2.009 Product engineering processes

life is *not* a dress rehearsal

Rose Tremain, author
2.009 Product engineering processes today

review feedback learn and keep improving

build challenge! testing ideas
but first

some logistics

think ahead to the next milestone, wait for feedback (by Tuesday AM)

sketch review timesheet midnight Friday

peer review 1 is due 9 PM Wednesday

team review A is due 9 PM Wednesday

notebooks and milestone reflection next week (except Tuesday)
sketch model phase

objectives

Develop a deeper understanding of the problem/opportunity context (e.g., marketplace composition, benchmarking, patents)

Identification the top few user/purchaser needs

Preliminary exploration of product vision, or ways to address needs

Address key risks or unknowns
sketch review
what’s the point?

A motivational target, manage timeline, typical milestone
Summarize exploration of the design space and what has been learned
Communicate for the purpose of obtaining feedback
Identify additional challenges early
Discover what you don’t know
Learn from seeing what others are doing

Practice early design exploration strategies and presentation techniques

Grading?
Learn, do it for real, and grades will take care of themselves
Feedback: sketch model phase

some good examples

sketch models

yellow B: Aqua Lens

orange A: care fresh

Carefresh
Can clean effectively

Washcloth

Suction can remove over 90% of water

Washing head should be under 7” diameter
Feedback: sketch model phase

some good examples

option exploration

purple A: PURPetrators

orange B: B-Swole
Feedback: sketch model phase
some good examples

product vision

silver A: silent shout

purple A: NYx

- Comfortable Non-Intrusive Headphones
- Blue Light Therapy
- Ergonomic Eye Cover
Feedback: sketch model phase
some good examples
benchmarking

yellow A: survivor

Why Survivor?

<table>
<thead>
<tr>
<th></th>
<th>Survivor</th>
<th>Immersion Suit</th>
<th>Inflatable Life Raft</th>
<th>Vest With Life Raft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact/Fire Resistance</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>High Visibility</td>
<td>✔️</td>
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<tr>
<td>Ability to Give/Receive First Aid</td>
<td>✔️</td>
<td>✗</td>
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<td>✗</td>
</tr>
<tr>
<td>No Water Exposure</td>
<td>✔️</td>
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Feedback: sketch model phase
some good examples

learning

green A: Tact-Eye

yellow B: beacon
Feedback: sketch model phase
some good examples

honesty

green A: spuree

purple B: Magic Touch
Feedback: sketch model phase

some good examples

engaging

blue B: smart can

purple A: PURPetrators
Constructive feedback
put the following discussion in context

name a team characteristic that has negative correlation with success

excessive praise!
Feedback: sketch model phase reflection hiding almost every team!
Feedback: sketch model phase

reflection

timing: most teams!

slides are cues. don’t memorize!
Feedback: sketch model phase
reflection

adjusting red B Dante

a professional skill
Feedback: sketch model phase reflection

view time  yellow Dante

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Feedback: sketch model phase

reflection

positioning

orange A: Mason Frame
Feedback: sketch model phase

reflection

positioning
Feedback: sketch model phase

reflection

remoting!
Rankings
reviewer average

2 hours of discussion. 25 course staff and mentors.
Use to reflect upon what worked well, what did not.

Not a grade.
It is the first impression to a group of people versed in the discipline.

Opportunities with lots of potential may have not ranked as highly do to mix of factors, and vice versa.

Idea-specific feedback over the next few days.

*a lower number is a higher rank*
Rankings
reviewer average

concept

Mason Frame
Smooth Talker
Beacon
NYx
Coda
Carefresh
FireFeel
PURPetrotors
Silent Shout
AirSpace
Aqua Lens
Dante
Animo
Stair-Climbing Walker
SmartCan
Passenger
Breathable
PathMarker
Survivor
Blink
Spuree
Limitless
B-Quenched
Magic Touch
CompresSleeve
Tact-Eye
Rock’nGlove
SeccoRack
EarWave
B-Swole
Focus!
B-Lit
Grab
CADbyHand
Snowfall
StepBAC
Glyde
SafeRyde
Helping Hands
ThermaGlove
Catalyst
MoMo
S.A.F.E.
Hover
StepUp
Bag Be Gone
Press n’ Dress
RadiPlate

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
DAILY TRUTH

WORLD ON THE EDGE

A Comet Bigger Than The Moon Is Going To Smash The Earth.

U.S. May Fire Atomic Bomb Into Space

Threats Fail To End Strife

bad news
HELP!
good news!

i dare you to free product man
product man is held captive
and can only be freed by completing his **fortress of solitude**
you can only reach the fortress using special vehicles
and, each vehicle may only carry a limited number of fortress logs

**now that is a challenge!**
and there is more…

there are obstacles on the path to the fortress

you must slalom around the obstacles
and there is even more!

the fortress has defenses
product man can only be freed when special logs complete the fortress
logistics

pre-challenge

go to your team area

but on the way, leave your bags on the landing of lobby 10

open your kits and put on your protective gear!

read instructions, organize for relay
logistics
pre-challenge

each team member must transport their own log. If you don’t want to, cheer extra hard

wear stickers to determine your relay order

1 2 3 4

~5 minutes to practice with your vehicle
logistics
pre-challenge

vehicles must be used as intended
logistics
relay race

the challenge begins with a starter gun

when all of your team’s logs are delivered

as a whole team, run your team’s flag to the awards table (lobby 10)
logistics
relay race

but you are not done yet!

all the rolls must be delivered to free product man
cheer on other teams that have yet to finish
logistics
relay race

when all of the teams are done

every team runs together with the final flag to lobby 10
the awards ceremony will be on the steps
logistics
relay race

be the **fastest** to finish

or have the **most spirit**!
logistics
and finally...

the awards ceremony!
and after...

team pictures!
+
help bring stuff back to Pappa!
logistics
what if?

your vehicle fails

piggy back one person and log at a time
I will be aware of those around me and play safely.

I will not be a maniac.

I will free Product Man.
your challenge

quick synopsis

use stickers for your relay order. If you don’t want to take a turn, cheer on the teams

at the start gun, deliver your logs using your vehicle as intended

slalom around your obstacles

each vehicle can only transport a specified number of logs per trip

each team member must transport and stack their own log

once all of your team’s logs have been delivered, as a whole team, run your team’s flag to the awards table

cheer on other teams until the last log is delivered

all teams run to lobby 10 steps with the final team’s flag