Prototyping

Week 2 Overview

Prototyping Week				

Jan 12	Jan 20	Jan 21	Jan 22	Jan 23
	Prototyping	**Intermediate Arduino + Electronics**	**Visual Programming**	**User Testing and Evaluation**

Deliverables

Pick 1 of your 3 concepts and create 3 prototypes (looks-like, works-like, experience-like)

Week 2 Overview

Prototyping Week

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Deliverables

Pick 1 of your 3 concepts and create 3 prototypes (looks-like, works-like, experience-like)

will work on today

Today: Prototyping

Lecture   Types of prototypes

In-class activity   Experience prototyping + blue foam modeling

Assignment   Prototype Plan

Budget

- $100 per team
- Add expenses to group spreadsheet
- Tax exemption
- Digikey purchasing **tomorrow**

Prototyping

Examine design problems and **evaluate solutions** *before* final prototypes exist.

Prototyping

Examine design problems and **evaluate solutions** *before* final prototypes exist.

What's the form factor for the system?

What type of feedback should the system provide?

What sensor should be used?

Prototyping

Sketches

Storyboards

Videos

Physical models

Virtual 'sketches'

Role plays

Prototyping

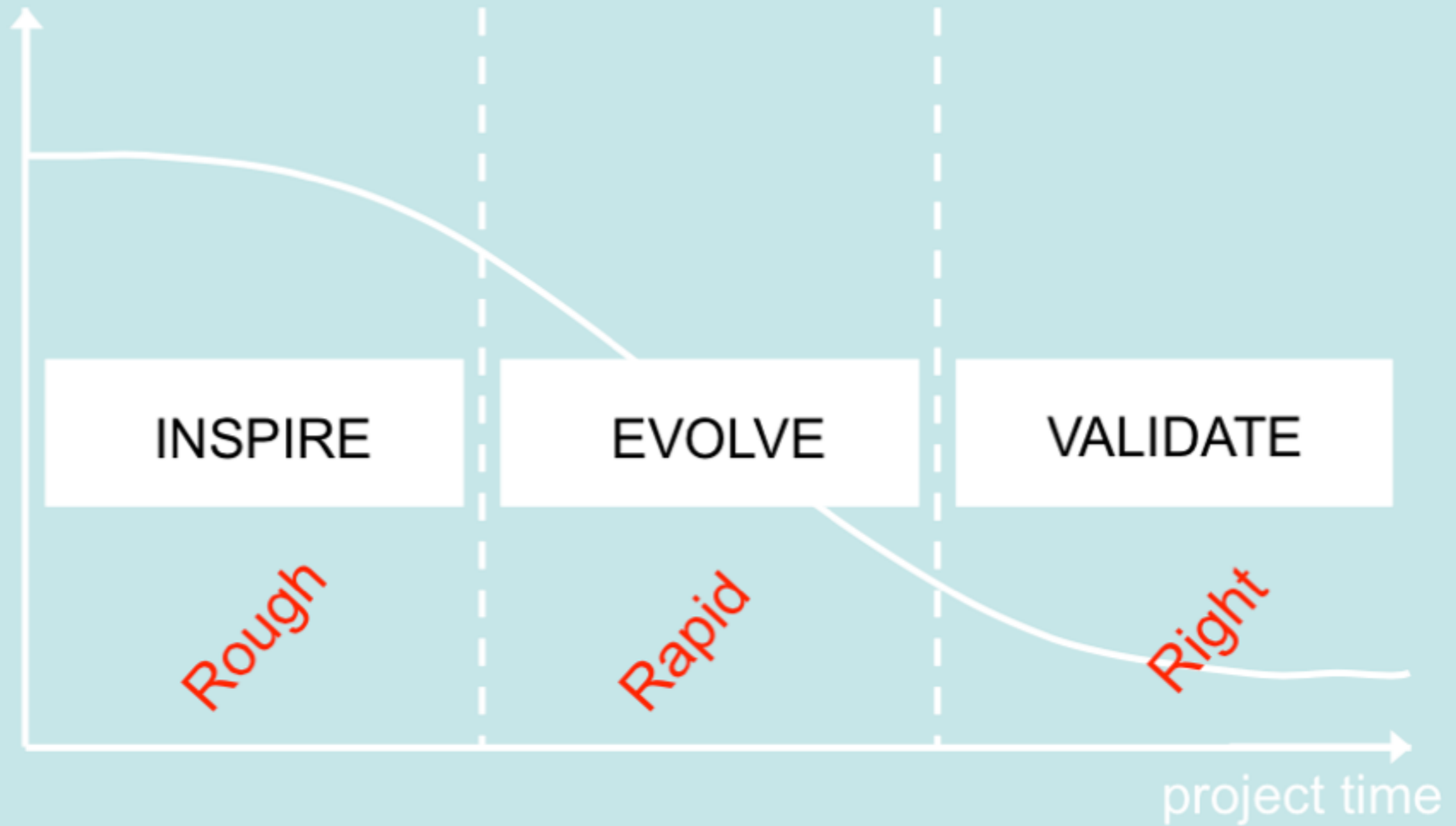Sketches

Storyboards

Videos

Physical models

Virtual 'sketches'   } Actively engaging people

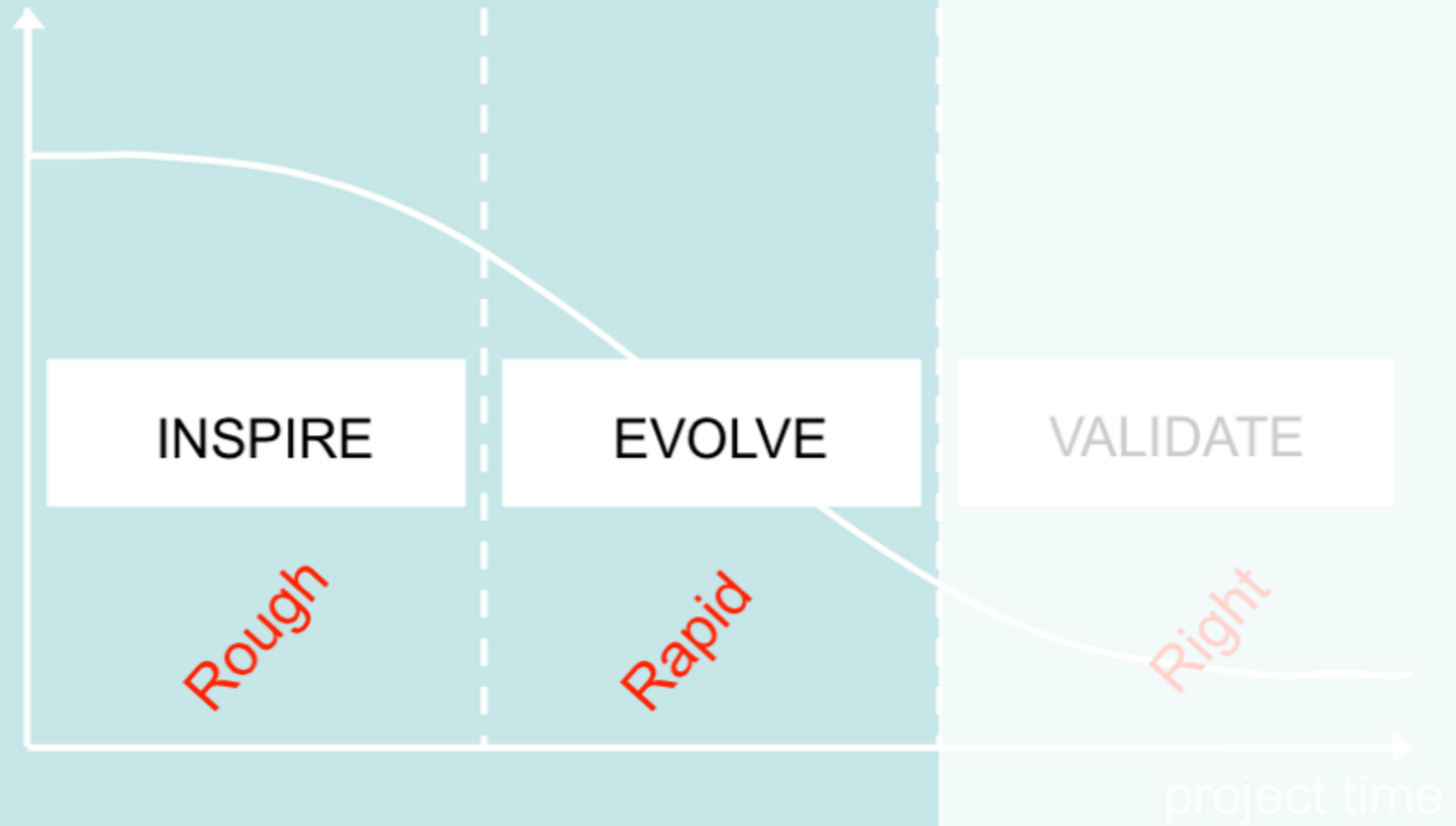**Role plays**

EXPO®

Inspire

Validate

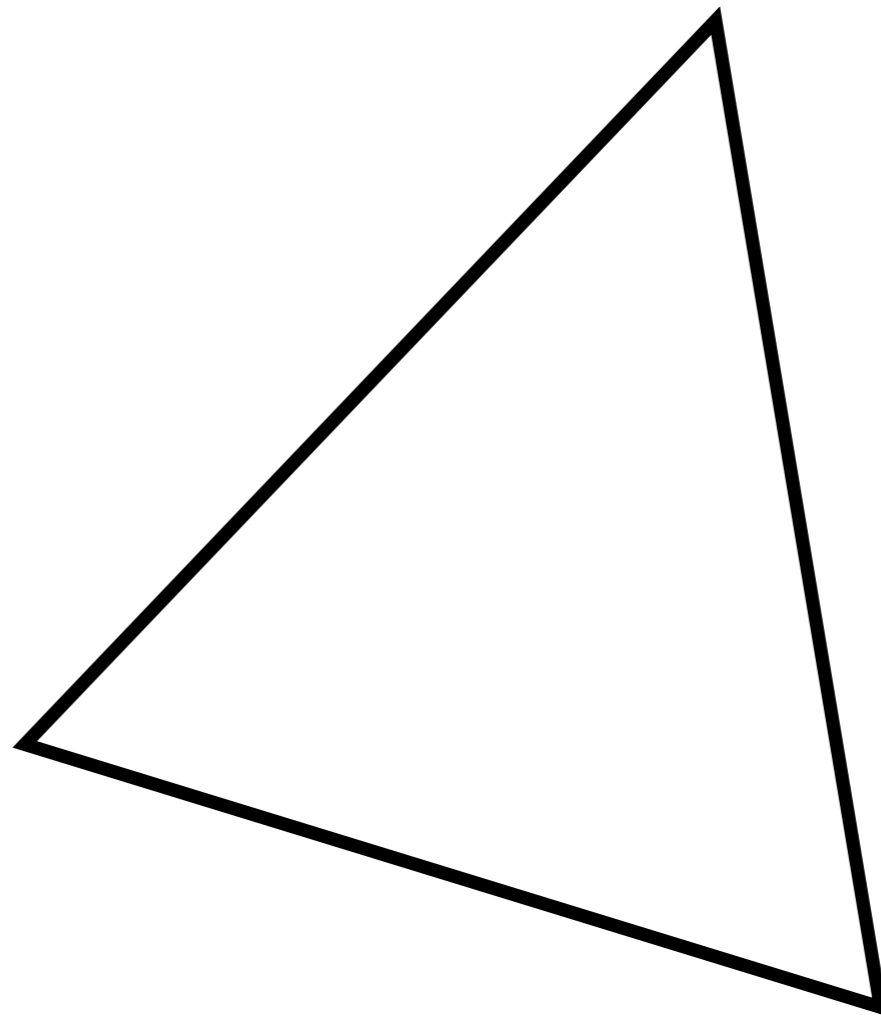Explore

Classifications

Looks like

Works like

Experience like

Role

Implementation

Look and feel

ADAPTABLE

VIDEO CONFERENCING AT YOUR FINGERTIPS

AdapTable is a multi-touch surface that enables globally distributed business teams to share and manipulate data, improving their ability to solve problems and support decisions with information.
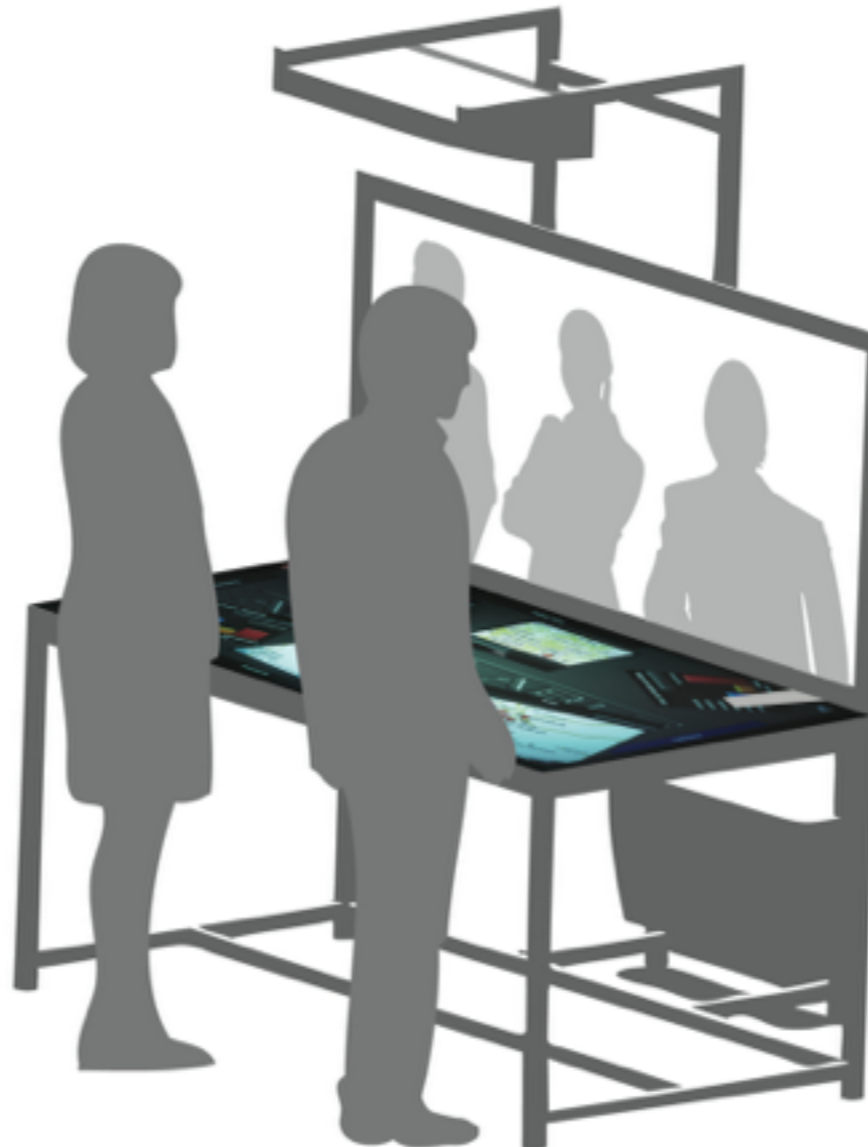
Document Sharing

Windows can be pushed and shared just like paper documents. Digital documents add editing functionality.

Hand Gestures

Remote teams can view each others gesture on screen, enhancing the feeling of working at the same table.

Rapid Data Access

AdapTable software allows users to build queries on demand, enabling them to quickly answer questions that arise during the meeting.
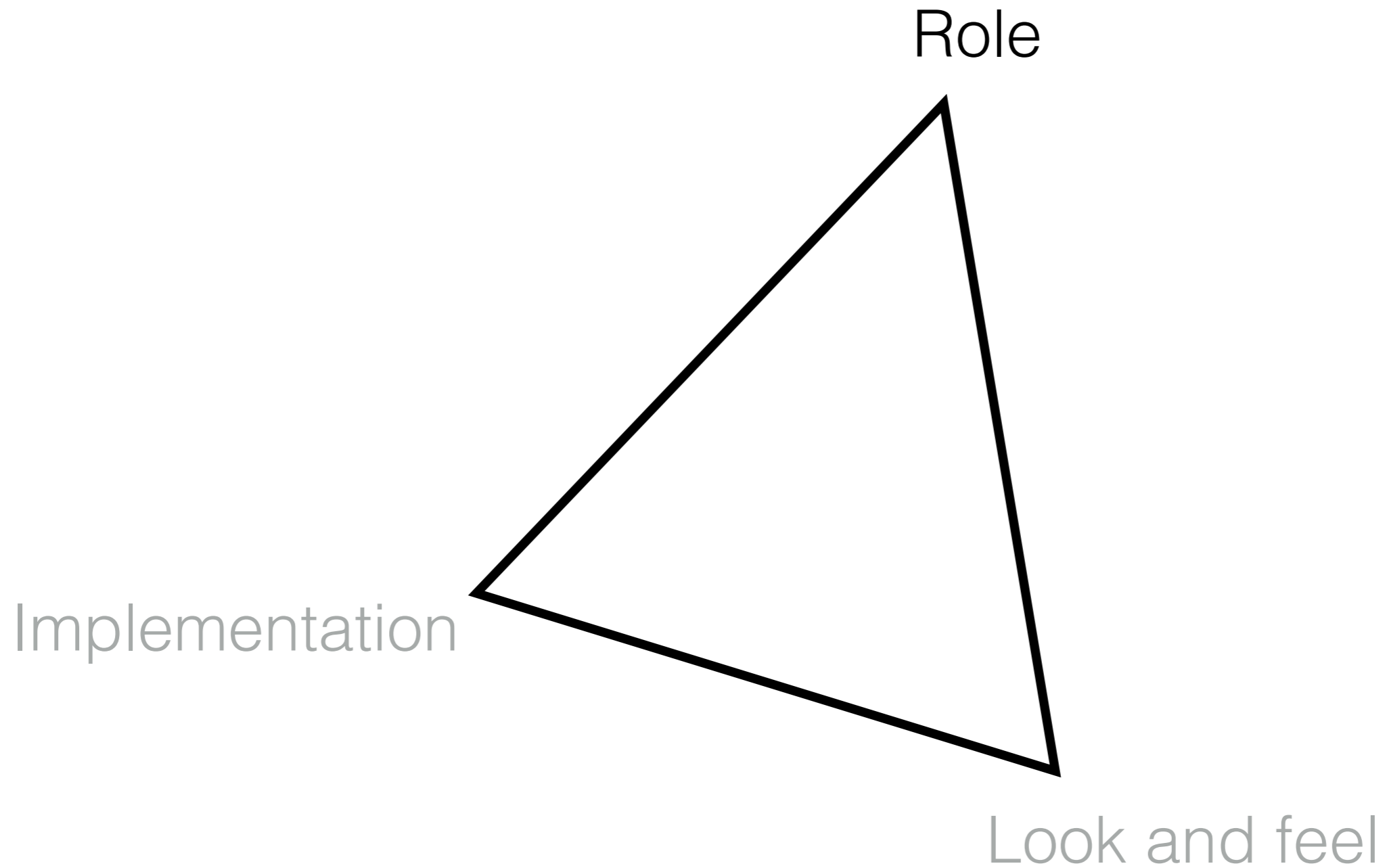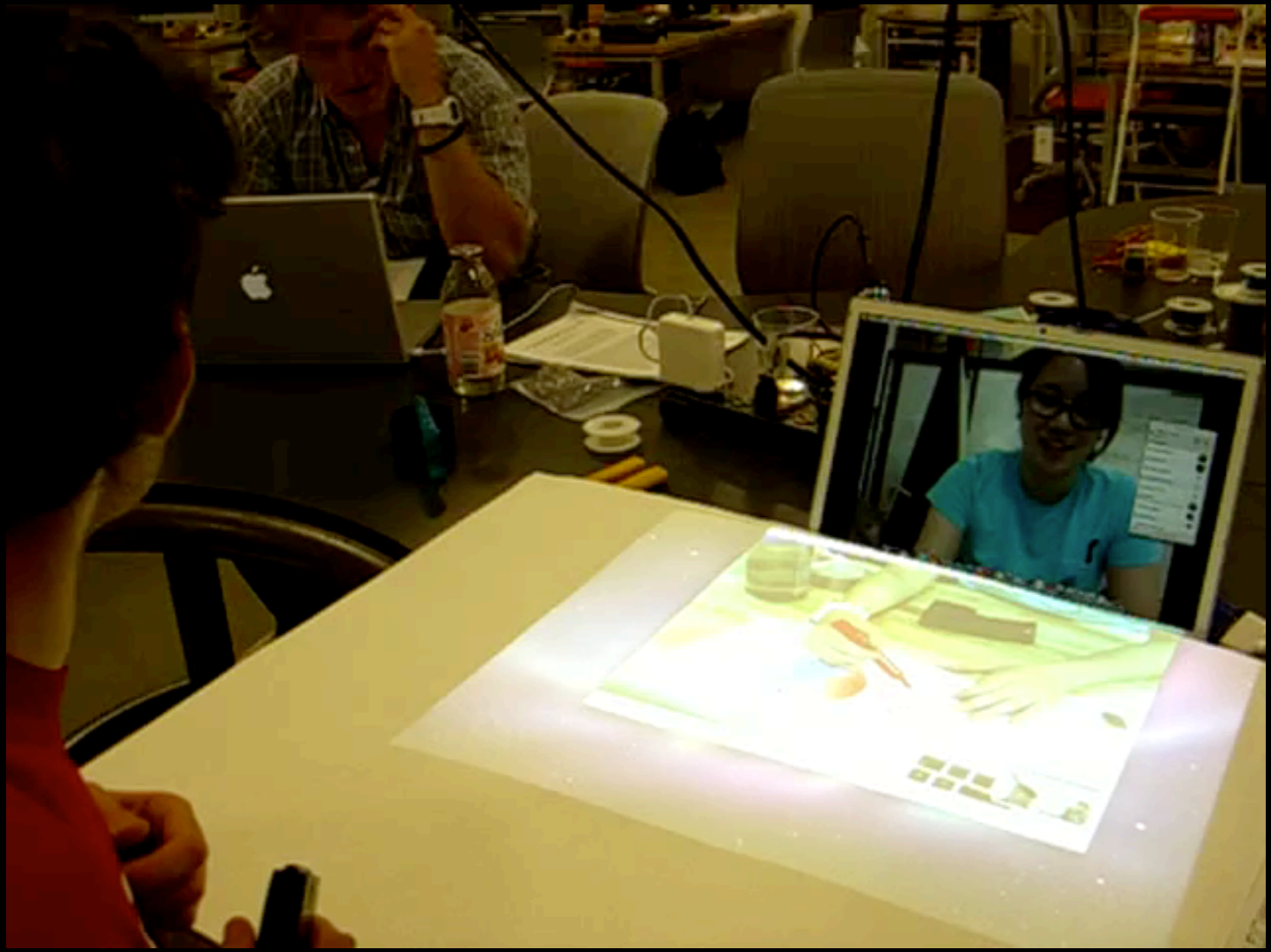
Large Workspace

The 6' long multi-touch table affords room for up to three paricipants to work comfortably and efficiently on each side of the video conference.
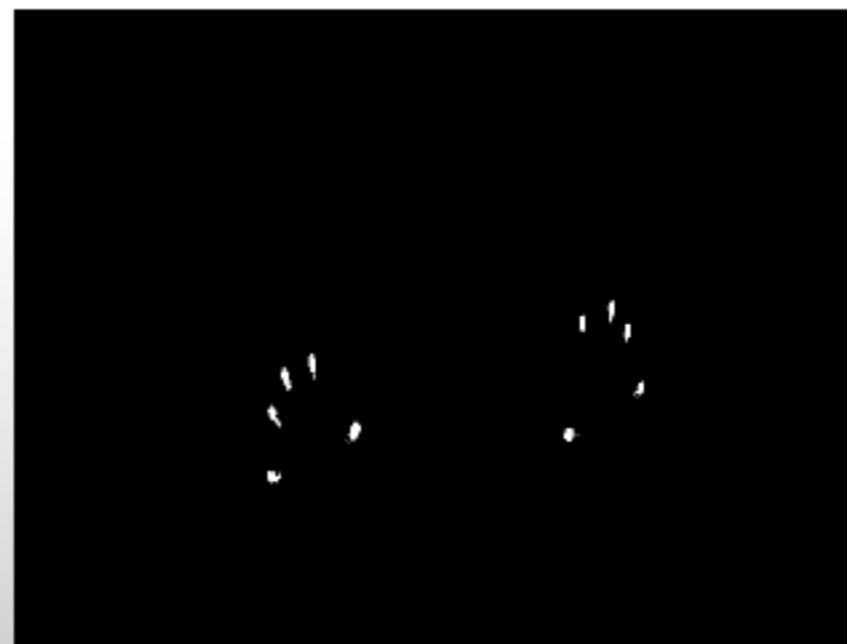
Role

Implementation

Look and feel

Houde & Hill

Role

Implementation

Look and feel

Houde & Hill

Source

Tracked

Source Image ☐ SHOW OUTLINES (O)   ☐ SHOW IDS (I)

🟥 USE CAMERA   ☐ PREVIOUS CAMERA   ☐ NEXT CAMERA

☐ USE VIDEO

Tracked Image ☐ INVERSE

IMAGE THRESHOLD: 47
🟥▭▭▭▭▭▭▭▭

MOVEMENT FILTERING: 0
▭▭▭▭▭▭▭▭▭

MIN BLOB SIZE: 4
▮▭▭▭▭▭▭▭▭

MAX BLOB SIZE: 179
🟥▭▭▭▭▭▭▭

Camera Properties
☐ CAMERA SETTINGS (V)
☐ FLIP VERTICAL (J)
🟥 FLIP HORIZONTAL (H)

GPU Properties
☐ GPU SHADERS (G)

Communication
☐ TUIO UDP (T)
☐ FLASH XML (F)
☐ BINARY TCP (N)

Calibration
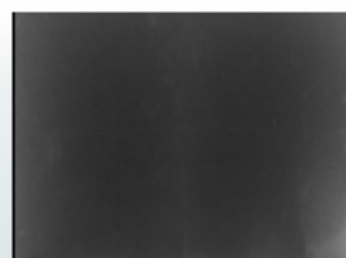☐ ENTER CALIBRATION (C)

Settings
☐ SAVE SETTINGS (S)

Calculation Time: 0 ms

Camera Resolution: 1280 x 480
Camera Framerate: 33 FPS

Press spacebar for mini mode

www.nuigroup.com/ccv - 1.3

Background
☐ REMOVE BG (B)
☐ DYNAMIC SUBTRACT
LEARN SPEED: 37
🟥▭▭▭▭▭▭▭▭

Smooth ☐
SMOOTH: 3
🟥▭▭▭▭▭▭▭▭

Highpass 🟥
BLUR: 27
🟥▭▭▭▭▭▭▭▭
NOISE: 0
▭▭▭▭▭▭▭▭▭

Amplify 🟥
AMPLIFY: 35
🟥▭▭▭▭▭▭▭▭

DI- Rear Illumination

Diffusormaterial

Plexiglas, Glass...

IR Light from
an Illuminator

IR Camera

Role

Implementation

Look and feel

Houde & Hill

Time Slider

Ciudad López Mateos

www.visifire.com

800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0

Pharmacy
Selfservices
Wholesalers

Ciudad de México

Iztapalapa
Iztacalco
Cuauhtémoc

Distribution Channels

ADAP

Chart: Tijuana

Duplicate   X

www.visifire.com

25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0

Pharmacy
Selfservices
Wholesalers

Map

Duplicate

Lázaro Cárdenas

Google - Map data ©2010 Tele Atlas

Products
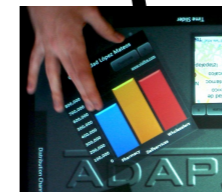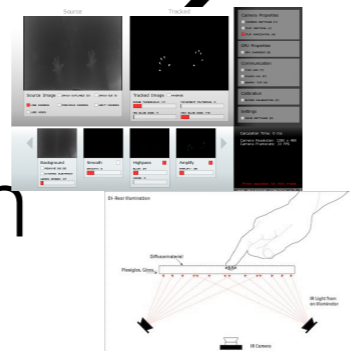
Role

Implementation

Look and feel

Experience Prototyping

Why   Used to **understand, explore, or communicate** what it might be like to engage with the **product, space, or system**

How   Enable users to gain **first-hand experience** of future conditions through **active engagements with prototypes.**

Buchenau & Suri

Experience Prototyping: Techniques

Immersion
Role-playing
Wizard-of-oz

Experience Prototyping: Techniques

Immersion
Role-playing
Wizard-of-oz

Experience Prototyping: Techniques

Immersion

Role-playing

Wizard-of-oz

the bakery   the grill

Experience Prototyping: Techniques

Immersion
Role-playing
Wizard-of-oz

Experience Prototyping: Guidelines

Minimize instruction
    Note surprising assumptions / actions

Reuse
    Use existing parts in place of building your own
    when possible

Maintain ambiguity
    Keep it "sketchy"

Assignment

In-Class   Experience Prototype

Week 2 Assignment   1 Looks-like and 1 Works-like prototype

In-Class Experience Prototype

Select the idea you plan to prototype this week.

Write a list of key questions you hope to answer with your prototypes.

Which question(s) do you plan to answer with your experience prototype?

How do you plan to prototype the experience?

10 minutes

In-Class Experience Prototype

Take **1 hour** to build out your experience prototype

Stephen will grab teams for short blue-foam tutorial

We will regroup for you to test your experience prototype with multiple groups

In-Class Experience Prototype

Testers	Users
Living Room	Bathroom
Kitchen	Bedroom
Workspace	Teaching Team

In-Class Experience Prototype

Users	Testers
Living Room	Bathroom
Teaching Team	Bedroom
Kitchen	Workspace

Assignment

Prototyping Plans

For *each* of the two prototypes, include a project plan outlining the following:

- Description of the design problem / opportunity and your proposed system.

- What question your prototype is addressing

- How you plan to implement your prototype

- What materials you might need

  - Digikey purchasing