Micro-survey top topics we’ll review today:

NEXT WEEK:
Mon: Guest speaker: Preston Malenke, MeasuringU
  • Canvas Quizzes: Shadow UX paper

Wed: In-class UX research data collection practice

Due Sat: Project Part 1, Checkpoint 2 in Canvas

THIS WEEK: Data/Interpretation
Wed
  • Readings: Shadow UX paper

Due Sat: Canvas quiz on Readings: 2 papers
Due Sat: Project Part 1, Checkpoint 1 in Canvas
Ethics Micro-Survey
Data Collection and Interpretation

Learning objectives:
1. Understand what “coding” means, and how to do it (Monday)
2. Understand types and levels of data, when they are appropriate and ways to collect them (Wednesday)

Materials originally created by Prof. Jamie Ruiz
Coding helps you move beyond a surface understanding of work to a detailed, critical examination of work: codes emerge from systematic data analysis.
Coding Process

Examine everything in detail

Standalone Phenomena

Label and define phenomena

Phenomena definitions/labels

Filter, aggregate, separate labels

Labeled data

Apply labels to data

Higher-level categories

Sub-categories

Use labels to differentiate user activities

Grouped user activities
How to Code

• Label everything that makes sense
• Labels can be words or pictorially-based
  – Words, phrases
  – Annotated visualizations, diagrams, and models (e.g. work models)
  – Anything that helps you discriminate between phenomena
  – Include time codes, durations, frequency counts as necessary
Start Interpretations

• As we label, we want to start interpreting
• We want to not only identify phenomena, we want to be able to ascribe *meaning* to those phenomena
Examples - Words

Labels from a desktop app

- “Mouse click” (low-level label)
- “Command selection” (higher level label)
- “Experimentation” (higher level label)
Examples - Pictures

Sketches

– Sketch of physical environment showing where materials flow throughout environment
– Sketch of physical artifact and how it is manipulated
Interpretation

Ask:  
Who?  
What?  
Why?  
Where?  
How?  
With what?

- How long?
- How much work?
- With whom?
- With what results?
- How much effort?

Which of these fit with each of the contextual inquiry work models?
Interpretation Helps Us

• Identify likely candidates for improvement
• Identify *workarounds* and inefficiencies in workflow

Some are obvious....
Coding Benefits

Verbal and mental shorthand
Helps differentiate phenomena
Coding Process Benefits

Transforms us from mere viewers to *analytical* observers
Reveals workarounds and habits

Leads to *quantification* of the phenomena
Remember ...

• People have tools to do their work, but they never perfectly fit with their needs
  – They can always be improved

• Collected data and interpretations will “speak” to you
  – Suggest new areas of concern not addressed by current technology
  – Suggest ways to improve and increment existing systems
Remember - Coding

• Usually happens in the interpretation session
• If you have an idea of a code, you can annotate your interview notes and propose it to your team during the interpretation session.
• If your team has agreed upon some codes, you can annotate your interview notes with them, but make sure to include details too. That way, if the codes change you still have the original data.
• Coding is different than using audio recordings to help complete your notes (as in transcribing the audio recordings).
For example

- U2 typed the URL into Firefox and hit the enter button
- U1 clicked on the next button
- U2 pointed to the top left frame in the application window

How could we ‘code’ these actions? Is there some label that fits all 3? Note that more abstract codes become clearer during the consolidation process

- U1 used an Excel spreadsheet cell to convert the temp in Fahrenheit to Kelvin
- U2 looked up web color codes to convert turquoise to its RGB Hex code
- U3 used Matlab to create a plot of the data that was in the simulation output file

Same questions – potential codes, any that fit all 3?
Continue with Model Practice (30 min)

Work with your entire project team. After 15 min switch roles so everyone gets to try different tasks.

Roles:
- Interviewer
- Moderator: in 3 or 4 person team, also creates notes for Affinity diagram
- Model makers: Flow, Sequence, Cultural models, and affinity notes (if the moderator isn’t doing these)

YOU MUST INCLUDE **CODES** and **INTERPRETATIONS** in your models and Affinity notes

**Turn in:** all 5 models and your affinity notes

Make sure your **group name** is written on each page you turn in and that one of these pages has a list of **who is here** today. **Staple** the pages together before turning them in.
Micro-survey

Today’s learning objective was:

1. Understand what “coding” means, and how to do it
Data Types

• Quantitative – numerical
  – Discrete (e.g. countable items)
  – Continuous (e.g. measurements)
• Qualitative – non-numerical
Data Types and Levels

- Nominal: types of errors seen by several different users
- Ordinal: whether a user had success or failure when trying to perform a task
- Interval: the steps taken by a user to perform a task
- Ratio: Likert scale responses
  - Overall, this task was?
  - High and low temperatures for days in January in Kelvin
  - High and low temps in Feb in Celsius
  - How long it takes to perform a task (min:sec)

Qualitative
Quantitative
Data collection methods

Quantitative:
• Use scales to measure
• Examples: questionnaires, structured interviews, Likert scales
Data collection methods

Qualitative:

• Detailed data, holistic understanding of complex phenomena (e.g. corporate culture)

• Examples: observations, unstructured interviews, focus groups, Contextual Inquiry
Is one better than the other? No...

Both provide:

• new knowledge and insights
• different, valid view of a phenomenon
Time Requirements

Both types of data gathering can require significant investments in time.
Time Requirements

There are no real “shortcuts” to gathering high quality data
Micro-survey

This slide set’s learning objectives were:

1. Understand what “coding” means, and how to do it
2. Understand types and levels of data, when they are appropriate and ways to collect them
Image Credits

quantQual.png: https://www.tes.com/teaching-resource/quantitative-vs-qualitative-observations-7195170
qualWords.png: https://www.eventbrite.co.uk/e/introduction-to-qualitative-research-methods-qualitative-data-collection-tickets-40778434395
quantWords: https://www.datasciencecentral.com/profiles/blogs/what-are-the-differences-between-quantitative-and-qualitative
betterWay.jpg: https://www.elsevier.com/connect/finding-better-ways-to-connect-research-data-with-scientific-literature
bikeShortcut.jpg: https://www.youtube.com/watch?v=bMBg5id92EU
coding.png: https://medanth.wikispaces.com/Principles+of+Analysis
doorChair.jpg: https://www.interaction-design.org/literature/article/design-failures
cog.jpg: http://www.cambridgecognition.com/
cog-2.png: https://www.yhousenyc.org/research/projects/origins-of-cognition