

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

Design Exploration

Prof. James A. Landay
Computer Science Department
Stanford University

Summer 2018
July 24, 2018

* slides marked Buxton are courtesy of Bill Buxton, from his talk "Why I Love the iPod, iPhone, Wii and Google" remix uk, 18-19 Sept. 2008, Brighton

Outline

- Tasks
- Sketching to explore user experiences

Design Process: Discovery

```
graph TD; A[Discovery] --> B[Design Exploration]; A --> C[Design Refinement]; A --> D[Production]; B --> E["Assess Needs<br/>• understand client's<br/>expectations<br/>• determine scope<br/>of project<br/>• characteristics of<br/>customers & tasks<br/>• evaluate existing<br/>practices & products"]
```

Task. The structured set of activities or high-level actions required to achieve a high level user goal.

what a user wants to do

Task-based Design & Evaluation

- Real tasks customers have faced / will face
 - collect any necessary materials
- Do your tasks support the problem you are solving?
- Mixture of simple & complex tasks
 - simple task (common or introductory)
 - moderate task
 - complex task (infrequent or for power customers)

What Should Tasks Look Like?

- Say what customer **wants to do**, but not **how**
 - allows comparing different design alternatives

Good (Task)

Tony is visiting London and wants to find the pub that his friend told him about. He is walking down the street using his phone to navigate to the place that he has previously looked up.

Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University

What Should Tasks Look Like?

- Say what customer **wants to do**, but **not how**
 - allows comparing different design alternatives

Bad (Task → Taskflow)



Tony clicks on the Charing Cross Pub icon and selects "directions to" as he walks down the street.

What Should Tasks Look Like?

- Say what customer **wants to do**, but **not how**
 - allows comparing different design alternatives
- Be specific – stories **based on facts!**
 - say who customers are (use personas or profiles)
 - design can really differ depending on who
 - name names (allows getting more info later)
 - characteristics of customers (job, expertise, etc.)
 - forces us to fill out description w/ relevant details
- Some should describe a **complete goal**
 - forces us to consider how features work together
 - example: phone-in bank functions

Using Tasks in Design

- Write up a description of tasks
 - formally or informally
 - run by customers and rest of the design team
 - get more information where needed

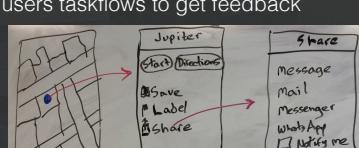
Let my friends know where I am
Manny is in the city at a club that he wasn't planning to go to and would like to let his girlfriend, Sherry, know where he is and be notified when she is about to get to the club.

Using Tasks in Design (cont.)

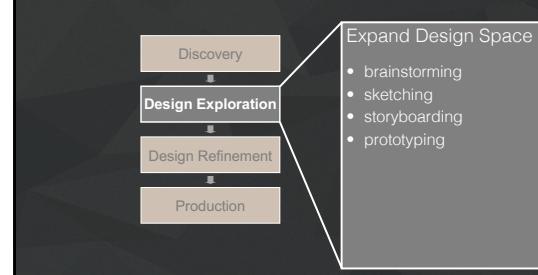
- Rough out an interface design
 - discard features that don't support your tasks
 - or add a real task that exercises that feature
 - major screens & functions (not too detailed)
 - hand sketched
- Produce task flows for each task
 - what customer has to do & what they would see
 - step-by-step performance of task
 - illustrate using storyboards
 - sequences of sketches showing screens & transitions

Task Flows Show How to Do the Task

- Task Flows are **design specific**, tasks aren't
- Task Flows force us to
 - show how various features will work together
 - settle design arguments by seeing examples
- Show users taskflows to get feedback



Design Process: Exploration



- Discovery
- Design Exploration
- Design Refinement
- Production

Expand Design Space

- brainstorming
- sketching
- storyboarding
- prototyping

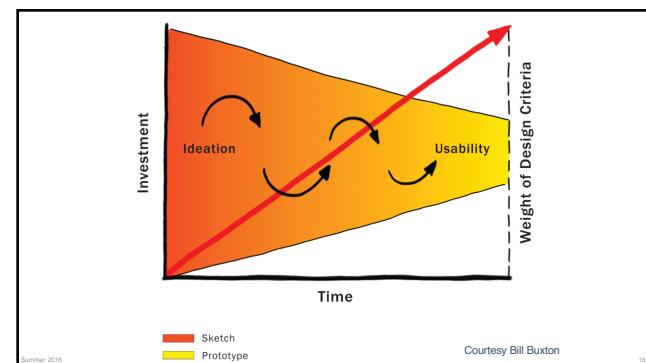
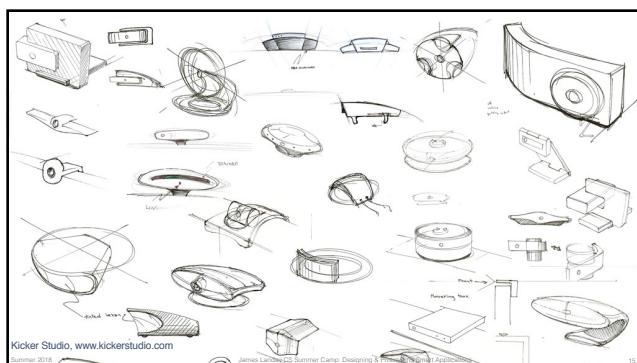
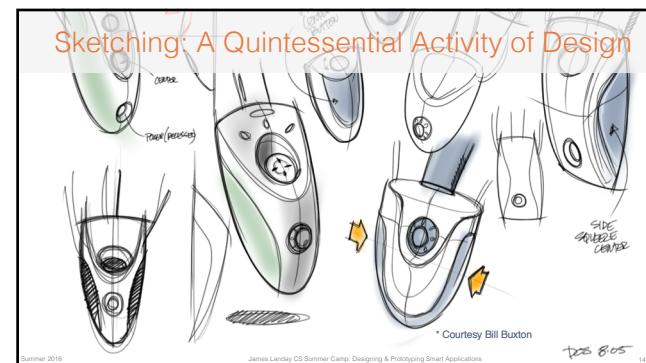
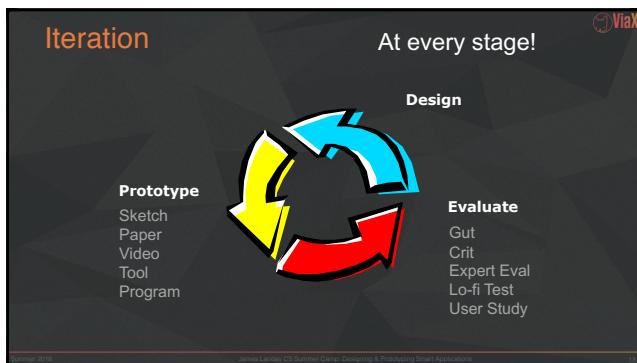
Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University



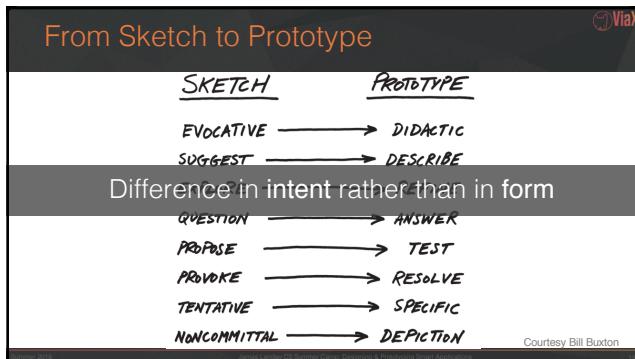
Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University



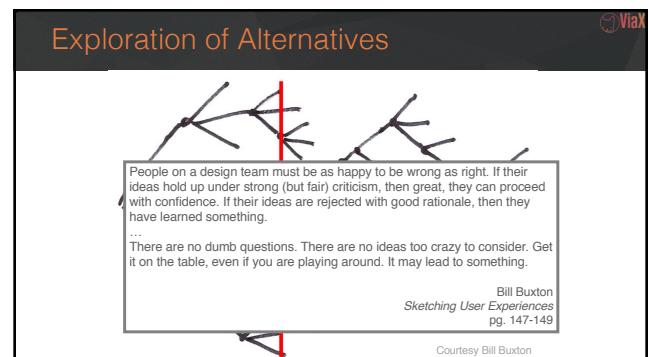
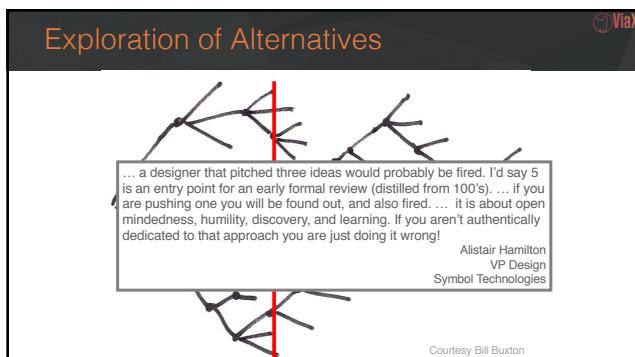
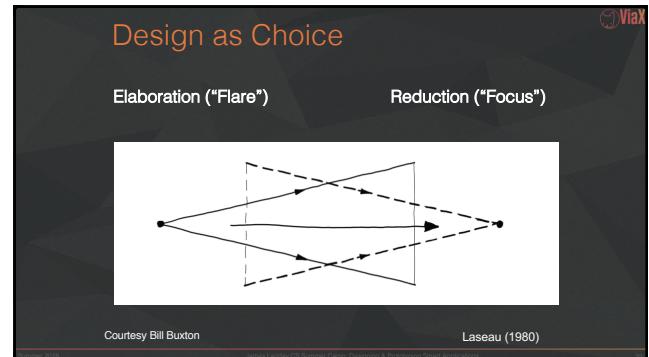
- ### The Anatomy of “Sketching”
- Quick / Timely
 - Inexpensive / Disposable
 - Plentiful
 - Clear vocabulary. You know that it is a sketch (lines extend through endpoints, ...)
 - No higher resolution than required to communicate the intended purpose/concept
 - Resolution doesn't suggest a degree of refinement of concept that exceeds actual state
 - Ambiguous
- Courtesy Bill Buxton



If you want to get the most out of a sketch, you need to leave big enough holes.

There has to be enough room for the imagination.

Courtesy Bill Buxton



Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University

Design

What does the customer want to buy?



Courtesy Bill Buxton

Summer 2018
James Landay CS Summer Camp: Designing & Prototyping Smart Applications



Experience vs. Interface Design



CitrusMate Plus Mighty OJ Manual Juicer OrangeX Manual Juicer

http://www.smashingmagazine.com/2013/06/sketching-for-better-mobile-experiences/
Summer 2018
James Landay CS Summer Camp: Designing & Prototyping Smart Applications

Experience Design for a Phone App?

- Draw my phone
- Draw my app's interface
- Draw the experience of using my app

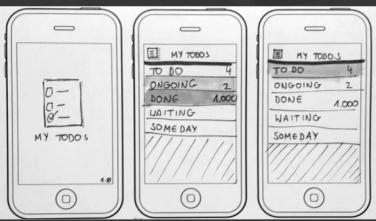
• Which is the true object of design?



http://www.listmeapp.com/
Courtesy Bill Buxton

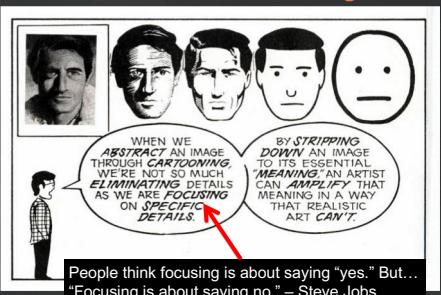
Minimal Detail

Include only what is required to render the intended purpose or concept



http://www.smashingmagazine.com/2013/06/sketching-for-better-mobile-experiences/
Summer 2018
James Landay CS Summer Camp: Designing & Prototyping Smart Applications

Scott McCloud's *Understanding Comics*



WHEN WE ABSTRACT AN IMAGE THROUGH CARTOONING WE'RE NOT SO MUCH ELIMINATING DETAILS AS WE ARE FOCUSING ON SPECIFIC DETAILS.

BY STRIPPING DOWN AN IMAGE TO ITS ESSENTIAL MEANING, AN ARTIST CAN AMPLIFY THAT MEANING IN A WAY THAT REALISTIC ART CAN'T.

People think focusing is about saying "yes." But...
"Focusing is about saying no." – Steve Jobs

Summer 2018
James Landay CS Summer Camp: Designing & Prototyping Smart Applications

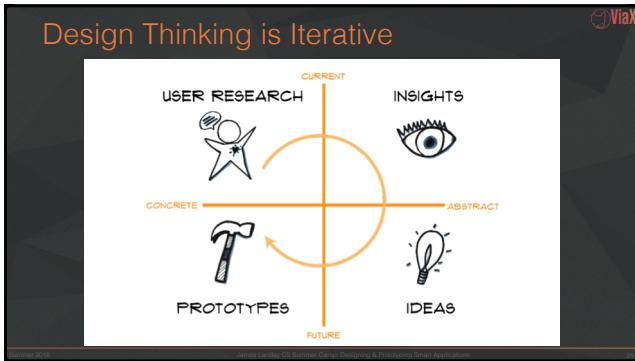
Designing & Prototyping Smart Applications

ViaX James Landay CS Summer School

Summer 2018

Prof. James A. Landay

Stanford University



Summary

- Sketching allows exploration of many concepts in the very early stages of design
- As investment goes up, need to use more and more formal criteria for evaluation



James Landay /CS Summer School: Design, Creation & Prototyping Smart Applications