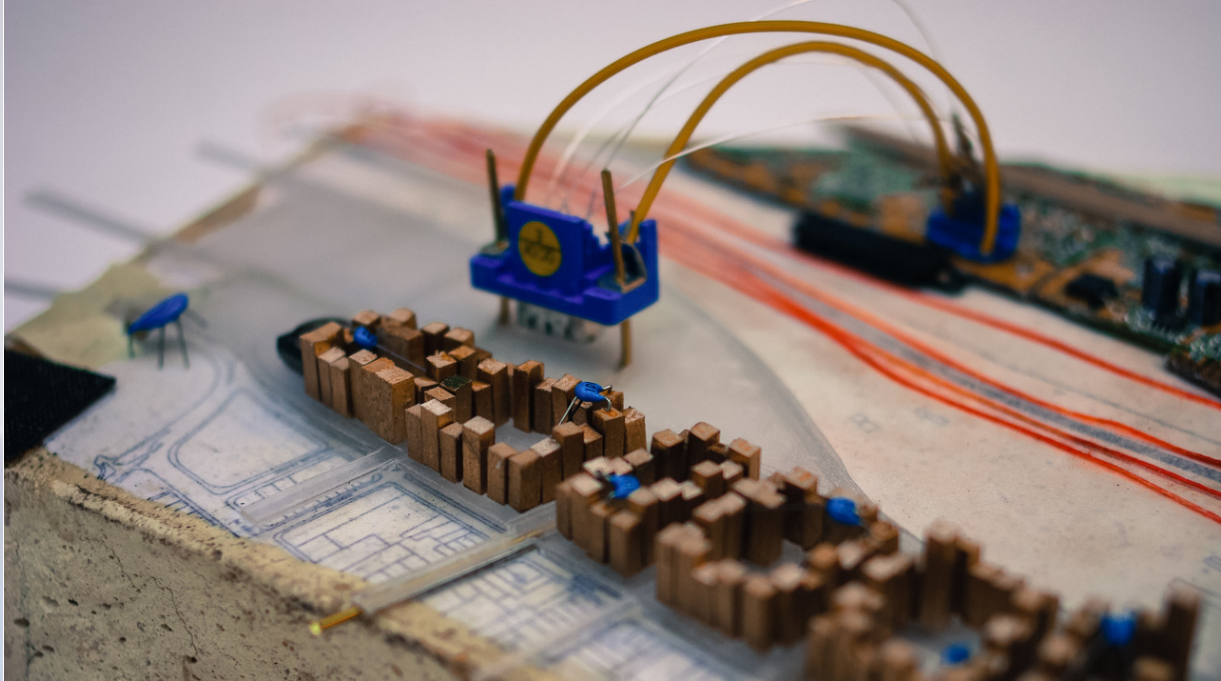
water filter

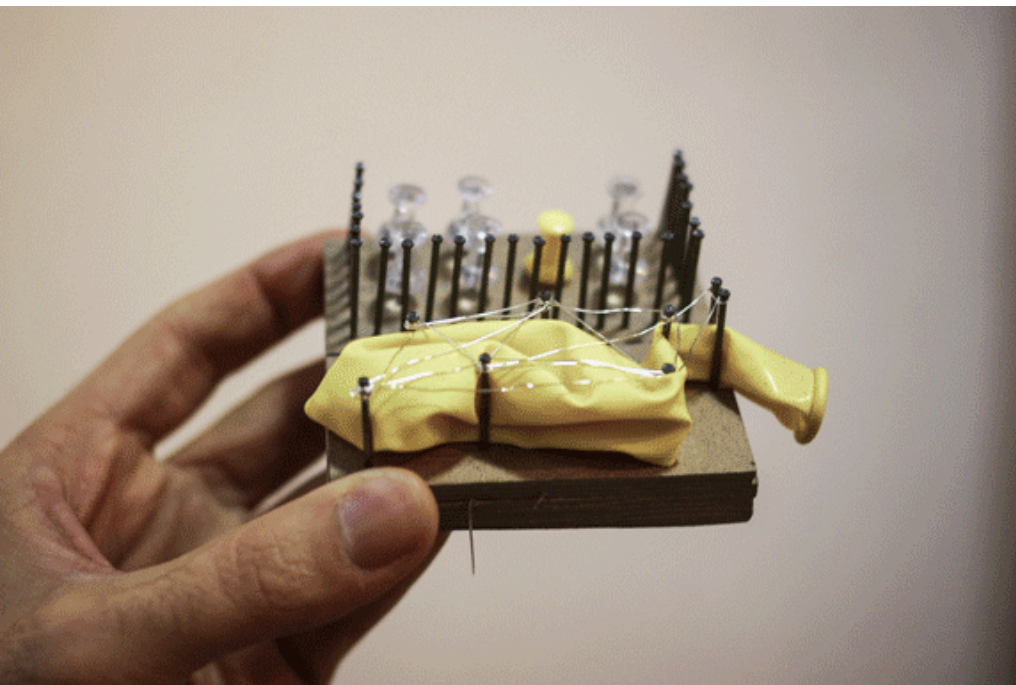
space for vents - mesh

roof insulation

floor
- water floor over poured conc.







Motif

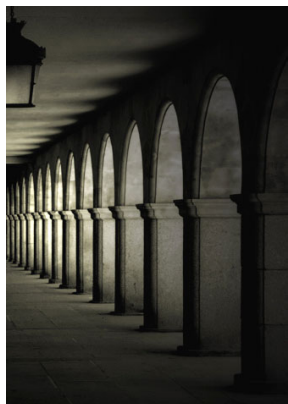
□ Latin: Movere (v) motivus (n)

1. A **dominant theme** or **central idea**.

□ motif [moh - teef], a situation, incident, idea, image, or character - type or any element of a work that is **elaborated into a more general theme**. Like resurrection, love, Desolation, etc...

2. A design or designed image that is **repeated over and over** with little to no differences.

□ Repeated unit to create **visual rhythm**.





Designing, as a creative process, begins with you

- ❑ **A design project**, as an expression of need or desire, **begins with a user, or client.**
- ❑ The process of **transforming a client's needs and desires** into a **physical, visible, space** or object, **begins with you.**



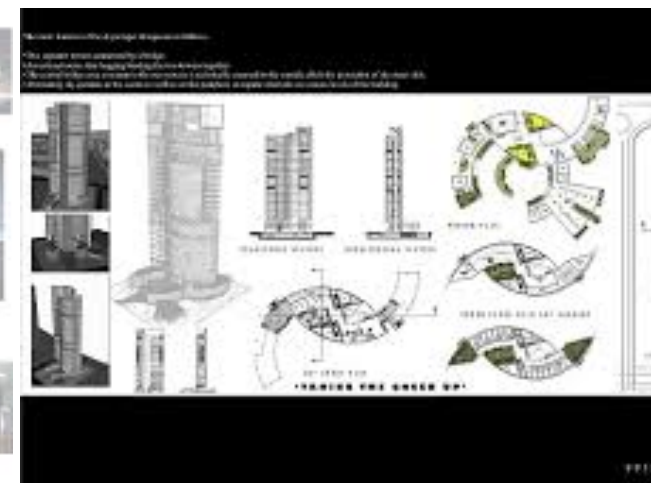
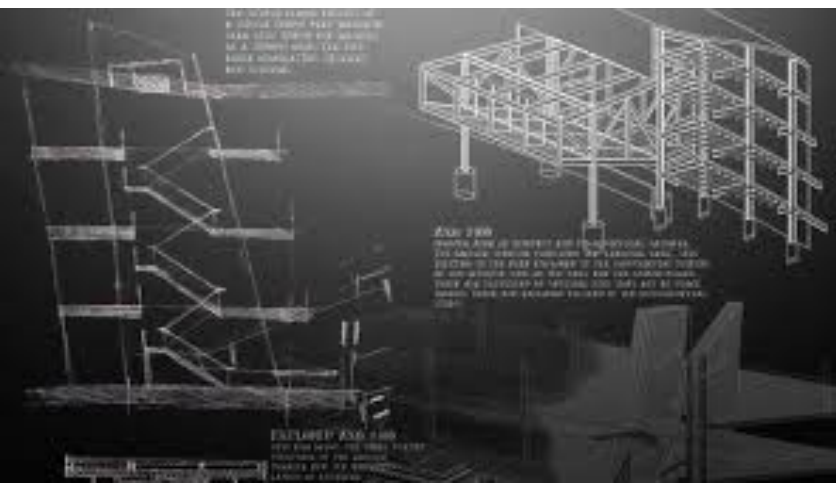
The beginning point of a design exploration is open to your own individual interests and thoughts.

- ❑ how you begin a design exploration is substantially up to you.
- ❑ you can do almost anything at the very beginning of a design exploration, and it can work for you as a way to get into the complexities of a project.



for example, to design a portfolio/graphics page layout, you could:

- ❑ spill ink on a piece of paper and let it run into a variety of shapes as gravity, and the absorption of the paper determine
- ❑ draw out a regular, geometric grid, of half inch squares.
- ❑ draw out an irregular geometric grid.
- ❑ draw out a set of lines that seem to be of the moment, gestural, and not necessarily 'rational'.



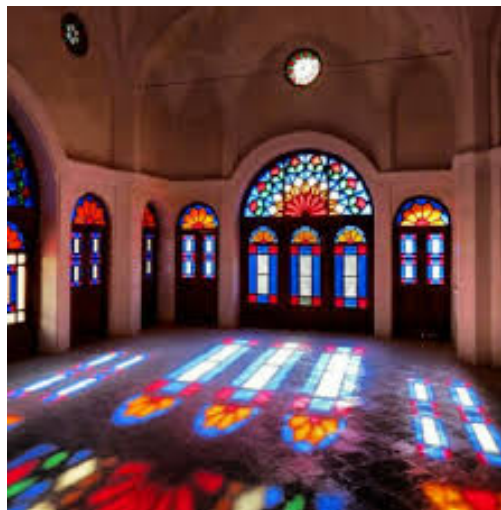
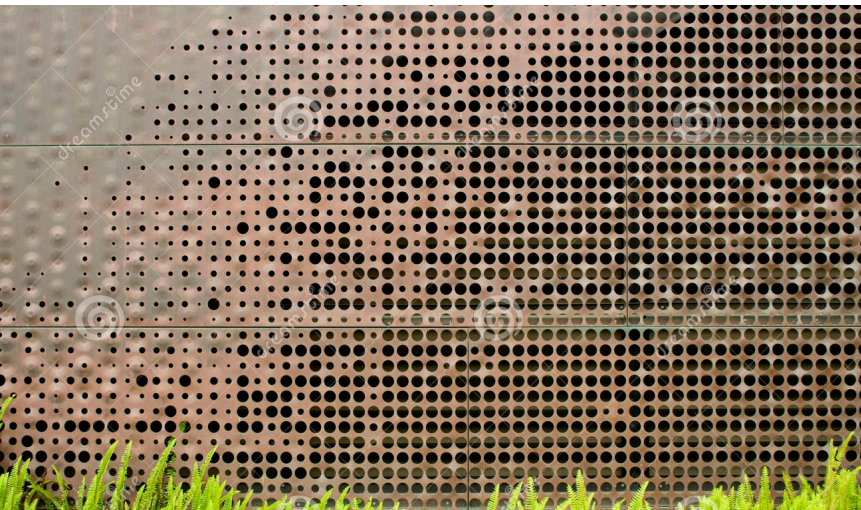
How you begin is up to you, but to be a good designer you must have interests in the things that make up the world of design

what kinds of things **catch the attention of designers?**

- ❑ **Space Quality:** How the designed space works with the user needs and requirements.
- ❑ **materials:** in terms of all the qualities that make different materials interesting, and beautiful.



- ❑ **geometry:** the application of various shapes, the relationships between objects, the clarity of 'pure' forms (circle, sphere, square, cube, pyramid, equilateral triangle) or combination of them to create crazy forms.
- ❑ **size and scale:** the play between very small and very large in objects and in spaces
- ❑ **color:** the richness that is created by experiencing colors used in a purposeful relationship; colors that speak of an important 'reality', such as a regional material (red tile roofs of the southwest)



**To do a complex activity at a high level, to do it really well,
takes an unreasonable effort!**

- ❑ it seems pretty clear that our **ability to learn**, and **achieve high levels of skill** in complex activities **requires a great deal of regular, repeated, and focused effort**.
- ❑ it may seem like too much effort sometimes, but such is life.
- ❑ if you want to be good at something there seem to be no '**easy**' way to get there. the exception to this thought is that such work can seem 'easier' if you enjoy it, and if doing it seems to happen in a pleasant, enjoyable way.

when you are working on a design project you have to use all of your powers of concentration, creative thought, and enthusiasm.

- ❑ a design project is a setting in which **decisions** have to **be made**, at **every step of the project**.
- ❑ you must **train yourself to step forward**, and offer an **answer, a proposal, to any question that is revealed**. if you do this, you will discover that you have more knowledge than you thought, and you will **impress** those around you with **your skill**, and **your discipline specific abilities**.

'Fail early, fail cheap'

'Have passion, it is contagious'

'If your not having fun it's half your fault'



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