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
Peer reviews and feedback

a formula for being constructive

situation + behavior + impact + next
Peer reviews and feedback

be specific

give a reference point including a specific example of when Ned may have demonstrated the behavior

“this feedback refers to what happened during the team meeting yesterday afternoon”
2.009
Peer reviews and feedback

behavior

describe Ned’s behavior
make sure that you're being clear and objective
focus on the actions that Ned took, not their personality

“you were so excited about the topic we discussed that you cut off Ted a few times.”
2.009
Peer reviews and feedback

impact
describe the impact of the behavior
the behavior may impact one person, a few people or the whole group
it is most credible to convey the impact upon yourself
“after you interrupted Ted, I found it hard to follow the discussion because I was trying to guess what Ted would have said. Ted stopped after being interrupted”
Peer reviews and feedback

next

offer some suggestions to Ned for a do over

“maybe next time you could give Ted more time to explain and elaborate on what he means exactly”
Peer reviews and feedback

statement styles

strong:
I think the way you implemented it was flawed

question:
do you think your implementation was flawed?

suggestion:
I would suggest a few changes to the implementation next time
Peer reviews and feedback

unconscious bias

gender bias, race bias, institutional bias, age bias, culture bias and language bias
Peer reviews and feedback

Peer reviews are susceptible

Reviews of women's success based more on effort and men's success based more on ability

One set of adjectives to describe women and another set to describe men

Organized vs dependable
Enthusiastic vs articulate
Compassionate vs analytical
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

learning

purple B: hermes
Feedback: sketch model phase
some good examples
learning

orange A: liristra

Working Model

Heating

- Thermometer
- Mixing Rod
- 80°C Double Boiler Heat Plate/Pad

Cooling

- DC power supply
- -40°C Peltier Plate
Feedback: sketch model phase

some good examples

option exploration

red a: swoup
Feedback: sketch model phase
some good examples

option exploration

blue b: pole partner
Feedback: sketch model phase
some good examples

product vision

blue B: bike-a-gami
Feedback: sketch model phase
some good examples

product vision

pink a: bouy friend
Feedback: sketch model phase
some good examples

benchmarking

blue a: zipper alarm

Benchmark Analysis

Convenience

Universality
Feedback: sketch model phase
some good examples

clear demo

silver a: rise
Feedback: sketch model phase

some good examples

honesty

silver A: smoke screen
Feedback: sketch model phase

some good examples

engaging

pink A: bouy friend
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

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

hiding!
many sections
Feedback: sketch model phase

reflection

many sections

hiding!
Feedback: sketch model phase
reflection

avoid confusion
Feedback: sketch model phase reflection blocking
Feedback: sketch model phase
reflection
blocking
Feedback: sketch model phase reflection

show!

show!

show!
Feedback: sketch model phase

reflexion

team that embraced subthemes tended to have new interesting ideas

descriptive product names are appropriate at this stage of the process

be careful not to oversell
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
Rankings
reviewer average
incoming instructions!
mallows are melting!
The mallows are in melting!

you must use your special vehicles to cross the chocolate channel
to build a cracker catwalk

and free the mallows by whacking the mallow net

are you ready?
there’s more…

you may only use the team vehicle to cross the chocolate channel

only two (2) people may cross the chocolate channel in the team vehicle at a time (4 for silver) - denoted with numbered stickers

power the vehicle to the volcano base where you’ll find the cracker stack

dismount your vehicle and lay one cracker down. Each pair may only lay one cracker down at a time

the flag will be raised an increment with each cracker placed
there’s more…

take turns and repeat until your cracker catwalk is complete

fully raised flag will indicate completion

the distance between crackers will be the length of a spearmint spacer
there’s still more…

once you’ve built the cracker catwalk…

run across one at a time
(based on your whacking sticker number)

And take one and only one whack at the mallow net
there’s still more…

once you’ve freed the mallows…

Everyone can run and rescue their mallow friend
Return to your team area (this is when your team is done!)

then go and cheer on other teams

once the last team finishes…

everyone runs up lobby 10 steps together
in case your vehicle fails

two (2) people wearing mallow billboards can go by foot
there are lots of ways to **participate**!

- **ride** in the vehicle
- **whack** mallow net
- **enjoy** build challenge :)
- **cheer** on teams
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!
Pledges

I will be **aware** of those around me and play **safely**

I will not be a **maniac**

*I will** save the mallows
your challenge
quick synopsis

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

at the start gun, cross the chocolate channel using your vehicle as intended to build your cracker catwalk

once the cracker catwalk is complete, run across one at a time, and take a single whack at the mallow net. Carry the smartie bat with you

retrieve your freed mallows and return to your team area. This is your finish

cheer on other teams until the last wacky dude has inflated

all teams run to lobby 10 steps for the award’s ceremony