Software Use and Effects

CS103F: Ethical Foundations of Computer Science

April 16, 2019

Discussion: Algorithmic Bias

Safety First

Make sure your software isn’t going to kill anyone

- Defaults
- Edge cases
- Failure cases
- Privacy
- Interaction from other parts of the software

User Experience

- Bad software makes the user feel frustrated
- Don’t count on your ability to guess how they will use it
- Bad software can lead to users making bad mistakes
  - Texas Maternal Death Rate
  - Hawaii Missile Defense System

Algorithmic Bias

- Policing
- Banking
- Google home and religion
- Software recommendations
- Class recommendations (coursera)
- Feedback loop/Echo chamber in Facebook

Marginalization

- Software can fail to include much of the population
- Diverse population on design
  - Barring that, you need to educate yourself
- Tests groups representative of audience

And on and on…

- Disrupting employment
- Causing traffic accidents
- Addictive software
- Social media and the rise of teen suicide

What’s the answer?

Where do we stand?

As computer scientists, do we have a responsibility to speak up when we are asked to create technology that we find unethical or amoral?

A. Yes
B. No

As computer scientists, when we discover that the unintended consequences of software conflict are unethical or amoral, what are our responsibilities?