

Exercise 1 (Case Study on Spam):

Ann is an accountant at Acme Corporation, a medium sized firm with 50 employees. All the employees work in the same building, and Ann knows all of them. Ann's 10 year old daughter is a Girl Scout. During the annual Girl Scout cookie sale, Ann sent an email to all the other employees, inviting them to stop by her desk during a break and place orders. Nine of the recipients were happy to get this email and placed orders, but the others were annoyed with the unwanted message. Half of them complained to a coworker about Anne's action.

Did Ann do anything wrong? Analysis with Kantian, rule utilitarian, and social contract theory ethical theories.

Exercise 2 (Applying Different Ethical Theories):

People give a variety of reasons for copying a music CD from a friend instead of buying it. Refute each of the reasons given below, using one of the viable theories covered in the class. (You don't have to use the same theory each time.)

- I don't have enough money to buy it
- The retail price is too high. The company is gouging customers.
- Since I wouldn't have bought it anyway, the company didn't lose a sale.
- Everyone else is doing it. Why should I be the only person to buy it when everyone else is getting it for free?
- This is a drop in the bucket compared to international pirates who sell billions of dollars worth of copied music.

Exercise 3 (Ethical Case Study Speculation):

What do you think is the current worst intentional use case for this particular technology? In other words, what are some terrible things that a bad actor could use this technology for? A) Self-driving cars; B) Internet of things; and C) Military robots.

Exercise 4a (Lessons from Therac-25):

Most of you wouldn't work with technology with life-critical implications. But automation is pervasive. In the Therac-25 case, automation was in the form of computerization.

- I. When is automation good?
- II. When is it not good?
- III. What checks should be in place to ensure automation is safe and reliable?

Exercise 4b (Lessons from Therac-25):

Most of you wouldn't work with technology with life-critical implications. But software reuse is pervasive in many applications.

- I. When is reuse good?
- II. When is it not good?
- III. What checks should be in place to ensure reuse is safe and reliable?

Exercise 5a (Predictive Policing Technology): *Science magazine*¹ – Riding high in their squad car, officers Jamie Pascucci and Joe Kania are cruising the neighborhood of Homewood, scanning the streets for trouble. Pittsburgh, Pennsylvania, has one of the highest murder rates among large U.S. cities, and violent crime is particularly severe in Homewood, a 98% black pocket of aging, pock-marked Victorians on the east side. Young, white officers from outside the neighborhood, Pascucci and Kania patrol using a mixture of police radio, calls to their department's communications center, and instinct. They get occasional help from ShotSpotter, a network of sensors that detects gunshots and relays the information to a laptop mounted between the front seats.

But starting next month, Pascucci and Kania may get a new type of guidance. Homewood is set to become the initial pilot zone for Pittsburgh's "predictive policing" program. Police car laptops will display maps showing locations where crime is likely to occur, based on data-crunching algorithms developed by scientists at Carnegie Mellon University here. In theory, the maps could help cops do a better job of preventing crime.

Class Activity 5b (Predictive Policing Technology): The US Department of Homeland Security is developing the Biometric Optical Surveillance System (BOSS). The purpose of the system which consists of video cameras, computers, and a database of photographs, is to scan crowds and identify persons of interest with an accuracy of 80-90%. The BOSS research began as a way of helping American soldiers in Afghanistan and Iraq identify potential suicide bombers, but in 2010 the project was taken over by the Department of Homeland Security, which plans to make the system available to police departments once it is reliable. In 2013, the system was tested at a sports area in Kennewick, WA, and found not yet ready for use, Research and development continues.

Do you support the development and implementation of the above two types of surveillance tools for police departments? What are the benefits? What are the risks?

¹ <http://www.sciencemag.org/news/2016/09/can-predictive-policing-prevent-crime-it-happens>