learning is not compulsory and neither is survival

W. Edwards Deming, 1900-1993 modern quality management, father of the Japanese post-war industrial revival
Process sketch model review

- **Sketch model review**: October 7
  - 3 models per section

- **Three ideas presentation**: September 24, during class
  - 3 ideas per section

- **Mockup review**: October 21
  - 2 mockups per section

- **Assembly review**: November 1 & 3
  - 1 assembly

- **Final presentation**: December 6
  - 1 alpha prototype

- **Final selection**: October 26-28
  - 1 concept per team

- **Technical review**: November 15
  - 1 (almost) prototype
### Process

**Product benchmarking**

**Three ideas presentation**
- September 24, during class
- 3 ideas per section

**Sketch model review**
- October 7
- 3 models per section

<table>
<thead>
<tr>
<th>Product</th>
<th>Flexible</th>
<th>Storage</th>
<th>Ease of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>U-Lock</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Folding Lock</td>
<td>+</td>
<td>+</td>
<td>0</td>
</tr>
<tr>
<td>You-Lock</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
Process product teardown
Process product teardown!

Three ideas presentation
September 24, during class
3 ideas per section

A

B

Sketch model review
October 7
3 models per section
teardown

**exercise purpose**
practice part of the product benchmarking process
observe design details
practice secondary research
practice organizing your team and getting the job done
organize information so others can understand it
start working in your team’s space
example

a scanner teardown
instructions

deliverable. A pegboard display to understand what the product is, see what parts are in the product, teach about part materials and costs.
instructions

deliverable. what to display?
the product’s parts
pictures of the product’s unpacking
pictures of product at key disassembly stages
the product’s packaging
instructions

resources. for tearing down safety glasses with your name on them! a product to teardown your team’s tools
instructions

resources for researching your computer devices guidelines for identifying plastics magnets and lighters for materials identification guidelines for estimating costs scales for weighing parts a costing expert consultant
instructions

resources for displaying
foam mounting tape
zip ties
bags for small parts
your phone cameras
dropbox link on website to print 4x6 photos
black sharpies
stickers for product and part information
# instructions

**resources for displaying**

<table>
<thead>
<tr>
<th>product name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>target customer:</td>
</tr>
<tr>
<td>retail cost:</td>
</tr>
<tr>
<td>estimated production volume:</td>
</tr>
<tr>
<td>location of manufacture:</td>
</tr>
<tr>
<td>estimated labor cost:</td>
</tr>
<tr>
<td>cost of the most expensive part:</td>
</tr>
</tbody>
</table>

*product information sticker (2 sheets)*
instructions

resources. for displaying

part material:

method of manufacture:
estimated manufacture cost:

number of times used in product:

indicate data quality
guess, hunch, estimate, know
getting it done

go to your team area!
things are laid out to help you organize
pickup a kf94 mask if you don’t have one
put your safety glasses on
tool officers, open your team’s cabinets
develop a work plan (teardown, research, display)
if your product has a battery, consult with us first
complete the deliverable, safely safety officers!
have your team picture taken
are giving their lives for education so please learn and enjoy the displays!