TapBack: Towards Richer Mobile Interfaces in Impoverished Contexts

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Impoverished platform

- Spoken Web
- Dial-up voice site
- Interconnected
- Interactive
Current interactions:

Speech

Keypad

1  2  3
4  5  6
7  8  9
Design

- Back of device inputs

Tapping  Scratching
Related work

Eyes-free input [5]

Mobile scratch & tap input [6]

Scratch & tap input anywhere [3]
System in action

Typical voice site instruction

To browse the site, press an appropriate number...

(video)
Deployed and tested with farmers in rural India
Accuracy study

- 18 users, all with low-end handsets
- Asked to tap in response to cues
- 1 tap, 2 taps, 3 taps; repeated 4 times

- 1-tap : 93%
- 2-tap : 78%
- 3-tap : 56%
Deployment

• 52 unique users, 286 calls
• 36 used TapBack once, 25 more than once
• 1293 separate tap interactions (8 per call avg)

• “This is like having a touch screen, this is a modern thing to use – its cool”
• But: “(buttons) …they always work – end of story”
Conclusions

- Logged data indicates potential:
  - People repeatedly used feature during calls
  - 93% of callers used it again on subsequent calls

- Qualitative feedback
  - Encouraging
  - Value even in low-end situations
Future?

- Listening to audio content
- Important content
- Voice site link cue
- Inappropriate playback speed
- Tap to follow link
- Drum fingers at correct timing
- Scratch to highlight section
- Continue browsing...
Thank you

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