

# 06 Ideation and Process

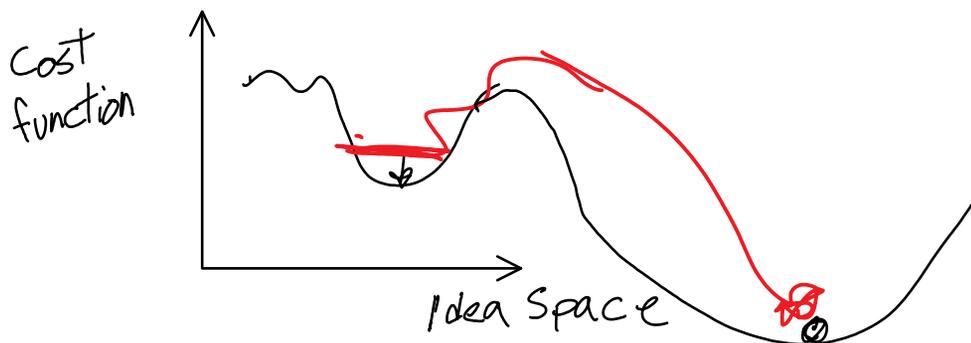
Sunday, January 29, 2017 1:38 PM

## Today

Ideation techniques  
Design process, ideal vs reality

Office Hours Monday 3-4 pm

## Ideation/Brainstorming



Your initial idea may be good, but you may get a better one if you press on, and keep generating ideas

### Benefits of ideation

- Never hurts
- Can lead to new solution
- Can lead to better solution
- Can lead to an awesome solution for some *other* problem
- Even if nothing comes of it, can add meaning to your original solution

## Ideation Techniques

### Brainstorming: What have you been exposed to?

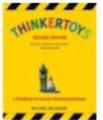
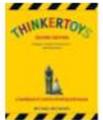
This year's responses

- 1) Being receptive while falling asleep
- 2) Think to yourself first, then talk to others
- 3) Youtube videos
- 4) Expose yourself to similar solutions
- 5) Create a roadmap: list specifications and goals
- 6) Look through previous work; springboards
- 7) Walk away, give yourself time
- 8) Think of materials, then object, and vice versa
- 9) Consider your audience, then come up with tone words about what they want
- 10) Come up with user personality profiles, be empathetic
- 11) Break task up into smaller parts
- 12) Go do sports with music, to relax the brain

Last year's responses

1. Write everything, don't hold back, even if it is not possible/probable. Springboard off others' ideas.
2. Questionstorming. Qstorming. Helps you decide what's important, can guide brainstorming, open you to other considerations.
3. Sr design: pack of cards with techniques. Heuristic cards
4. Ugrad. Write down 100 ideas. First 15 are good, 50 are meh, after 70 ideas really opened up.

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 <p>Thinkertoys: A Handbook of Creative-Thinking ... <b>\$9.83</b> Barnes &amp; Noble</p>	 <p>Thinkertoys <b>\$12.99</b> Google Play</p>	 <p>Thinkertoys, Hardcover, Author - Michael Michalko <b>\$7.98</b> Barnes &amp; Noble</p>
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## Content from Thinkertoys by Michael Michalko

- Business/entrepreneur oriented
- Lots of stories, some references
- Assortment of techniques
- Very positive-thought oriented

Ideation, particularly new ideas, comes from shifting your perspective, your point of view



Do you see FLIP or FLOP?

Linear techniques

Explore idea space systematically

Intuitive techniques

Your subconscious already has an answer, you just have to ask it nicely

## Linear Techniques

### False Faces

- 1) State your challenge
- 2) List your assumptions
- 3) Challenge your fundamental assumptions
- 4) Reverse each assumption; write down the opposite of each one
- 5) Record differing viewpoints that might prove useful to you
- 6) Ask yourself how to accomplish each reversal. List as many ideas for each as you can.

### Scamper

From Alex Osborn, 1940, pioneer of brainstorming techniques. Memonic by Bob Eberle

- Substitute something
- Combine it with something else

From Alex Osborn, 1940, pioneer of brainstorming techniques. Memonic by Bob Eberle

**S**ubstitute something

**C**ombine it with something else

**A**dapt something to it

**M**odify or **M**agnify it

**P**ut it to some other use

**E**liminate something

**R**everse or **R**earrange it

## Intuitive

### Not Kansas

Guided visualization. Similar to 'go to your happy place'; imagine experiencing all 5 senses: sight, touch, smell, taste, hearing. Entwine receiving mysterious messages, then look at them and write them down.

#### **STORM**

You had never seen such a sunset. The sun was like a dying coal, ringed with black long before it neared the horizon. After the sunset, the rim of the earth was blood-red for a few minutes, then the red was streaked with black. When you looked at the eerie sky, it seemed as if the world had turned upside down and the road that ought to be beneath your feet was now above your head. And then the sky turned black.

You are surprised by a flicker of light to the west—so quick that you do not recognize it as lightning. But it flickers again and again and soon is almost constant. Then comes the thunder, with a sound that seems to roll

over you like boulders. The lightning begins to drive into the earth, with streaks as big as poles and terrible sounds.

The rain begins, pelting down in big scattered drops that at first feel good, but the drops grow bigger and soon the rain is falling in sheets, blown this way and that by the fitful wind. In a bright flash of lightning, you see something run in front of you. What is it? Study it and then let it go, but remember what you saw.

The water beats down more heavily, pounding you and running in streams off your hat brim. The rain is now so heavy that you begin to think you might be drowned. A stream of water pours down in front of your nose while another runs down your back. You are so cold and wet that you feel you might never get warm again.

The ground is covered with water and there is nothing to do but splash along. Suddenly, you begin to slide—you have stepped into a hole and you feel water rising up to your hips. You climb out and squish along again.

Soon you get too tired to think and can only hope for morning. But the night goes on and on. Finally, the lightning dies and the hard rain slows to a drizzle. You stop to empty your shoes of water. You drop one. When you stoop down to pick it up, you notice a bottle with a slip of paper in it. You pick up the bottle and put it in your pocket.

A little while later, dawn breaks and the rain stops completely. The sky is cloudless. The first sunlight sparkles on the wet trees and bushes and on the hundreds of scattered puddles. Cold and damp, you bend over a puddle and wash the mud off your clothes. Now that the sun is beginning to warm things up, you find a grassy hill that isn't too wet and ~~start a small fire~~. Starved, you fry up some eggs and thick slices of bacon. Breaking the fried eggs with your knife, you eat them with slices of bacon as you warm your body by the fire.

Remembering the bottle, you take out the note and read it slowly. What are the images? Open your eyes and write or draw your impressions and images. Write whatever comes to mind.

If the images are cloudy, repeat the exercise daily until you are comfortable with it and the images grow vivid. Begin to imagine that you are going to experience a breakthrough and the images will flow.

... who was trying to find a new business niche experienced

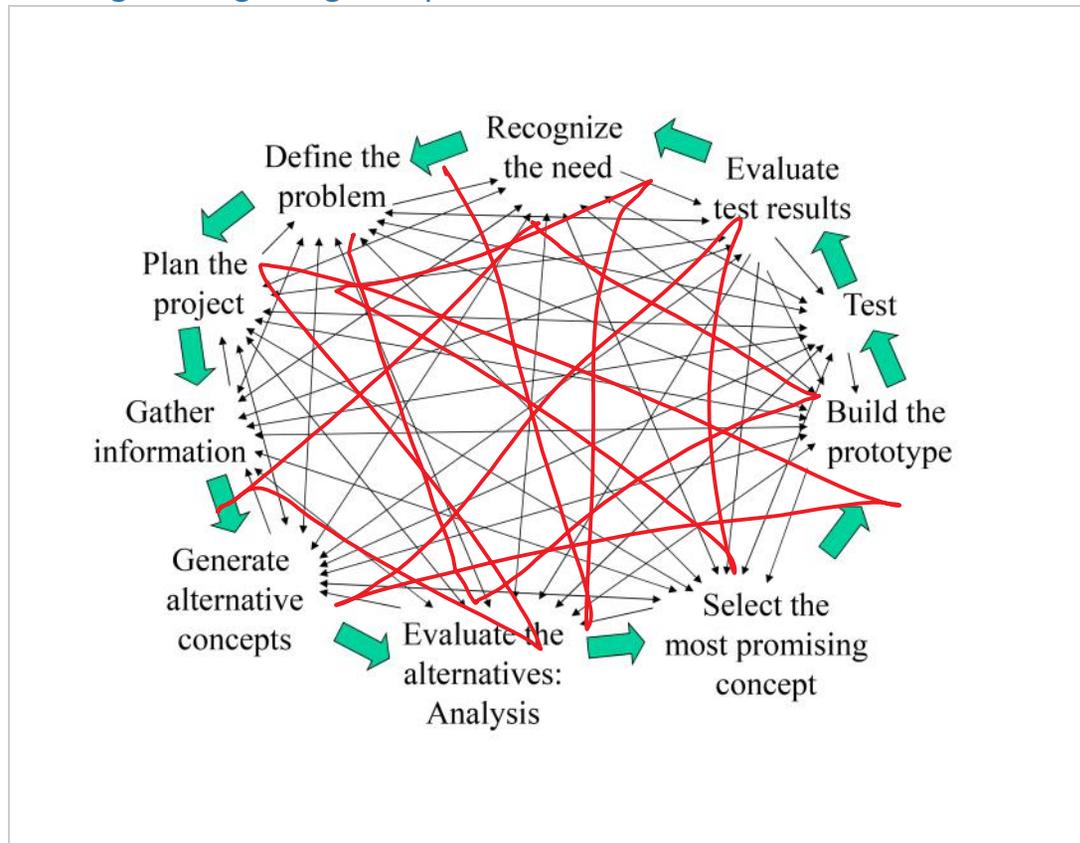
set up a  
cook stove  
substitute  
favorite  
protein

## Guided Visualization - Intuitive technique

- 39% A I got nothing
- 37% B Kinda cool, but nothing specific
- 47% C A couple of ideas
- 13% D Bingo! Something useful

## Design Process: Ideal vs Real

### The Engineering Design Loop



[http://itll.colorado.edu/images/uploads/courses\\_workshops/geen1400/textbook/ch03the\\_design\\_loop.pdf](http://itll.colorado.edu/images/uploads/courses_workshops/geen1400/textbook/ch03the_design_loop.pdf)

Works for the scientific process, the teaching process, the learning process.

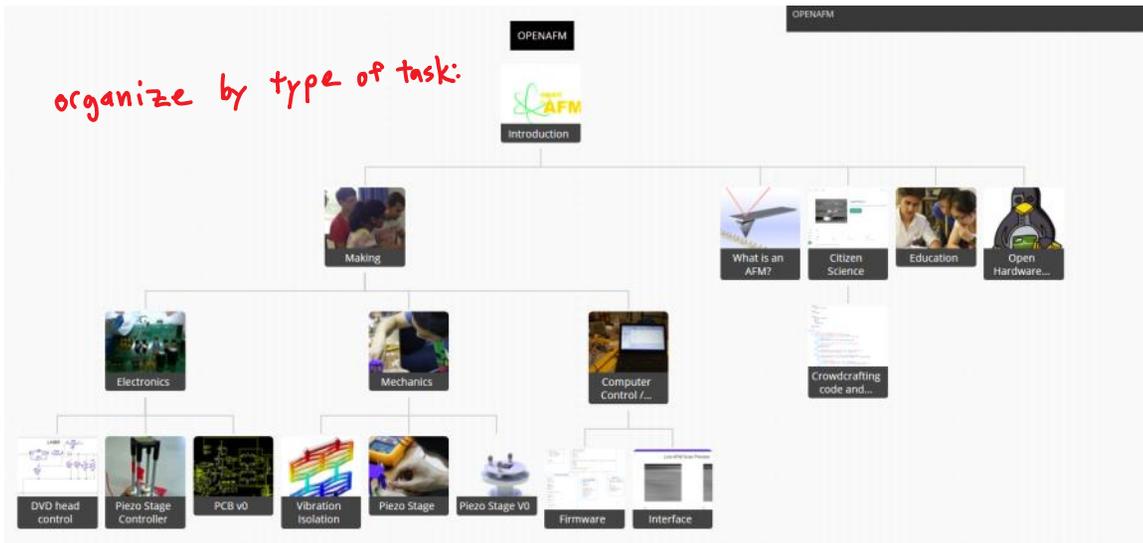
Any iterative process that humans do

***Is clean in concept, messy in reality***

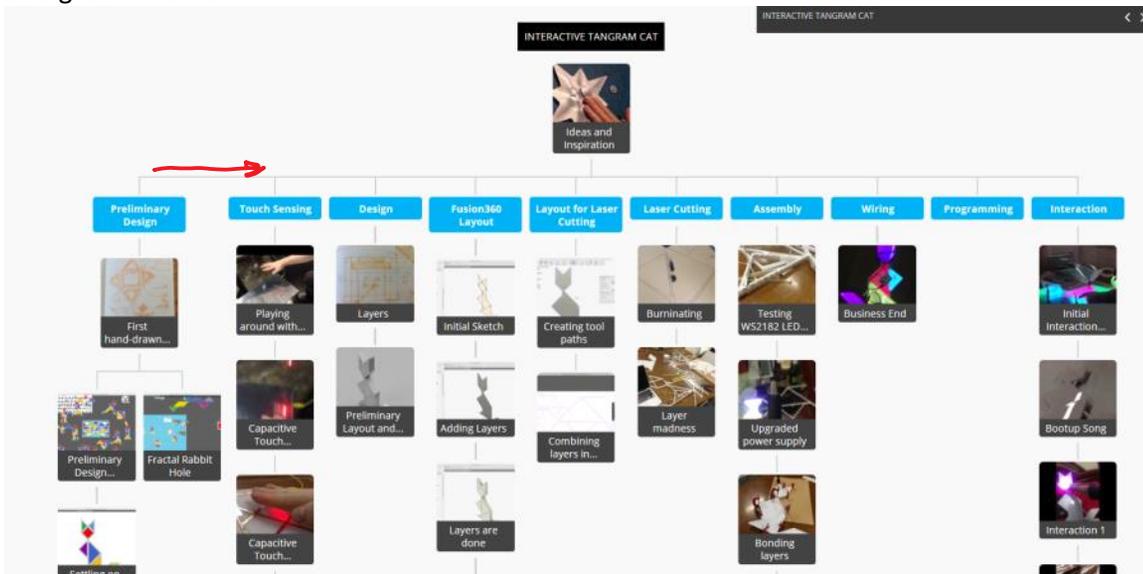
### Other representations

Build In Progress, design documentation platform by [Tiffany Tseng](#)

<http://buildinprogress.media.mit.edu/projects/2667/steps>



Straight? Timeline



In your sketchbook, draw a representation of a design process you experienced recently.  
 (This will be the topic of next week's blog post. This Weds topic is Upcycle Progress.)

