Prototyping
## Week 2 Overview

<table>
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<tr>
<th>Prototyping Week</th>
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<tbody>
<tr>
<td>Jan 12</td>
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<tr>
<td>Prototyping</td>
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<tr>
<td>Jan 20</td>
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<tr>
<td>Intermediate Arduino + Electronics</td>
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<tr>
<td>Jan 21</td>
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<tr>
<td>Visual Programming</td>
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<td>Jan 22</td>
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<td>User Testing and Evaluation</td>
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<td>Jan 23</td>
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## 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’
Role plays

 Actively engaging people
# of ideas

**INSPIRE**
- Rough

**EVOLVE**
- Rapid

**VALIDATE**
- Right

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**prototype driven specs**

**spec driven prototypes**

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project time
Classifications

- Looks like
- Works like
- Experience like

Diagram:
- Role
- Implementation
- Look and feel

Houde & Hill
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.

**Rapid Data Access**
AdapTable software allows users to build queries on demand, enabling them to quickly answer questions that arise during the meeting.

**Hand Gestures**
Remote teams can view each other's gesture on screen, enhancing the feeling of working at the same table.

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

<table>
<thead>
<tr>
<th>In-Class</th>
<th>Experience Prototype</th>
</tr>
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<tbody>
<tr>
<td>Week 2 Assignment</td>
<td>1 Looks-like and 1 Works-like prototype</td>
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</table>
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

<table>
<thead>
<tr>
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<th>Users</th>
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<tr>
<td>Living Room</td>
<td>Bathroom</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Bedroom</td>
</tr>
<tr>
<td>Workspace</td>
<td>Teaching Team</td>
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# In-Class Experience Prototype

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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