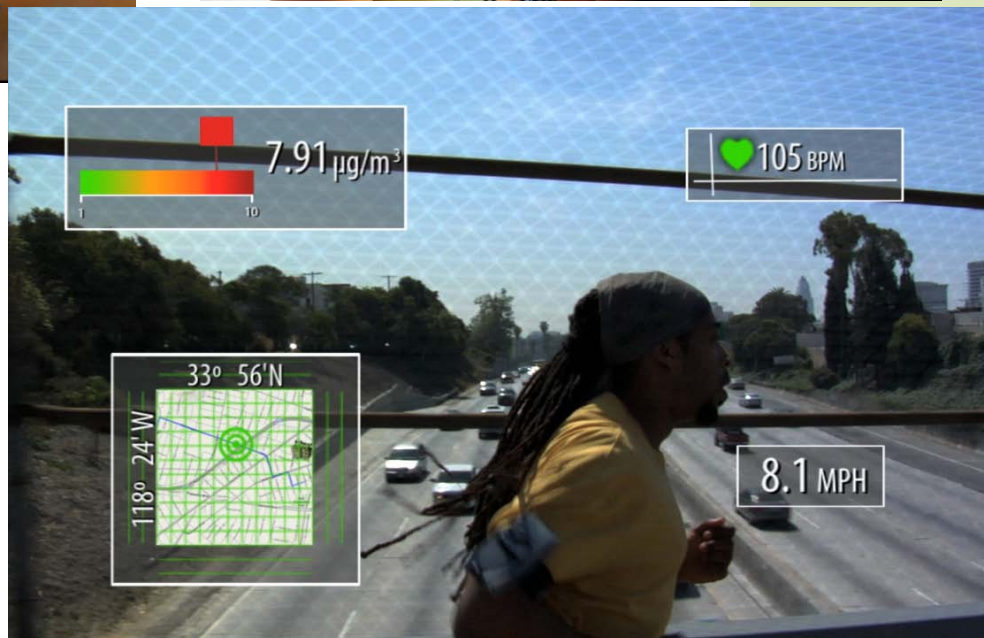# Mobile Technologies, Data, & Adolescents' Academic, Social, and Moral Lives

Katie Shilton

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Mobile Devices: Beyond Communication

Example: GoGreen Foundation

Example: Mobile Health

- Data collection and reminders
- Tracking chronic diseases such as diabetes.

Application that deploys surveys
-Diabetes self-care behaviors
-Mood
Accelerometry
-Physical Activity
GPS
-Location

Using the mobile application for reminders (triggered by time, mood, activity levels, location)

Mobile Phone Data

Glucometer Data
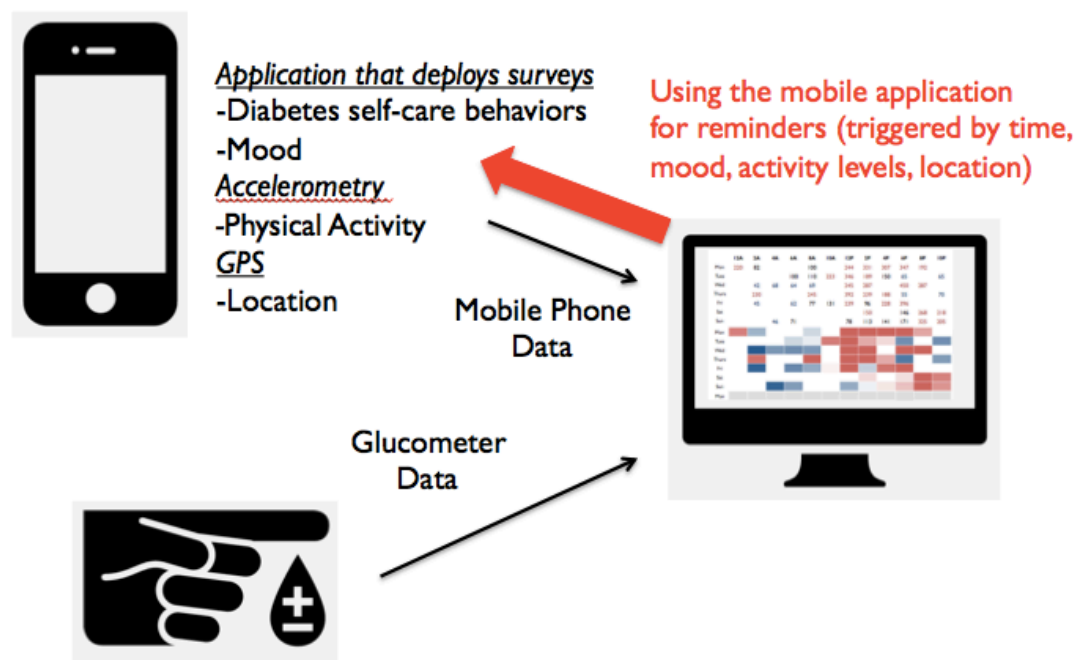
Dependent Upon Location

- GPS
- Wi-Fi
- Cell towers
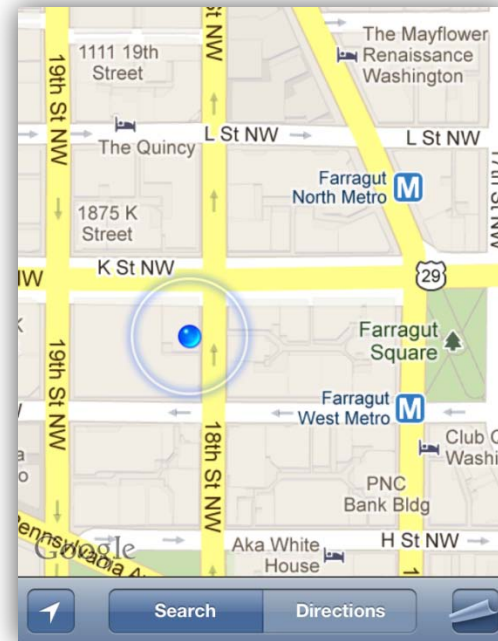
Why Privacy?

Location traces quantify habits, routines, associations & are easy to mine

Potential consequences:

Safety & security threats

Location-based discrimination

Disrupted social boundaries

Chilling effect on legal but stigmatized activities

And... young people care!

- Majority of young adults (18-24) in national survey = similar privacy preferences to adults

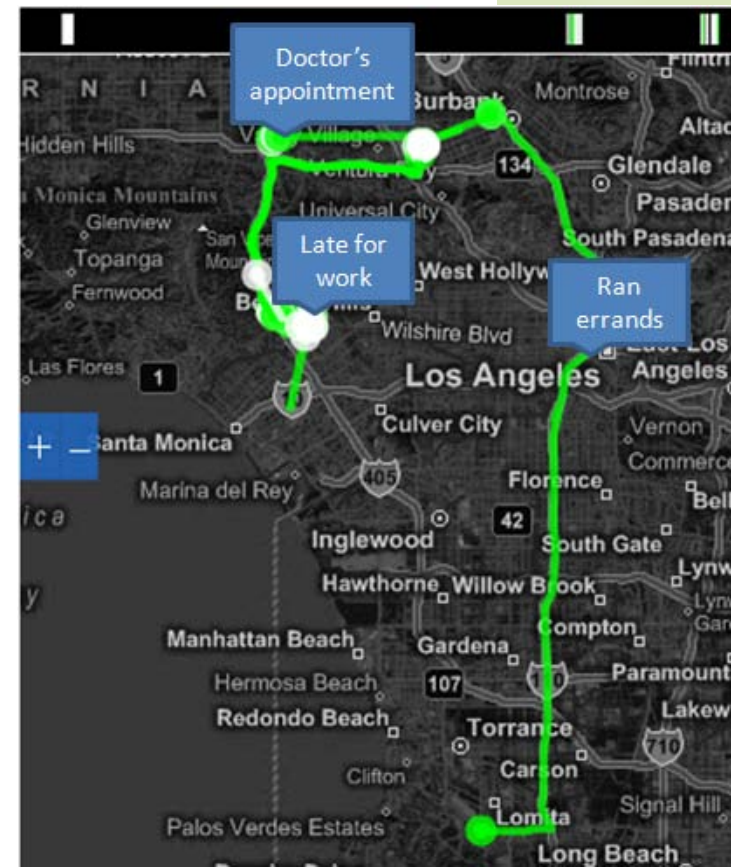- But – young adults had large gap in *privacy knowledge*

Chris Jay Hoofnagle et. al., *How Different Are Young Adults from Older Adults When It Comes to Information Privacy Attitudes and Policies?* (Apr. 14, 2010), *available at* http://ssrn.com/abstract=1589864.

IPAC

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The privacy knowledge gap

Consumers don't realize how much is tracked

Jennifer M. Urban, Chris Jay Hoofnagle, and Su Li, Mobile Phones and Privacy, Jul. 11, 2012, available at http://ssrn.com/abstract=2103405.
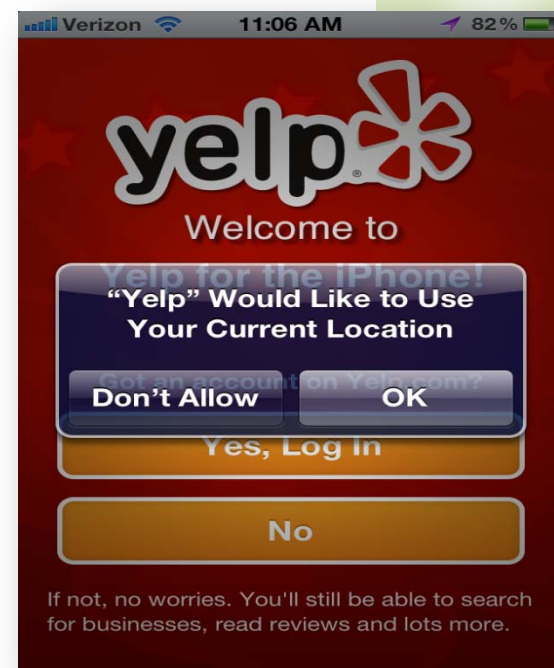
Privacy challenges: cloud storage

- Most data – location, contact lists, game play – stored in the cloud
- Third party providers – what's their privacy policy?

Privacy challenges: Notification and consent

- Many apps ask for permission and then collect data.

- How do you decide which apps to give permission to?

- How do you opt back out?

Privacy challenges:
law enforcement

In 2011, law enforcement made 1.3 million requests for

- text messages
- caller locations
- other information

Courts still debating whether a warrant is necessary
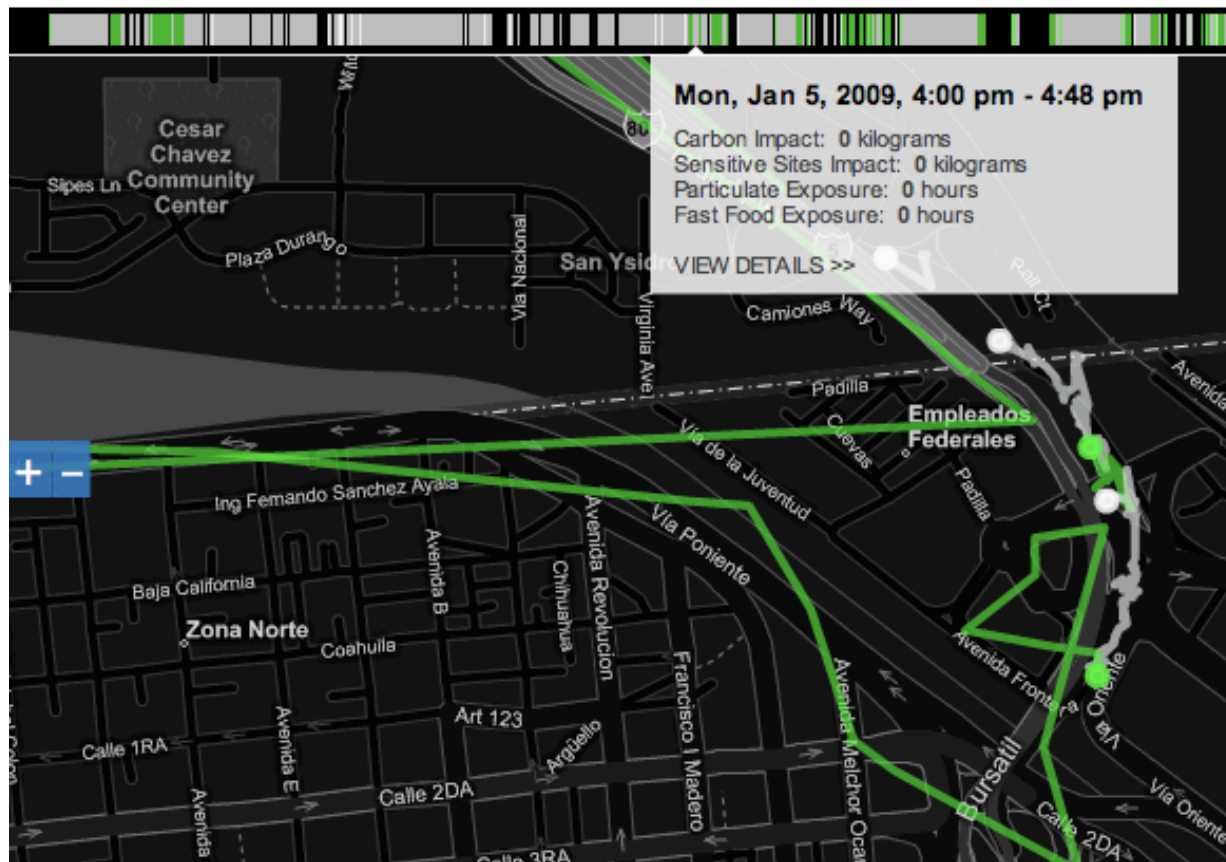
Privacy challenges: regulation

Data is currently unregulated

Challenges: Students and Minors

Different levels of technology experience

Varying time & energy for data management

Mon, Jan 5, 2009, 4:00 pm - 4:48 pm

Carbon Impact: **0** kilograms
Sensitive Sites Impact: **0** kilograms
Particulate Exposure: **0** hours
Fast Food Exposure: **0** hours

VIEW DETAILS >>

Challenges: Data Literacy

Making sense of data

Legible phone & app interfaces

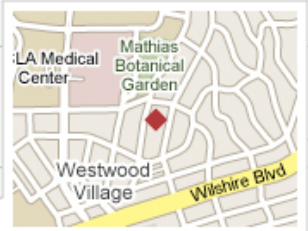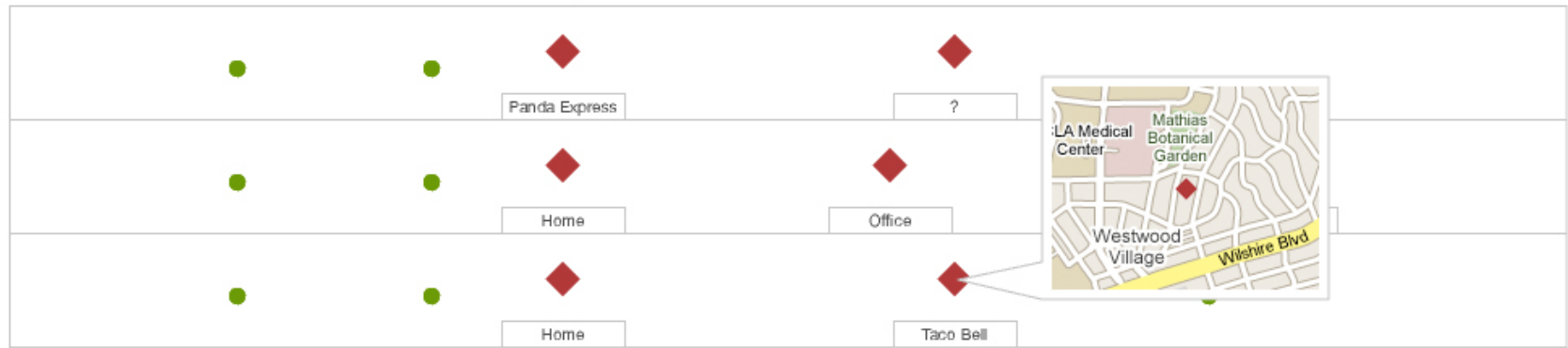User engagement in analysis

When am I on and off plan?

● On plan   ☒ Off plan

| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12p | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12a | 1 | 2 | 3 |

Monday July 5 — Panda Express, ?

Tuesday July 6 — Home, Office

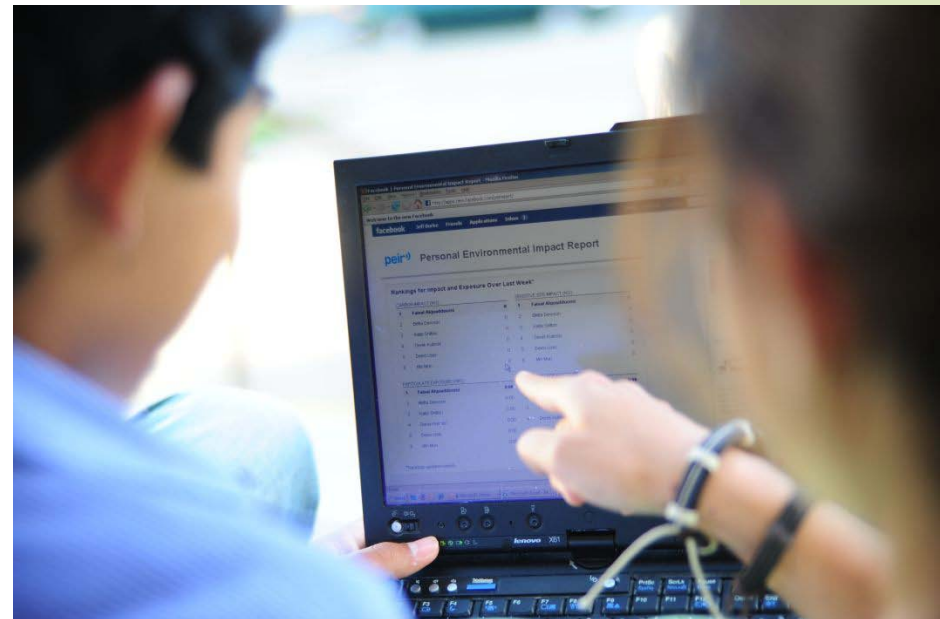Wednesday July 7 — Home, Taco Bell

Challenges: Identity and Roles

Should parents have access to teens' location data?

Should teachers?

Youth group leaders? Friends? School security? Police?

Challenges: Pervasive Memory
What if our teenage indiscretions are never forgotten?

Challenges:
Understanding Consequences

Privacy as hiding from parents, maybe governments

- But what about employers, advertisers, even friends?

More transparency

- Do teens understand what location information reveals about them?

Targeted advertising

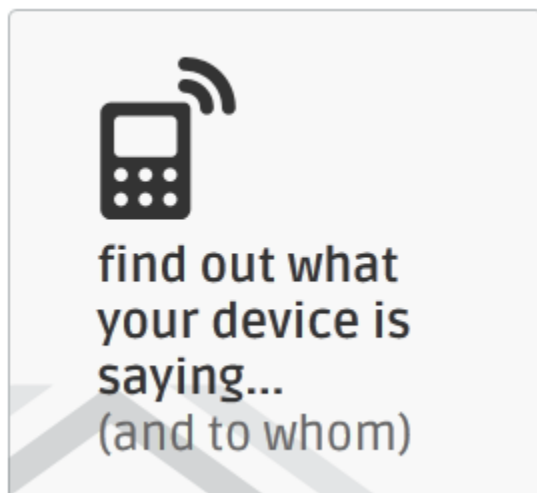# Addressing the Challenges: Teen Practices

Teens already take some privacy measures

- Boundary work
- Using tech tools to limit access
- Social stenography

boyd, danah, & Marwick, A. E. (2011). Social Privacy in Networked Publics: Teens' Attitudes, Practices, and Strategies. *A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society*, Oxford, UK: SSRN.

Addressing the challenges: New tools

- Data vaults
- Transparency tools

find out what
your device is
saying...
(and to whom)

MOBILESCOPE

Vault

Home & Living
Alarm System   Combination Locks   Home   Value

Me
Birth Certificate   Contacts   Driver's License   My Profession

Pets
Pet   Pet Health

Places
Address   Directions   Place

My Gems   From Others

personal™

https://mobilescope.net/   http://personal.com

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Addressing the Challenges: Teachable Moments

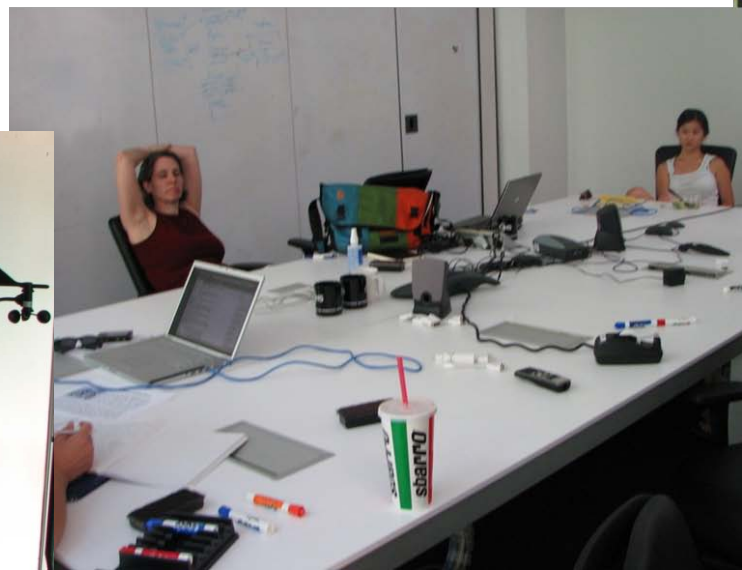## Phones & data in the classroom

http://www.mobilizingcs.org/

Study: Fostering Concern for Privacy

Study of the Center for Embedded Networked Sensing (CENS)

Qualitative study of design
- Participant observation
- Interviews
- Document analysis

Addressing the Challenges: Values Levers

Finding: Activities that build consensus around social values as design criteria

- Some levers were activities already present within design;

- Others were introduced to design by teachers, leaders.

Values Lever: Self-Testing

Grad student G: If I'm going somewhere and I don't want anyone to know, I think: **I need to turn off this application**, or leave my cell phone...

Grad student L: I did data collection for T., like for a week or something. Then I felt like, not privacy ... but I felt that I wanted to go out more actively. I felt like: **oh, they are watching me, I need to be more active**.

Takeaways: Teaching Ethics in the Classroom & the Lab

- Discussing ethics is a part of experimenting with new technologies

- Teaching ethics is part of a technology education

Thanks!

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UMD's Information Policy & Access Center (iPAC)

http://ipac.umd.edu/