Why Your Sponsors Know Too Much and What to Do About It: Selling and Performing User Needs Assessment

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Agenda

I.   Why user-centered design and user needs assessment is important

II. Selling user needs assessment

III. Gathering good information about your users

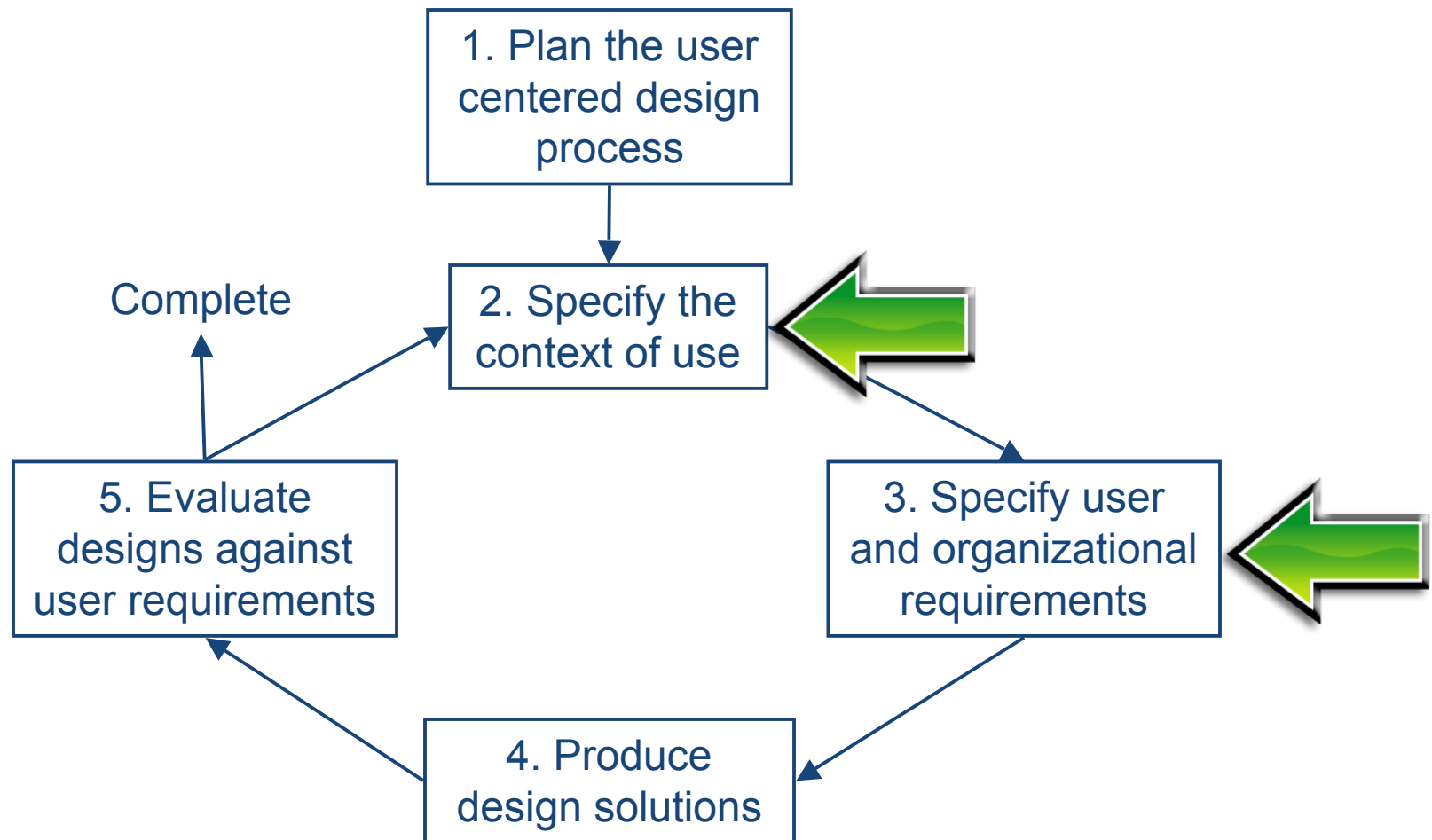IV. Understanding the information you gathered

I. Why User-Centered Design?

- Increased customer satisfaction
- Increased user productivity, efficiency, and accuracy
- Increased service/site usage and adoption
- Decreased support and training costs
- Reduced development time and costs
  - Create only the features users need
- Reduced maintenance costs
  - Do it right the first time

User Centered Design Process Overview

1. Plan the user centered design process

↓

2. Specify the context of use

3. Specify user and organizational requirements

4. Produce design solutions

5. Evaluate designs against user requirements

Complete

Adapted from ISO 13407: http://www.ucc.ie/hfrg/emmus/methods/iso.html

How does needs assessment help?

- Focuses on understanding:
  - Who are the users?
  - What are their goals?
    - Goals drive a person's actions
    - Tasks are things a person does in order to accomplish his goals
  - What are their pain points?
- Uses a variety of observational techniques to gather this data
- This understanding drives design

II. Selling user needs assessment to project sponsors

- This is hard to do
- Think like a salesperson:
  - You need to get them to buy (and buy in) to user needs assessment
  - Use the sponsor's terminology and background to shape your arguments
  - Quantify where possible (e.g. reduced training & support or development costs)
  - Discuss user's expectations (Google, Amazon)
  - Start small and sell up

Talking your sponsor's language

- UCD processes include activities sponsors may call:
  - Business Analysis
  - Requirements Definition and Verification
  - Information Architecture
  - Web Design and/or Development
  - User Testing
  - Proactive User Support
  - Other ideas?

Why sponsors aren't users

- Sponsors have:
  - great familiarity with the existing solution
  - great familiarity with underlying business processes
  - too much experience receiving and responding to requests for assistance, complaints, or suggestions from more vocal users
- Sponsors know (or think they know):
  - all about the service area that needs improvement
  - "how it's always been done"
  - what "can't be changed"
  - constituencies that use or are impacted by the service
  - what financial and personnel resources are available to do the work

Set yourself up for success

- A good project to choose is/has:
  - One you can get involved with early
  - Real users you can talk to
  - A receptive project team
  - A scope that is the right size for you/your team to handle
  - A short project allowing you to show quick wins
  - Improving an existing product
- Learn how to say no

III. Gathering good information about your users

- Case study: Webcast Study Tool

- Selecting representative users

- User Needs Assessment techniques

Case study: Webcast study tool

- Many Berkeley lectures are webcast
- Allow students to apply known effective study techniques to opaque media
- Surveyed students & faculty
- Interviewed stakeholders
- Interviewed & observed students:
  - in traditional study environments
  - using webcast to study

Selecting representative users

- Determine which characteristics define your target user base

- Ensure that each characteristic is represented in (approximately) the right proportion
  - Don't test just one end of the spectrum (e.g. vocal users who are calling customer support)

- Can use a profile matrix to keep track of all the characteristics that matter

Sample profile matrix

	Never had webcast class	Has watched webcasts of class	Studies with class webcasts	Has computer at home	Works in computer lab
Undergrad Student	2	1	1	1, 2	1
Graduate Student	3	3	4	3	3,4
Virtual Student		5,6	5	5,6	

Needs assessment techniques

1. Overall tips
2. Surveys
3. Focus groups
4. Interviews
5. Observation
6. Contextual Inquiries

1. User needs assessment tips

- Be a good listener
- Remain neutral: don't react
- Focus on goals first, tasks second
- Avoid discussions of technology
- Don't limit yourself to a fixed set of questions
- Encourage story telling
- Distance yourself from the product
- Avoid making the user a designer
- Categorize notes = easier analysis
- Analyze your notes within 48 hours
- Ideally should be performed in teams

1. User needs assessment tips

- Don't use questions that can be answered with "yes" or "no"
- Don't ask leading questions
- Don't use jargon
- Don't draw attention to specific issues that you care about

From Jakob Nielsen, "Field Studies Done Right: Fast & Observational," http://www.useit.com/alertbox/20020120.html

Keeping yourself on track

- It's not always easy to determine what is relevant

- Your problem statement likely describes your project's *focus*
  - A starting perspective, lens, or viewpoint
  - Is present whether articulated or not

- Focus structure document
  - Checklist of topics to cover
  - Clusters of questions or pieces of information you are looking to explore, grouped categorically

2. Surveys

- ## Strengths
  - Getting general feelings about an existing product
  - Acquiring demographic data on target market
  - Understanding what users "think" is important (marketing data)

- ## Weaknesses
  - Survey design is very difficult to get right
  - Constrained responses
  - Typically limited time & focus for response
  - Limited or no ability to follow-up for clarification
  - Relies on user to self-report accurately

- ## Resource for designing surveys: http://www.ssri.psu.edu/survey/educ.htm

3. Focus Groups

- Strengths
  - Can talk to many people at once
  - Allows users to feed on each others' ideas
  - Understanding users' attitudes, beliefs, desires
  - Getting users' reactions to ideas or to prototypes

- Weaknesses
  - Understanding what people REALLY do with a product
  - Understanding what features people will really use in a new product
  - "Group think" drives people toward consensus with the loudest opinion
  - Relies on user to self-report accurately

4. Interviews

- Strengths
  - Understanding how users understand their work
  - Analyzing goals of work
  - Ability to follow-up and clarify
  - Builds relationships
- Weaknesses
  - Relies on user to self-report accurately
  - Experts often have an inability to describe what has become subconscious (unconscious competence)
  - More time intensive for facilitator

5. Observation

- Strengths
  - Allows you to watch what people do rather than rely what they say (self-report)
  - More likely to discover unmet user needs
  - Truly understanding how users get their work done in context
  - Observing subtleties of work (e.g. post-it notes, cheat sheets, interruptions)
  - Overcomes experts' inability to describe what has become subconscious
- Weaknesses
  - Time commitment
  - Difficult to be "a fly on the wall"
  - Relies on observers' interpretation
  - Hard to know what to pay attention to

"Users are perfectly capable of expressing their latent needs. They just can't do it verbally. That's why we do ethnography and empathic research!"

-Rich Sheridan, Menlo Innovations

6. Contextual Inquiries

Interview
(Process influenced more by designers)

Contextual Inquiry
(Process influenced by both designers and end-users)

Observation
(Process influenced more by end-users)

- Combines strengths of interview and observation
- Interview in the context of where the work happens
- "Show and tell"
- Find "pauses" to ask questions; Don't interrupt their thought processes

Case study:
surveys told us

- Bookmarking and video download are the features that are of greatest **interest** across the board

- Searchable captions, chaptering, and Powerpoint sync are the features most **highly rated** by webcast.berkeley students.

- Annotation is less **popular** than bookmarking.

- **Interest** in knowledge sharing tools is relatively low.

- The general webcast.berkeley audience is the only one highly **interested** in being notified about posting of video.

Case study: interviews & observations told us

- Greatest **pain points** are finding specific spots in webcast lectures

- Powerpoint slides **are often-used** reference point for finding spot

- There's administrative **overhead** in marking down time code for getting to or returning to specific points

- Students **replay** specific segments to aid in understanding, creating study sheets, etc.

- Students jot down notes **while watching**

- Students look at more than one webcast **in a sitting**

IV. Understanding the information you gathered

- Who are users and how do they accomplish their goals now?
  - Personas
  - Task analysis
  - Activity Diagrams
- What do users need?
  - Scenarios

Personas

- Research-based user archetypes representing needs of a set of constituents
    - Based on patterns which emerge from user research
- Allow designers & developers to put themselves into the shoes of "real" users
- Can help build consensus & commitment to the design
- Should be specific, real & memorable
    - Pictures, posters
    - Include details about their life—humanize them
- Keep us from designing for:
    - The elastic user
    - The mirror persona (ourselves)
    - Design edge cases

Example Persona - Webcast Study Project
Lisa Ng: Conscientious Student

- 2nd year undergraduate
- Planning to go to med school, so doesn't feel she can take risks with classes
- Rarely uses webcast as a replacement for class
- Relies on computers in lab on campus
- Use of webcast is primarily for studying for exams
- Good study skills: When studying with text, uses highlighters to mark parts she'll want to be able to find again & to identify key points or points of confusion.
- When doesn't understand what happened in class, uses webcast to review
- Refers to PowerPoint slides when studying

Personal goals:
- Stay healthy
- Have time to spend with friends

Academic goals:
- Get into Med school
- Feel confident walking into exams
- Be as efficient as possible

Modeling what users do now

- Task Analysis
  - Decomposes tasks in order to understand procedures better & provide support for these tasks in the interface
    - Helps ensure necessary features aren't overlooked
  - Define the task and the goal of the task and then list the steps involved
  - Can rate tasks on frequency, importance, difficulty
    - Tells you what functionality is important
    - Can help you combine similar personas
    - Help you choose which tasks to include or emphasize in scenarios

- Activity Diagrams
 - Modeling existing user behavior and interaction with their existing system

Task analysis matrix

| Persona/ Task	Katie Richardson		Harold Jackson		Sally McNeil		Nina Sanchez	
Create a Calendar	Frequency	Importance	Frequency	Importance	Frequency	Importance	Frequency	Importance
Design calendar appearance	LOW	LOW	MEDIUM	HIGH	MEDIUM	HIGH	LOW	MEDIUM
Set up calendar on website	LOW	LOW	MEDIUM	HIGH	MEDIUM	HIGH	LOW	MEDIUM
Manage Events	Frequency	Importance	Frequency	Importance	Frequency	Importance	Frequency	Importance
Add Event	LOW	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	HIGH
Edit Event	LOW	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	HIGH
Delete Event	LOW	MEDIUM	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	HIGH
Approve Events	LOW	MEDIUM	HIGH	HIGH	HIGH	HIGH	LOW	LOW

Activity diagram example
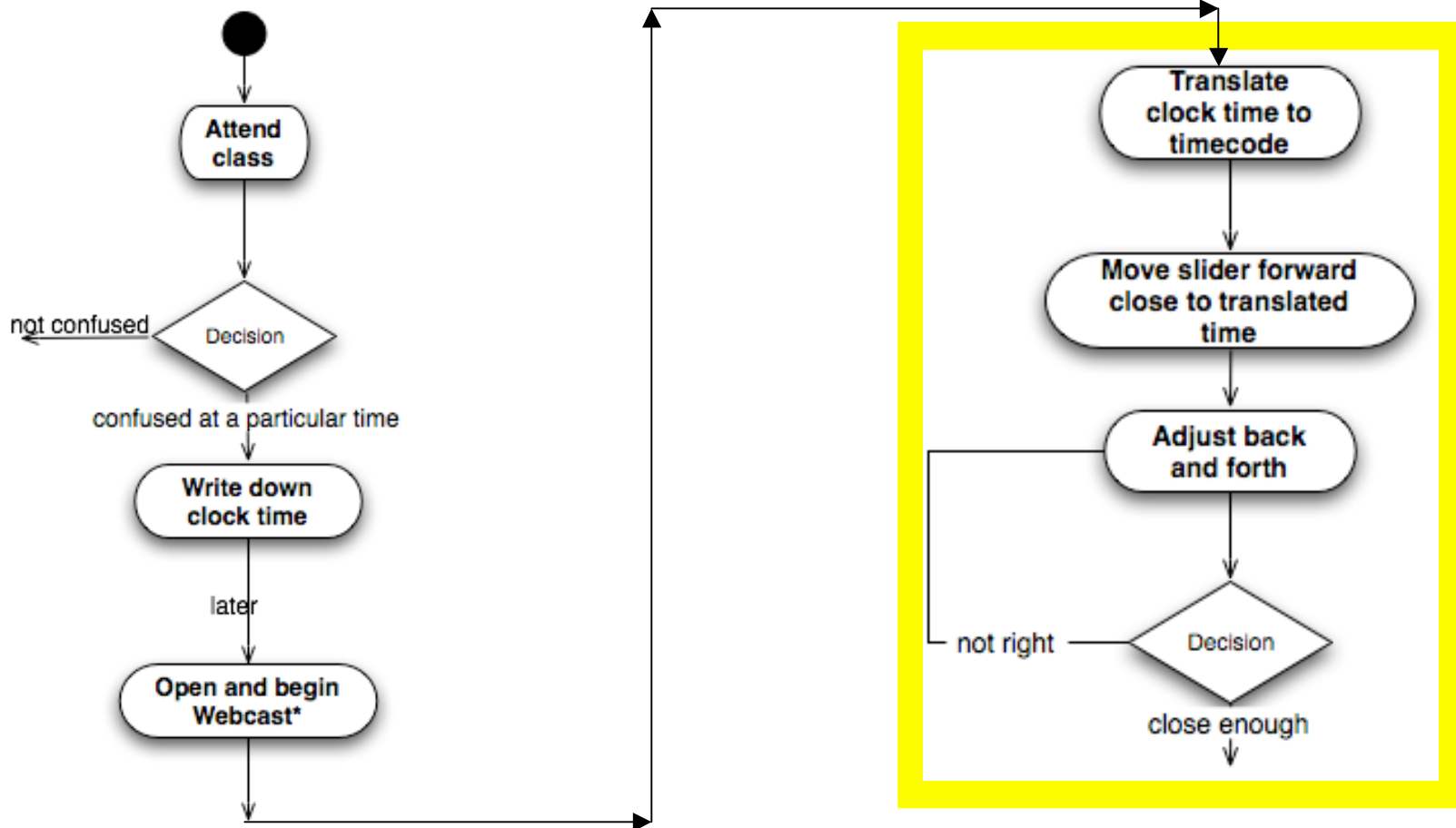
Activity diagrams - cont'd
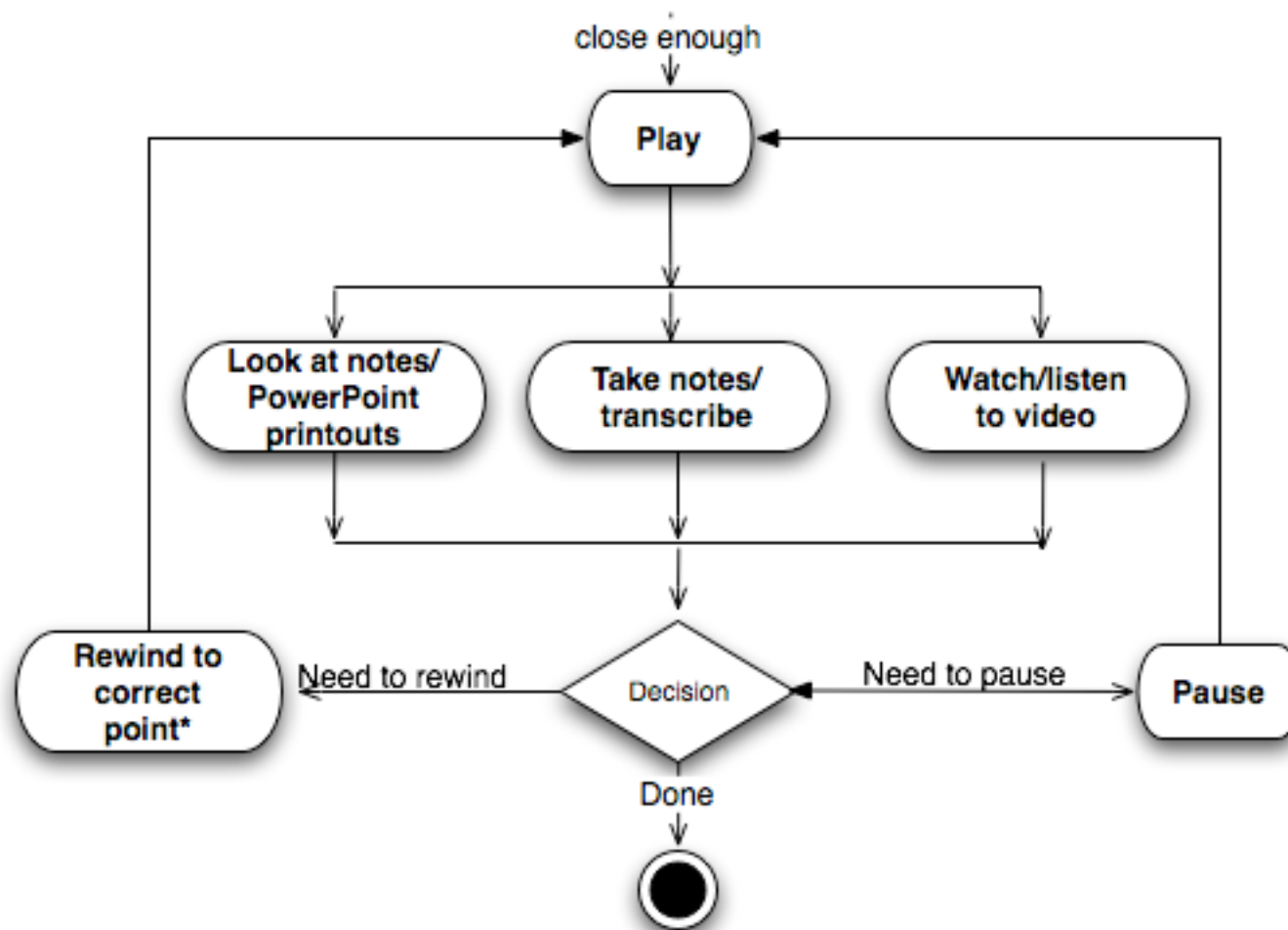
Scenarios

- A design technique used to envision future use of a system
  - Focusing on how users can achieve their goals
  - Helps designers & developers understand how system will really be used
- A story about user interacting with the system
- Categorize scenarios as Daily, Necessary, and Edge Use
- Can be used for usability testing
- Iterate on scenarios

Case study context scenario: Studying for exam

- Lisa has an exam coming up and wants to create **a study sheet** she can use for the next week **while on the elliptical @ the gym**.
- She gets out notepaper, her textbook, and her binder with PPT "notes" pages and gets comfy on the couch.
- She starts reviewing the powerpoints and notes from the lectures after the last exam. As she does this, she's making notes (summarizing important topics) on her notepaper. (This will become her study sheet).
- As she's making her way through the slides she decides it would be useful to hear the instructor's explanation of DNA replication again.
- She goes to … **a point in the webcast where that ppt slide is**, and listens. One sentence he says seems to encapsulate the concept for her, so she tries to get it down word for word. Since her prof talks fast and does not always use lay terms, **she relistens several times**.
- After she feels like she understands, she adds some notes in the study sheet.
- She sees that there were a number of **segments that she'd highlighted**

Convincing project team to use needs assessment results

- Include project team (sponsors, developers, designers) in needs assessment process:
  - Have team members attend interviews, observations, user tests
  - Share interesting results with team while needs assessment or usability tests are ongoing
  - Share and get feedback on tools, questions, and suggestions you're developing
  - Offer introductory training in UCD and needs assessment techniques

Recommended books

- <u>The Inmates are Running the Asylum</u> and <u>About Face 3.0</u> – Alan Cooper
- <u>The Design of Everyday Things</u> and <u>Emotional Design</u> – Don Norman
- <u>Don't Make Me Think</u> – Steve Krug
- <u>Usability Engineering</u> – Jakob Nielsen
- <u>User Interface Task Analysis</u> - Joann T. Hackos and Janice Redish
- <u>Designing for Interaction</u> - Dan Saffer
- Other recommendations?

Recommended websites

- URLs in Handout

- User Interface Engineering Virtual Seminars (http://www.uie.com/events/virtual_seminars/)
- Usability Professionals Association (www.upassoc.org/)
- http://usability.gov/
- http://www.useit.com
- http://www.usabilityfirst.com/
- http://www.usableweb.com/
- http://usabilitynet.org/
- http://www.stcsig.org/usability/
- ACM SIGCHI (http://sigchi.org/)
- UC Berkeley's Technology Program Office Resources (http://tinyurl.com/2cmx88)

Thank you!

- Questions…

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