



Designing User Experiences for Internet-Connected Devices

Dr. Daniel Ashbrook

Today

- Individual assignment 1 was due 5 minutes ago
 - Time for demos!
- Discussion & lecture
 - proxemics & scales of computing continued
 - more design exercises!
- Out now: IA2 setup
- Thursday: class in the lab

IA1 Demos

- I'll load up your Github repository
- I'll click on the link to your visualizations from your [Readme.md](#)
- You'll have 2 minutes to demo: 1 for each visualization
- What to talk about
 - What is your data source?
 - What are you visualizing?
 - Was there anything particularly hard?
 - Did you do something extra clever or awesome?

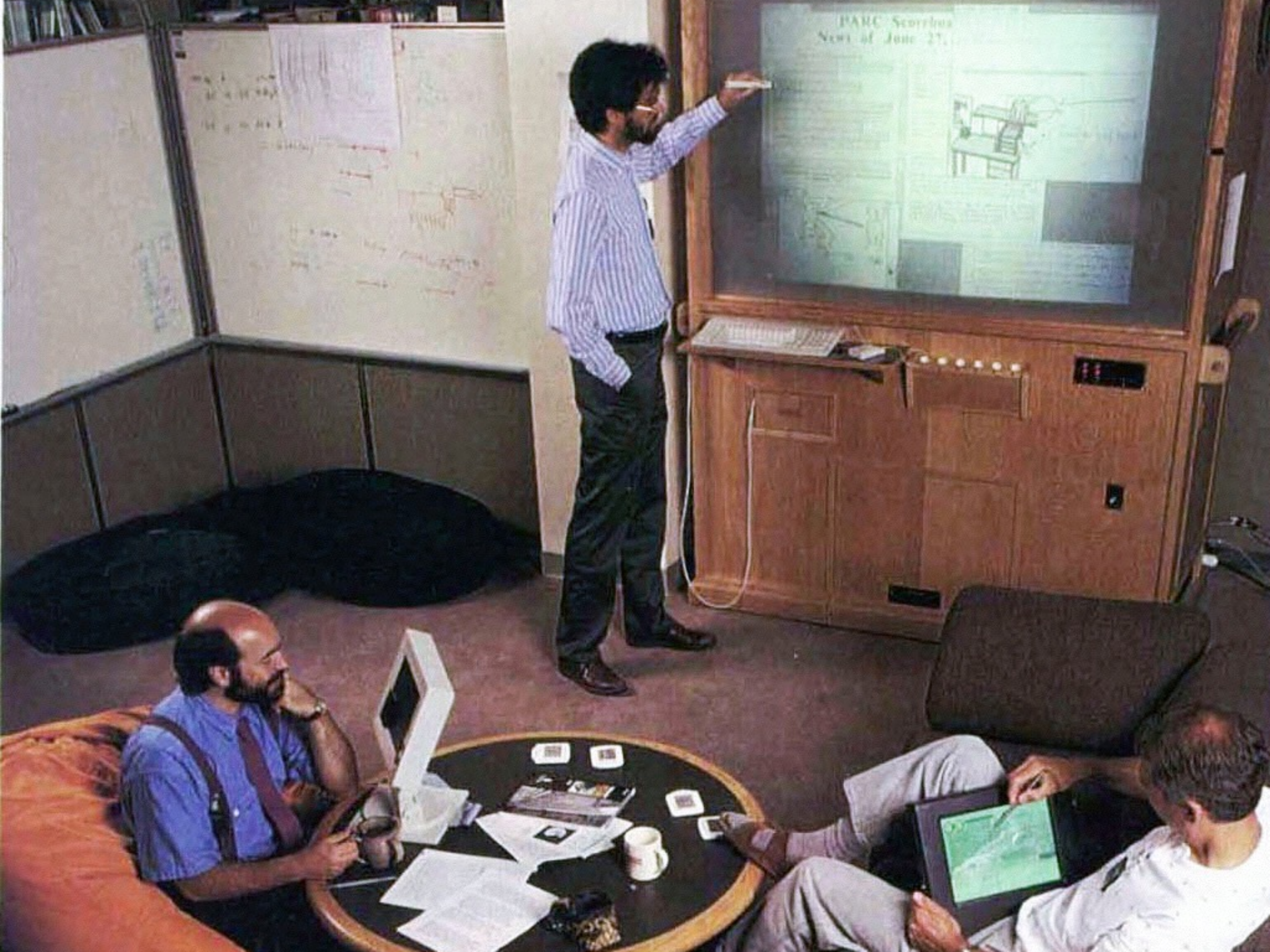
Challenges in designing ubicomp systems

- Revealing interaction possibilities
- Directing actions
- Establishing connections
- Providing feedback
- Avoiding and correcting mistakes
- Managing privacy and security

Greenberg, S., Marquardt, N., Ballendat, T., Diaz-Marino, R., & Wang, M. (2011).
Proxemic interactions: the new ubicomp?. *interactions*, 18(1), 42-50.

Scales of Ubicomp

- Weiser & PARC: tabs, pads, boards

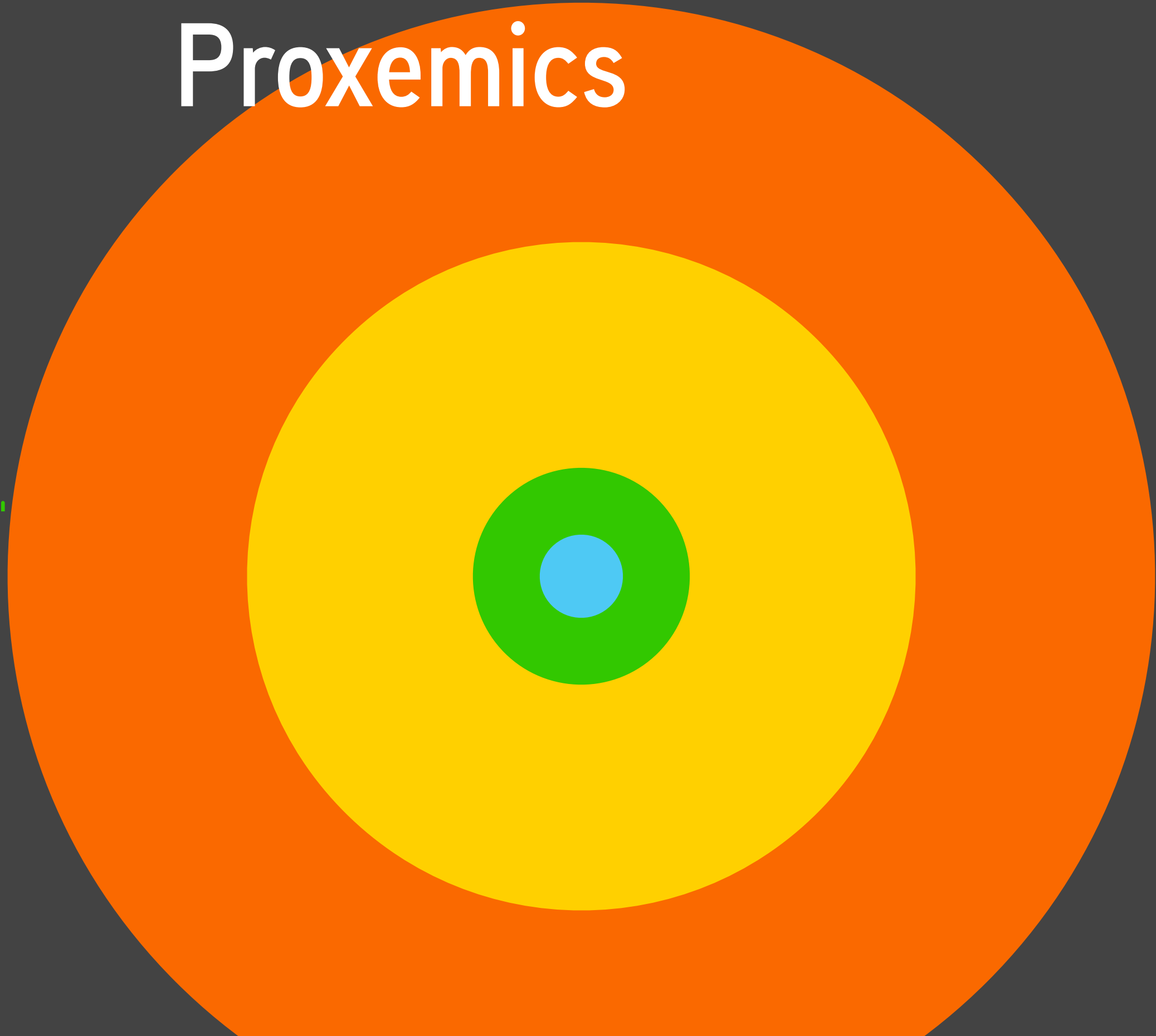


Scales of Ubicomp

- Weiser & PARC: tabs, pads, boards
- What other scales?

Proxemics

Intimate: 0–1.5'
Personal: 1.5–4'
Social: 4–12'
Public: 12'+



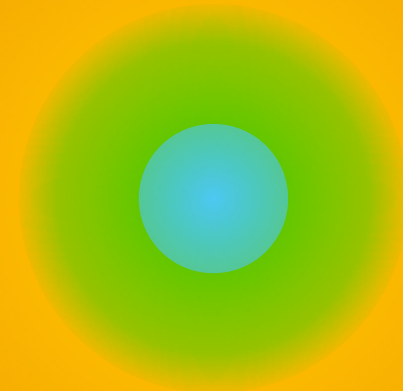
Proxemics

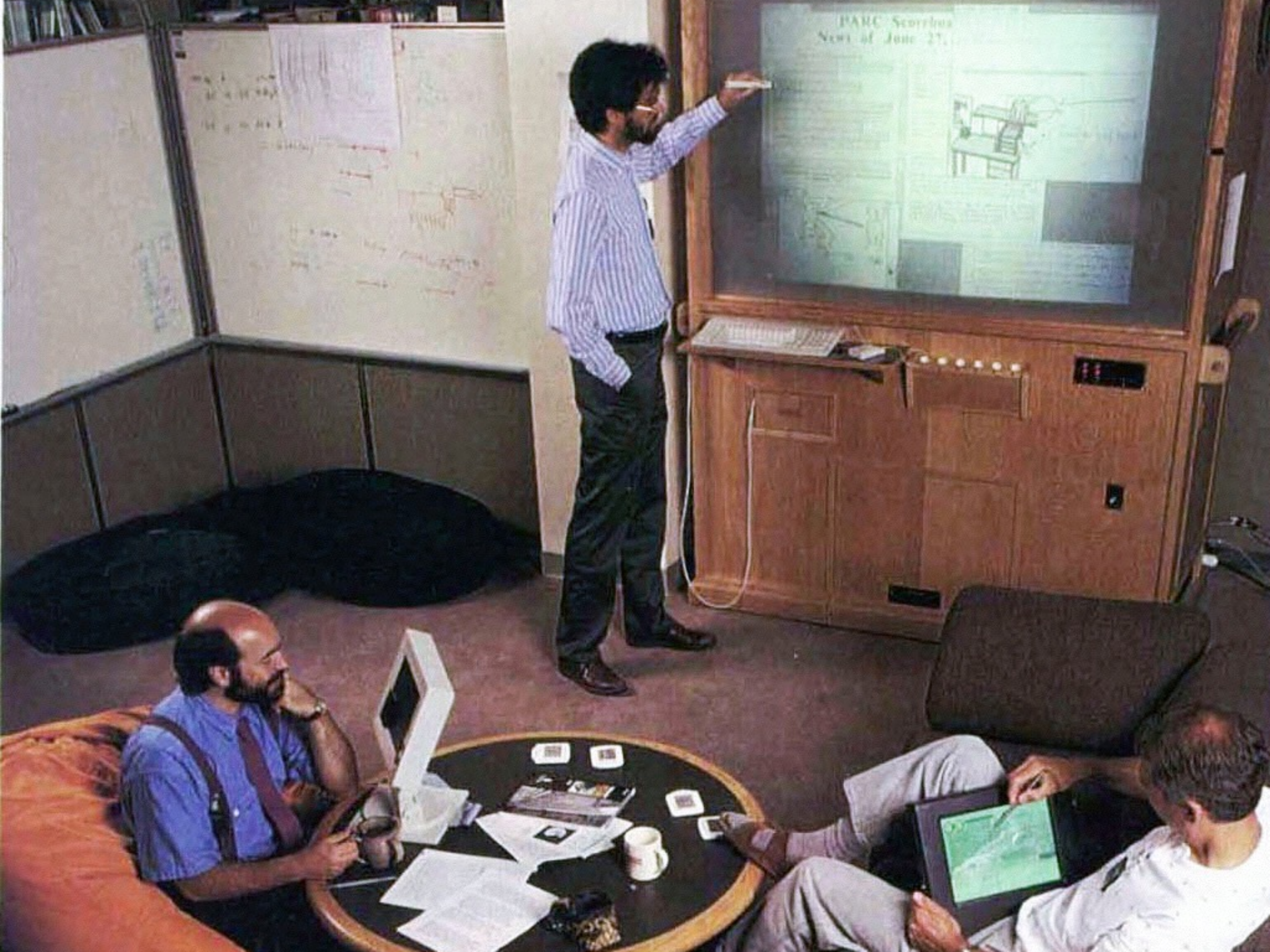
Intimate

Personal

Social

Public





What falls on this spectrum?



How do we design for these
various scales?

Design challenges & principles

Informing the design of proxemic interactions

- revealing interaction possibilities
- directing actions
- establishing connections
- providing feedback
- avoiding and correcting mistakes
- managing privacy and security

Jeremy Comstock

- invisibility
- manual override
- feedback
- adaptability

Bill Buxton

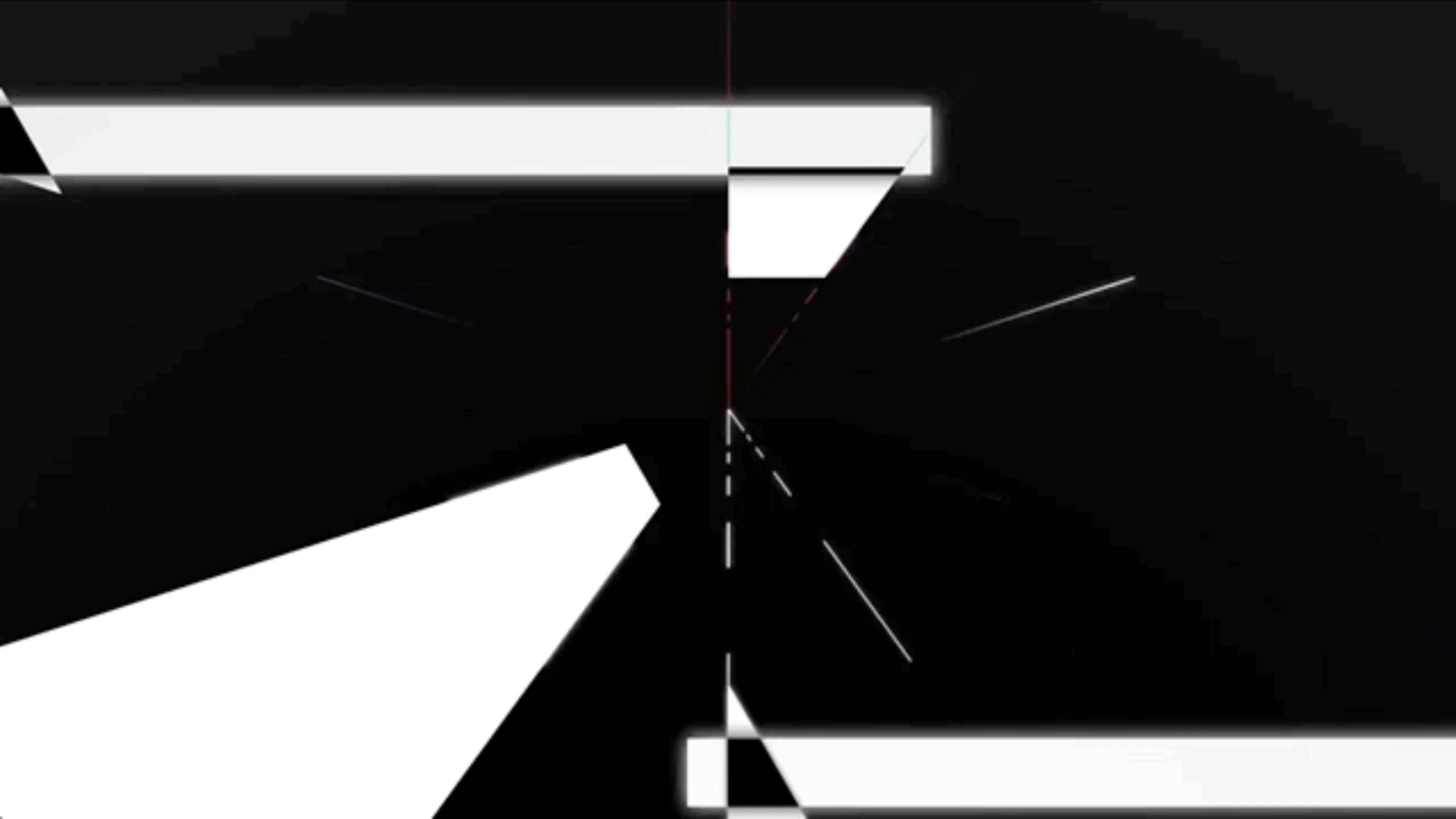
- new products must work and flow on their own
- things must work together: reduce complexity, increase value

Design exercise: Amazon Echo

- Let's watch a review of the Amazon Echo
- Look for the challenges & principles (reference: <http://fetlab.rit.edu/720/class4-principles.html>)
 - What challenges did they encounter?
 - What challenges did they address?
 - How could they have done better?
 - Including by adding more/different functionality, sensors, devices...



Adapted from <https://www.youtube.com/watch?v=FQn6aFQwBQU>



Adapted from <http://www.theverge.com/2015/1/19/7548059/amazon-echo-review-speaker>

Design challenges & principles

Informing the design of proxemic interactions

- revealing interaction possibilities
- directing actions
- establishing connections
- providing feedback
- avoiding and correcting mistakes
- managing privacy and security

Jeremy Comstock

- invisibility
- manual override
- feedback
- adaptability

Bill Buxton

- new products must work and flow on their own
- things must work together: reduce complexity, increase value

Let's do another one!

Design exercise: Roost Battery

- Look for the challenges & principles
 - What challenges might they encounter?
 - How could they address them?
 - Including by adding more/different functionality, sensors, devices...

<https://www.youtube.com/watch?v=FjCYUtU9Sh0>

Design challenges & principles

Informing the design of proxemic interactions

- revealing interaction possibilities
- directing actions
- establishing connections
- providing feedback
- avoiding and correcting mistakes
- managing privacy and security

Jeremy Comstock

- invisibility
- manual override
- feedback
- adaptability

Bill Buxton

- new products must work and flow on their own
- things must work together: reduce complexity, increase value

Coming up

- Due Thursday: IA2 setup
- Thursday: basic electronics and sensors
 - In the lab!

IA2 Setup

- Goals
 - Get ready for IA2!
 - Get more comfortable with your Photon
 - Learn how to program it locally
 - Learn how to debug locally