Computer Ethics
Finding the devil in the implementation details

PRESENTER:
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PROBLEM
"Ethics" is lacking
Especially in computer science
And is increasingly critiqued
But neither computer science nor ethics instruction addresses this.

APPROACH
We've been working on a class to change that, a class that is:
- Rich in science and technology studies
- Discussion-based
- Reading-focused
- Technically relevant
- Focused on students
- Active learning-based

RESULTS
Learning is improved by…
(from the mid-course assessment, 20wi):
"**small-group discussions**," "**readings**," "instructor's **energy**," "in-class **activities**"
(from previous versions, 18wi; 19wi):
"***readings***" (6/14; 4/9)
"***discussions***" (10/14; 8/9)
Ex. (*18wi*):
"This class forced me **to think about the applications of my educati**on in ways I had **previously not considered**."

IMPLICATIONS
- Provides a technically-oriented but critical and theoretically-grounded content for other instructors; **a proof-of-concept.**
- The instructor is still quite important; ongoing work to **gauge transferability.**

Regarding other ethics classes:
- **complicates** the in-vogue focus on **embedded ethics** curricula
- suggests a **utility** in including **more critical literature**
- demonstrates the value in **digging deeper into specific dilemmas** (esp. with a **historical** lens)

Computer ethics can have **discussions**, **science and technology studies**, **technical** content, and **fun.**

At least, that's how we made it.

Why?

"it's **never talked about** in a **school setting**"

"this is **the class I've always wanted**"

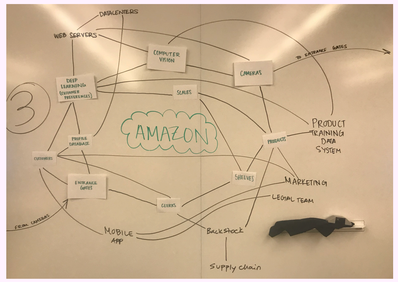
said our students.

Paper, presentation, syllabi, resources, & acknowledgments:
tinyurl.com/cs-ethics

EXAMPLE ACTIVITY:
Anatomy of Amazon Go
(in the theme of "Anatomy of an AI system" below)

- (Optional) Visit one of the Amazon Go stores
- In groups, **research components of** the **Amazon Go** system.
- Write components on index cards
- **Build mystery boards**—like from murder-mystery shows
- **Connect and label the components** which you came up with using tape.
- Then, walk around and ask questions of other groups.

Ex.:



EXAMPLE DISCUSSION:
"Data is the new oil"

Reading:
- "Do artifacts have politics?" by Langdon Winner, 1980
- "Anatomy of an AI System" by Kate Crawford et al., 2018

Questions:
- Pick one aspect of "Anatomy of an AI System" and discuss it with someone outside of class. In a couple of sentences, what did you talk about?
  - Ex.: "It's interesting to compare this to the **diagrams** we made **for the Amazon Go store** and how we categorized those things. A lot of us focused on hardware or software or the cloud as being distinct, and I think that **speaks to our bias as CS students**"
- Discuss the relationship between technologies and their "operating environments" (see Winner). How do the two make each other possible?

Outcomes:
- Students become **acquainted with** the language of **science and technology studies**.
- Students **gain exposure to the politics of technological** artifacts.
- Students **consider** how **ontologies of data** shape their collection, usage, and access.
- Students ground discussion in current **language of Big Data** and the view of data as a commodity.

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