W. Edwards Deming, 1900-1993
modern quality management
father of the Japanese post-war industrial revival
Perception: Japan produced cheap, shoddy imitations of innovative quality products

learning is not compulsory...
neither is survival
2.009 Product engineering processes today

Product teardowns learn from the work of others
Sketch model review
up next!

Monday

Friday (today) at 5 PM
making posters in illustrator

Three ideas presentation
September 25, during class
3 ideas per section

Mockup review
October 19
2 mockups per section

Assembly review
November 1 & 3
1 assembly

Final presentation
December 11
1 alpha prototype

Sketch model review
October 5
3 models per section

Final selection
October 23-26
1 concept per team

Technical review
November 16
1 (almost) prototype

A

B

ONE SUBTHEME

ONE TEAM

Assembly review

Technical review

Sketch model review

Final presentation

Mockup review

Final selection

ONE SUBTHEME

ONE TEAM
Product teardown
part of a benchmarking process

teardown exercise

practice the process: relevant to sketch models
learn about products related to your idea area
observe design details
practice secondary research
organize information so others can understand it
practice organizing team to work quickly
get happy working in your team space
Product teardown
deliverable from each team at end of class

a white pegboard display that allows one to...
easily understand the product (if unassembled need pictures of it assembled)
easily see what parts are in the product
obtain specified information about the parts/product
Product teardown

example: scanner
Product teardown
deliverable from each team at end of class

if the product comes disassembled:
  it needs to be assembled first!
  take a picture of it assembled
Product teardown
resources for each team

resources

a product to tear down (on team table)
safety glasses (on window ledge, personalized and yours forever)
white peg board mounted to team table
zip ties
baggies for small parts
guidelines for identifying plastics (also on website, burn tests!)
magnets and lighters for materials identification
scales for weighing parts
guidelines for estimating costs (also on website)
your phone cameras (dropbox link on website, emailed, pickup 4”x6” photo in 2009 computer area)
product and part information stickers
a consultant! (materials and costing)
# Product teardown

**product information sticker (2, one needed)**

<table>
<thead>
<tr>
<th>product name:</th>
<th>you will want pictures of the assembled product (and in use as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>target customer:</td>
<td>images at key disassembly states</td>
</tr>
<tr>
<td>retail cost:</td>
<td>packaging and the unpacking experience are part of the product</td>
</tr>
<tr>
<td>estimated production volume:</td>
<td></td>
</tr>
<tr>
<td>location of manufacture:</td>
<td></td>
</tr>
<tr>
<td>estimated labor cost:</td>
<td></td>
</tr>
<tr>
<td>cost of the most expensive part:</td>
<td></td>
</tr>
</tbody>
</table>
Product teardown
part information sticker (100, as needed)

part material:

method of manufacture:

estimated manufacture cost:

number of times used in product:

for every answer indicate your confidence

guess
hunch
educated estimate
know/verified
Teardown exercise

getting started

i) go to your team area in the lab
   your product and materials are on team table
ii) put on your safety glasses
iii) develop a work strategy to utilize the team
iv) complete the deliverable
v) tool officers have your tool kit combination
vi) team picture at the end
Teardown exercise

and remember

despite products are giving their lives for education...

so enjoy and learn from the displays!