

HCC class
Lecture 2: Human Learning

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Administrivia

Create a wiki account if you haven't already.

You should submit comments about each reading.

Class format: will follow today's format.

Why children's learning?

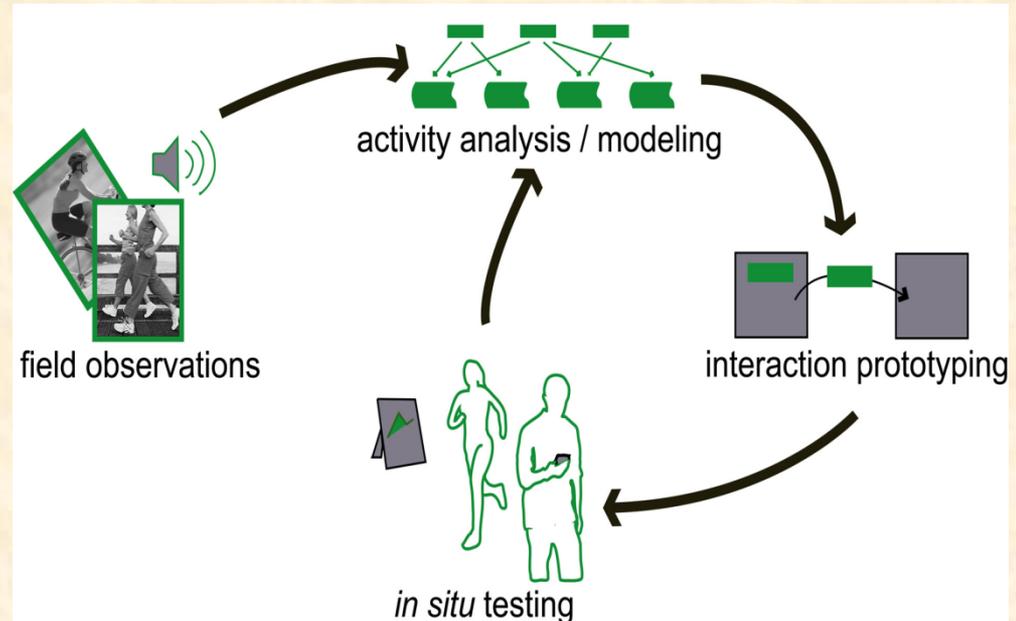
- The genetic perspective: Vygotsky.
- A “Socio-Historical” perspective. How did we get to be who we are?
 - How did each one of us come to be adult thinkers?
 - How did western society get to be where it is?
- Learning science is a pragmatic science
 - it has a strong tradition of both qualitative and quantitative, high- and low-level evaluation methods.
- “Knowledge work” is an ongoing learning process.
“Organizational learning” is a related model of what knowledge work is.

Sample Projects

Activity-Based Design

An “Activity” is a broad container for human action.

It’s a good framework for structuring design around rich collaborative behaviors e.g. caring for an elder



A good example of this approach is Li and Landay’s CHI 2008 paper:

[Yang Li](#), James A. Landay: Activity-based prototyping of ubicomp applications for long-lived, everyday human activities.

Persuasive Technology

Address a social challenge:
e.g. environmentalism,
self-management of health,
substance abuse;
Through persuasive
technology.



Propose one or more mechanisms
to influence users to make better choices.

Consider a novel vehicle (e.g. Facebook) to propagate the
message.

IT Persuaders

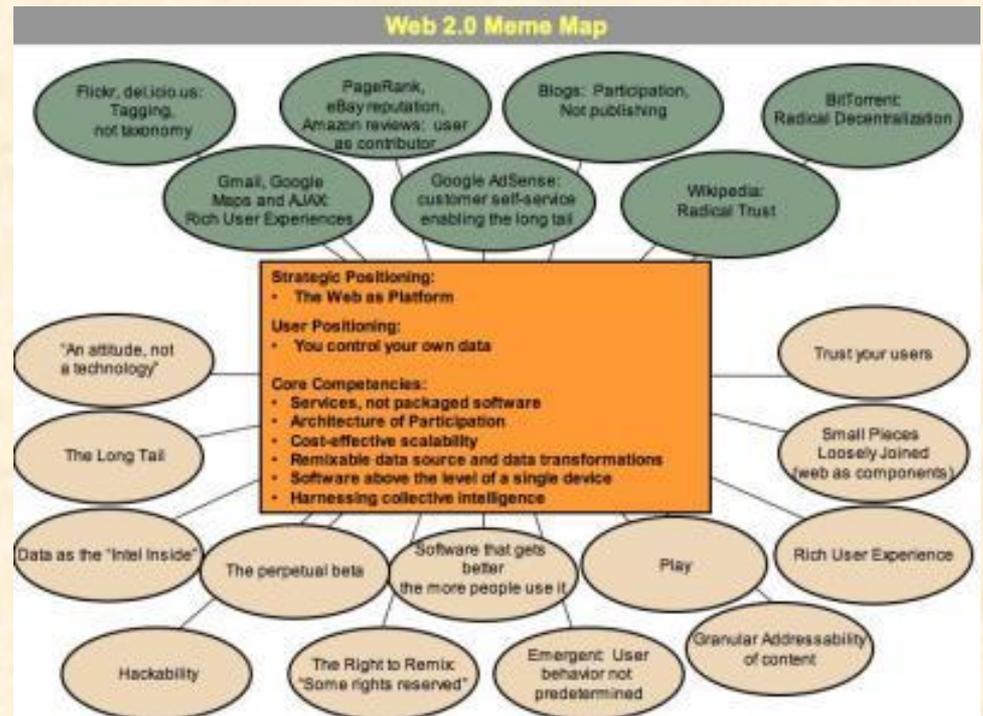
Study an ***existing*** technology and its persuasive impact on behavior:

e.g. Web 2.0, video games, cell phones,...



“Memes” in large conversations

Use visible traces of user thoughts and attitudes (news lists, blogs, social network sites etc.), to discover shared memes (collective ideas).



Linking behaviors and attitudes

Users' "inner stories" link together their common behaviors and deeper motives and beliefs.

Use large-scale conversation analysis to link these two.

A good target would be financial newgroups and blogs over the last year.



Design for Unschoololed Users

Dramatic changes in thought process occur during schooling. Unschoololed users (much of the world's population) think differently in many ways.



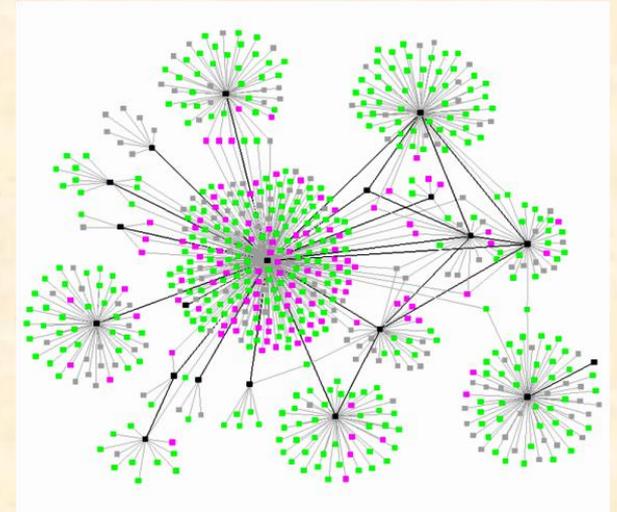
These users are the fastest-growing segment of the IT market, so design for them is economically important.

But it also sheds light on cognition in "schoololed" users, and may help design fundamentally better interaction methods.

Social Structure

Large communities have rich structure, usually represented as a social network.

Social network structure can often be mined using well-established graph algorithms.



But social structures usually involve typing interactions or roles that are hidden in standard graph analysis. A natural extension is to look at content to refine the network structure.