Finding out about users (Cont’d)

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lectures adapted from Wendy E. Mackay

Phase I Understanding Users

Finding out about users
Introspection
Observation
Interviews
Questionnaires

Analyze information
Grounded theory categories

Create resources for design
Scenario
User profile
Persona

Generative Design

Discovery
Who is the user?

Invention
What is possible?

Design
What should it be?

Evaluation:
Does it work?

Phase II Invention

Collect or sample information
Web search
Oral Brainstorming
Video Brainstorming

Analyze information
Preference votes
Technology dimensions

Create resources for design
Key ideas
Design space
Generative Design

Discovery
Who is the user?

Invention
What is possible?

Design
What should it be?

Evaluation:
Does it work?

Remember there are many methods!

Homework (due today Dec 11)

1. Group: Choose a topic for your project
   You need to identify a problem and a set of users
   == poll

2. Individual: At least two interviews each
   Use at least one critical incident question
   Probe for details
   == poll

Exercises in Class
11 December 2013

1. Interview analysis (Grounded theory) and Categories
2. User profile
3. Persona (1 in class, I extreme)
4. Use scenario
5. Generate new ideas
Analyzing the results

Informal Analyses:
- Interview Summaries: Collection of anecdotes from interviews either typical, or interesting
- Tables or graphs: Summary of results in quantitative form to identify the problems to solve
- Requirements list / needs: Group of critical points

Formal Analyses:
- GOMS: Technique that models user behavior with Goals, Operators, Methods and Selection Rules
- Contextual Design: (interpretation) Technique for analyzing ethnographic data, with Flow, Sequence, Cultural, Artifact and Physical models
- Grounded Theory: Technique for analyzing interviews with Codes, Concepts, Categories & a Theory

Grounded Theory

Not a theory, but a technique that ensures the results of the study (e.g. using interviews) have external validity (based on the real world)

- Codes: Identify key points in interviews and give them a code (Focus on interaction points, existing or possible surprising findings, problems, good examples of use)
- Concepts: Organize codes in groups of similar concepts
- Categories: Create concept categories and give them names
- “Theory”: Make hypothesis that can be tested or decide on problems you want to focus on

In-class Exercise
Grounded Theory
60 min
Create a resource for design

Goal: Inspiration for a system to design

1. **User Profile**
   - Description of the characteristics and needs of the users

2. **Persona**
   - A specific, imaginary person who represents a member of the user population. Normally, personas represent ‘typical’ users. However, it is sometimes useful to create extreme characters to help you push the limits of the design.

3. **Use scenario**
   - A realistic description of a series of events and activities of one or more users (personas) in a real-world setting. Scenarios provide a composite view of the most important or relevant actions identified in interviews and observation.

**In-class Exercise**

**User Profile**

Factual description of the needs and characteristics of the target group of users

- Top-down analysis of the user population:
  - Who is the audience for the system you are designing?
  - What did you discover from your studies of users?
  - What are the key problems to solve? (Consider surprises, breakdowns and user innovations)
  - What are the user’s most important, relevant characteristics?
  - Use the Grounded Theory categories you identified
  - Which of the user’s needs will you address?

Forms the basis for the design your system

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**Create a resource for design**

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Persona

**Personal details:**
- Name, age, gender
- Physical description
- Occupation, relevant activities
- Representative or Extreme user?

**Personality:**
- Describe the person with design-relevant details
  - Likes, dislikes?
  - Capabilities, weaknesses?
  - Unusual characteristics?

**Activities:**
- Typical, breakdowns, user innovations

Identify the relationship with real users interviewed or observed.

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Persona example

**Timothy Powell**
- 52 years old
- Civil Engineer

**Quotes/Attitude/Possible problems in using systems**
- “Speed trumps security when it comes to exchanging documents.”
- “Look, you may build bridges but I design them and that’s the most critical part!”

**Goals (general and for using the system)**
- Get everything done before heading home
- Cover his back and avoid blame


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Extreme character

Identify people who are extreme along one or more dimensions:
- Normal hands ➔ Arthritic hands
- Takes vitamins ➔ Cancer patient
- Exercises regularly ➔ Athlete
- Adult ➔ Child

It is useful to brainstorm ideas about what it means to be extreme in the context for which you are designing, even if you do not end up using such extreme characters.

Used very often in business contexts

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In-class Exercise

Persona

30 min
Create a resource for design

Goal: Inspiration for a system to design

1. User Profile
   Description of the characteristics and needs of the users

2. Persona
   A specific, imaginary person who represents a member of the user population. Normally, personas represent ‘typical’ users. However, it is sometimes useful to create extreme characters to help you push the limits of the design.

3. Use scenario
   A realistic description of a series of events and activities of one or more users ( personas) in a real-world setting. Scenarios provide a composite view of the most important or relevant actions identified in interviews and observation.

Use Scenario

Goal: Create a realistic description of the user in context emphasizing opportunities for design

Procedure
   - Identify activities and critical incidents from your data
   - Choose from multiple users
   - Include: normal and unusual situations, planned and unplanned activities, effective and problematic incidents
   - Choose a specific day, setting and hypothetical, realistic user
   - Tell a story, step-by-step of what the user does
   - Include relevant detail in a series of interaction points
   - Ideally, go over the scenario with at least two users

Writing a use scenario

Potential design resources:

Raw data:
   - Real-world observations, interviews
   - Personal experience (if applicable)
   - Research literature, marketing materials

Interpreted data:
   - Analysis of user characteristics and needs
   - Design brief / design requirements
   - Personas and extreme characters

Use Scenario example

Problem with using this scenario only:
   - Does not capture breakdowns
   - Could be a bit more detailed about the goal of the user

It’s approaching 5:30 and Timothy is finishing up for the day. He makes a few small changes to his CAD drawing, based on requests from the clients. He shakes his head, wondering why they asked for three lanes of traffic when they obviously need four. Oh well, he has a record of the request and he doesn’t have time to ponder the sanity of the clients. He saves the drawing, attaches it to an email to the client, and hits “Send.” In the few minutes it takes him to pack up for home, he watches a progress bar informing him that his drawing (~100MB) has been uploaded to the FTP server.
Use scenario: What happens now?

Like a tiny, branching one-act play,
sub-divided into one-paragraph micro scenes
that describe a series of ‘interaction points’

Create one or more personas (characters), each with:
name, age, gender, motivation
usually with a profession, expertise
usually with a goal or motivation

Create one or more realistic setting(s):
date, time, place, context

Identify a series of events over a period of time

In-class Exercise
Use Scenario
30 min

In-class Exercise
Problem
30 min

Homework
18 December 2013

1. Group: Complete exercises not done in class:
   Interview Analysis
   User Profile
   2 personas

2. Individual: 10 web searches
Web search exercise

Search for alternative technologies

Search on the web 10 interaction techniques (not systems)
(that you do not already know)
that can help in your project
keep in mind the choices you made last week

What did you find?