2.009 Product engineering processes

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

Henry Ford

2.009 Product engineering processes

logistics and pointers  mockup review

consulting

detect damage  detects visible
solidifies using heat  thermo-sets
home usability  curing temperature
productability  manufacturing time
food safe  FDA approved mat’l.
Atkins diet-friendly  carbohydrate content

but first...

attributes and specifications

<table>
<thead>
<tr>
<th>attribute</th>
<th>metric</th>
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<tr>
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<td>carbohydrate content</td>
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Attributes and specifications

mini quiz: identifying the egg

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Mockup review

7:15-10:00 PM, Thursday October 22

key criteria
- degree of resolution on critical issues/risks
- appropriateness of mockups/models/simulations
- quality of the design concept

two components
- presentation to the entire class (4 minutes in 24-101, no models or questions)
- testing, questions in the Pappalardo lab (four 10 minute rotations, 5 minutes per concept)
- 2 minute video demonstration in Pappalardo for each concept
detailed schedule online, linked to home page

Mockup review

issues to cover

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

writing good specifications is challenging
very important in development teams, especially in era of outsourcing
**Mockup review**
*issues to cover*

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?

**Needs and attributes**
*mockup review: preliminary product contract*

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Portable electronic device for lifting automobiles.</th>
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<tbody>
<tr>
<td>Market</td>
<td>Automotive applications.</td>
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<tr>
<td>Name</td>
<td>Backtrack</td>
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<tr>
<td>Price</td>
<td>$199.95</td>
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<tr>
<td>Specifications</td>
<td>Weight: 5 lbs, dimensions: 12&quot; x 10&quot; x 6&quot;.</td>
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**Mockup review**
*issues to cover*

- key risks
- major issues identified
- feasibility demonstrated or disproven
- lessons learned and identification of unresolved challenges

**Mockup review**
*presentation*

- pointers
  - don’t try to sell — communicate
  - design the presentation to be engaging
  - use 2+2 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**
*demo locations, order within section*

- let me know concepts name and order by 9 PM Wednesday
- special demonstration needs by the end of today (Monday)

**Mockup review**
*preparation*

- before the review
  - 3:00-5:10 PM Thursday (scheduler online Tuesday)
    - load slides onto presentation computer (Pappalardo)
  - 4:45-6:45 PM: prepare team/presenting area
  - 5:45: sandwiches in Pappalardo lab
  - 6:00-6:45 PM: AV test in 34-101
  - 7:15 PM sharp: presentations start in 34-101
Mockup review
consulting!

After beginning your 10-20 minute mockup review of logistics and mid- and high-levels, we will be consulting to your Populations team.

During this consulting session, we will be discussing your concepts anticipated for the mockup phase. You can utilize the session to ask questions that would help you in your project delivery for the customer.

Here is a list of staff that should be present during each consulting session:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Project</th>
<th>Task</th>
<th>Role</th>
<th>Location</th>
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