

# Social computing

MICHAEL BERNSTEIN

CS 247

THANKS TO SCOTT KLEMMER AND MANEESH AGRAWALA

# Where design meets (big) groups

Thought it was too easy to design for individual users?  
A NEW CHALLENGER HAS APPEARED

# The challenge

We can only design interfaces for a single person,  
but we need to create emergent large-scale behaviors.

# A Social Psychology Teaser

Can we translate what we know about people into design strategies for online systems?



# Fundamental Attribution Error

Today, a tailgating idiot rear-ended me at a red light, then had the balls to say it was my fault for "driving too close" to his car. FML



- What's at fault: you, or the situation?
  - Me: it's the situation!
  - Everyone else: it's you!
- This doesn't disappear even if we know it's forced:
  - If we hear someone debate as pro- or con- Castro, we quietly assume that they believe that opinion regardless of whether they were forced into that position.



••••• AT&T 4:38 PM


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# Foot-in-the-door technique

- We are much easier to convince when we first agree to a smaller request
- “Would you put a huge ‘DRIVE CAREFULLY’ sign in your yard?”
  - 17% consented.
  - “Would you put up a 3-inch ‘Be a safe driver’ sign?” Almost all complied.
  - But, 76% agreed later to the larger sign after the small sign!



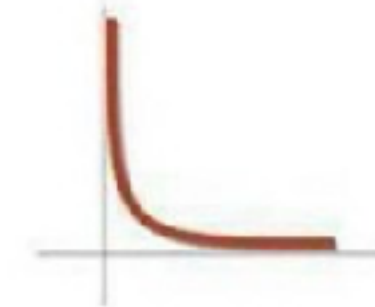


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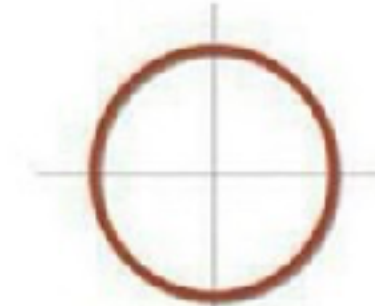
14m

ALL YOU NEED IS

$$y = \frac{1}{x}$$



$$x^2 + y^2 = 9$$



$$y = |-2x|$$



$$x = -3|\sin y|$$



17 likes

stanfordeng Happy Valentine's Day! ❤️



Like



Comment



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54m

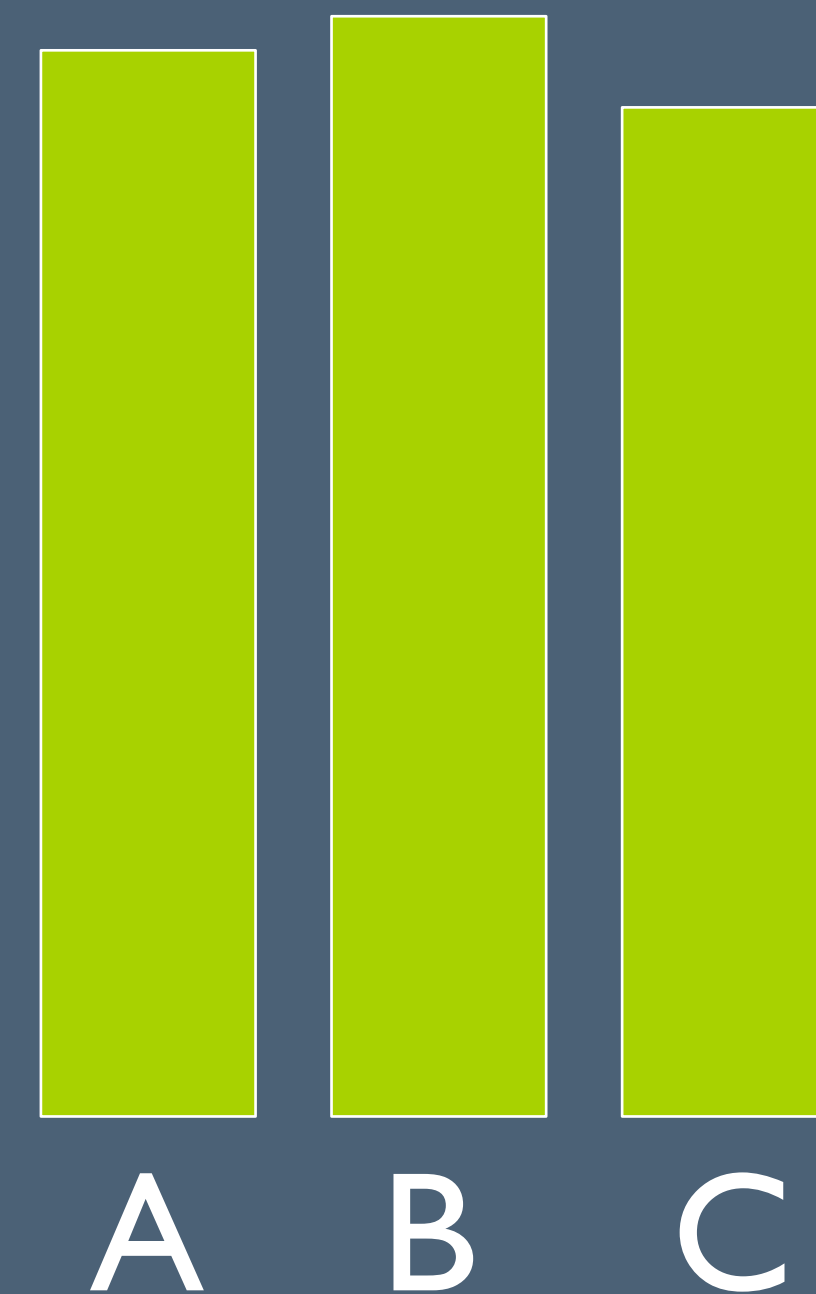


# Conformity

- Which of the three lines on the right most closely matches the one on the left?

When three previous people gave the wrong answer out loud, 75% of participants gave in at least once.

Source



 Courtney Suhyun Noh, Christina Kao, Julia Cambre and 45 others like this.

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4809  
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**That's not yours!** (i.imgur.com)



submitted 5 hours ago by 1Voice1Life to /r/gifs

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**Life is like a box of chocolates.** (i.imgur.com)

submitted 6 hours ago by dontbthatguy to /r/funny

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5772  
↓

**Toyota wanted \$4450 to replace my hybrid battery pack. I fixe**

(imgur.com)

submitted 7 hours ago by scoodidabop to /r/DIY

**2391 comments** [share](#)

# Social Loafing

- Many hands make...work...light?
- When there are others contributing, we work less.
- Experiment: blindfold a participant and get them to play team tug-of-war.
  - Except...there is actually nobody else on their team, they just think so. (Remember, they're blindfolded.)
  - People pulled 18% harder when they thought they were the only one on their team than when they thought there were 2–5 others.





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# Human–computer interaction

From Wikipedia, the free encyclopedia

## Human–computer interaction (HCI)

involves the study, planning, design and uses of the interfaces between people ([users](#)) and computers.

It is often regarded as the intersection of [computer science](#), [behavioral sciences](#), [design](#), [media studies](#), and [several other fields of study](#). The term was popularized by [Stuart K. Card](#) and [Allen Newell](#) of [Carnegie Mellon University](#) and [Thomas P. Moran](#) of [IBM Research](#) in their seminal 1983 book, *The Psychology of Human-Computer Interaction*, although the authors



A woman teaching girls in Afghanistan how to use [OLPC](#) computers. Human use of computers is a major focus of the field of HCI.



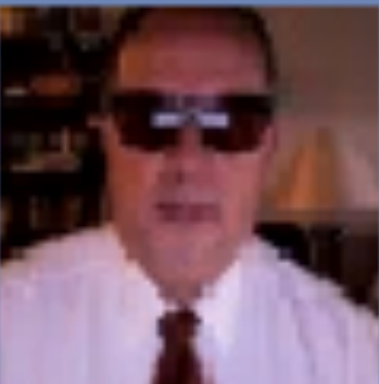
# Reciprocity

- You are more willing to give back when someone does a favor for you.
- Even if you didn't ask for the favor!
- Experiment: in the context of another task, your partner goes out for a bathroom break. They either come back as normal, or bring a soda back for you.
  - Participants in the unasked-for soda condition later bought more raffle tickets for their partners.

# Notifications



Paul W. Swansen commented on your status.  
10 minutes ago



Paul W. Swansen tagged a photo of you.  
11 minutes ago



Marty Kind commented on his link.  
16 hours ago

62 friends posted on Brian's timeline for his birthday.



**Brian**  
Birthday: Yesterday  
You wrote on Brian's timeline.



**Sanjay** ▸ **Brian**  
9 hrs · 2 people

Happy bday Brian!!  
Like · Comment

👍 Brian Keegan likes this.



Write a comment...



# Socio-technical gap

It's a great term to drop at a party.  
Seriously, you'll be showered with praise and affection. Try it.

# Translating science into design

- How do we turn our understanding of interpersonal behaviors into technology that can support those behaviors?
- This is, to Ackerman, the core design problem in social computing.

# Designing for emergent behavior

The difference between  $N=1$  and  $N=1,000,000,000$



# The central design challenge

- The goal: producing individual or small-group behaviors that aggregate into desired large-scale behavior
- How do we design for this?

# My hierarchy of contributions

Imagine a 100x  
dropoff between levels

What are you saying if you  
need 100 contributors?

