Cogsci 10:
Cognitive Consequences of Technology

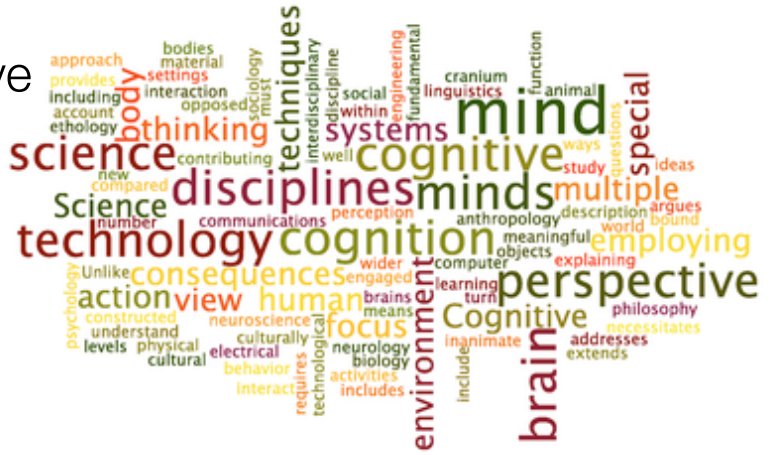
In this course we explore the interrelationships of cognition and technology from the new perspective offered by cognitive science.

We address questions of crucial importance for our increasingly technological society:

How does technology shape our minds?

How should what we know about our minds shape technology?

While we will discuss a variety of interrelationships of cognition and various technologies, our primary focus will be on the interrelationships between cognition and computational technologies.



Feedback on Taylor Scott's Lecture

shoutkey.com/red

Batya Friedman: Value Sensitive Design

Batya Friedman is a Professor in the Information School, University of Washington Directs the Value Sensitive Design Research Lab.

Batya pioneered **Value Sensitive Design**, an approach to account for human values in the design of systems.

She is currently working on *multi-lifespan information system design* and on *methods for envisioning* – new ideas for leveraging information systems to shape our futures.

Voices from the Rwanda Tribunal (http://ischool.uw.edu/videos/ion-future-voices-rwanda-tribunal) is an early project in this multi-lifespan information system design program. In 2012 Batya was awarded the SIGCHI Social Impact Award.

Value Sensitive Design

Value Sensitive Design refers to an approach to the design of technology that **accounts for human values** in a principled and systematic manner **throughout the design process**.

Value-Sensitive Design is primarily concerned with values that center on **human well being, human dignity, justice, welfare, and human rights**.

Value-Sensitive Design connects the people who design systems and interfaces with the people who think about and **understand the values of the stakeholders who are affected by the systems.**

Ultimately, Value-Sensitive Design requires that we **broaden the goals** and criteria for judging the quality of technological systems to include those that **advance human flourishing**.

Value Sensitive Design

Designers often **focus** on the i**mmediate context of use**: how will a product be used by the person who purchases it?

Designers rarely have the time (or take the time) to consider the long-term and indirect effects of their technologies.

- How will use of the product **affect the user's family and neighbors**?
- If use of the product becomes common, how will it **affect the larger community**?
- How will **people in a different culture adapt** the product **to their needs**?
- **What happens to the product after it's thrown away?**

Envisioning Cards

It is important to **envision the long-term influence of new technology** – as it spans across time, becomes pervasive throughout society, affects the lives of different stakeholders, and raises issues that touch human values.

Based on nearly two decades of work in Value Sensitive Design, the **Envisioning Cards are designed to evoke consideration and discussion of such concerns within the context of design practice.**


Indirect Stakeholders

Stakeholders · Time · Values · Pervasiveness

Indirect Stakeholders

Some people may be affected by a system without directly using it. These people are known as *indirect stakeholders*. In what key roles will individuals be affected by the system but will not directly interact with it (e.g., for a law enforcement database: citizens, bystanders, lawyers)?

Generate a list of 3-5 indirect stakeholders. For each indirect stakeholder role, note at least one concern specific to that role. You may refer back to these roles throughout the project.

Generate


Sustained Friendships

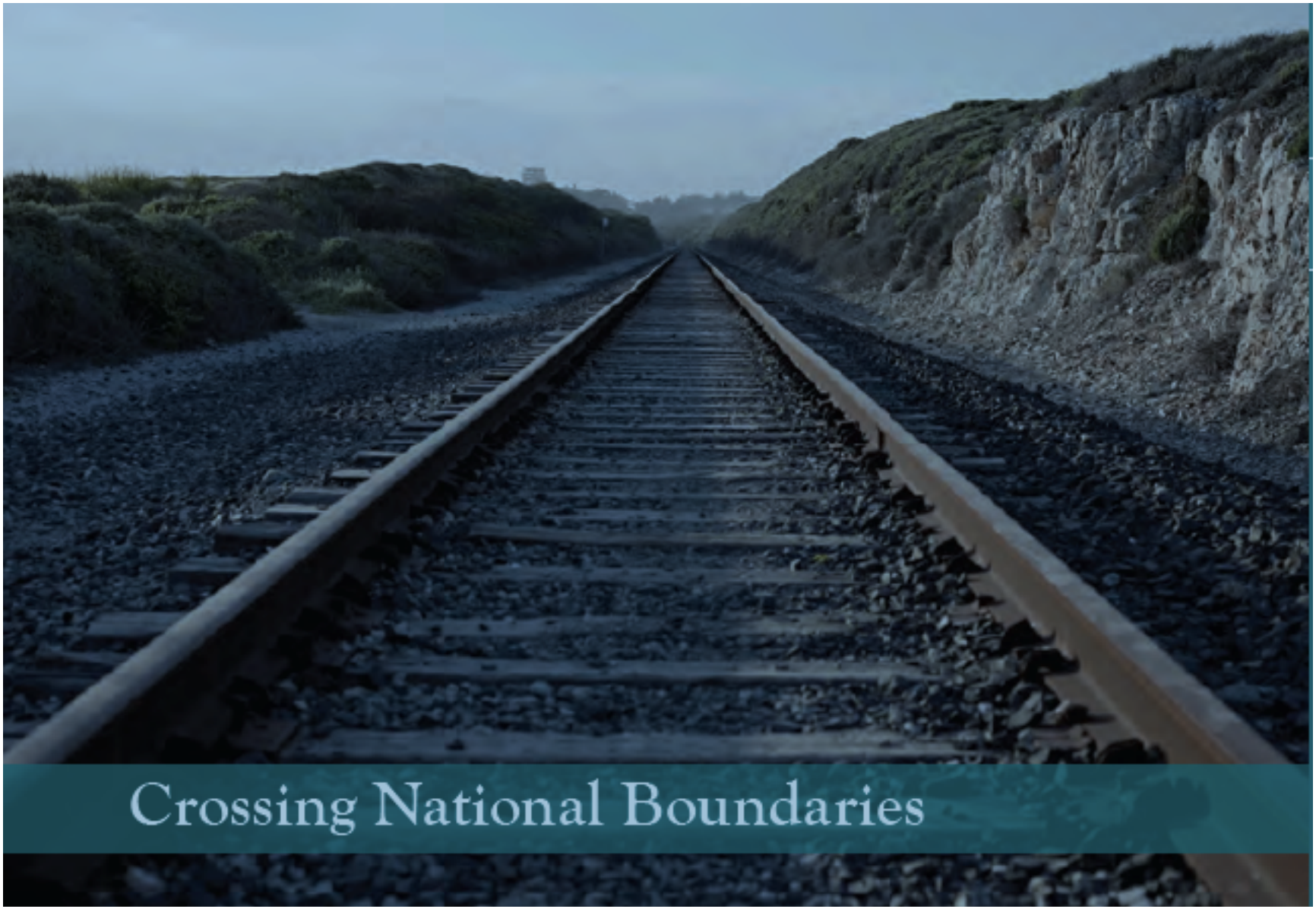
Stakeholders · Time · Values · Pervasiveness

Sustained Friendships

As we integrate technologies into our lives, they may affect or be affected by our relationships with other people. How might the system influence how people make and sustain friendships and family relationships?

Imagine five years out from now and consider 3-5 ways the system might influence friendships and family relationships.

Imagine


Crossing National Boundaries

Stakeholders · Time · Values · Pervasiveness

Crossing National Boundaries

Nations have different rules, customs, and infrastructure that affect use of a technology. What challenges will be encountered by your system if it is used in other countries?

Choose three countries across the globe and envision challenges for your system if it was deployed in each of those countries. Label any common concerns across the identified challenges.

Choose

Value Tensions

Stakeholders · Time · **Values** · Pervasiveness

Value Tensions

Value tensions occur when supporting one value in a technology challenges another value (e.g., sharing more information in a social networking system may support sociability, but reduce privacy). They can occur within a single individual (conformity vs. autonomy), between an individual and a group (individual privacy vs. national security), or across different groups (a culture that values independence vs. a culture that values interdependence).

Brainstorm three value tensions that your system may engage. For each value tension, identify one or more design features that favors one of the values over the other.

Brainstorm


Non-targeted Use

Stakeholders · Time · Values · Pervasiveness

Non-targeted Use

Technologies are not always used in ways that the designers intended. Who might use the system for unplanned or nefarious purposes (e.g., frustrated stakeholder or an identity thief)? In what ways?

Identify three roles that involve non-intended use of the system.

Identify

Project III

Data (15 points)**:** Clear descriptions of the observations and interviews you did. What you did, why you did it, and what you found.

Error Analysis (25 points): Identify errors people make and problems with design. Appropriate use of course concepts.

Design Space (20 points); Characterize the design space of alternatives you are considering, how designs connect to errors, and discuss tradeoffs involved.

Clarity (15 points): Clear writing and effective presentation.

Revising and Editing

Approach writing as a design problem

Your job is to make the reader's job easy.

Demonstrate your mastery of course material.

What do you need to say to convince the reader? Is the organization effective?

Writing from the inside out: do readers need to know X before they can understand Y

Focus on structure at each level; from overall argument structure, to section and paragraph structure, to sentence structure, to word choice

Remember to check for grammar, mechanics, and spelling.