

Within every profession, we find one or more codes of ethics. These codes are the rules of conduct recognized by the profession, and people within a profession are expected to act per the profession's code of ethics. The IEEE Code of Ethics applies to us in Computer, Cyber Security, or Electrical Engineering. Additional codes can apply to Computer and Cyber Security Engineers, like the IEEE-CS/ACM Joint Task Force Software Engineering Code of Ethics of the British Computer Society (BCS) Code of Conduct. These assist professionals by guiding their decisions philosophically, pragmatically, and lawfully.

As professionals, we must understand why the Code of Ethics is important to have and follow. Firstly, they keep professionals within the confines of the law. Although not a significant part of a code of ethics, these guide our decisions to be more lawful so that we or our firm do not see any legal repercussions in the future. Secondly, a significant portion guides our decisions to follow common sense and what is typically viewed as right within the profession. This portion is essential, as we can be truthful towards our profession and not do something usually considered taboo.

When faced with an ethical dilemma, the codes often help. For example, I follow three steps when deciding on an ethical dilemma. The first step is to analyze the situation. Are any laws being broken? Are there any religious beliefs affecting the situation? After analyzing the situation, I turn to the Code of Ethics and look up codes that apply to the scenario. Depending on the situation, there can be multiple codes that apply. The last step is to devise a decision/solution for the scenario. This step employs the applicable codes and any outside factors affecting the situation. These steps allow for the resolution of most ethical dilemmas.

There still exist situations in which one or more of the codes must be broken. Different codes usually cover such scenarios. Although this usually works, there are still scenarios where no code covers the breaking of another code. At this point we must remember that the Code of Ethics are not strict laws that must be followed. They are guidelines for professional decisions made. They can be broken. However, it is better to break these codes if the decision is in the public interest and towards the public's health, safety, and welfare.

Our discussion group discussed multiple ethical cases and how the IEEE Code of Ethics would apply to them. One prominent case discussed was related to Big Data. The scenario involves Marcus, a contract-based software developer tasked with creating a database of job-related injuries for paramedics. The data includes Personally Identifiable Information (PII)

and is collected from various sources like ambulance companies and hospitals. Marcus develops a method to exclude PII from the database. However, his supervisor, John, requests that he include data on needle stick injuries, which contains sensitive information and PII. Marcus discovers that John did not follow relevant laws in handling the data. Marcus hesitates to include the data as it was separate from the initial survey and feels unnecessary. However, pushing back could jeopardize his project. My response was the following:

”Using the 5 P’s framework, Marcus faces pressure from John, who holds power over him in their contract-based relationship. Marcus prioritizes following the survey’s guidelines, unlike John. Analyzing their actions through the IEEE Code of Ethics, it is evident that John’s insistence on including sensitive data disregards Code 1, endangering public welfare. Conversely, Marcus adheres to codes 1, 5, and 9 to safeguard Personally Identifiable Information (PII). Various ethical considerations arise regarding Marcus’s response to John’s ignorance of PII laws, implicating codes 1, 2, 4, 5, 7, 9, and 10.

In this context, Marcus should communicate with John about the legal implications of handling PII despite risking the contract. He should elucidate the IEEE Code of Ethics to help John comprehend the gravity of the situation. Should John terminate the contract, Marcus has two legal avenues to pursue. Firstly, he can gather evidence of John’s PII law violations and present it in court, although success depends on evidence quality and legal proceedings. Alternatively, Marcus can tarnish John and SMART’s reputation by spreading awareness of John’s actions within the industry, potentially leading to contract cancellations and boycotts. Legal constraints notwithstanding, any attempt by SMART to sue Marcus could result in a similar outcome as the first method. Method 2 offers a quicker resolution compared to lengthy court battles.”

Although many people agreed that they liked method 2 compared to method 1, they pointed out that it break Code 9 of the IEEE Code of Ethics, which states that one should not harm another’s reputation with malicious intent. As stated in one of the paragraphs above, sometimes it is necessary to break a code if it leads to the public’s safety.

Although multiple Virtues of Ethics apply to the above scenario, the most important ones are Integrity, Honesty, and Responsibility. Marcus initially exercised good and ethical judgment and should once more uphold his integrity. He should be honest with John about PII laws and the ethical and legal implications of John’s actions. Marcus recognizes his moral

obligation to remove PII from data and should take the responsibility to urge John to remove PII as well. Although there are more virtues than listed above, they only apply partially to the above situation. Due to this, any discussion involving them can be counteracted immediately, rendering the argument partially wrong.

In conclusion, adherence to codes of ethics in professional fields like Computer, Cyber Security, and Electrical Engineering is paramount for guiding ethical decision-making. These codes, such as the IEEE Code of Ethics, offer comprehensive guidance encompassing philosophical, pragmatic, and legal aspects, ensuring adherence to the law and fostering sound decision-making. The case of Marcus and John highlights the significance of ethical principles in practical scenarios, where individuals like Marcus must uphold integrity, honesty, and responsibility despite external pressures. While ethical dilemmas may arise, professionals must communicate openly and prioritize public welfare. The discussion among peers underscores the complexity of ethical decision-making, with varying perspectives on approaches like method 2 emphasizing the need to balance virtues and ethical codes. Ultimately, professionals must navigate ethical challenges with a nuanced understanding of codes of ethics and ethical virtues, carefully considering consequences and ethical principles.