Testing the UI

Part 2 of 2

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Agenda

• Goals for observation
• Usability specifications
• What to observe
  ▪ Think aloud
  ▪ Cooperative evaluation
  ▪ Performing Tasks
• Observation mechanisms
  ▪ Direct
  ▪ Recording by audio or video
  ▪ Computer logging
Collecting Data

- Capturing the Session
  - Observation & Note-taking
  - Audio and video recording
  - Instrumented user interface
  - Software logs
  - Think-aloud protocol - can be very helpful
  - Critical incident logging - positive & negative
  - User Journals

- Post-session activities
  - Structured interviews; debriefing
    - “What did you like best/least?”; “How would you change..?”
  - Questionnaires, comments, and rating scales
  - Post-hoc video coding/rating by experimenter
Pros and Cons of recording

- Richness of record
- Time to transcribe analyze
Observing Users

- Not as easy as you think
- One of the best ways to gather feedback about your interface
- Watch, listen and learn as a person interacts with your system
- Preferable to have it done by others than developers
  - Keep developers in background quiet!
Observation

• **Direct**
  ▪ In same room
  ▪ Can be intrusive
  ▪ Users aware of your presence
  ▪ Only see it one time
  ▪ May use 1-way mirror to reduce intrusion
  ▪ Cheap, quicker to set up and to analyze

• **Indirect**
  ▪ Video recording
  ▪ Reduces intrusion, but doesn’t eliminate it
  ▪ Cameras focused on screen, face & keyboard
  ▪ Gives archival record, but can spend a lot of time reviewing it
Location

- Observations may be
  - In lab - maybe a specially built usability lab
    - Easier to control
    - Can have user complete set of tasks
  - In field
    - Watch their everyday actions
    - More realistic
    - Harder to control other factors
Challenge

- In simple observation, you observe actions but don’t know what’s going on in their head

- Often utilize some form of *verbal protocol* where users describe their thoughts
Verbal Protocol

- One technique: *Think-aloud*
  - User describes verbally what s/he is thinking while performing the tasks
    - What they believe is happening
    - Why they take an action
    - What they are trying to do
Think Aloud

• Very widely used, useful technique
• Allows you to understand user’s thought processes better

• Potential problems:
  ▪ Can be awkward for participant
  ▪ Thinking aloud can modify way user performs task
Teams

- Another technique: *Co-discovery learning* (Constructive interaction)
  - Join pairs of participants to work together
  - Use think aloud
  - Perhaps have one person be semi-expert (coach) and one be novice
  - More natural (like conversation) so removes some awkwardness of individual think aloud
Alternative

- What if thinking aloud during session will be too disruptive?

- Can use *post-event protocol*
  - User performs session, then watches video and describes what s/he was thinking
  - Sometimes difficult to recall
  - Opens up door of interpretation
Historical Record

- In observing users, how do you capture events in the session for later analysis?
  - ?
Capturing a Session - Paper & pencil

- Can be slow
- May miss things
- Is definitely cheap and easy

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Capturing a Session - Recording

- Audio and/or video
- Good for talk-aloud
- Hard to tie to interface
- Multiple cameras useful
- Good, rich record of session
- May be intrusive
- Can be painful to transcribe and analyze
Usability Labs

• Available in many corporate, govt, academic settings

• Two rooms:
  ▪ Observation
  ▪ Participant
Observation Room

- Large viewing area
- One-way mirror which includes an angled sheet of glass – improves light capture and prevents sound transmission between rooms.
- Doors for participant room and observation rooms are located such that participants are unaware of observers movements in and out of the observation room.
Participant Room

- Sound proof participant room with a feel similar to a standard office environment.
- Pan-tilt-zoom high resolution digital camera (visible in upper right corner).
- Microphone pickup can be moved near participant or left in location, which is just below right side of observation window.
- Observation room door not visible by participants from reception/waiting area. Participants unaware of people entering or leaving observation room.
- Note the half-silvered mirror
Capturing a Session - Software

- Modify software to log user actions
- Can give time-stamped keypress or mouse event
  - Sync with video
- Commercial software available
- Two problems:
  - Too low-level, want higher level events
  - Massive amount of data, need analysis tools