dt+UX DESIGN THINKING FOR USER EXPERIENCE DESIGN + PROTOTYPING + EVALUATION

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Ideate

Prof. James A. Landay
Computer Science Department
Stanford University

Autumn 2018
2018/10/08

Slides adapted from d.leadership Define + Ideate slides (https://dschool.stanford.edu/groups/designresources/wiki/c5958/dleadership_2015.html)
Additional resources from bootcamp bootleg (http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v25.1M.pdf)

Hall of Fame or Shame?

Sony Google TV Remote

Hall of Shame!

Sony Google TV Remote

- Very complex
- So large that it requires two hands
- So many controls that you can't use in the dark (watching movie?)
- Two navigation pads. When to use which?
- But, it does have typing input…

Hall of Fame or Shame?

Apple TV Remote

Hall of Shame!

Apple TV Remote

- Overly simple
- Many things require navigating menus
- Text entry is almost impossible
- So small that it is easily lost
- But, common tasks easy

Hall of Fame or Shame?

New Apple TV Remote

- Still limited number of buttons, but adds
  - Voice Input
  - Touch pad w/ navigation, swipes & clicks
  - Slightly larger ⇒ no longer lost in the cushions?
- Anyone have experience with this?

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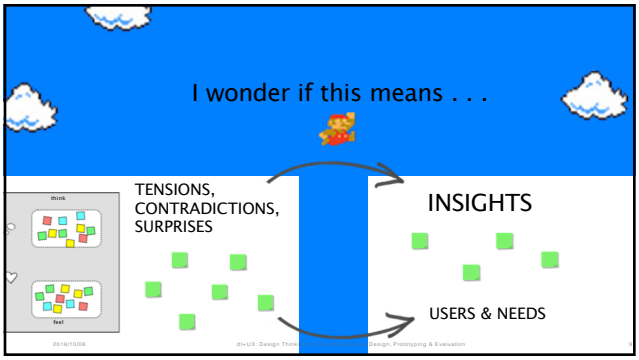
Outline

- Review Define: unpacking field data & POVs
- Ideate
- How Might We…?
- Brainstorming solutions
- Team Break
- Selecting good problems & solutions
- Experience prototyping



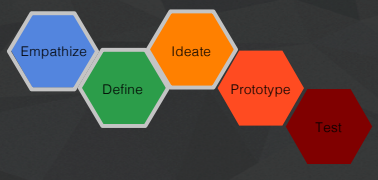
Point of View

WE MET . . .
(*user* you are inspired by & their *characteristics*)

WE WERE AMAZED TO REALIZE . . .
(what did you learn that's new? What is their *need*?)

IT WOULD BE GAME-CHANGING TO . . .
(frame up an inspired challenge for yourself – *build on the insight*.)
(don't dictate the solution.)

Design Thinking



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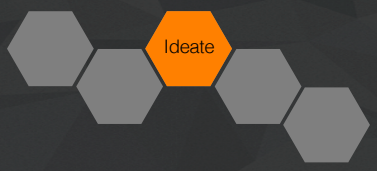


innovation potential

Ideate

separate generation & evaluation

How do we start?

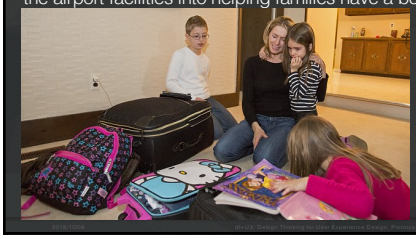
How do we start?

Might lets you defer judgment

helps people to create options freely

opens up more possibilities

POV: We met Janice, a harried mother of 3, rushing through the airport only to wait hours at the gate. We were surprised at the many games she makes up to to entertain her children so they don't irritate frustrated fellow passengers. It would be game changing to bring the other passengers and the airport facilities into helping families have a better travel experience.



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Break POV into pieces
HMW entertain kids? HMW slow a mom down?

Amp up the good/Remove the bad
HMW separate kids from fellow passengers?

Explore the opposite
HMW make the wait the most exciting part of the trip?

Question an assumption
HMW entirely remove the wait time at the airport?

http://dschool.stanford.edu/wp-content/uploads/2012/05/HMW-METHODCARD.pdf

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Go after adjectives
HMW we make the rush refreshing instead of harrying?

Identify unexpected resources
HMW leverage free time of fellow passengers to share the load?

Create an analogy from need or context
HMW make the airport like a spa?

Change a status quo
HMW make playful, loud kids less annoying?

http://dschool.stanford.edu/wp-content/uploads/2012/05/HMW-METHODCARD.pdf

Anatomy of a Strong HMW Question

- Who
- What
- When
- Where
- Why

- Best to have at least 3 W's in a good HMW question

one conversation at a time	encourage wild ideas
go for quantity	be visual
headline!	stay on topic
build on the ideas of others	defer judgment

DO IT NOW:

Generate some HMW statements for this POV!

POV: We met Janice, a harried mother of 3, rushing through the airport only to wait hours at the gate. We were surprised at the many games she makes up to to entertain her children so they don't irritate frustrated fellow passengers. It would be game changing to bring the other passengers and the airport facilities into helping families have a better travel experience.

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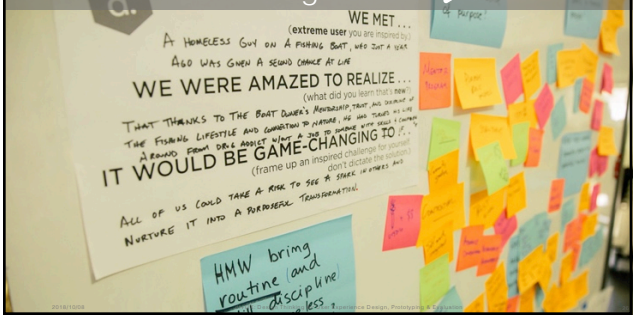
POV: Harried Mother at Airport

- HMW entertain children without having to interact with them?
- HMW have kids entertain one another and let parents be free?
- HMW make it easier for parents to travel without their kids?
- HMW make the kids entertain the parents instead?
- HMW make waiting at the airport a family bonding experience?
- HMW change the airport cultural norms to be more like a library vibe?
- HMW make it so she can't travel? (or doesn't have to?)
- HMW make airports less noisy public spaces & more intimate family spaces?
- HMW get families from point A to point B efficiently w/o the use of airports?
- HMW help kids learn about different places & cultures while their waiting at the airport?

Brainstorm: "How Might We's" → Solutions



Constraints Can Energize

"How would you design it with the technology of 100 years ago?"

"What if we had to spend at least a million dollars?"

"Only ideas that would get you fired"

"All ideas must use magic."

http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/facilitate-a-brainstorm.pdf

Brainstorm Rules

one conversation at a time	encourage wild ideas
go for quantity	be visual
headline!	stay on topic
build on the ideas of others	defer judgment

Brainstorming Demo: two brainstorms

In Class Quiz

- Closed notes & no web lookup
- https://bit.ly/cs147-18au-quiz1
- 5 minutes
- Do *not communicate* about this quiz with anyone inside or outside this room

Team Break (20 min)

- Work on revised POVs or needfinding unpacking
- TAs will go around & give you feedback

Selecting a Good Problem or Solution Idea

- Frequency
  - want something that occurs often
- Density
  - lots of people experience it
- Pain
  - more than a small annoyance
- Interested
  - your team is motivated to work on this problem

* see Manu Kumar's blog post on this topic: http://www.k9ventures.com/blog/2015/02/10/finding-problem-worth-solving/

Dark Horse Idea

Dark Horse Idea

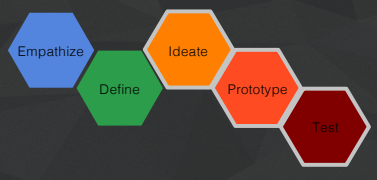
1. Dark: explores a space that is risky, radical or orthogonal
2. Brainstormed after more traditional HMW/ideas
3. Possible to prototype & test (can't be infeasible)

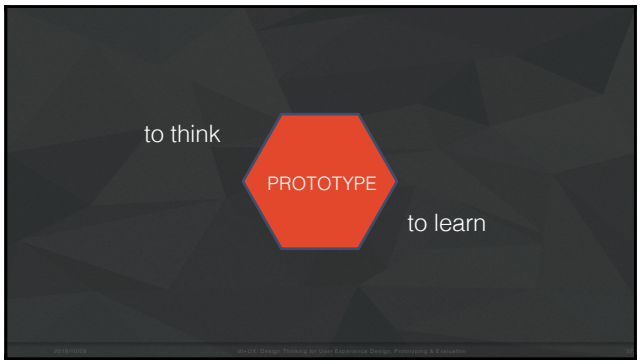
Downselecting Ideas

- Celebrate success of brainstorm, take a break, vote!
- Option 1: Heat map voting
  - everyone starts with unlimited number of votes (small dots)
  - then everyone gets 3 final votes on absolute favorites (large dots) **and** 1 bonus dark horse
- Option 2: Category voting
  - Each person gets specific # of votes (i.e., 5)
  - Specific categories
    - most feasible idea, craziest idea, best long shot, my favorite but improbable, short term solution, etc.
- Option 3: Each person picks 3 favorites

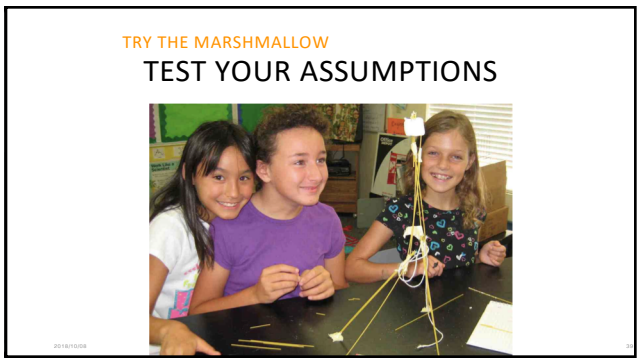
https://medium.com/product-design-foodsi/how-to-solve-a-problem-and-make-decision-in-a-big-team-without-getting-mad-fb27ff0d5e100

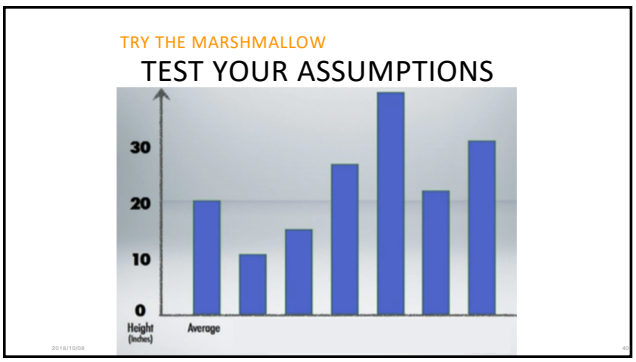
Design Thinking

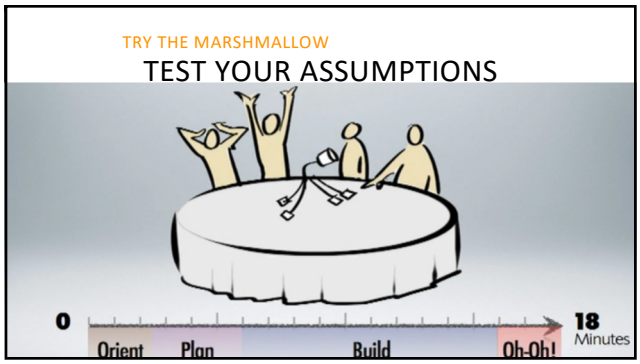


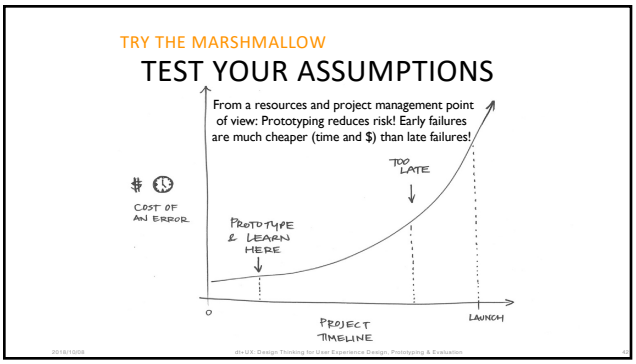

to think
PROTOTYPE
to learn

TRY THE MARSHMALLOW
TEST YOUR ASSUMPTIONS
In 18 minutes, build the tallest free-standing structure out of 20 sticks of spaghetti, 3 feet of tape, 3 feet of string, and one marshmallow. The marshmallow must be on top.
20 sticks of spaghetti + one yard tape + one yard string + one marshmallow


TRY THE MARSHMALLOW
TEST YOUR ASSUMPTIONS


TRY THE MARSHMALLOW
TEST YOUR ASSUMPTIONS
30
20
10
0
Height (Inches)
Average

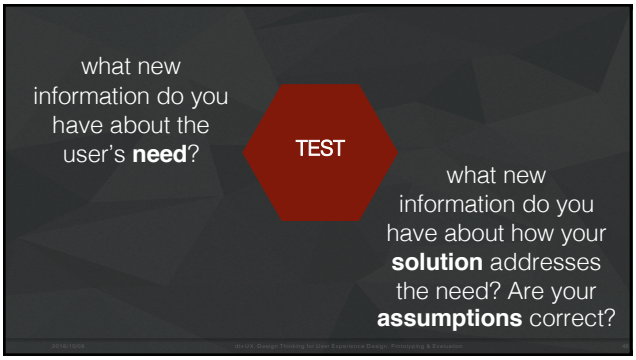

TRY THE MARSHMALLOW
TEST YOUR ASSUMPTIONS
0
Orient
Plan
Build
Oh-Oh!
18
Minutes

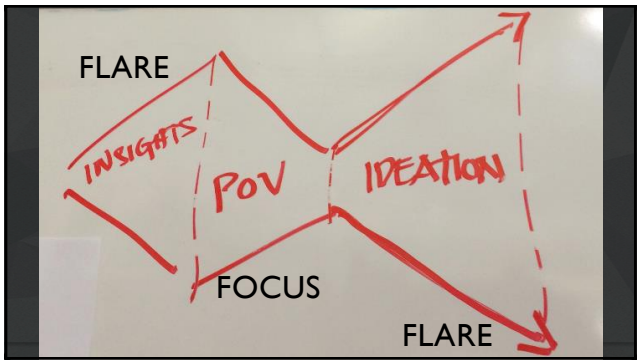

TRY THE MARSHMALLOW
TEST YOUR ASSUMPTIONS
From a resources and project management point of view: Prototyping reduces risk! Early failures are much cheaper (time and $) than late failures!
COST OF AN ERROR
PROTOTYPE & LEARN HERE
TOO LATE
0
PROJECT TIMELINE
LAUNCH

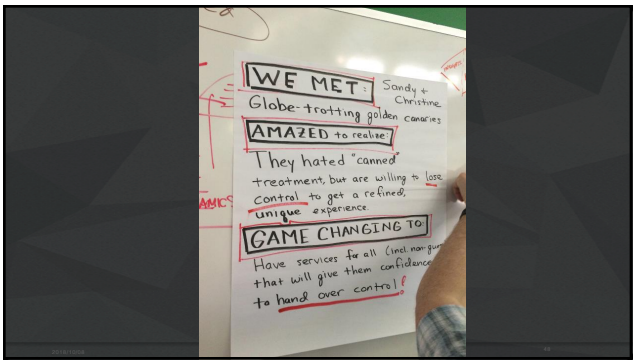
prototype: how?
the bakery

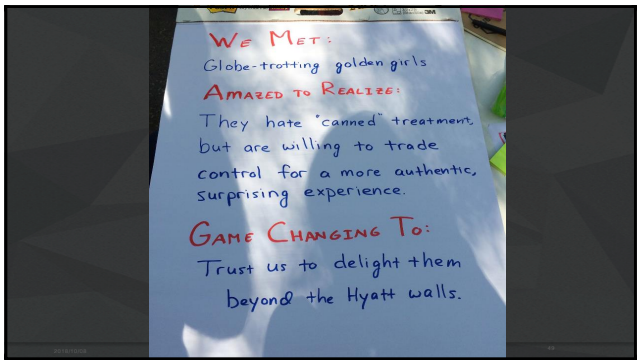
prototype: how?
the bakery

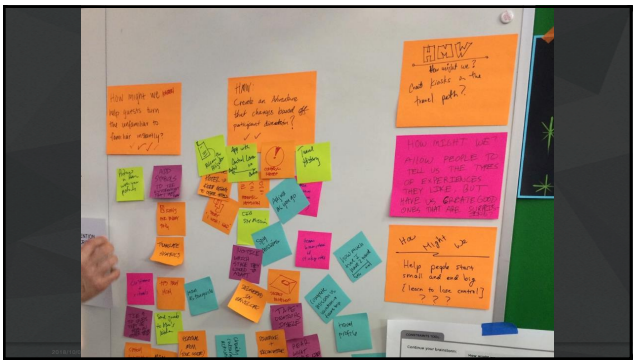
SCENE
the bakery
ROLES
PROPS

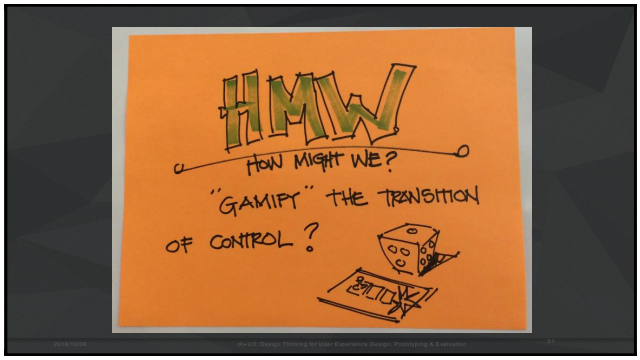

what new information do you have about the user's **need**?
TEST
what new information do you have about how your **solution** addresses the need? Are your **assumptions** correct?

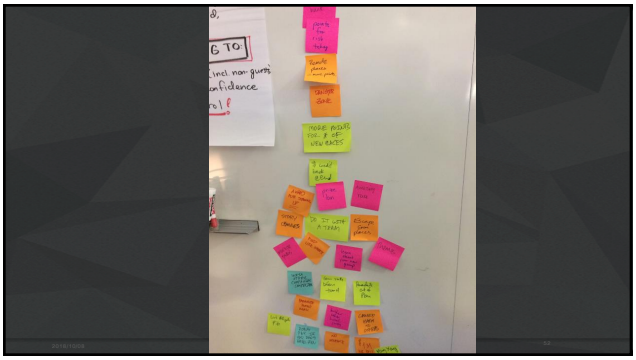

FLARE
INSIGHTS
POV
IDEATION
FOCUS
FLARE

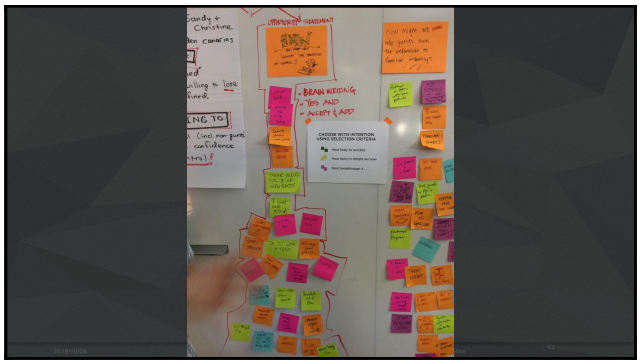

WE MET: Sandy + Christine
Globe-trotting golden canaries
AMAZED to realize
They hated "canned" treatment, but are willing to lose control to get a refined, unique experience.
GAME CHANGING TO:
Have services for all (incl non-gu
that will give them confidence
to hand over control

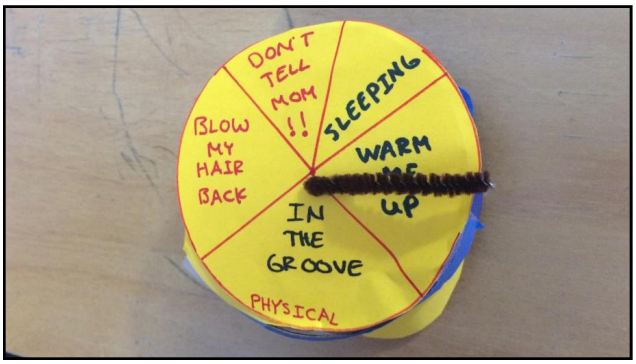

We Met:
Globe-trotting golden girls
Amazed to Realize:
They hate "canned" treatment but are willing to trade control for a more authentic, surprising experience.
Game Changing To:
Trust us to delight them beyond the Hyatt walls.




HMW
How might we?
"Gamify" the transition of control?







IMPROVISING TOOL

How to improvise to bring an experience to life

SET THE SCENE
Imagine yourselves in a specific location.
("Okay, we are at the _____ . . .)

DEFINE ROLES AND START PLAYING THEM
Just jump into what makes sense.
("I'm the _____ person and you are _____ . . .)

IMPROVISE TO DISCOVER
Build on each other's ideas and keep the scene alive.
Try out ideas by playing through them.

SCENE-PROPS-ROLES TOOL

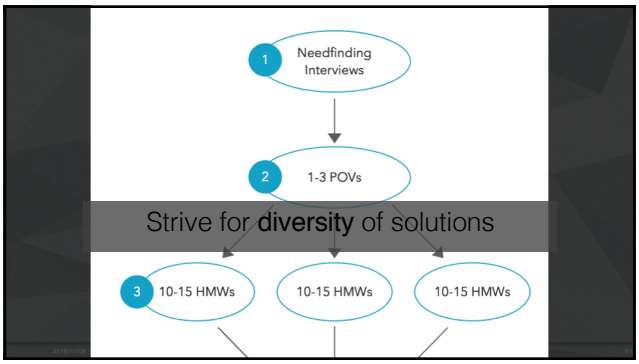
SCENE
of the experience
how do you make where you are feel like the "real" setting/context?

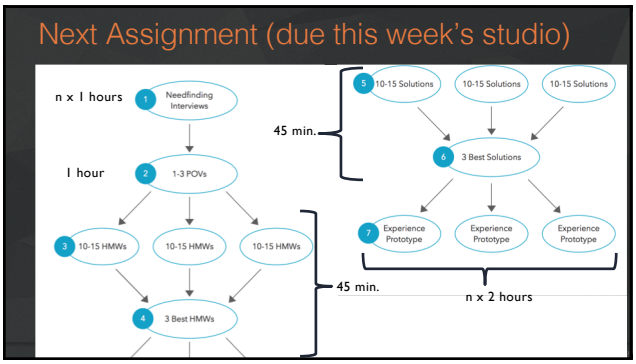
PROPS
in the experience
what are the rough versions of the physical things?

ROLES
involved in experience
what are the roles of those "creating" the experience?
who are "receiving" the experience?
(save these roles for testers)

Parallel Experience Prototyping Goal

- Prototype to **test an assumption**
- Prototype can be a **piece of an idea** rather than a complete solution
- Think of it as a **needfinding** technique





Summary

Ideation let's us use brainstorming to separate idea generation from idea evaluation.

"How might we's" let us brainstorm solutions to a more specific set of problems.

Experience prototyping allows us to try many ideas quickly & learn more about the problem & solution space (*prototype to learn*).

Next Time

- Lecture
  - Concept Videos
- Project & Studio
  - Create/test experience prototypes for top 3 solutions
  - Test each prototype with at least 1 target users
  - In presentation, get across what you ***learned***. Were assumptions valid?
  - Studio will be used to select the idea to move forward
- Reading
  - Watch video prototypes from prior courses (we'll put online)
- Assignment 3: Project Web Site
  - online later this week
  - not graded until near the end of quarter (but you should create it now)
  - all project assignments need to be linked off this site (***relative links***)
- Assignment 4: Concept Video (due next Thursday/Friday)