# Think aloud method

Introduction

- A commonly used technique in usability tests

- Sometimes usability tests are referred to as "think-aloud tests"

Think aloud method

- Users speak their thoughts while doing the task
  - what they are trying to do
  - why they took an action
  - how they interpret what the system did
  - gives insight into what the user is thinking

Hmm, what does this do? I'll try it... Ooops, now what happened?
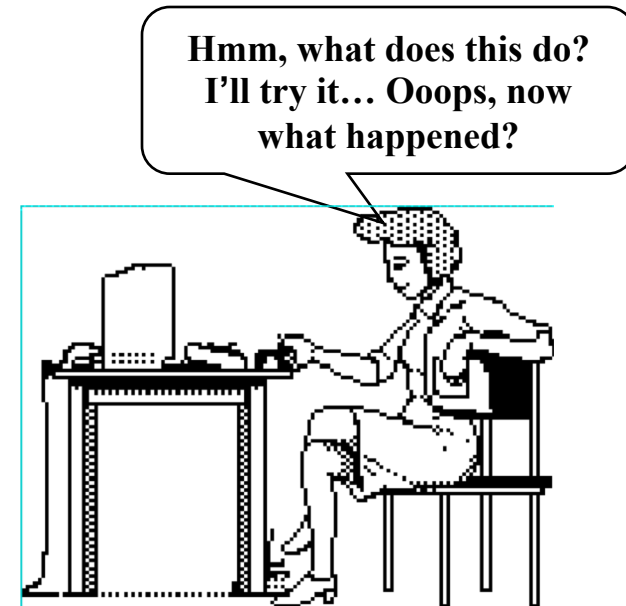
Thinking Aloud (cont.)

- Prompt the user to keep talking
  - "tell me what you are thinking"

- Only help on things you have pre-decided
  - keep track of anything you do give help on

- Make a *recording* and take good notes
  - make sure you can tell what they were doing
  - use a digital watch/clock
  - record audio & video
    - or even event logs

- TAPs involve participants thinking aloud as they perform a set of specified tasks.

- Users are asked to say whatever they are looking at, thinking, doing, and feeling, as they go about their task.

- Most widely used evaluation method in industry
  - may alter the way users do the task
  - unnatural (awkward and uncomfortable)
  - hard to talk if they are concentrating

Information on Mental Models

- The aim is to acquire information on the user's mental models

  - – Mental model = internal representation on how things are (e.g., what are the characteristics of a mobile phone?) or how things work (e.g., how can you buy something from the web?)

- Mental models can explain *why* certain usability problems occur

example

- Search task: Find ATALPAs homepage

Instructing to Think-aloud

- •Instructing the participant to think-aloud

- *In this study, I am interested in what you think while you are doing the test tasks. This is why I want you to think-aloud while doing the tasks.*

- *Thinking-aloud means that you will tell everything that you are thinking from the moment you see the task until the end of the task. You should not plan what to say or try to explain to me what you mean. Instead, you should talk like you were alone in this room talking to yourself. The most important thing is that you keep on talking all the time. If you remain silent for a while, I will remind you about the thinking aloud.*

Instructing to Think-aloud

- *Do not* ask the participants to *explain* their behaviour to you!
  - – Instead, ask them to think-aloud as if they were alone in the room taking to themselves

- If the thinking-aloud is properly done, it should not interfere with the task times too much

- On the other hand, if the participant starts to *explain* their every action for you, the task times are affected considerably

Practicing Think-aloud

- After explaining what thinking-aloud means, the participant needs to practice it

  – For example, you can ask the participant to locate the homepage of ATALPA

- Encourage the participant to think-aloud during the practice task

  – Explain the procedure again if the participant is unsure about how to proceed (give examples)
  – Give feedback when thinking-aloud is successful

  - "Good! This exactly what is meant by thinking aloud."

During the test

- If the participant is quiet for a longer period of time during the test, s/he should be reminded to think-aloud with neutral prompts, for example,

  - "Remember to think-aloud"
  - "Hmm?" (neutral or friendly question tone)
  - **NOT** "Explain what you just did?"

- It is also good to remind the participants about thinking-aloud between tasks

Using the Test Results

- Summarize the data
  - make a list of all critical incidents (CI)
    - positive & negative
  - include references back to original data
  - try to judge why each difficulty occurred

http://www.hhs.gov/ocr/privacy/hipaa/enforcement/data/index.html

- What does data tell you?
  - UI work the way you thought it would?
    - users take approaches you expected?
  - something missing?

Using the Results (cont.)

- Update tasks & rethink design
  - rate severity & ease of fixing CIs
  - fix both severe problems & make the easy fixes

http://www.thetomorrowplan.com/exchange/policies-prairie-chickens-and-parking/

Pros of thinking Aloud

- finds many usability problems

- finds why they occur (process data)

- small number of test users (3 to 5)

- usable early in development process

- requires little administrator expertise

- generates colourful quotes

Problems with think-aloud

- Some people feel embarrassed or overly self-conscious about talking to themselves
  - Try the following:
    - Practice the technique enough (possibly with several tasks)
    - Try to maintain a relaxed atmosphere
    - Respond with neutral "Hmm"s to user's think-aloud during the test ☞ a feeling that somebody is listening makes the task of thinking-aloud more natural
    - (use another verbalization protocol)
    - ☞ If the above-mentioned tips do not work, do not pressure the participant too much; ethical issues should be the first concern!

Problems with think-aloud

- Quantitative Data is NOT collected.

- Can NOT be conducted remotely.

- Can be used on any system.

Will thinking out loud give the right answers?

- Not always

- If you ask, people will always give an answer, even it is has nothing to do with facts
  - panty hose example

→Try to avoid specific questions
(especially that have binary answers)