2.009 Product engineering processes

“nothing is particularly hard if you divide it into small jobs”

Henry Ford
2.009 Product engineering processes
today’s a quick one!

not business, but mockup!
2.009 Product engineering processes
tutorial on making a business case

7 PM Monday (tonight) in Pappalardo lab
business lecture later in the term
is an important part of deciding what to do
help you think about it while you have options!
think back!
list 4 guidelines for writing user needs

- What, Not How
- Positive, Not Negative
- Same Specificity
- Do Not Include Priority
- None
but first …
list 4 guidelines for writing user needs
but first…

attributes and specifications

<table>
<thead>
<tr>
<th>attribute</th>
<th>metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>detect damage</td>
<td>defects visible</td>
</tr>
<tr>
<td>solidifies using heat</td>
<td>thermo-sets</td>
</tr>
<tr>
<td>home usability</td>
<td>curing temperature</td>
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<tr>
<td>producability</td>
<td>manufacturing time</td>
</tr>
<tr>
<td>food safe</td>
<td>FDA approved mat'ls.</td>
</tr>
<tr>
<td>Atkins diet-friendly</td>
<td>carbohydrate content</td>
</tr>
</tbody>
</table>

writing good specifications is challenging very important in development teams
attributes and specifications

mini quiz: identifying the egg

Eggcellent.

Izzy Lloyd
Amelia Bryan
Anubhav Guha
Amanda Lowery
and now!

another mini quiz

list the 4 components of a well structured specification!

m + u + v + o
Mockup review
7:15-10:00 PM, Thursday October 19

key criteria
- thoughtfulness about, and clarity of, the design concept
- identification and resolution of critical issues/risks
- execution of mockups/models/simulations

review take-home message
- informed decision best option for a successful product!
Mockup review
7:15-10:00 PM, Thursday October 19

three components

presentation to the entire class (6 min/section in 34-101, no models or questions)
testing, questions in the Pappalardo lab (four 10 minute rotations, 5 min/concept)
2 minute video demonstration in Pappalardo for each concept
Mockup review
7:15-10:00 PM, Thursday October 19

presentation to the class (6 min/section in 34-101, no models or questions)

3 minutes per idea, on time!
Mockup review

issues to cover (in 3 minutes)

what is the design concept?
clear overall definition/vision/design for the product
scoping of major subsystems/technical elements
clear use life-cycle (how is it used), user interface
Mockup review

**issues to cover** (in 3 minutes)

- key needs and preliminary contract
- clear core product proposition
- logical mapping between needs, product attributes, and specs
- basis for estimated *purchase* price

- who is the user and why do users care?
- who is the purchaser, and why would they buy it?
- who will you test with?
Mockup review

**issues to cover** (in 3 minutes)

**key risks**

- major issues identified
- feasibility demonstrated or disproven
- lessons learned and identification of unresolved challenges
Mockup review
7:15-10:00 PM, Thursday October 19

testing in Pappalardo (four 10 minute rotations, 5 min/concept)

special requirements?
9 PM tonight!

not a repeat of 34-101!
Mockup review
7:15-10:00 PM, Thursday October 19

concept video (2 minutes per video, one take!) online review form, summarize your mockup

not a repeat of 34-101!
Mockup review

presentation

pointers

don’t try to sell — communicate
design the presentation to be engaging
use 3+3 minutes to summarize the concepts, contract, risks, findings in the lab, let the content speak — few scripted words
plan the content for your 2 minute mockup demonstration video
remember the longer-term goal — design a good new product
be sure there are folks taking notes at the review
Mockup review

timeline

before the review

Wednesday PM, Thursday AM contract plotting (scheduler online)
Thursday afternoon (scheduler online)
  load slides onto presentation computer (Pappalardo)
4:45-6:45 PM: prepare team/presenting area
5:30: food in Pappalardo lab
6:30-7:00 PM: AV test in 34-101
7:15 PM sharp: presentations start in 34-101

detailed schedule is linked on home page
Mockup review

demo locations, order within section

let me know concepts name and order by 9 PM Wednesday

special demonstration needs/locations by the end of today (Monday)
Wednesday class
managing a project timeline
Mockup review
more info and pointers on the course website