2.S97 ITERATIVE INTERACTION DESIGN

Course Intro Foamcore

January 12, 2015
Teaching Team

**Instructor**
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MAS PhD 2016  
BSME 2009

**Faculty Supervisor**
Maria Yang  
Professor  
Mechanical Engineering
Teaching Team

**TA**
Cole Houston  
Senior | 2A (Product)

**TA**
Stephen Rodan  
Junior | 2A (Nuclear)
Teaching Team

Mentor
Connor Humber
Senior | 2

Mentor
Peter Godart
Senior | 2A (6-1)

Mentor
Kirsten Lim
Senior | 2
Students (You!)

15  6
2  16

Freshmen
Sophomores
Juniors
Seniors
Iterative Interaction Design
Exercise

With the person next to you, **write down 3 words** that describe what you think interaction design is

* You **cannot** use the words “interaction” or “design”

3 minutes
Iterative Interaction Design

“Shaping our every day life through digital artifacts – for work, for play, for entertainment”

– Gillian Crampton Smith
Iterative Interaction Design

Bill Moggridge

Bill Verplank
Designing Interactions
INTERACTION DESIGN

KNOW?

FEEL?

...DO?
Iterative Interaction Design
Needfinding
Brainstorming
Concept Development

- Empathize
- Define
- Ideate
- Prototype
- Test
Prototyping
Evaluating
VISION

CONCEPT

DESIGN

BUILD

PRODUCT!
Iterative Design Exercise!
...but first
Teams

**Apple Pie**
Meghna Saxena
Christina Sung
Tomohiro Maeda

**Banana Split**
Steve Holcomb
Jessica Qian
Siena Scigliuto

**Creme Brule**
Shruthi Narayanan
Mark Choulakone
Ana Lo

**Dulce de Leche**
Matthew Orton
Diego Huyke
Aya Suzuki

**Eclair**
Anthony Mark
Valkyrie Felso
Andrea Meister
Meet & Greet

1) Introduce yourselves (Major, Year, Hometown)
2) Say what you want to get out of the class
3) Find one thing all 3 of you have in common (*not* related to MIT)
4) Exchange contact information (phone number, email)

*5 minutes*
Iterative Design Exercise

Build a tower to hold your team’s ball at a minimum height with the following materials:

Your team should keep track of:
• the amount of materials you’re using
• the number of times you test your design
## Iterative Design Exercise

<table>
<thead>
<tr>
<th></th>
<th>Diameter (cm)</th>
<th>Diameter (”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennis Balls</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Football</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>Soccer Ball</td>
<td>35</td>
<td>14</td>
</tr>
<tr>
<td>Medicine Ball</td>
<td>25</td>
<td>10</td>
</tr>
</tbody>
</table>
Ball Selection
1) What did you build?
2) How many times did you test?
3) What materials did you use?
Redesign!
Redesign

Using some of the ideas shared by your classmates, iterate on your tower to improve it (make it taller or use less material)
Did any tips from other teams help your design?
Any other reflections?
“All design is redesign.”

“Good artists copy, great artists steal.”

“Fail early, often, and cheaply”
Course Content

- needfinding
- ideation
- concept selection
- storyboarding
- prototyping
- testing
- iterating

- foamcore prototyping
- arduino + electronics
- CAD
- digital fabrication
- processing +
- digital interfaces
# Course Overview

<table>
<thead>
<tr>
<th>Lectures &amp; Labs</th>
<th>35-308 PDL (35-307)</th>
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<tbody>
<tr>
<td></td>
<td>10:00 - 1:00 M-F</td>
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<tr>
<td></td>
<td>14 classes (no class on Monday 1/19)</td>
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</table>

<table>
<thead>
<tr>
<th>Open Shop Hours</th>
<th>6:00 - 8:00 PM TWTH in PDL</th>
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<tbody>
<tr>
<td>Extra lab hours added as needed</td>
<td></td>
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<tr>
<td>Schedule on course website</td>
<td></td>
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</tbody>
</table>
Grading

6 Units Graded A-F

**attendance**
- must attend all classes!
- participation

**assignments**
- project + documentation
- complete on time
- showcase skills learned from lecture

**teamwork**
- work well with teammates
- equally distribute work
“If it isn’t documented, it didn’t happen”
Build in Progress

Build in Progress lets you share what you build as you build it.

Process Products by scientiffic

Process Products is a concept about representing design process on digitally fabricated objects. I'll be presenting about it at TEI 2015 and recruited a friend to help me with demoing the concept!

"I think I'll look for some sort of hollow bolt. Anybody have any exper..."
from Color Lamp

Sharing Projects on Facebook, Google+, and more
New project sharing feature

iOS App Update - Video Features
Upload and play videos through the iOS app!
Major Assignments

1. Lab Project (LP): Week 1

2. Final project (FP): Week 1 - 3 *
   a. Iteration 1: 3 Storyboarded Concepts
   b. Iteration 2: 2 Prototypes
   c. Iteration 3: 1 Final Design

* Theme announcement tomorrow!
Major Assignments

- **Jan 12**: Lab Project
- **Jan 13-15**: Final Project: Iteration 1
- **Jan 19**: Iteration 2
- **Jan 20-22**: Final Project: Iteration 2
- **Jan 26-30**: Final Project: Iteration 3
Week 1

- Jan 12: Foamcore
- Jan 13: Needfinding
  - Arduino + Electronics
- Jan 14: Ideation
  - Digital Modeling
- Jan 15: Concept Selection
  - Laser Cutting + 3D Printing
- Jan 16: Storyboarding

Lab Project

Lap Project Expo!
Lab Project: Kids’ Party Games

Pick an element of your team’s assigned kids’ party game to prototype using a combination of foamcore parts, Arduino + electronics, laser cut parts, and 3D-printed parts
Lab Project: Kids’ Party Games

Crocodile Dentist
Apple Pie
Meghna Saxena
Christina Sung
Tomohiro Maeda

Hungry Hungry Hippos
Banana Split
Steve Holcomb
Jessica Qian
Siena Scigiluto
Lab Project: Kids’ Party Games

Elefun

Creme Brule
Shruthi Narayanan
Mark Choulakone
Ana Lo

Let’s go Fishing

Dulce de Leches
Matthew Orton
Diego Huyke
Aya Suzuki

Operation

Eclair
Anthony Mark
Valkyrie Felso
Andrea Meister
Lab Project: Kids’ Party Games

ASSIGNMENT

Pick an element of your team’s assigned kids’ party game to prototype using a combination of:
• Foamcore parts
• Arduino + electronics
• Laser cut parts
• 3D printed parts

DELIVERABLES

• Project plan (Tuesday)
• Demo-able physical prototype (Friday)
• Documentation of project on Build in Progress (Friday)
Due Tomorrow

Lab Project

Create a project page on BiP for your LP, with all team members added as collaborators.

Post a project plan, which should include the following:

• a description of the element of the game you plan to prototype
• a sketch of what the prototype might look like

(This plan should be updated throughout the week)

Download Arduino IDE
Foamcore!