

Ethics

Jiasi Chen

CS 179i: Project in Computer Science (Networks)

Lectures: Monday 3:10-4pm in Spieth 1307

http://www.cs.ucr.edu/~jiasi/teaching/cs179i_winter16/

Outline

- Ethical theories
- Practical ethics
- Action items

Ethical Theories

Requirements of Moral Theories

- Question: is decision X ethical?
- Requirements of moral theories
 - Verifiable
 - Consistent
 - Provide a reasonable account of what is good
- Assumption: person is autonomous and capable of rational decisions

Rejected Moral Theories

- Divine command
 - Something is right if it follow religious teachings
 - Not verifiable by rational means
 - Can still be useful, but not a moral theory by our definition
- Ethical egoism
 - Something is right if it produces the most benefit for oneself
 - Not consistent between agents, i.e., an ethical decision by one person may not be the right decision for others
- Ethical conventionalism
 - Something is right if it follows local cultures or laws
 - No objective meaning of ethics
 - Many examples of cultural laws that morally unacceptable to others

Three Major Approaches

- Utilitarianism (Mill)

- Something is right if the total benefits outweighs the total costs
- Focus on consequences of the action

What if costs and benefits are not equally distributed across people?
E.g., Highway construction: displaced people might not benefit

- Duty-based (Kant)

- Something is right if it fulfils your duty or ethical principles
- “Act only according to that maxim whereby you can, at the same time, will that it should become a universal law.” - Kant
- Focus on the action/decision itself

What if you have different duties to different people?
E.g., Whistleblowing: duty to company vs duty to society

- Virtue-based

- Something is right if it is a decision that a virtuous person would make
- Focus on the character of the person performing the action

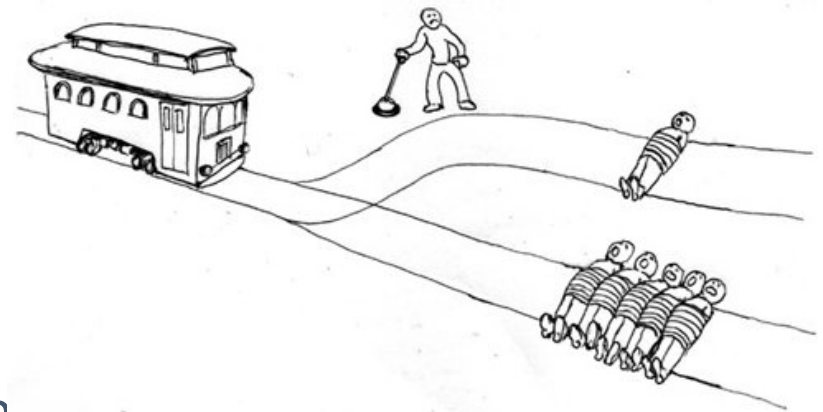
What should I do in a specific situation?

Case Study 1: Lying

- Question: Is lying permissible?
- Utilitarian: depends on the consequences of the lie, some “white lies” allowed
- Duty: Lying is always wrong
- Virtue: An honest person would not lie

Case Study 2: Trolley Problem

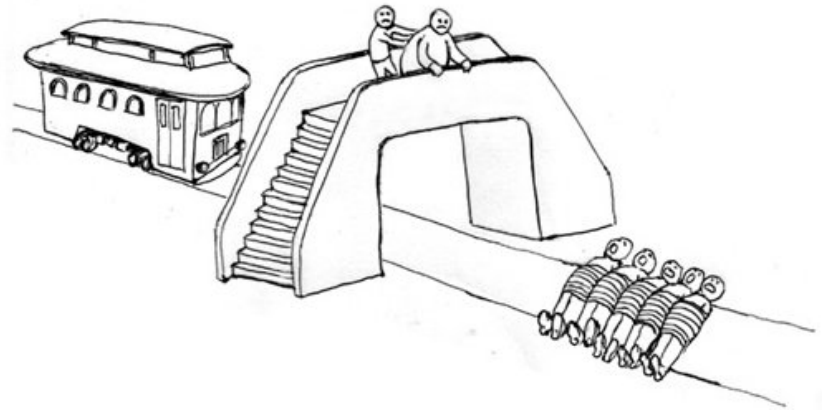
- Scenario
 - Train is running along a track towards 5 people
 - Can flip a switch to force the train to the 1-person track
- Question: Should you flip the switch?
- Utilitarianism: Flip the switch to save 5 lives versus 1



Sources: Philippa Foot, "The Problem of Abortion and the Doctrine of the Double Effect", *Oxford Review*, 1967
<http://moralitysrandomwalk.com/explanatory-power-for-puzzles-about-morality-2/>

Case Study 2: Trolley Problem

- Scenario
 - Train is running along a track towards 5 people
 - Can push a “fat man” to stop the oncoming train, killing him
- Question: Should you push the man?
- Duty-based: Should not kill people



Sources: Philippa Foot, “The Problem of Abortion and the Doctrine of the Double Effect”, *Oxford Review*, 1967
<http://moralitysrandomwalk.com/explanatory-power-for-puzzles-about-morality-2/>

Practical Ethics

ACM Code of Ethics

- Contribute to society and human well-being.
- Avoid harm to others.
- Be honest and trustworthy.
- Be fair and take action not to discriminate.
- Honor property rights including copyrights and patent.
- Give proper credit for intellectual property.
- Respect the privacy of others.
- Honor confidentiality.

IEEE Code of Ethics

- to accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
- to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
- to be honest and realistic in stating claims or estimates based on available data;
- to reject bribery in all its forms;
- to improve the understanding of technology; its appropriate application, and potential consequences;
- to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
- to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
- to treat fairly all persons and to not engage in acts of discrimination based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression;
- to avoid injuring others, their property, reputation, or employment by false or malicious action;
- to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Practical Issues for Engineers

- Public safety and welfare
- Risk and informed consent
- Conflict of interest
- Data integrity
- Whistleblowing
- Choice of a job (e.g., work for a defense contractor, oil company)
- Plagiarism
- Trade secrets and industrial espionage
- Gift giving and bribes

Case Study 3: Edward Snowden

- Scenario
 - Snowden worked for the CIA, contractor for the NSA
 - In 2013, released thousands of documents detailing surveillance programs of Americans
 - Currently living in Russia under temporary asylum
- Question: should Edward Snowden have revealed National Security Agency (NSA) classified documents?
- Implications to cloud industry
 - Google, Cisco, AT&T lost business due to suspected involvement
 - Estimated \$35 billion loss to cloud industry in USA

Source: https://en.wikipedia.org/wiki/Edward_Snowden

Case Study 3: Edward Snowden

- Utilitarianism
 - Loss in revenue to US companies
 - Increase in revenue for foreign companies
 - New research and investment in secure email, cell phones, network protocols
- Duty-based
 - Duty to employer?
 - Duty to society?
- Virtue-based
 - Loyalty?
 - Honesty?

Case Study 4: Ad blocking

- Scenario
 - You have developed cool ad-blocking software allows you to watch YouTube on your phone with ads and with the screen off
- Question: Should you use this app?
- Utilitarianism
 - Increased user satisfaction
 - Decreased energy consumption
 - Decreased revenue for content provider
- Duty-based
 - Right to good user experience
 - Duty to support livelihood of content creators

Example: Michael LaCour

- Scenario
 - Graduate student in political science at UCLA
 - In 2014, published a *Science* article stating that people's long-term views on gay marriage could be changed by a single contact
 - Stanford professor noticed irregularities in LaCour's data collection methods
- Results
 - *Science* paper rescinded by second author (senior professor at Columbia)
 - Princeton University rescinded professorship job offer

Source: <http://nymag.com/scienceofus/2015/05/how-a-grad-student-uncovered-a-huge-fraud.html>

Action Items

Your New Task

- Think about your design project and possible implications
- Choose two or more implications
 - Ethical, legal, security, social, professional
- Write an essay
 - 1500 words total
 - Due Mon. Feb. 15, 2016 at 3:10pm
 - Worth 5% of grade

Example Essay

- Project: design compression algorithm that allows you to add a password requirement to unzip a file
- Ethical
 - Two companies want to buy the rights to use your compression algorithm in an MP3 player. Company A will manufacture the devices in California, and they will pay you \$20,000. Company B will manufacture the devices in Sri Lanka, and they will pay you \$25,000. Which company do you sell the rights to?
- Legal
 - You realize your new compression algorithm that might be worth millions of dollars. Does the university or the instructor deserve a share of the royalties? Do your teammates deserve any of the royalties?

Possible Essay Topics

- Security
 - What if this technology is used for illegal activities?
 - You have sold your company for billions of dollars, but discover a bug in your code that provides a backdoor. How can you protect yourself against lawsuits?
- Media
 - Should content providers be allowed to sponsor cellular video/music data, which will potentially encourage more users to use your app?
 - How much should you pay artists to stream their music online?
 - People end up using your video/VR technology to watch illegal content. Should you set up a blacklist? How should you draw the line between acceptable and unacceptable content? Should content providers be allowed to pay to be on the whitelist or removed from the blacklist?
- Social/Location
 - A company offers to invest a large sum in your startup, in return for the anonymized user location logs. Your users were not aware that their data could be given to third-parties. Should you accept the offer?

Next Class: Oral Progress Update

- Each group will give a 5-minute oral presentation
- Briefly outline project idea, with one representative figure
- List Milestone 0 targets from proposal
- Show which milestones are completed
 - If not completed, explain why (e.g., design decision because of xxx, technical difficulties because of yyy)
- List and explain remaining milestones
- Each group member must speak
- Submit a copy of your slides (~5 slides)
- One-page written summary of your presentation (similar to transcript)

Sources

- Herkert, J, Social, Ethical, and Policy Implications of Engineering:Selected Readings, Wiley-IEEE Press, 2000
- “Introduction to ethics”, *BBC*,
<http://www.bbc.co.uk/ethics/introduction/>