



IMPLEMENTATION: OVERVIEW

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Associate Professor
Lund University

7 \ Uf`chU`ε \ bggcb
Associate Professor
Lund University

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Associate Professor
Lund University



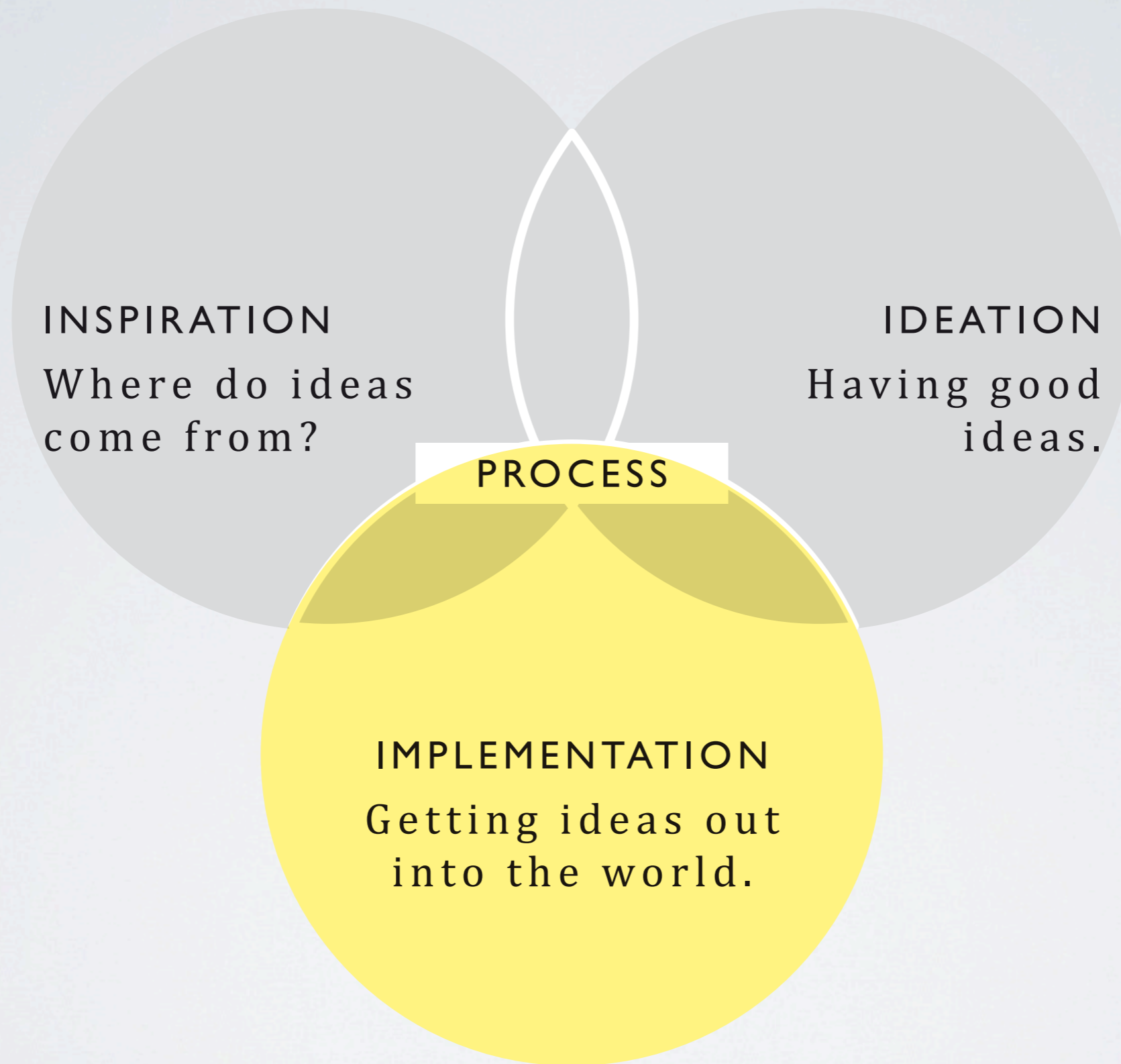
LUND UNIVERSITY

Jun Jin
Associate Professor
Zhejiang University

E]ba]b'Mub[
Ass. Professor
Zhejiang University



ZHEJIANG UNIVERSITY



Adapted from Brown & Katz, 2009

DRAGON'S DEN



[http://www.youtube.com/watch?v=vKFJ_AI3PWA&feature=related.](http://www.youtube.com/watch?v=vKFJ_AI3PWA&feature=related)

EXERCISE

WHAT
WOULD YOU DO
NOW?

(IF YOU WERE DEREK)

EXERCISE

WHAT DOES A
PROTOTYPE
MEAN TO
YOU?



www.bmw.com

IS IT THIS?

www.cubify.com

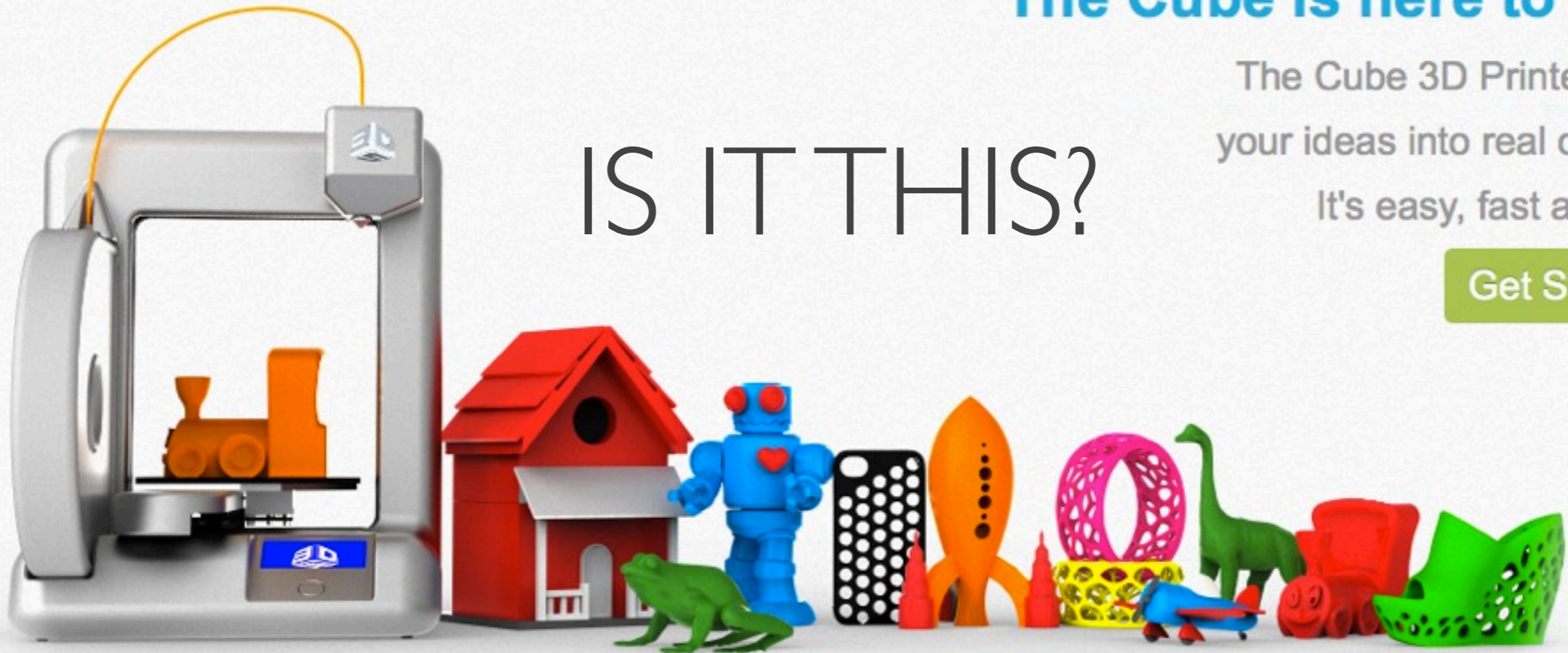
The Cube is here to play

The Cube 3D Printer turns your ideas into real objects.

It's easy, fast and fun!

[Get Started](#)

IS IT THIS?



What's new

Design anything with Cubify Invent



Create

Fun and easy online creation apps



Shop

Find something amazing



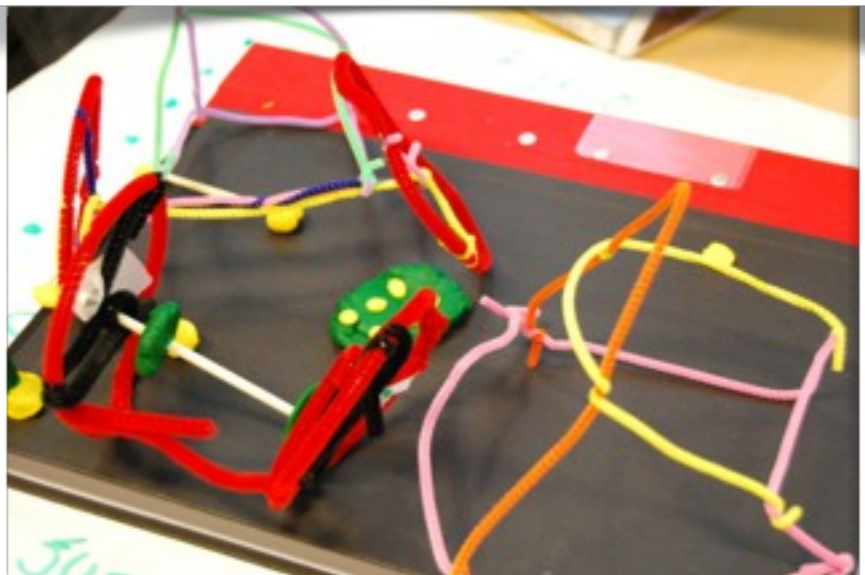
Press

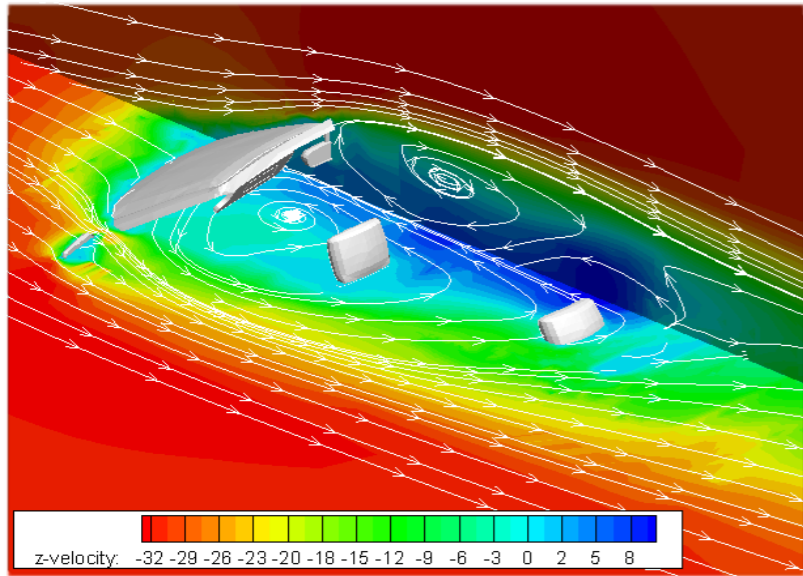
Cubify in the news





IS IT THIS?

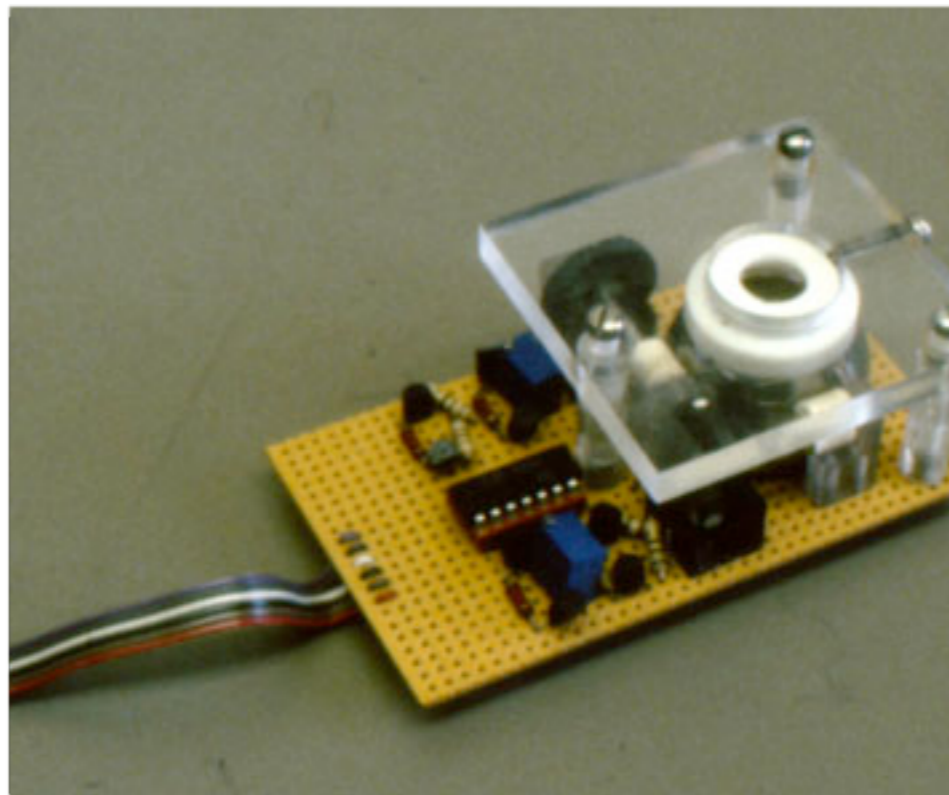
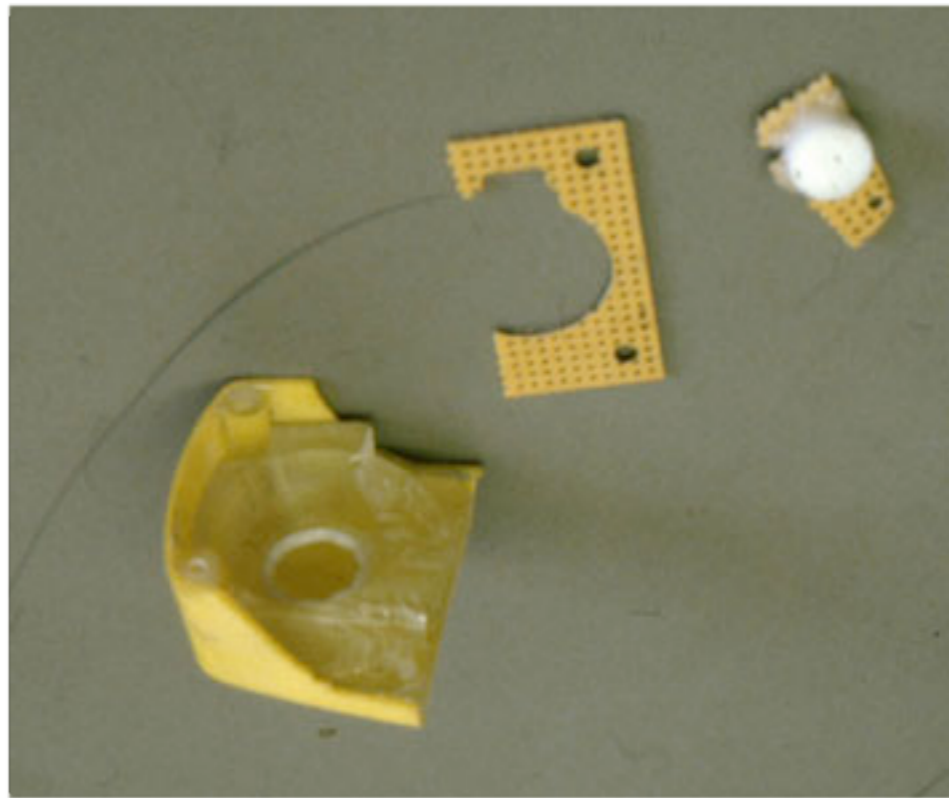




IS IT THIS?

“Here’s your design spec: Our mouse needs to be manufacturable for less than fifteen bucks. It needs to not fail for a couple of years, and I want to be able to use it on Formica and my bluejeans.’ From that meeting, I went to Walgreens, which is still there, at the corner of Grant and El Camino in Mountain View, and I wandered around and bought all the underarm deodorants that I could find, because they had that ball in them. I bought a butter dish. That was the beginnings of the mouse.”

(Dean Hovey, in Gladwell, 2011)



IS IT THIS?



Savoia, 2010

IS IT THIS?



www.ideo.com

Pretotype It

Make sure you are building the right *it*
before you build *it* right



Alberto Savoia

First Pretotype Edition
August 2011

“Make sure you are building the right *it*, before you build *it* right.”

(Alberto Savoia)

<http://www.pretotypelabs.com/>

Prototyping = "Faking a new business fast"

(Larry Keeley)

LOOKS LIKE,
BEHAVES LIKE,
WORKS LIKE,
FEELS LIKE...

BUILD TO
THINK,
BUILD TO
LEARN

PROTOTYPES
ALLOW YOU TO
FAIL
WHILE FAILURE IS
CHEAP

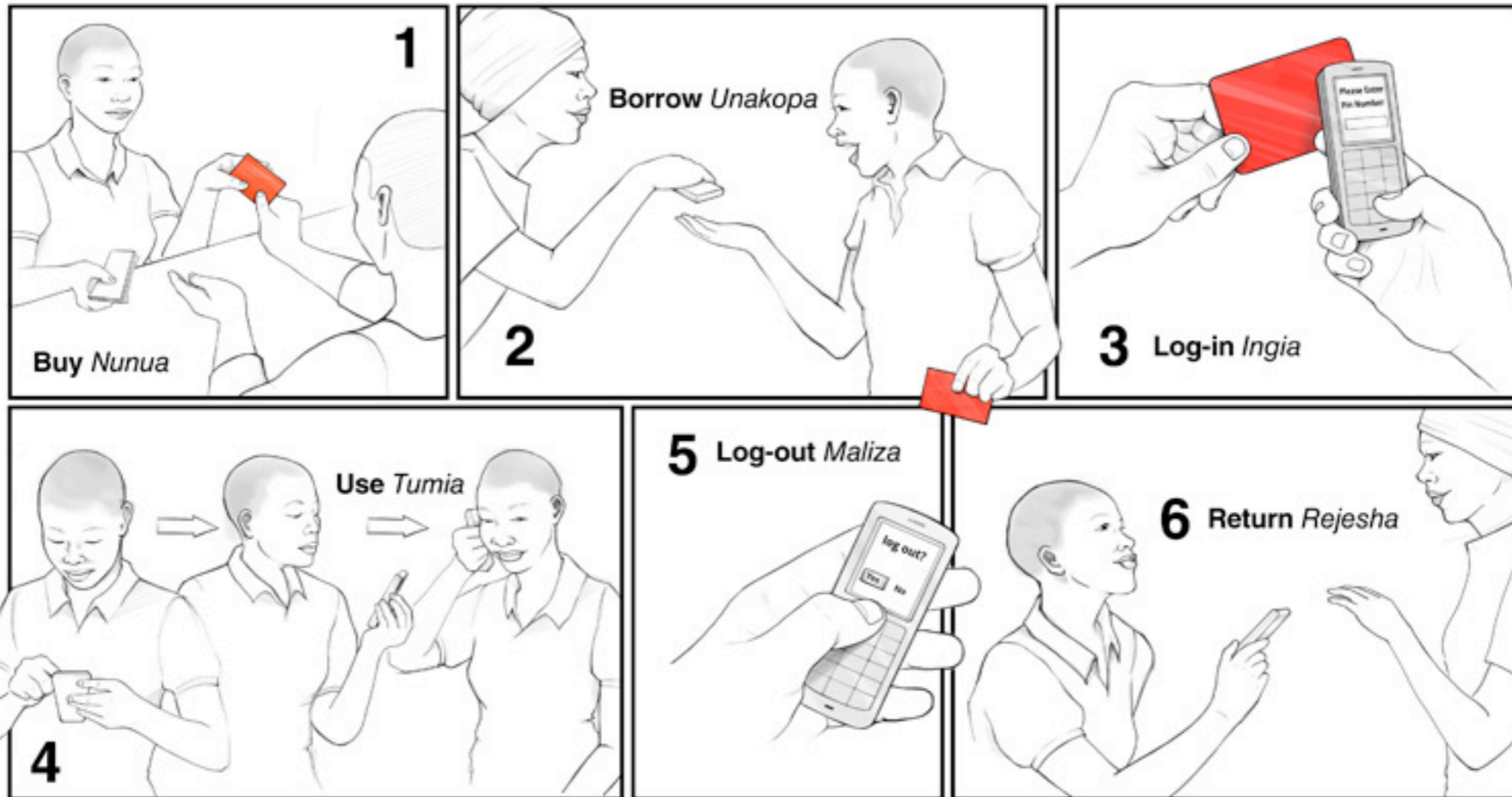
DO NOT GET
EMOTIONALLY
ATTACHED TO YOUR
PROTOTYPES

DO NOT
DEFEND
YOUR PROTOTYPES

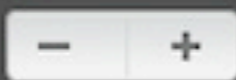
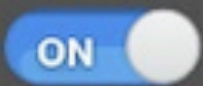
“Good prototypes don’t just
communicate, they persuade.”

(Tom Kelley)

STORYBOARDS



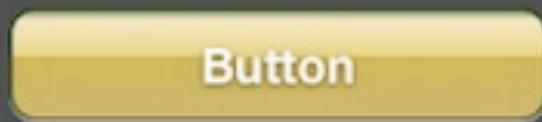
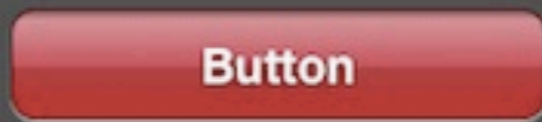
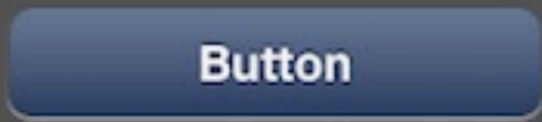
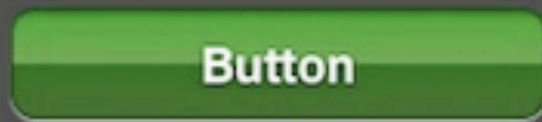
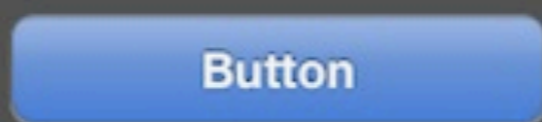
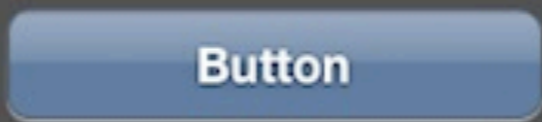
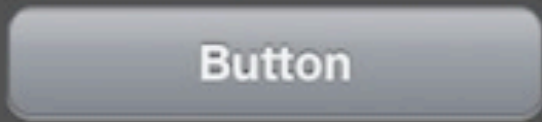
<http://www.frogdesign.com/work/movirtu.html>



1234



<http://www.keynotopia.com/>



Wed Nov 9	4	50	
Thu Nov 10	5	55	AM
Today	6	00	PM
Sat Nov 12	7	05	
Sun Nov 13	8	10	

4	50	
5	55	AM
6	00	PM
7	05	
8	10	

0	4
1	5
2 hours	6 minutes
3	7
4	8

Notes

URL

- RadioButton Checkbox
- RadioButton Checkbox

4	8
5	9
6	10
7	11
8	12

MOCK-UP INTERFACES

PERSONA #1



Takeo

Researcher
Hosei University, Japan

HOSEI UNIVERSITY

The history of Hosei University dates back to 1880 when Tokyo Hogakusha or Tokyo School of Law was founded. In 1883, Dr. Gustave Emile Boissonade of the University of Paris, who had been invited by the Japanese Government as a juridical advisor, assumed the post of Director. The university has about 660 academic staff, 26300 undergraduate students and 1850 graduate students. Hosei is spread across three campuses, all in the Tokyo area, and encompasses 14 graduate schools, 10 undergraduate faculties, and 16 research institutes.

BIOGRAPHY

Born: November 2, 1974
Spouse: Married to Yoshiko
Children: Hideki (3)
Location: Tokyo, Japan
Income: 60,000 EUR/year
Hobbies: Yakyu (baseball), music

Takeo graduated from Hosei University, Japan, in 1995 with a Master's Degree in System Design. Before joining Hosei University IT Research Center, Takeo spent five years in various project management positions in both small and medium-sized companies within the ICT industry. He is supposed to work from 09:00 to 17:00 in his office in central Tokyo, but the work hours often extends until at least 19:00. He also works between 09:00 and 14:00 on Saturdays. During Saturday evenings and Sundays, Takeo tries that he has loads of e-mails in the mornings – especially from his wife. In his spare time, he likes to spend time watching Yakyu games. His favorite work hours are also very long, since he does not work internationally at least on

PROBLEM SCENARIO



Takeo is working on a global research project together with John from Luleå University of Technology, Sweden. Their respective professors got a grant for a three-month project, but unfortunately this grant does not cover travel costs. Takeo and John has never met physically, and they will probably not do so before the end of the project. Takeo feels that he does not know John very well. OK, they have spoken over Skype quite a lot. They use Skype mainly because it is easy to see who's online and it is easy to set up a call from your desktop regardless of firewall settings. However, in the Skype meetings they always talk just about the project details... never about Sweden, or about what they both like to do when they're not working. Anyway, Takeo does not feel so confident in speaking English, and it feels so awkward to extend the online meetings for social chat when it takes so long time to get the message across. Also, Takeo has noticed that John is not very comfortable with silence, so almost everytime Takeo thinks about what to say next, John usually makes a comment or raises a question to end the silence. The meetings with John are supposed to be progress updates, just to know what both of them have done since the last meetings. However, Takeo feels that it is very difficult to know what John "really" has done. Since they do not know each other that well, and since Takeo does not feel comfortable asking for more details in the Skype meetings, a lot of e-mail messages are usually sent after the meetings to clarify what has been said and meant.

SOLUTION SCENARIO



Takeo and John don't really schedule that many online meetings anymore. First of all, it is very easy for Takeo to keep aware of when John is available for a live meeting. Similarly, when Takeo wants to speak to John, he just indicates that John is his "preferred collaborator". If John is around and feel like talking, he "just connects" to him immediately. "It is so cool that I don't even have to press a single button to start the conversation, and things just shut down automatically too", says Takeo. "I feel that our progress updates are much more natural and easy-going now. I might just stand by the table and drink my tea, when suddenly John arrives on the screen with his coffee cup and a muffin. Since we eat and drink as we have the meeting, it is much more OK to have a long pause in the discussion. Also, since the eye-contact is perfect, it is no problem at all to know when John is talking to me and when he's just attending to his computer or his bag of muffins." Another benefit is that they now often sit together for

PERSONAS

SCENARIOS

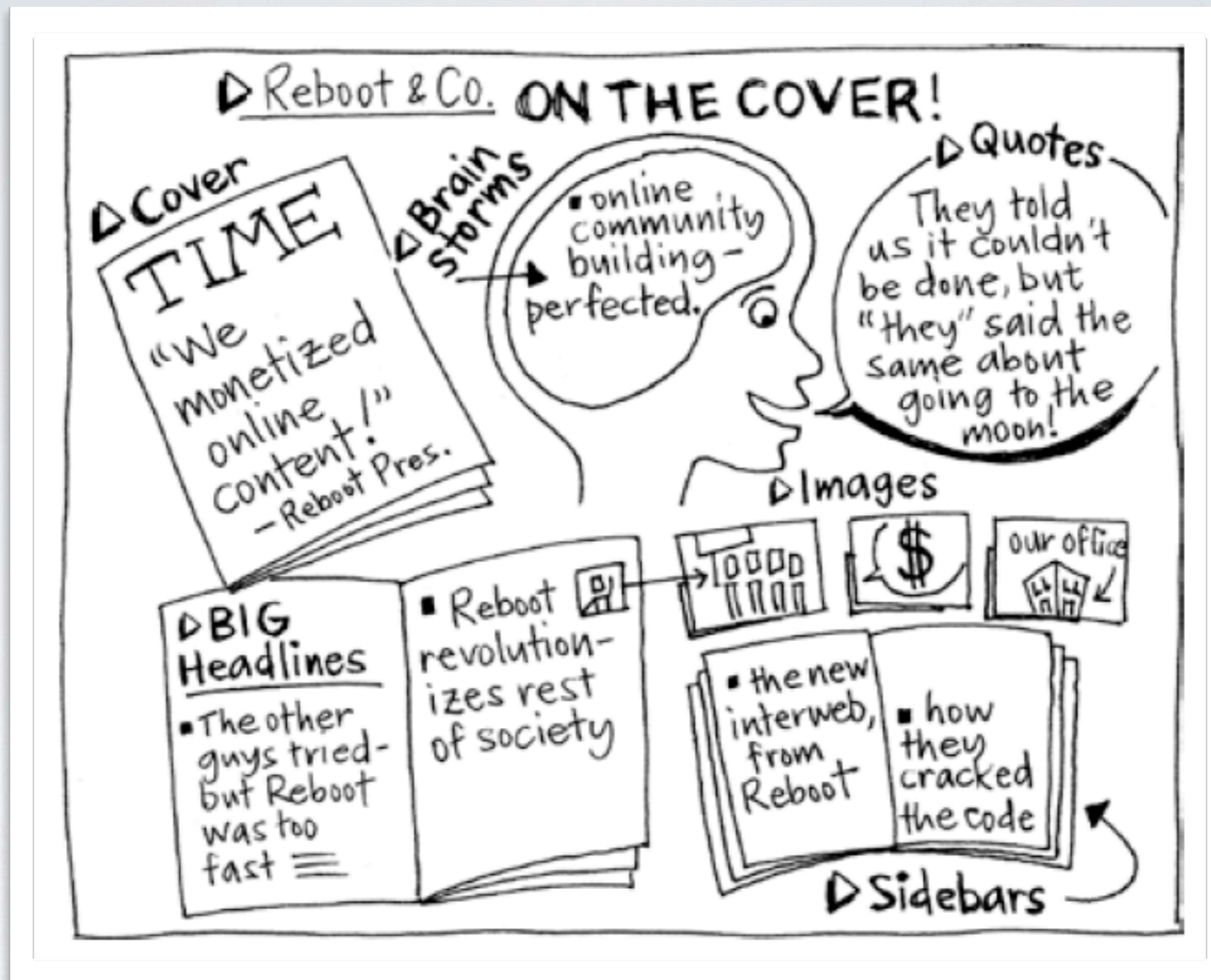
VIDEO PROTOTYPES

http://www.youtube.com/watch?v=LX_27a72uZI

BODYSTORMING



COVER STORIES

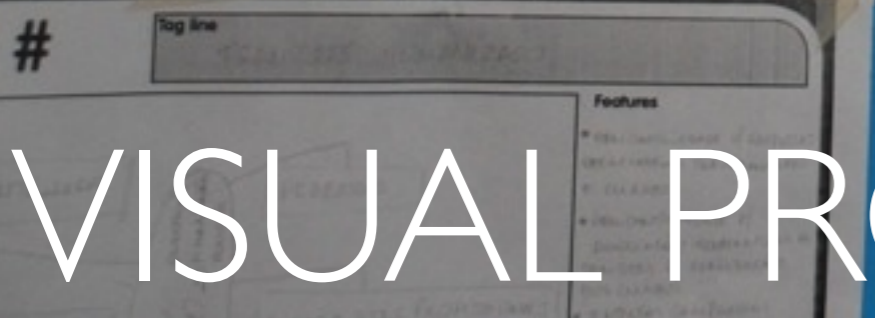
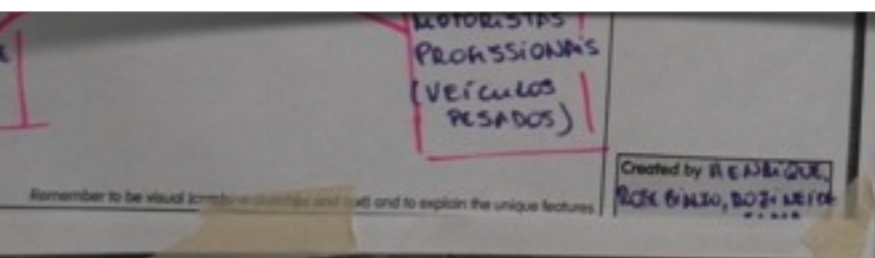
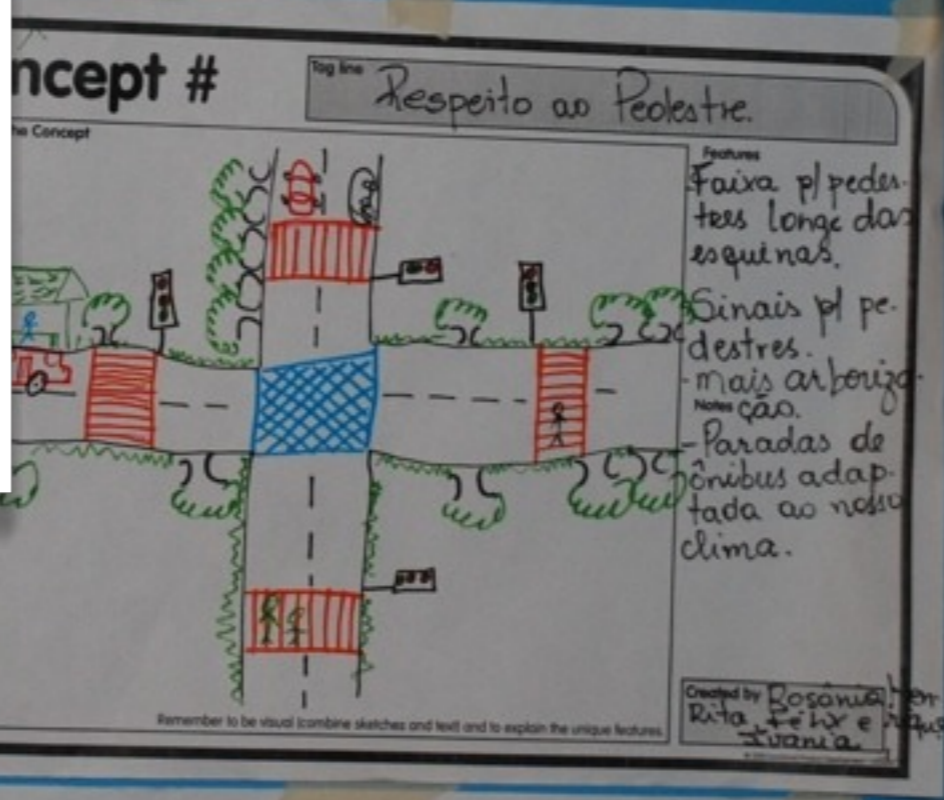
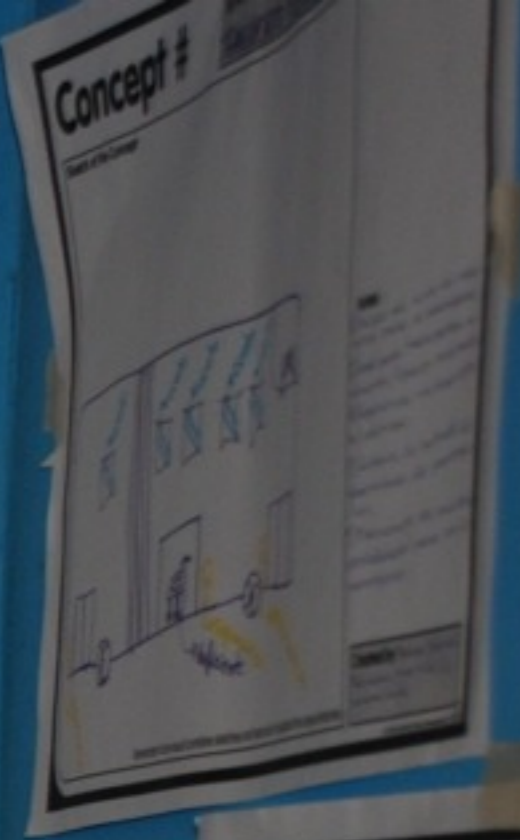
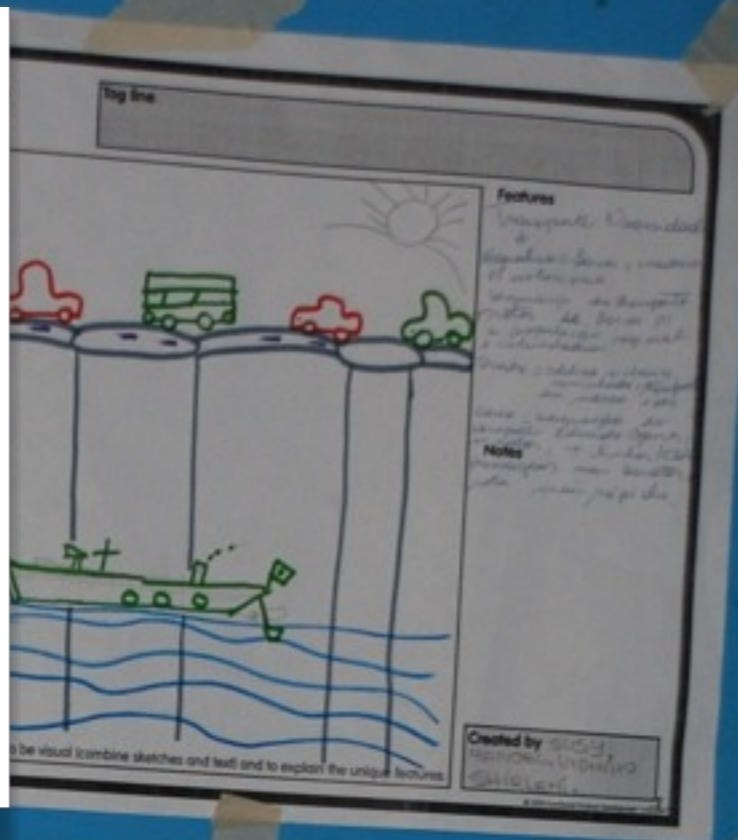
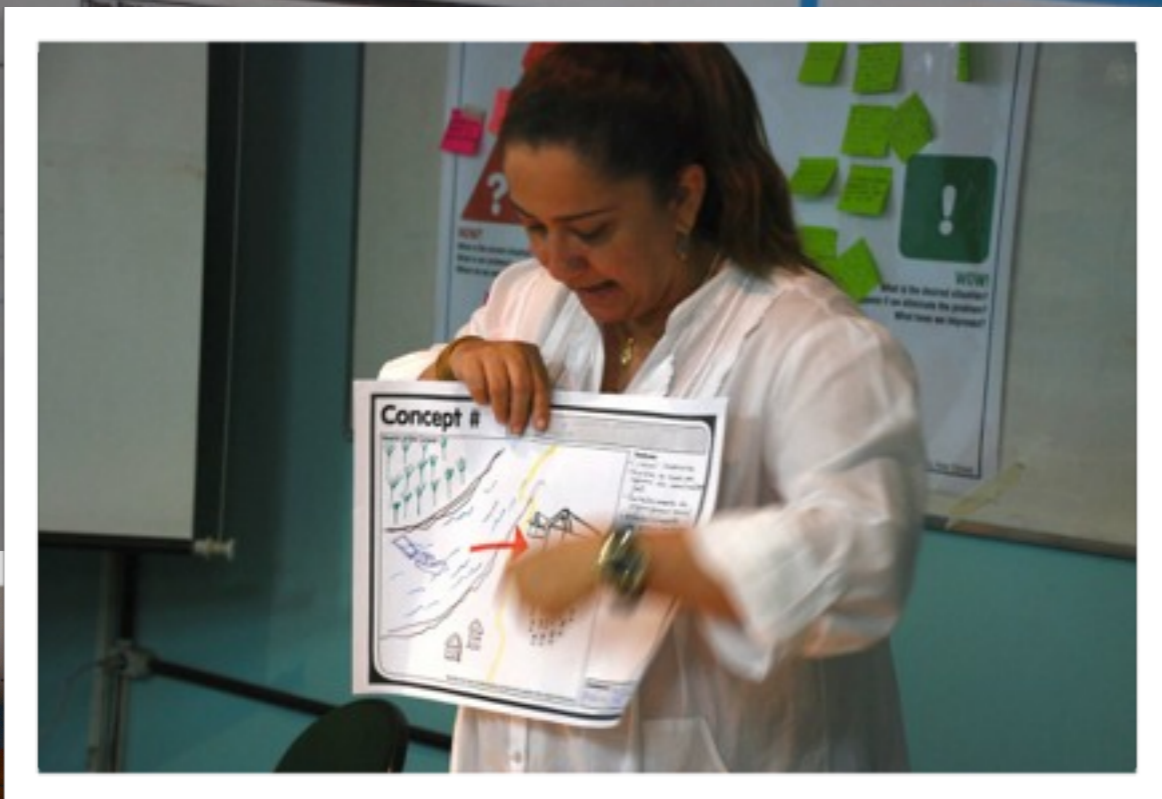


Gray, Brown & Macanuso, 2010

...

cept #

Concept #

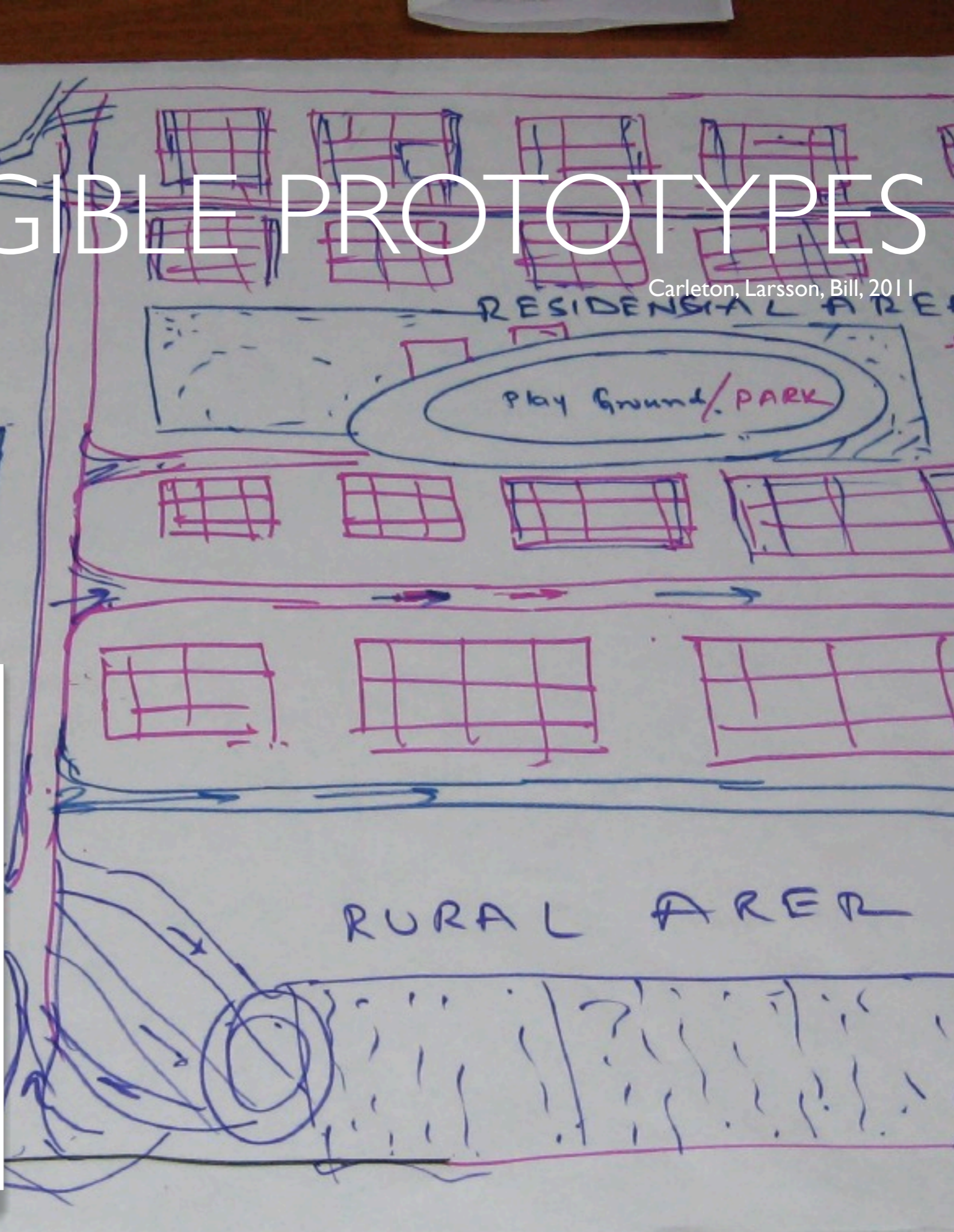


VISUAL PROTOTYPES

Carleton, Larsson, Bill, 2011

TANGIBLE PROTOTYPES

Carleton, Larsson, Bill, 2011



MATERIAL

The best prototyping items are inexpensive and readily available. Below is a starting list for your own creativity and artifact building.

Desk supplies

- Post-it notes
- Pencils
- Pens
- Paper clips
- Colored markers and highlighters
- Business cards
- Brochures, pamphlets

Office supplies

- Note pads
- Manila file folders
- Hanging file folders
- Plastic label tabs
- Recycled paper
- Colored paper, cardstock

- Envelopes
- Cardboard
- Ring binders
- Unused boxes for copier paper
- Bubble wrap
- Packing peanuts

Craft materials

- Colored stickers
- String
- Popsicle sticks
- Index cards
- Pipe cleaners
- Modeling clay (e.g., Play-Doh)

Various adhesives

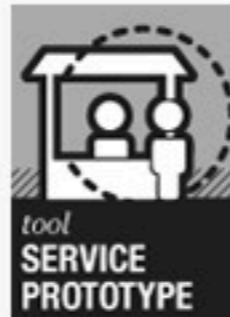
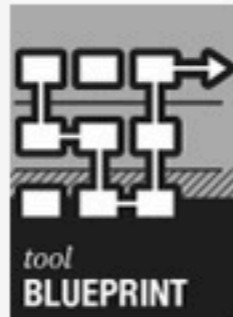
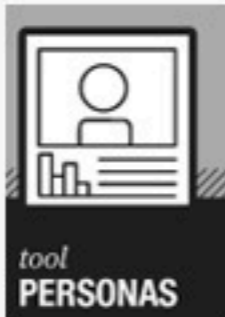
- Push pins
- Rubber bands
- Masking tape, packing tape



INSPIRATION

design activity

TESTING & PROTOTYPING



<http://www.servicedesigntools.org>

KEY READINGS

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- Gray, D., Brown, S., Macanuso, J. 2010. Gamestorming. A Playbook for Innovators, Rulebreakers, and Changemakers. Sebastopol, CA, USA: O'Reilly.
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- Savoia, A. 2011. Pretotype It: Make sure you are building the right it before you build it right. <http://www.pretotypelabs.com/>
- Schrage, M. 1993. The Culture(s) of Prototyping. Design Management Journal, Vol. 4, No. 1.

KEY TAKEAWAYS

1. DIFFERENT FIDELITIES

2. BUILD THE RIGHT *IT*

3. LOOKS LIKE, BEHAVES LIKE,
WORKS LIKE, FEELS LIKE...

4. FAIL WHILE FAILURE IS CHEAP

5. DO NOT DEFEND YOUR PROTOTYPE

EXERCISE

3 PROTOTYPES

1. VISUAL PROTOTYPE (LOOKS LIKE)
...worth a thousand words?

2. TANGIBLE PROTOTYPE (WORKS LIKE)
...worth a thousand pictures?

3. EXPERIENCE PROTOTYPE (FEELS LIKE)
...worth a thousand things?

EXERCISE

3 QUESTIONS

1. What is the most important question that you need to answer in your project?
2. How could a prototype help you answer that question?
3. What is your next step?

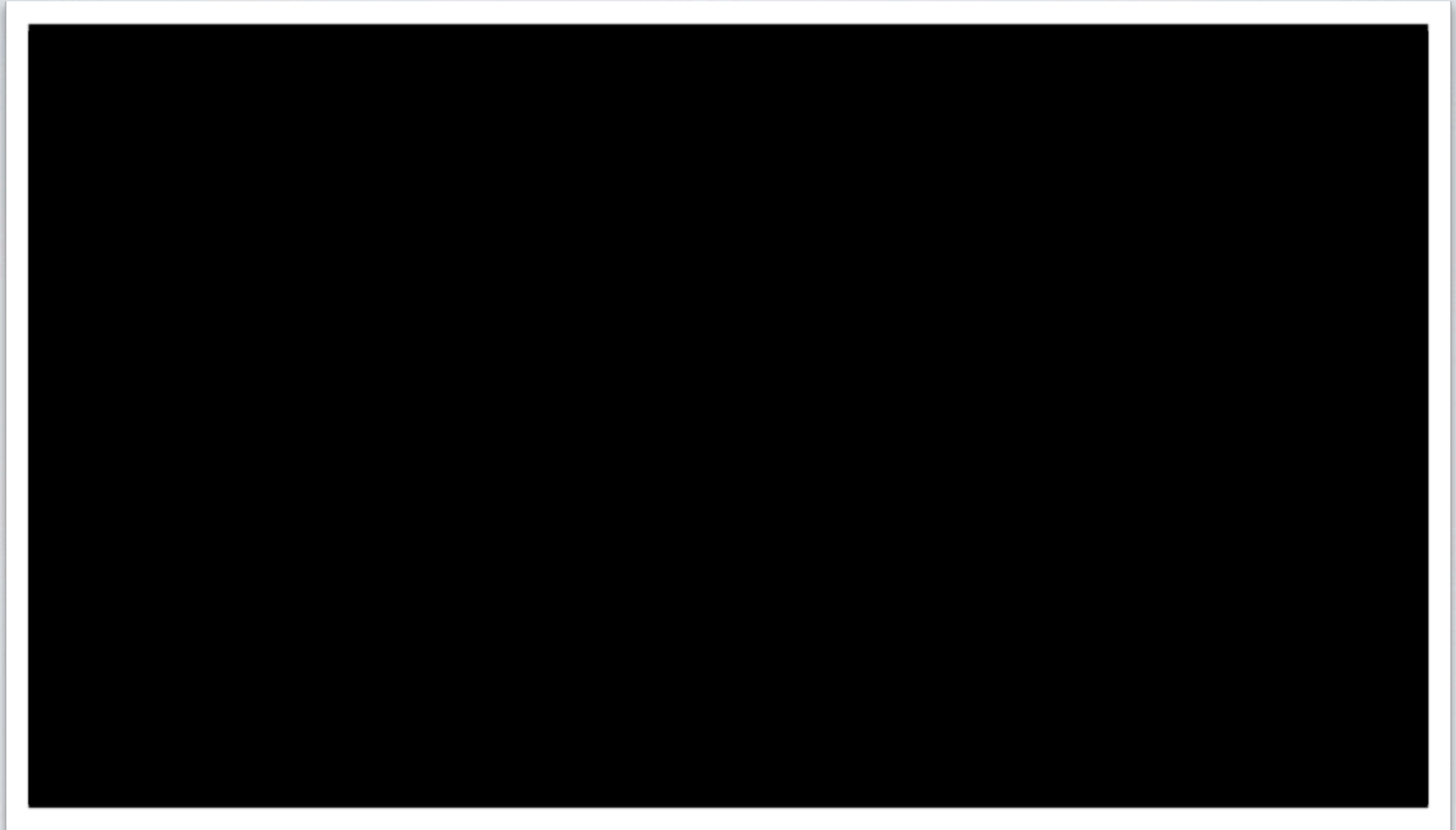
EXERCISE

3 COSTLESS WAYS

Take an idea that you have. Identify three costless ways to learn more about the idea's potential (desirability, viability, feasibility).

Pssst! A few pointers for
your final presentation...

ANCHOR & TWIST



<http://www.youtube.com/watch?v=TEDt4zVzTBo>

PRESENTATIONS THAT STICK



<http://www.youtube.com/watch?v=8x70zw2tq9Y&feature=plcp>

START WITH WHY



<http://www.youtube.com/watch?v=OVnN4S52F3k>