

Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University

James Landay CS Summer Camp: Designing & Prototyping Smart Applications

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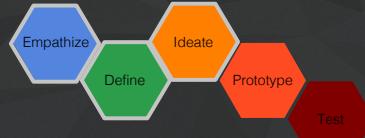
Ideate

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Summer 2018
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Slides adapted from dleadership Define + Ideate slides (http://dschool.stanford.edu/groups/dleadership/wiki/S908/dleadership_2015.html)
Additional resources from bootcamp bootleg (<http://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf>)

Design Thinking



Design Thinking

Ideate

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

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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 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://csail.mit.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://csail.mit.edu/wp-content/uploads/2012/05/HMW-METHODCARD.pdf>

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Anatomy of a Strong HMW Question

- Who
- What
- When
- Where
- Why

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

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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

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DO IT NOW:

Generate some HMW statements for your project!

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POV: We met X. We were surprised to find Y. It  ViaX would be game changing if Z.

- 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/2013/05/HMW-METHODCARD.pdf>

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- Break POV into pieces**
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Brainstorm “How Might We’s” → Solutions ViaX



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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>

Selecting a Good Problem or Solution Idea ViaX

- 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.kdventures.com/blog/2015/02/10/finding-problem-worth-solving/>



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/ux-design-thinking/downselecting-ideas-in-a-group-and-making-decisions-in-a-large-team-or-class-going-back-to-school-11117100e>

DO IT NOW:
Brainstorm at least 30 ideas for your HMWs