

The Data is the Interaction

James Fogarty

Computer Science & Engineering

DUB Group

University of Washington

jfogarty@cs.washington.edu

UW/MSR Summer Institute

University of Washington

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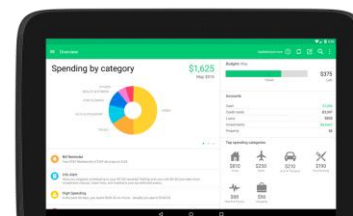
Personal Informatics and Health

“We define personal informatics systems as those that help people collect personally relevant information for the purpose of self-reflection and gaining self-knowledge.”

MyFitnessPal



Mint



FitBit



Glucose Meter

The Data is the Interaction

Ubiquitous Computing and the Internet of Things present everyday people with unprecedented data

Prior approaches frame our understanding and limit how we design interaction with this new data

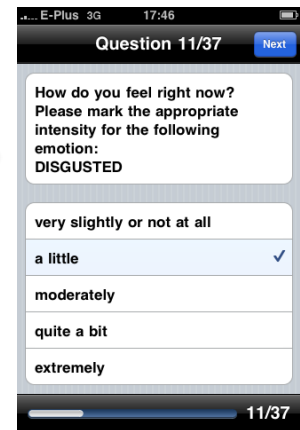
- Our understanding of the technology

- Our understanding of the opportunity

We often just copy forward the prior interaction

Mobile Phones as Pagers

Our notion of technology design for journals / ESM / EMA has been anchored by papers journals and pager-based reminders



Csikszentmihalyi, Larson. Validity and Reliability of the Experience-Sampling Method. *J Nerv Ment Dis* 1987.
Feldman Barrett, Barrett. An Introduction to Computerized Experience Sampling in Psychology. *Soc Sci Comput Rev* 2001.
Froehlich, Chen, Consolvo, Harrison, Landay. MyExperience ... *MobiSys* 2007.

Food Journals

Origins in daily recall

Self-monitoring of food can support many goals

Weight Loss

Diabetes Management

Trigger Identification

High burdens detract from potential benefit, data is often wrong

Stanford Hospital and Clinics
Digestive Health
Food/GI Symptoms Record

Instructions: Please record everything you eat and drink (including ice and water taken with your medications). Circle your symptoms if any as they occur after meals and snacks.

Date: 6/22

Time	Food & Beverages and Amount	Symptoms if any (circle)
Breakfast Time: 7:30	1/4 c. oatmeal w/ 1/2 T rice milk apple slices - 1/4 c sugar 1/2 Tr. Tosts wheat-free waffle 100z. Peppermint tea	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 11:00	1 slice French Toast egg white, olive oil	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Lunch Time: 12:30	3oz fresh cold braided salmon 4oz cranberry juice flour tortilla, roasted avocados, olives 1 c. onion, tomato, avocado, mango rice IT. 1/2 c. ginger cookie whole foods	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 3:00	1 c. rice crispies, rice milk, blueberries	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Dinner Time: 6:00	1 c. chicken broth 1 T rice 4oz organic braided chicken breast Baked sweet yam, steamed carrots, zucchini, cranberry sauce, tea, raspberry sorbet, homemade cake	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 7:30	3 c. crackers, 1 c. sucrose sugar jam	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Date: 6/25		
Breakfast Time: 9:30	1/4 c. oatmeal w/ 1 T rice cereal, 2 T rice milk - CA enriched - Trader Joe's wheat-free waffle, maple syrup, it. 1/2 c. yogurt	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 11:00	1 c. soy yogurt fruit blueberries, mashed strawberries, yellow peaches	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Lunch Time: 1:00	1/2 c. toast - 2oz toast 1 T rice of breast hard boiled egg white, baked potato & chips - tea, 2oz cranberry juice	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 4:00	4oz pretzels, 1/2 c. peanut butter, 2 crackers	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Dinner Time: 6:30	Flour tortilla - 4oz Tilapia pan sautéed 1 onion, olive oil, 2 avocados Israeli, green beans fresh, carrots + peas, apple sauce 1/2 c. rice, blueberries 1/2 c. yogurt	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>
Snack Time: 8:00	1/2 c. yogurt, 1/2 c. blueberries, 1/2 c. blueberries	Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other: <u>none</u>

Bottom c-water 600mg gabapentin - every night
align probiotic - 4-6 times a week after lunch

Burke. The Dietary History as a Tool in Research. *J Am Diet Assoc* 1947.

Craig, Kristal, Cheney, Shattuck. The Prevalence and Impact of 'Atypical' Days in 4-Day Food Records. *J Am Diet Assoc* 2000.

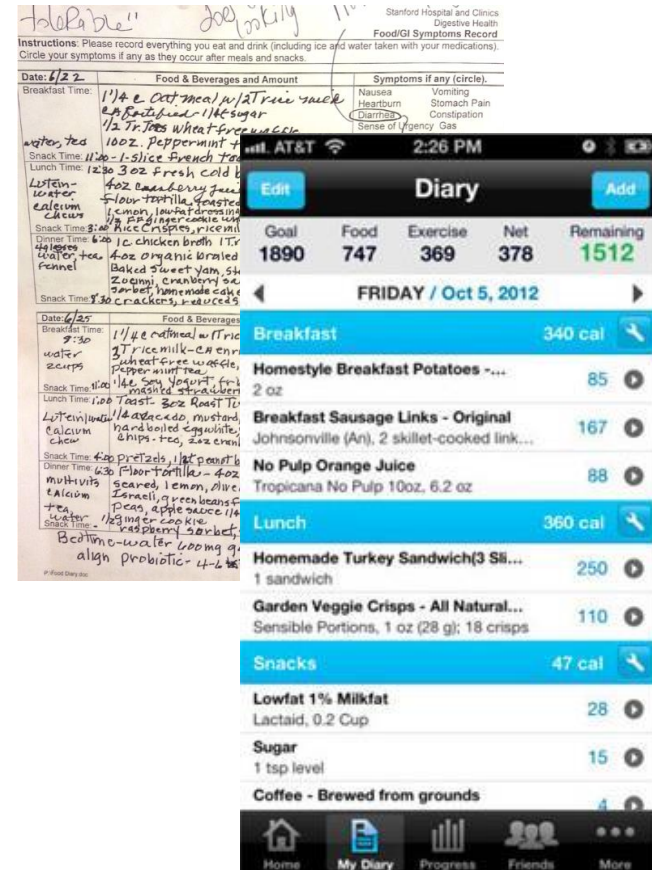
Mobile Food Journals

Mobile devices provide real-time feedback

Search for each food in a large database, often breaking into components

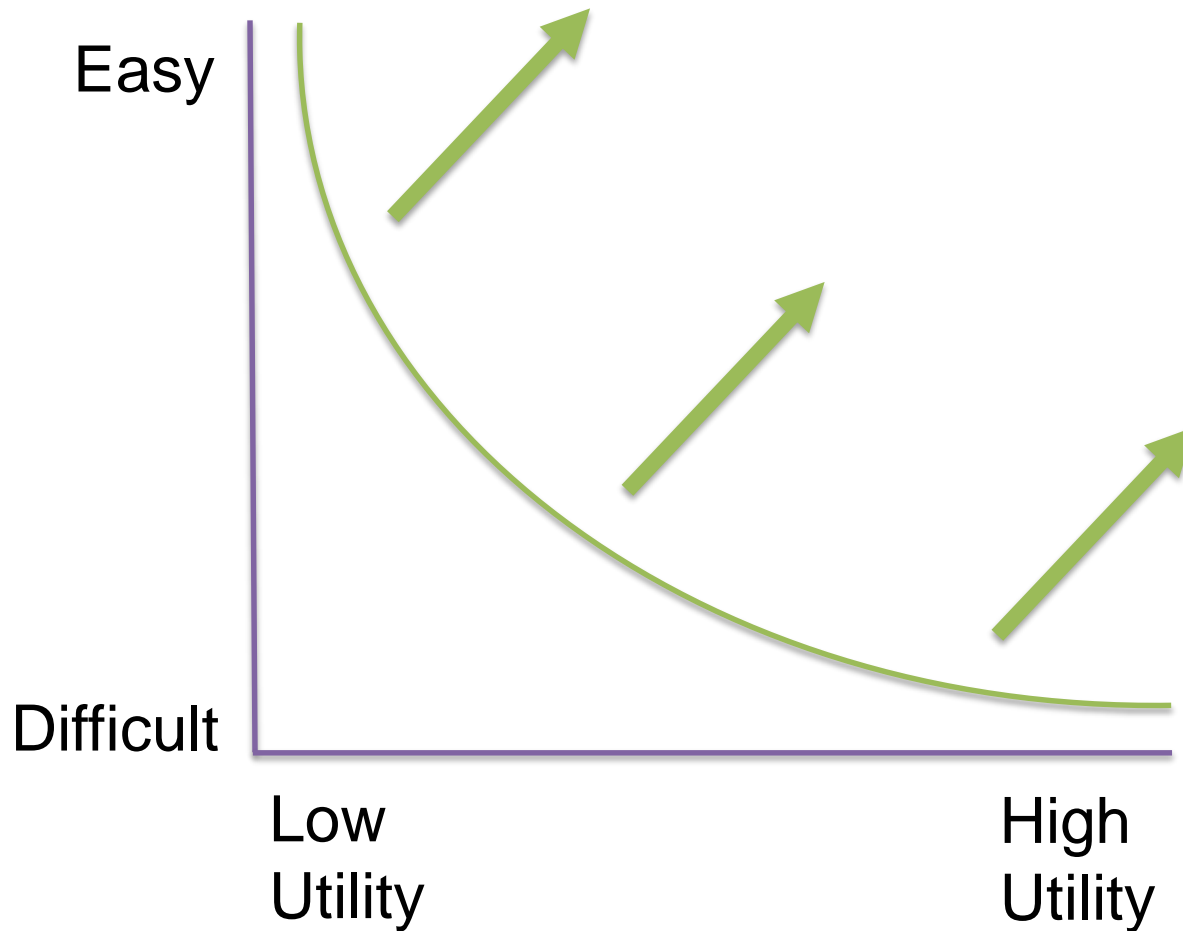
Typically provide calorie-based feedback

High burdens detract from potential benefit, data is often wrong



Tsai, Lee, Raab, Norman, Sohn, Griswold, Patrick, K. Usability and Feasibility of PmEB ... *Mobile Netw Appl* 2007.
Cordeiro, Epstein, Thomaz, Bales, Jagannathan, Abowd, Fogarty. Barriers and Negative Nudges ... *CHI* 2015.
Cordeiro, Bales, Cherry, Fogarty. Rethinking the Mobile Food Journal ... *CHI* 2015.

Effort vs. Utility in Self-Tracking

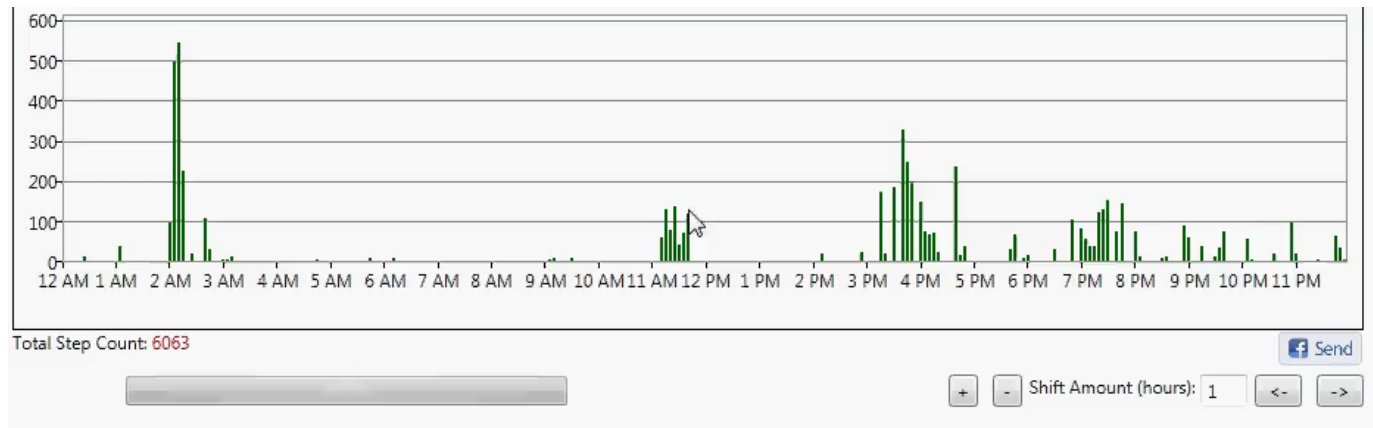


Who Controls the Data?

Can we enable an ability to curate data, giving people more control in detailed sharing?



FitBit



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Will this new type of data be for us, or about us?

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