

# **IN4MATX 295:**

# **Personal Informatics**

**Class 1: Course Overview  
and Planning**

**Daniel Epstein**

# Outline for today

- (Brief) background on personal informatics
- Course logistics
- Discussion on project topics

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# Personal Informatics

- “Systems that help people collect personally relevant information for the purpose of self-reflection and gaining self-knowledge”

# Personal informatics systems are increasingly ubiquitous



16% of the US

31% worldwide

Kantar WorldPanel, 2017

Pew Research Center Global Attitudes & Trends, 2016



**See how Fitbit can help  
you exercise, eat, sleep  
& live better**



A photograph of a white bowl filled with a variety of fresh fruit, including strawberries, blueberries, and pineapple, with a spoon resting in it. To the left of the bowl is a small glass containing a bright orange liquid, likely orange juice. Both items are placed on a dark, wooden-textured surface.

**Lose Weight with  
MyFitnessPal**

The fastest, easiest to use calorie counter app.

[Sign up with Facebook](#) [Sign up with Email](#)

Already have an account? [Log In](#)



A close-up photograph of a person's hand holding a white smartphone. The screen of the phone displays the Mint mobile application. The app's interface includes a pie chart with segments labeled 'INVESTMENT' (yellow), 'CREDIT' (blue), 'DEBT' (green), and 'SAVINGS' (pink). Below the chart, the text 'When you're on top of your money, life is good. We help you effortlessly manage your finances in one place.' is visible. At the bottom of the phone's screen is an orange button with the text 'SIGN UP FREE'. In the bottom right corner of the phone's screen, there is a small text box containing the text 'Questions? We can help' next to a speech bubble icon. The background of the entire image is a dark grey gradient.



**30% abandon after three months**

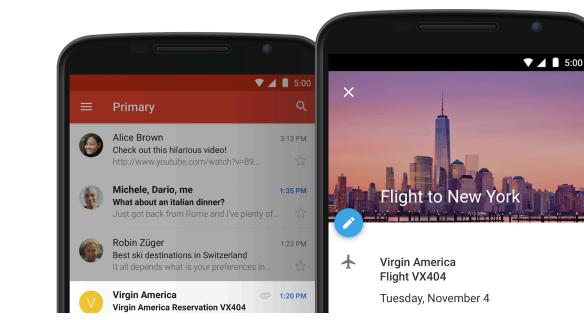
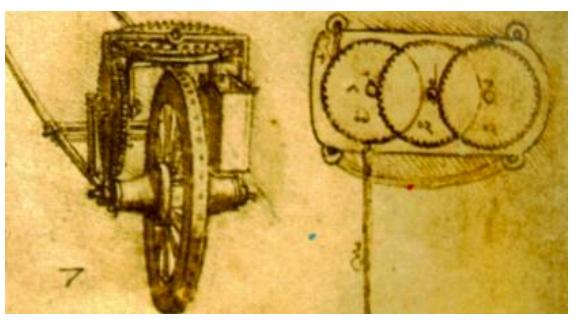


**97% abandon after one week**

Gartner Market Research, 2016

Helander, Kaipainen, Korhonen, Wansink. Factors Related to Sustained Use of a Free Mobile App for Dietary Self-Monitoring with Photography and Peer Feedback: Retrospective Cohort Study. J Med Internet Res, 2014

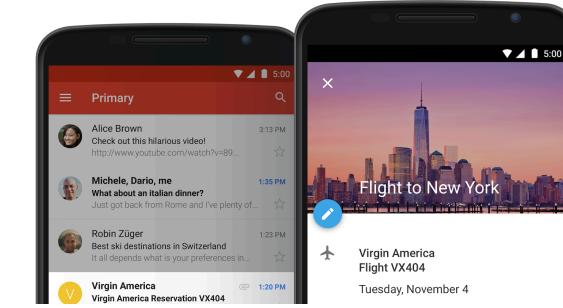
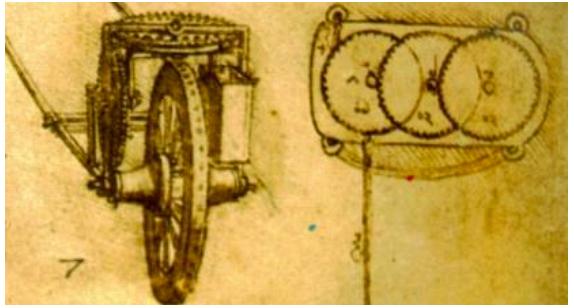
**As the technology evolved,  
designs haven't kept up with  
who is tracking and why they are tracking**

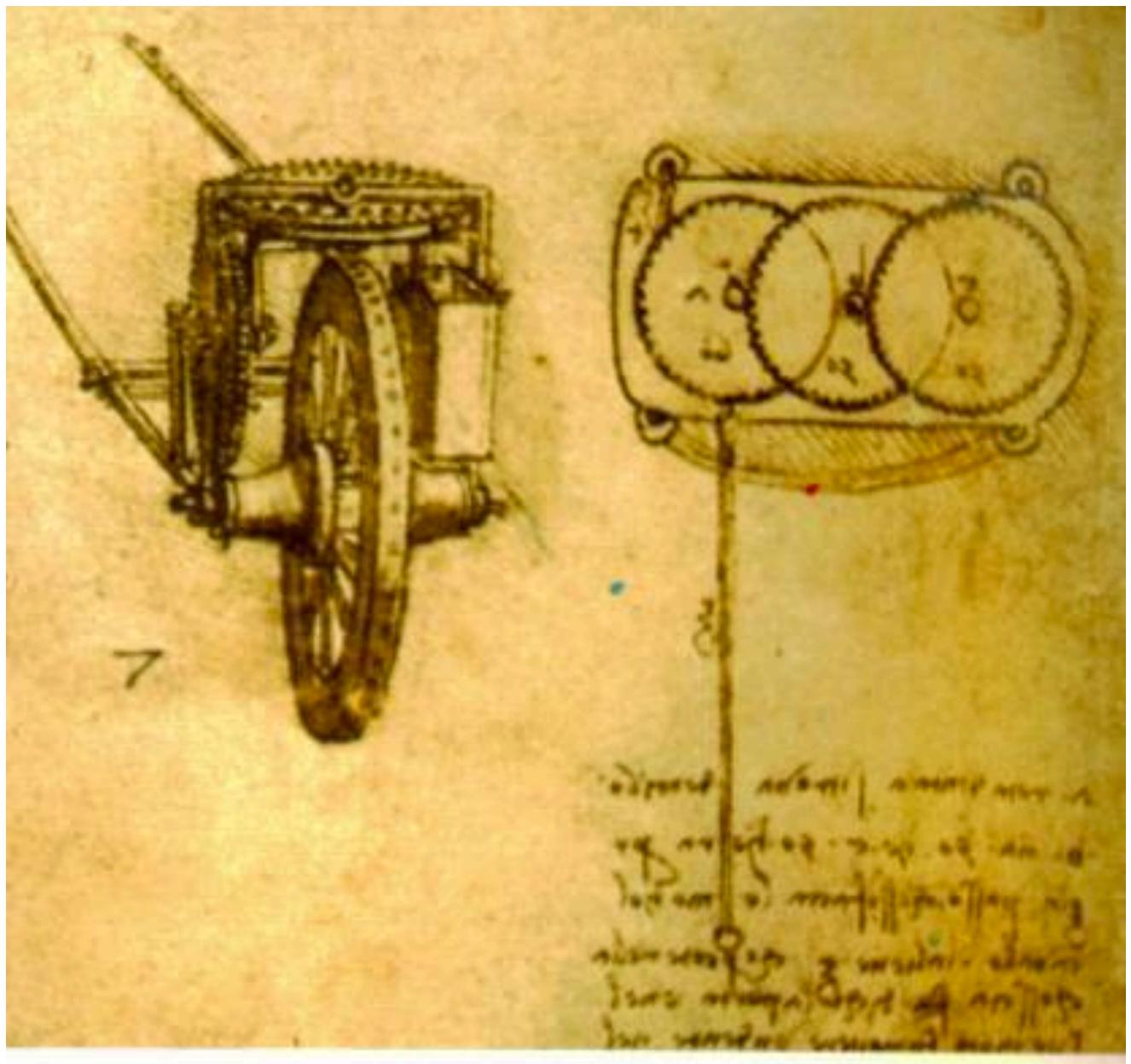


# How people are tracking

## Who is tracking

## Why they are tracking





**How:** large mechanical device

**Who:** militaries

**Why:** to monitor troop movement

Leonardo Da Vinci, ~1500



**How:** small mechanical device

**Who:** wealthy watch owners

**Why:** to wind the watch

Abraham-Louis Perrelet, 1780



**How:** small mechanical device

**Who:** motivated population

**Why:** for health improvement

Yoshiro Hatono, 1965

Manpo-Kei (万歩計, “10,000 steps meter”)



**How:** copied from a digital device

**Who:** motivated population

**Why:** for social support

Consolvo et. al, CHI 2006  
Houston

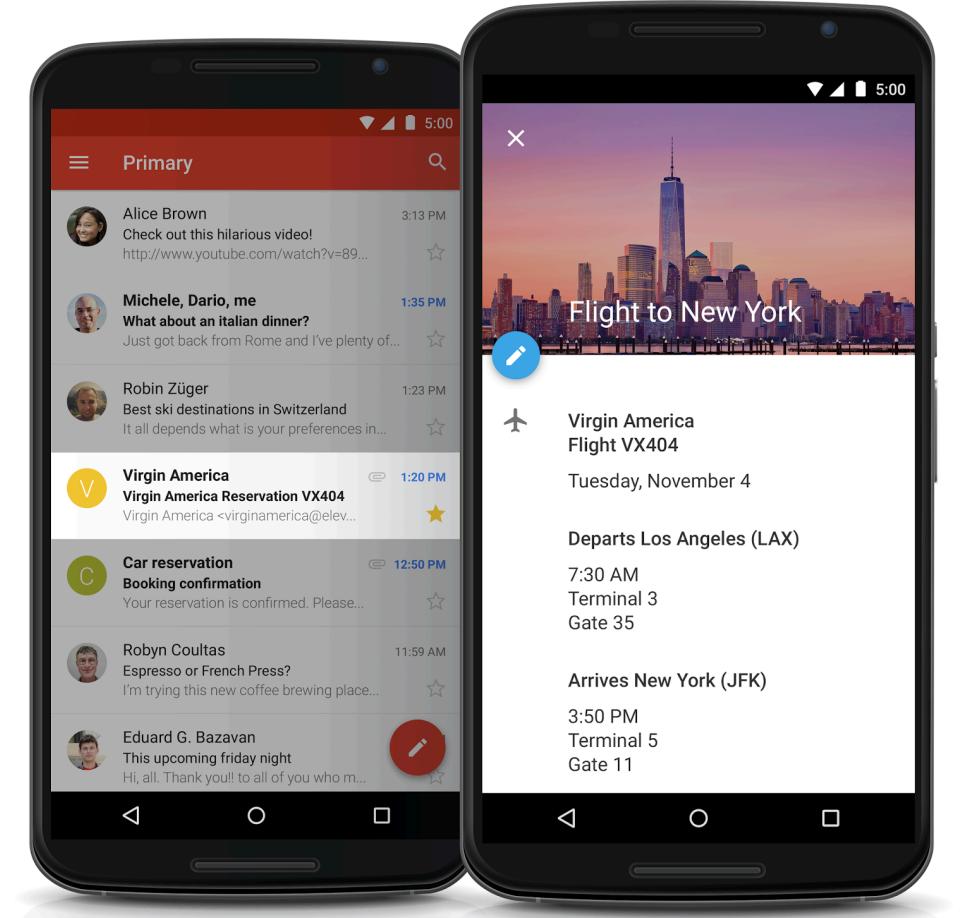


Fitbit, 2012

**How:** syncs with a digital device

**Who:** general population

**Why:** for curiosity and motivation



Android & Apple, today

**How:** built into digital device

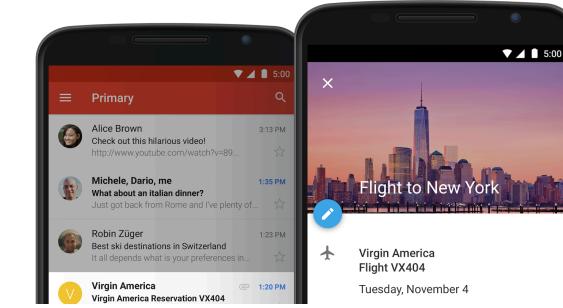
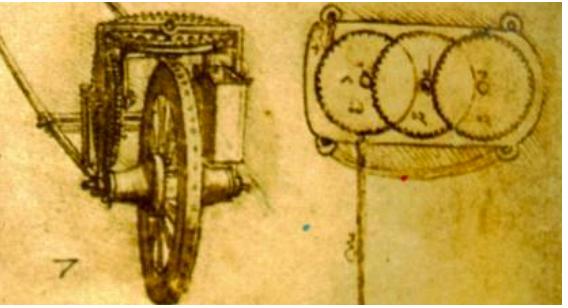
**Who:** general population

**Why:** for curiosity, as discovered

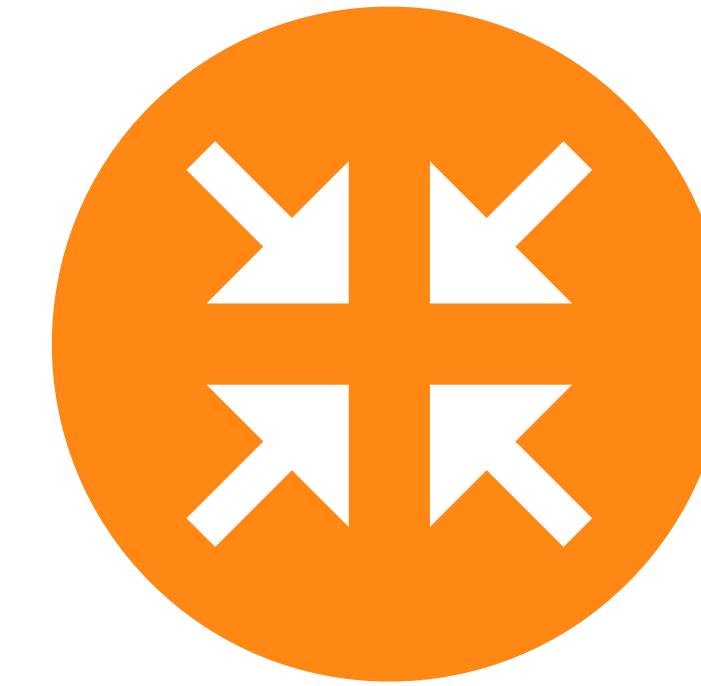
# How people are tracking

## Who is tracking

## Why they are tracking



How



Miniaturization

Who

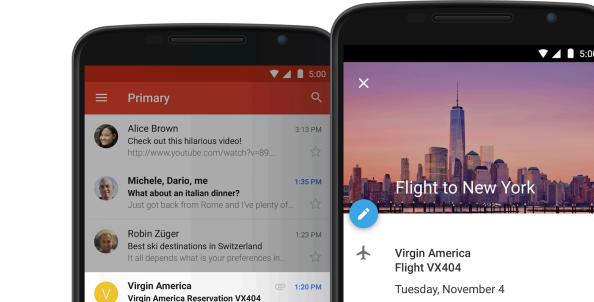
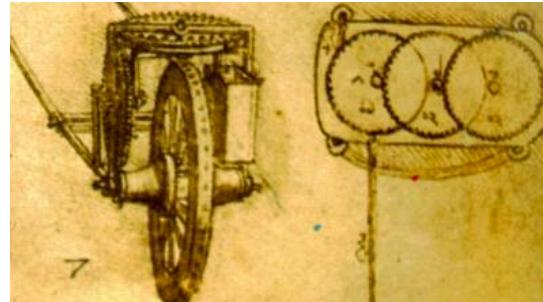


Device connectivity

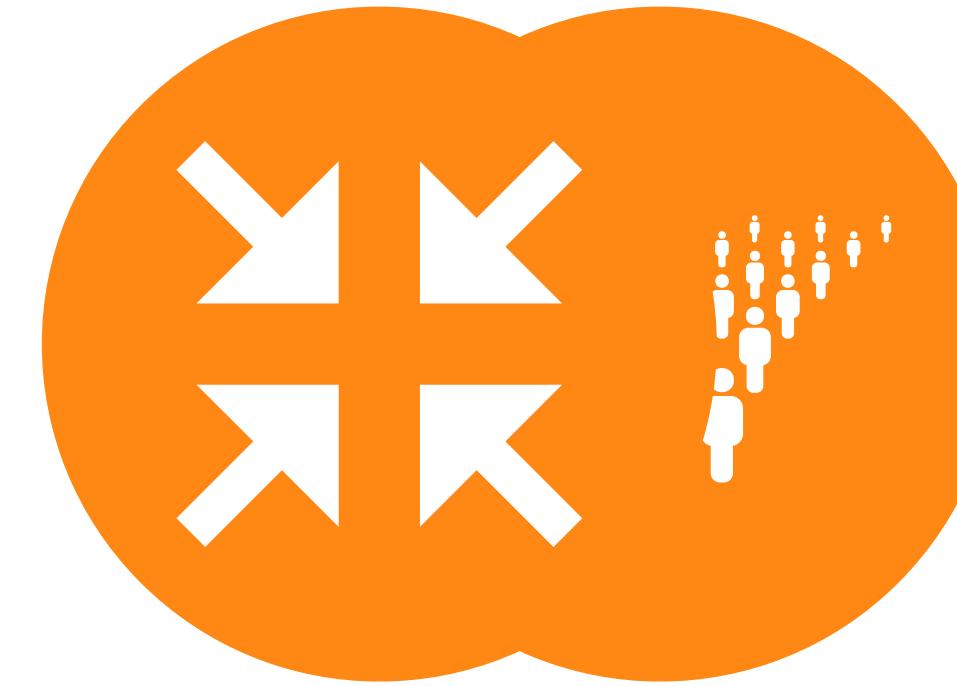
Why



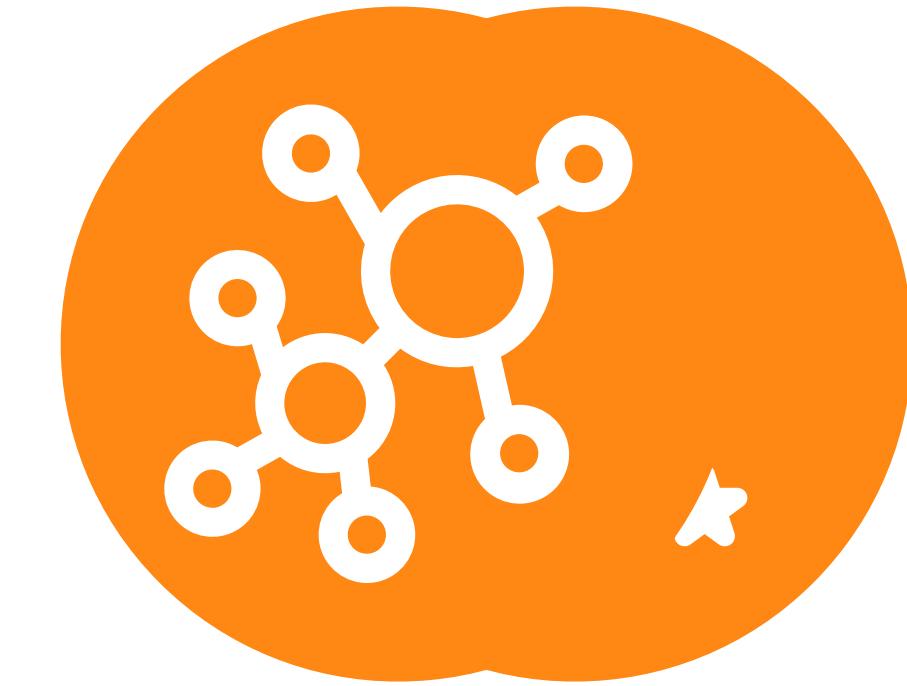
Cheaper production



How



Miniaturization  
More people



More  
connection  
expertise

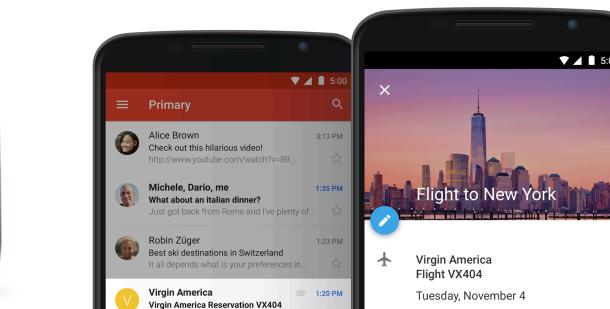
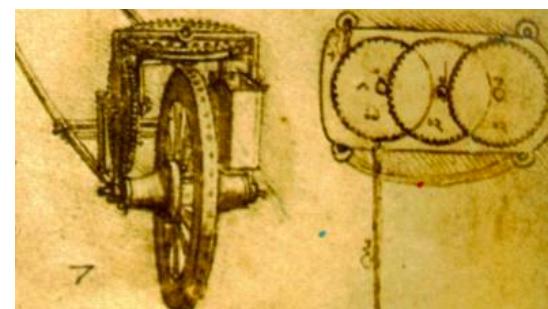


Cheaper  
production

Who



More  
diverse goals



# Who



More  
people

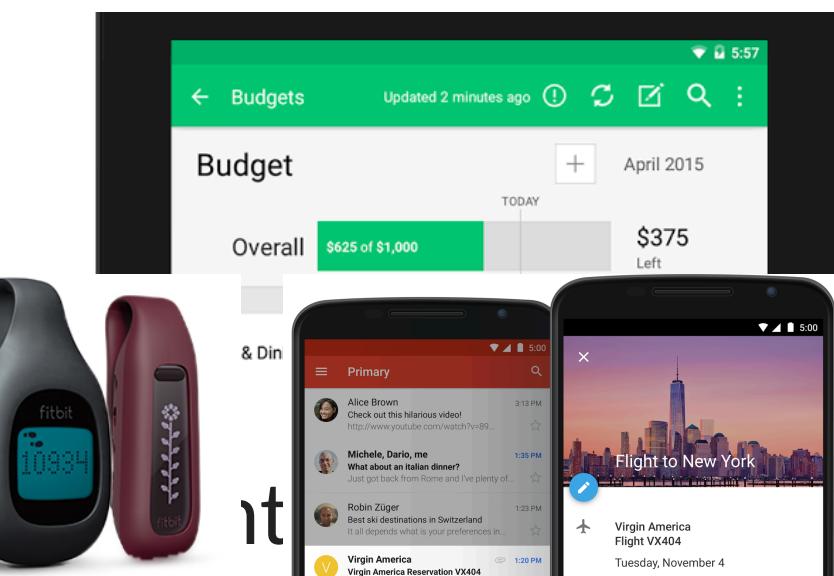
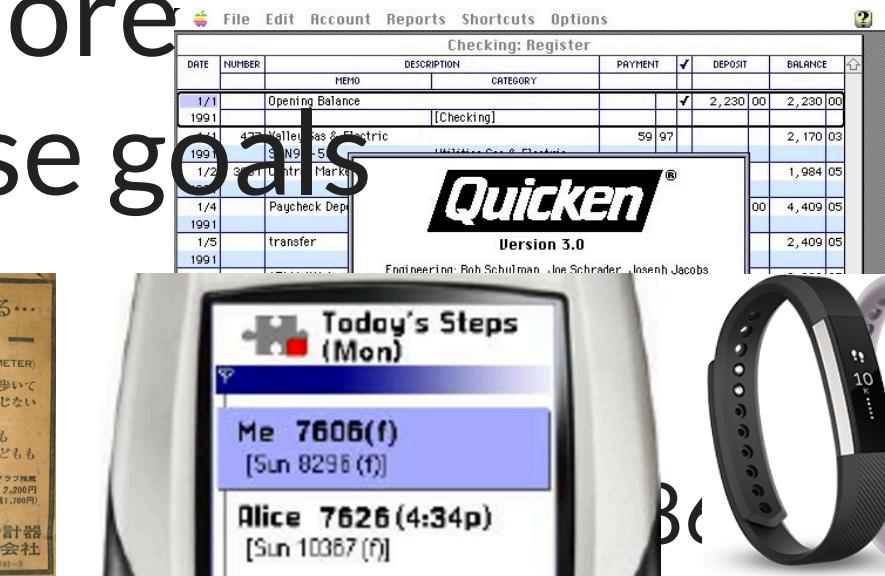
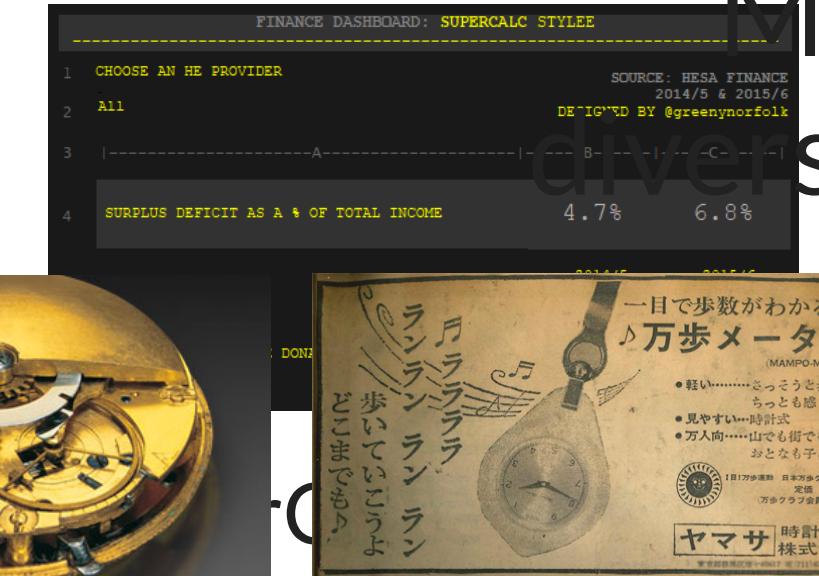
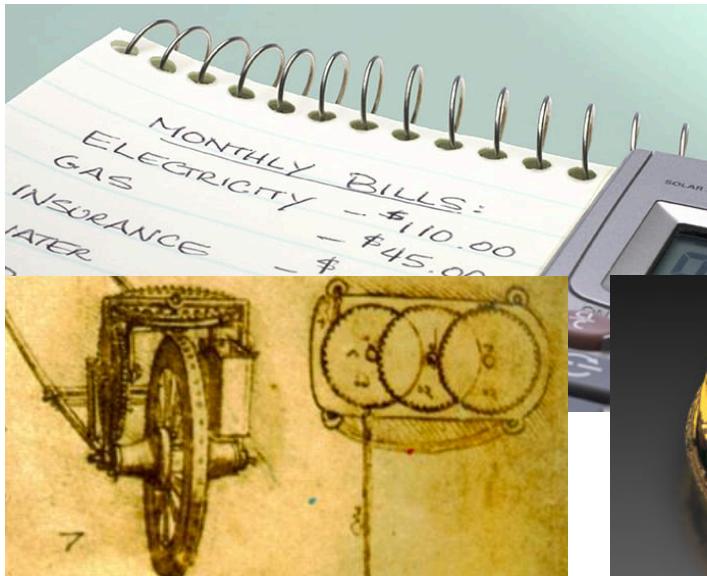


More  
varied expertise

# Why



More  
diverse goals



# Today's personal informatics landscape

- More diverse people, expertise, and goals
- More diverse data
  - Mood, finances, health & wellness...
- More diverse settings
  - Clinical, classroom...

# Outline for today

- (Brief) background on personal informatics
- Course logistics
- Discussion on project topics

# Course logistics

- Staying in touch
- Overall structure
- Readings & queries
- Reading presentations
- Mapping review
- Project

# Staying in touch

- Website: <https://inf295-wi20.depstein.net/>
- Slack: <https://uci-inf295-wi20.slack.com/>
- My email: [epstein@ics.uci.edu](mailto:epstein@ics.uci.edu)
  - Email is best for scheduling meetings and big asks, Slack works for small clarifications
  - Office hours: by appointment, but happy to meet to discuss projects

# Overall structure

- Discussion of readings ~1 class/week
- Project presentations and in-class work ~1 class/week

# Readings & queries

- About 2 readings per class
- Mix of “framing” and “recent” work

# Readings & queries

- Post at least one question or comment to Slack by midnight before class
  - What new questions or research agendas are suggested by this research?
  - How might this research have informed some other research you have seen?
  - If you had conducted the research, what would you have done differently?
- The goal is not to have the discussion on Slack, but to surface potential topics
- Do you prefer an overall channel or daily channels on Slack?

# Reading presentations

- One person will present the day's readings at the start of class
  - Information about the researchers involved
  - Key research that preceded or informed the assigned reading
  - Key research that followed or was informed by the assigned reading
  - Contrasts between the assigned reading and other alternatives
- You do not need to summarize the paper
- 5-10 minutes
- I'll do Wednesday's, might be a bit longer

# Mapping review

- My research group is in the process of mapping the personal informatics literature
  - What domains have been studied and designed for?
  - What kinds of research contributions are being made?
- We reviewed ~300 ACM papers, plan to add papers from IEEE and PubMed

search...  
Clear

**Publication Venue**

- CHI (97)
- Ubicomp (37)
- CSCW (23)
- PervasiveHealth (19)
- OzCHI (16)
- DIS (10)
- PUC (8)
- NordiCHI (5)
- TOCHI (5)
- DH (4)
- ASSETS (4)

> Show more

**Domain of Study or Design (RQ1)**

- Physical Activity (104)
- Food (49)
- Sleep (46)
- Any Chronic Condition (37)
- Mental Health or

**284 matching papers**

Ian Li and Anind Dey and Jodi Forlizzi. [A Stage-based Model of Personal Informatics Systems](#). CHI '10 (2010).

- *ID:* 1753409
- *Author keywords:* barriers, collection, model, personal informatics, reflection,
- *Our tags:* theoretical, empirical, physical activity, social interactions, other, weight, finances, daily events, mental, productivity, no, neither, reflection, preparation, collection, integration, action, social\_media, surveys, interview, behavior\_change, awareness, individual, CHI, none\_expert, transtheoretical, none\_privacy&ethics, general\_demographics, lived\_none,

Matthew L. Lee and Anind K. Dey. [Reflecting on Pills and Phone Use: Supporting Awareness of Functional Abilities for Older Adults](#). CHI '11 (2011).

- *ID:* 1979247
- *Author keywords:* aging-in-place, awareness, embedded assessment, functional ability, older adults, reflection,
- *Our tags:* artifact, empirical, pill\_consumption, no, both, action, reflection, special\_interest\_group, video recordings, interview, case\_study, field\_study, lab\_study, behavior\_change, awareness, individual, CHI, none\_expert, none\_theory, data\_sharing, older adults, lived\_routine,

# Mapping review

- Participation involves reading and qualitatively coding the research papers (30-50 each), maybe a little paper writing
- Planning to submit to IMWUT (Ubicomp journal), due February 15
  - If you participate, you will be a co-author on the submission
- We will use some class time for this, but participation will require work outside of class
- Participation is completely optional, but encouraged

# Project

- Complete a project related to personal informatics
  - Highly encouraged to use your ongoing research for this project
  - But, you must define what specifically you will accomplish in the course/quarter
- Happy to chat about project ideas today or in the coming weeks

# Project

- Proposal due 1/15
- Milestone 1: 2/5
- Milestone 2: 2/26
- Final presentation (in-class): 3/11
- Final report: 3/18

# Project

- Proposal
  - 1-page document summarizing goals, 5 minute presentation
- Milestones
  - 1-page document summarizing progress, 5-10 minute presentation
- Final presentation/report
  - Flexible length, should look like an (in-progress) research presentation and paper

# Overall course goals

- Get more background into the personal informatics literature through readings and discussion
- Summarize key points through the mapping review
- Get hands-on experience making a contribution to the literature through the project

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