Exercise Set 2

Name: __________________________________________________________

Please answer the questions below as fully and completely as you can. Turn in your written answers in class during the next class meeting. As part of this exercise set, you must read the following.

- Ch. 9, A Gift of Fire: Professional Ethics and Responsibilities

1. Read over the ACM/IEEE Software Engineering Code of Ethics. Find at least two clauses that you are (a) in strong agreement with; (b) you aren’t sure about; and (c) you find unclear or you are unsure how you would apply the clause. Explain your answers.

(a).

(b).

(c).
2. The clauses under the Self principle are largely about lifelong learning (8.01–8.05). In your opinion, why do you think lifelong learning plays such a large role here and what do you think lifelong learning has to do with professional ethics?

3. Consider the following case study:

GoldPull is one of many companies developing “Advertising 2.0” technology, which aims at bridging the customer journey from TV to Search to Social to Mobile. Companies are increasingly investing in GoldPull and their competitors products to gain a better understanding of the impact their TV advertising is making on customers and to see if their adds are “making waves” on social media. Engineers at GoldPull have developed various marketing-based APIs that are used within other products. These APIs have GoldPull’s special browser-based “cookie” technology extensions. However, because of the competition in this new space (with many other startups with similar technology), GoldPull is frantically looking for new technologies and approaches to distance themselves from the competition. Bob, one of the technical founders, and now a vice president at GoldPull, recently approached the engineering team about a new idea that management believes will revolutionize marketing and position GoldPull to lead the market. The technology uses ultrasonic noises that cannot be picked out by human ears, but can be detected by devices with a microphone (such as cell phones). Marketers can embed the noises into any ad with an audio component, including those shown on TV or through radio. GoldPull can embed this new technology within its current APIs, to allow for any application using the APIs to be able to listen for ultrasonic codes that ads and
other applications broadcast. According to Bob, “This technology will allow an app to know which ads the user saw, how long the user watched the ad before changing the channel, which kind of smart devices the individual uses, along with other information that adds to the profile of each user that is linked across devices. This will significantly enhance our cross-device tracking of consumer behavior and open up new advertising channels for GoldPull.”

The excitement of Bob has the GoldPull engineers convinced, however, after spending two weeks playing with the technology and planning the release of new APIs with ultrasonic detection, some concerns begin to develop within the team about whether this technology is the right thing to be building or if they could get into trouble deploying it without notifying users of the apps. They decide to talk to Bob about it. However, Bob isn’t happy with the team bringing it up or their progress. He quickly scolds the team and tells them that if GoldPull do this, their competitors will overtake them and they will all be out of jobs. The team quickly backs off, and never discusses the issue again with Bob or between themselves.

The team worked hard over the next 6 months (often working 60-hour weeks) to develop the new versions of the APIs. The approach is a huge hit with advertisers, and in less than one year 67 apps have adopted the new APIs with GoldPull able to monitor over 18 million users.

(a). Identify as many potential ethical issues from the case study as you can.
(b). For each of the ethical issues you came up with in (a), map them (if possible) to one or more clauses in the software engineering code of ethics.

(c). Identify as many clauses as you can in the software engineering code of ethics that could relate to the case study (i.e., beyond those you identified in part (a)).
4. Consider your own senior design project. List four clauses from the ACM/IEEE Software Engineering Code of Ethics that are the most relevant to your project and explain why you chose the five you did.

(1)

(2)

(3)

(4)

5. With a partner, develop a case study based on one of the following sets of clauses from the ACM/IEEE Software Engineering Code of Ethics. Your case study must: illustrate issues surrounding each of the clauses, be fictional but realistic, and should focus as much as possible on gray areas (i.e., try not to make the clauses black and white or too easy to identify and side with one way or another). In addition to the clauses in the set, you should also select at least one more clause in the same section to include in your case study. Write your finished case study on a separate sheet of paper and list the principle set and additional code item you used as well as how each principle relates back to the case study (that is, provide an “answer key” for your case study). Hand in one copy of the case study on a separate sheet of paper. Your case study is due in two weeks (in class on Oct. 4).

- Employer — 2.05 (privacy), 2.06 (problem projects), 2.07 (social concern).
- Product — 3.12 (privacy), 3.13 (accurate data), 3.14 (data integrity)
- Judgment — 4.01 (human values), 4.02 (endorse docs), 4.03 (objectivity)
- Management — 5.05 (qualitative estimates), 5.09 (ownership)
- Profession — 6.07 (representation), 6.08 (responsibility)
- Colleagues — 7.03 (credit), 7.04 (review others work), 7.08 (competence and assistance)