CS377E: DESIGNING SOLUTIONS TO GLOBAL GRAND CHALLENGES

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Ideate

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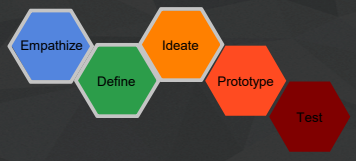
Slides adapted from d.leadership Define + Ideate slides (https://dschool.stanford.edu/groups/dleadership/wiki/59f08/dleadership_2015.html)
Additional resources from bootcamp bootleg (http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf)

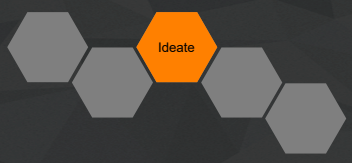
Outline

- POV report outs
- Design thinking process
- Ideate
- How Might We…?
- HMW exercise
- Selecting good problems & solutions
- Brainstorming solutions

Design Thinking



Design Thinking



How do we start?

How do we start?

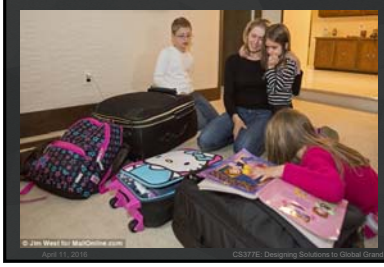
"Might" lets you defer judgment

helps people to create options freely

opens up more possibilities

Seeds for brainstorming!

POV: Harried mother of 3, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.



POV: Harried mother of 3, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.

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

POV: Harried mother of 3, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.

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

ID 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

DO IT NOW:

Generate some HMW statements!

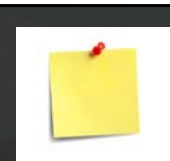
POV: Harried mother of 3, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.

Break POV into pieces
Amp up the good/Remove the bad
Explore the opposite
Question an assumption
Go after adjectives
ID unexpected resources
Create an analogy from need or context
Change a status quo

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

POV: Harried Mother at Airport

- How might we capture children's attention
- How might we turn the waiting area into a day care?
- How might we make already frustrated passengers not frustrated
- How might we project wait time better so that hours turn into minutes?
- How might we help kids go elsewhere?
- How might we give passengers ear muffs?
- How might we not have to rush through the airport?
- How might we help the mother entertain her kids?
- How might we change the perception of brats?
- How might we make checking less stressful?
- How might we separate children from passengers?
- How might we destress the airport environment for all passengers?
- How might we turn gate into a game?
- How might we give mom a sense of zen
- How might we make mom less aware of judgement?
- How might we eliminate children from the airport?
- How might we make a separate section for children?
- How might we make children a source of joy?
- How might we let children do something useful?
- How might we have kids only flights?
- How might we not make family wait at gate?
- How might we reverse perceptions?
- How might we eliminate the airport in transportation?
- How might we reduce waits at gates?
- How might we help the kids have fun?
- How might we turn playfulness into enjoyment?
- How might we make the airport less frustrating for mothers?



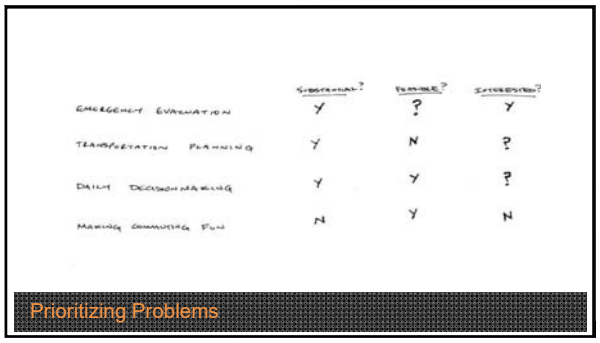
Selecting a Good Problem

3 Favorites!

OR

Rational, Delightful, Long shot

http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf



Selecting a Good Problem

- 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/

Research/Analysis

How big a problem is it? (market)

Whose problem is it? (stakeholders)

What's already out there? (competition)

How are things done currently? (status quo)

How can they be improved? (innovation)

Exercise

1. Generate at least 10 HMWs for one of your team's POVs (10 min)
2. Select the top 3 HMWs (3 min)

Brainstorm "How Might We"s → Solutions

one conversation at a time

go for quantity

headline!

build on the ideas of others

encourage wild ideas

be visual

stay on topic

defer judgment

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

Brainstorming Demo: two brainstorms

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

Heat Map Voting + Prototyping Exercise

- Take the dots that are on your tables

1. Everyone gets an unlimited number of votes with little dots.
2. After this cycle is complete, everyone gets 3 votes with large red dots and 1 bonus dark horse vote with the blue dot.

- Next, before discussing the ideas, everyone should individually draw a sketch or storyboard of what their favorite idea (or combo of ideas) is
- Then share with each other and use this artifact to facilitate the conversation

Exercise

1. Brainstorm at least 30 solutions for one of your top 3 HMWs (10 min)
2. Select the top 3 solutions (3 min)

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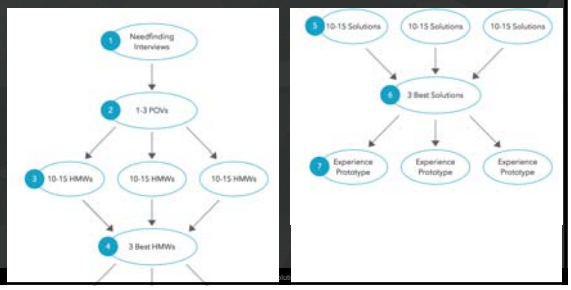
Project Road Map



Next Time

- Lecture
  - Design Exploration & Experience Prototyping
- Project
  - Turn in 3 Final POVs (based on today's feedback)
  - 10-15 HMWs for each of at least 3 POVs (present top 3 HMWs for each POV on Wed)

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