

# Cheap & Cheerful - Multimodal UX Design in the Agile Era

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Ann Thyme-Gobbel, D+M Group (Denon Marantz)

[ann.thymegobbel@dmh-global.com](mailto:ann.thymegobbel@dmh-global.com)

# The Issue: Sprinting Through Your Design

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- You don't have
  - Time
  - Money
- You want
  - to Beta-Test a Bigger Test
  - Broad User Access
  - Specific Target User Access
  - to Prioritize Scope
  - to Form Hypotheses from User Opinions & Ideas
  - to Verify Assumptions
  - Data to Support a Point
  - to Understand Users' Mental Models
  - Verbatim examples of Users' Requests and Wording Choices

# The Solution: Many Paths to Data

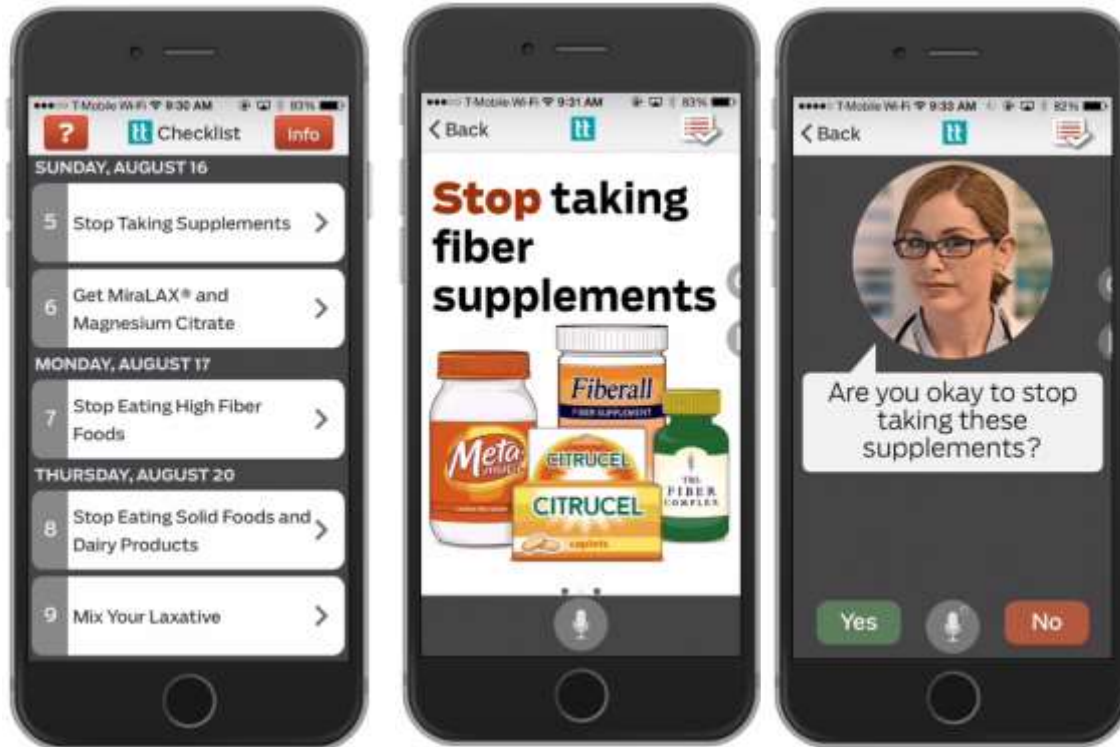
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1. One is Company... When You're the Sample
  - Walking in others' shoes
2. With a Little Help from your Friends
  - Social media
  - VIPs
3. Strangers in Stranger Lands
  - Quick A/B testing
  - Amazon Mechanical Turk

# 22otters Mobile App

Platform for interactive multi-modal communication with Patients and Caregivers for acute and chronic medical conditions and procedures

Care calendar, step-by-step training/coaching, Question Answering system



Question Answer system

Foods, activities, FAQ, medication (“Can I take \_?”)  
Medication list (“What medications are you taking?”)  
Disambiguation, Error handling backoff, Navigation

Answer depends on

Domain, Provider, Procedure, Current time relative to exam

# 1. One is Company... When You are your Own Sample

Experience can  
✓ impact design focus  
✓ uncover new info

- The Usual
  - Background research, Heuristic evaluations
- The Unusual
  1. Not-so-cheerful: Colonoscopy
  2. You're in Trouble: Urine Collection
- Pros & Cons
  - Base for building rapport & empathy; Understand the issue; Very fast & cheap
  - Sample size; Not a naive subject



## 2. With a Little Help from your Friends

Build your set  
✓ of near-target users  
✓ who respond well

- The Typical
  - Speech data collection from coworkers, friends & family
  - Low-Fi Woz; Hallway UT
- The Less Typical
  1. Quick: Putting social media to good use
    - Interpretation of wording, A/B, experiences
    - Fine-tune questions before larger test
  2. In-depth: OTTERS - A group of target users
    - 1-on-1 interviews, use app in context, longitudinal
- Pros & Cons
  - Test accessibility, functional prototype, affordance, expectancy
  - Easy access, cheap, fast, follow-up is easy, people love to help
  - Limited population in size, experience, context



# 3. Strangers in Stranger Lands

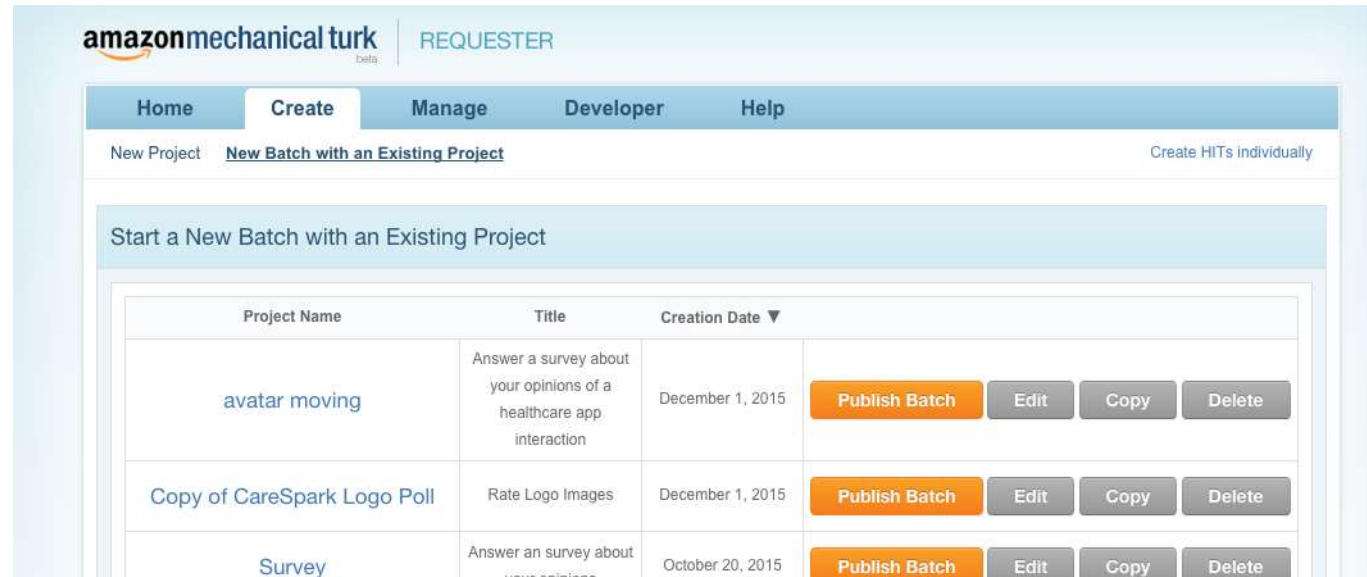
- ✓ Wider population = new info
- ✓ Phone is a great tool

- The Standard
  - In-app survey, focus groups; user phone interviews
- The Non-Standard
  1. Quickies: You want an A/B test with that coffee?
    - Use Albums on your iPhone
  2. Speech collection on The Washington Mall
  3. Amazon Mechanical Turk
- Pros & Cons
  - Good for targeted data collection & testing expectancy, affordance
  - Naive subjects, broader scope
  - No follow-up



# Look Out Honey 'cause I'm Using Technology: Amazon Mechanical Turk

- What is it?
- How does it work?
- What does it cost
- Is it reliable?
  - Intra- vs. Inter-subject
  - Parallel comparison



The screenshot shows the Amazon Mechanical Turk requester interface. The top navigation bar includes 'Home', 'Create', 'Manage', 'Developer', and 'Help'. Below the navigation bar, there are links for 'New Project' and 'New Batch with an Existing Project', along with a link for 'Create HITs Individually'. The main content area is titled 'Start a New Batch with an Existing Project' and displays a table of existing projects.

Project Name	Title	Creation Date				
avatar moving	Answer a survey about your opinions of a healthcare app interaction	December 1, 2015	Publish Batch	Edit	Copy	Delete
Copy of CareSpark Logo Poll	Rate Logo Images	December 1, 2015	Publish Batch	Edit	Copy	Delete
Survey	Answer an survey about your opinions	October 20, 2015	Publish Batch	Edit	Copy	Delete



# Amazon Mechanical Turk: Many Uses

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- Memorability and comprehension
  - Finding a company name
- Data collection
  - Describe most recent meal
  - “How would you say...”
- Opinions & Preferences & Attitudes
  - Recorded speech vs. TTS: What emotion is conveyed
  - Avatar vs. picture vs. text-only
  - “Which do you prefer – and why”: Graphics & color preferences
  - “What do you think of...”
- Interpretation of a phrase
- “What functionality ...”

# Amazon Mechanical Turk: Pros & Cons

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## Good for...

Reaching a large broad population quickly & cheaply

Collecting data to form initial hypotheses or prioritize functionality

Getting feedback on something that doesn't need (much) context

Collecting data about concrete experiences

Testing comprehension & performance of concrete tasks & wording

Some opinion (if scope is well defined)

## Less good for...

Responses that depend on particular experiences

Demographics that are under-represented

Insights on wishes or abstract ideas

Getting follow-up clarification

Longitudinal effects

# Final Thoughts

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- “Back Off Man – I’m a Scientist”: A tool in the wrong hands...
- Never Throw Away Data
  - Gather it, use it, and remember its origin
- Self → Friends → Strangers → Controlled Recruited Testing
- The UX Design Brief: Sharing Findings in a Digestible Format

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