A Comparison of Mobile Diary Study Techniques

Follow-Up Entry

Snippets

1. Text snippet recorded on Tuesday, Dec 5 at 5:29 PM.

2. Picture snippet recorded on Tuesday, Dec 5 at 5:28 PM.
Motivation

Improve techniques for participant data capture under mobile or active conditions
Our Technique and System

- Lowers in situ recording burden
  - Participants capture *snippets* in the field, and complete full follow-up entries at their leisure
- Accommodates different recording situations with multiple media choices
  - Participants choose from *text*, *audio*, and *photos* for snippets
How it works
Follow-Up Entry

Snippets

1. Text snippet recorded on Tuesday, Dec 5 at 5:29 PM:

   where else?

2. Picture snippet recorded on Tuesday, Dec 5 at 5:29 PM:

   ![Coffee maker image]

Entry

1. Where were you when you thought of this mobile computing need or desire?
   (e.g. at the supermarket, in class, at home)

   coffee room

2. Were you inside or outside?

   ☐ Inside
   ☐ Outside

3. What activity were you engaged in when you decided to make this entry?
   (e.g. driving, talking with friends, studying)

   trying to get coffee

4. How many people were you with that you knew, and who were they? (don't give names! e.g. 4 friends, 2 family

   one]
Example Snippets as Cognitive Artifacts

Mom appt?
IM tivo  Pdra 4 wrk
Hypotheses

- The snippet technique leads to longer entries in a shorter time when compared to the in situ technique.
- Entry accuracy is not significantly affected through the use of the snippet technique.
- Participants are willing to contribute more “trivial” events using the snippet technique.
- Media choice will be dictated by both content and context of entry.
Study Design

- Task: Need-finding for mobile computing

  - Study 1
    - In Situ vs. Snippet Technique

  - Study 2
    - Text vs. Multimedia Snippets

- Two weeks long

- Exit Interviews
  - 15 minutes per participant, in person
Study Demographics

- **Study 1**
  - 15 enrolled, 9 completed
  - 5 female, 4 male
  - 122 paper, 65 web entries completed

- **Study 2**
  - 15 enrolled, 14 completed
  - 9 female, 5 male
  - 255 entries completed
Results - Entry Length (H1)

Paper/Web Difference P-value: $0.028$, one-sided paired $t$-test, $8$ d.f.
Results – Time Spent (H1)

Paper/Web Difference $P$-value: 0.16, two-sided paired $t$-test, 7 d.f.
Entry Speed (H1)

- “I was much faster at responding to the questionnaire online than on paper.” –s9
- “It definitely did not interfere with my life, even though I thought it would initially. It was great to have the option to fill it in online later, because I could do it anytime I wanted and make a fuller entry.” –s28
Results – Entry Quality (H2)

Likert Scale responses to
All of the data contained in this entry is accurate
Entry Accuracy (H2)

- “The combination of photos and text helped my memory the most” –s28
- “For the texts, I would usually have keywords that I entered and the needs were separate enough that I could differentiate them based on the keywords. Even though the snippets were small... I would remember what the exact need was.” –s9
Smaller, “Trivial” Entries (H3)

- “A couple [of entries wouldn't have been made without snippets.] Smaller things were too trivial to open up a diary for.” –s3
- “Most of the time, I would write the paper entry after it happened because most of my mobile needs happen when I’m active, like when I’m walking or driving.” –s9
- “Some of the diary entries I couldn’t do at the time because I couldn’t stop the car, or if I was talking to someone.” –s15
Media Choice (H4)

- “I liked the text snippets much more than the diaries. I liked the idea of writing in a couple of keywords and having the time to write the full entry whenever I wanted.” –s9
- “Voice was so much easier. I hate the T9 and I’m slow with the original text. It’s easier to verbalize snippets. If I had to get something done fast, I would use a voicemail.” –Kevin
- “I didn’t send voicemails because I felt goofy doing it” –s28
- “When I wanted to know when the Marguerite would be coming, I just took a picture of the Marguerite because it was easier than describing the whole situation.” –s24
Results - Media Breakdown (H4)

Data from week 2 of study 2