Micro-survey top topics we’ll review today: Affordances, signifiers, conceptual models, system images, another way to view the gulfs, and related questions

THIS WEEK:
Monday:
- Vision, Personas
Wednesday:
- Personas, Scenarios

DUE SUNDAY: Project Part 2, Checkpoint 1

NEXT WEEK: Design
Affordances & Signifiers

**Affordance:** provides the ability for the possible action(s) an actor can take on an item. Anti-affordances prevent otherwise possible actions.

**Signifier:** a communication device that tells people what to do and where to do it; a signal about the possible action(s) an action can take on an item.
Interact with a new object: https://www.youtube.com/watch?v=tmw1Txqw5U&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl&index=9

Affordances: https://www.youtube.com/watch?v=a6F0EYCUjcE&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl&index=10

Car handle affordances: https://www.youtube.com/watch?v=iDrID0kGaQo&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl&index=11

What’s a signifier: https://www.youtube.com/watch?v=ZQ-jirlAoD4&index=14&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl

Examples: https://www.youtube.com/watch?v=gCj1YwBYfQw&index=15&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl

Missing signifier: https://www.youtube.com/watch?v=aYOXN0i9i24&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl&index=16

Signifier, missing affordance: https://www.youtube.com/watch?v=9CB6QH8yvB4&index=17&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl

Affordance or signifier? https://www.youtube.com/watch?v=5b2hysq2hGA&index=18&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl

Affordance/signifier practice: https://www.youtube.com/watch?v=iophlONJ8Fw&list=PLAwxTw4SYaPlr4Uq3RoYuwlDADp0WQdGl&index=22
Conceptual Models & System Images

**Conceptual Model:** an understanding of how something works, as *inferred* from a product, *learned* over time, *passed down* from person to person, etc. It predicts how a product will work and what to do if something goes wrong.

*The user conceptual model comes from the system image.*

**System Image:** the information conveyed by a product, consisting of things like its form, shape, affordances, signifiers, and instruction manuals.
Another way to look at the gulfs...

Do the breakdowns you observed imply an unbridged gulf? Can we have a situation where there is no goal? Can signifiers and affordances help bridge the gulfs?
Other Questions?
Where we are - 1

We’ve collected lots of detailed data about our users.

• Field data provides us data on what users do
• Work models structure that data, highlight how work is performed and where breakdowns exist
Where we are - 2

Affinity diagrams and consolidated models allow us to look at data across models, interviews, and observations
Where we should go

We’re ready to move into UI design.

Agree? Disagree?
After Contextual Inquiry

Learning objectives:
1. User and stakeholder concepts.
2. Problems with jumping to UI design right after CI.
3. Importance of developing a vision for your design.
4. Developing a vision.

Materials adapted from those created by Prof. Jamie Ruiz
Users and Stakeholders

• **Stakeholders**
  – ANYONE who has a vested interest in the system
  – Users AND others you had to consider in work models

• **Primary:** actual users of the system

• **Secondary:** others who benefit

*Stakeholders often have conflicting needs*
User-Centered Design

Participatory Design/Cooperative Design

Users are taken as center of the design process

Answer questions before design:

– Who are the users?
– What are their goals?
– What is the user’s background/experience level?
– What functions do users need?
– What information do users need?
– How do users think system should work?

And USE the answers in design
Summarizing User Needs

• Affinity diagrams reveal major issues designs need to address

• Use affinity diagrams to create a list of unmet needs for your users

• List every possible aspect of work that could be improved, *without indicating how it could be improved*
Moving to Design

We could start sketching out UI designs.... **but**

– Interface designs are expressed in the context of a *computational environment*

– ...But that requires us to commit to a computational medium

– ...Our choice of computational medium influences our perception of what is and is not possible

– ...Can cause us to prematurely commit to designs without fully exploring the design space

– ...Frames our initial, potential solutions in terms of *technology* rather than *user needs*
Moving Forward

We need to redesign work
We need to identify metrics of success

*Developing a vision helps address both needs*
Redesigning Work

Before we get to UI design, need to consider how we will redesign the work

What services will the new system provide?

What problems will it address?

Does it offer point fixes or entirely new ways of working?
Planning for Success

*It isn’t enough to design something new and different*

How will we know we are successful?

– We want to *significantly* improve workflow in a demonstrable way

What are some ways we could measure our success?

We need to define a *vision* of what a *successful outcome* will be
Developing your vision

Computation may help:

...Resulting in completely digital work

...Or in work performed with existing physical artifacts, augmented digitally

Preserve what works!

Recognize what is good about existing systems and consider how you can naturally augment them

These points should be included in your vision
Your Project Vision

A summary that includes

– problems (breakdowns) that will be solved
– what currently works
– Your vision of how you will redefine and improve work practices
– Metrics you will use to measure success
– One or two paragraphs of text

Does NOT include design ideas or implementation details
Example Vision

Users of current debit card terminals encounter difficulties providing account information: the method, swiping a card, is error-prone due to card readers that can read a card in only one orientation. These card readers can also require several swipes because the technology can be unreliable; swiping must occur within a specific range of speeds. However, the form factor (a thin plastic card) is convenient it fits in a wallet.

We will improve this process by creating a system that retains the convenience of the existing form factor, but results in a significantly faster exchange of account information with significantly fewer errors on the part of the user.
Brainstorming

Brainstorming is a tool to explore the range of possibilities

– Kind of obvious
– There is a culture of brainstorming
– See BrainstormingGuide.pdf
– “How might we....?” method
In-class Activity (25 min)

Work in your project team.

1. Use your consolidated models and your affinity diagram to identify your stakeholders and brainstorm how you might re-design the work of your primary stakeholders while maintaining secondary stakeholder expectations.

2. From this develop your vision

3. Identify personas you will create to test design ideas
For Class Wednesday:

- You have your data and your vision
- Create your personas
- Decide on persona tasks you will re-design
  – See DesignGuide.pdf

We’ll work on re-designing these tasks as scenarios on Wednesday.
Self-evaluation

1. What brainstorming techniques worked well for you, and which ones worked well for your team?
2. What will you do differently as you continue working on your vision and personas?

Micro-Survey

Add to self-eval or turn in anonymously, separately.

Today’s learning objectives were:

1. User and stakeholder concepts.
2. Problems with jumping to UI design right after CI.
3. Importance of developing a vision for your design.
4. Developing a vision.