

5 Professionalism

This discussion is with respect to the paper titled “Contextualizing Professionalism in Capstone Projects Using the IDEALS Professional Responsibility Assessment”, *International Journal of Engineering Education* Vol. 28, No. 2, pp. 416–424, 2012

5.1 AREAS OF RESPONSIBILITY

Pick one of *IEEE*, ACM, or SE code of ethics. Add a column to Table 1 from the paper corresponding to the society-specific code of ethics selected above. State how it addresses each of the areas of seven professional responsibilities in the table. Briefly describe each entry added to the table in your own words. How does the IEEE, ACM, or SE code of ethics differ from the NSPE version for each area?

Table 1. The seven areas of professional responsibility in the assessment instrument

Area of responsibility	Definition	NSPE Canon
Work Competence	Perform work of high quality, integrity, timeliness, and professional competence.	Perform services only in areas of their competence; Avoid deceptive acts.
Financial Responsibility	Deliver products and services of realizable value and at reasonable costs.	Act for each employer or client as faithful agents or trustees.
Communication Honesty	Report work truthfully, without deception, and understandable to stakeholders.	Issue public statements only in an objective and truthful manner; Avoid deceptive acts.
Health, Safety, Well-Being	Minimize risks to safety, health, and well-being of stakeholders.	Hold paramount the safety, health, and welfare of the public.
Property Ownership	Respect property, ideas, and information of clients and others.	Act for each employer or client as faithful agents or trustees.
Sustainability	Protect environment and natural resources locally and globally.	
Social Responsibility	Produce products and services that benefit society and communities.	Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

How IEEE correlates to these Areas of Responsibilities:

1.) Work competence:

With a set of data, reasonable and honest estimates will be used when making claims/assumptions.

2.) Financial Responsibility:

It is the responsibility of engineers to prevent the risk of being approached and offered financial bribery. We must uphold strong moral codes, and lowering the risk of being bribed includes have well managed finances. In addition, many times engineers are commissioned or paid for services, and it is our responsibility to deliver products and services to our clients to fulfill their investments.

3.) Communication Honesty:

Be open about conflicts of interest.
Give accurate estimates of progress.

4.) Health, Safety, Well-Being:

Make decisions with the well being of the public as priority, and to disclose any information that endangers the safety of others.

5.) Property Ownership:

Avoid injuring other people's property.

6.) Sustainability:

Be open about factors that could harm the environment.

7.) Social Responsibility:

Help society at whole learn more about technology.

5.2 PROJECT SPECIFIC PROFESSIONAL RESPONSIBILITY AREAS

For each of the professional responsibility area in Table 1, discuss whether it applies in your project's professional context. Why yes or why not? How well is your team performing (High, Medium, Low, N/A) in each of the seven areas of professional responsibility, again in the context of your project. Justify.

1. Work competence:

This relates to our project as this area encompasses a lot of areas related to a professional work environment. These areas relate to upholding a certain level of professionalism, integrity, and honesty. This also relates to maintaining an efficient work schedule and meeting deadlines. Our team performance for this category: Medium. We have maintained a regular work schedule, but have had minor hiccups related to communication with our client. Since then, we have made progress in this area, and have a clear picture and path of our design.

2. Financial Responsibility:

This relates not to our project. We have no budget for our design, and our development process is to eliminate the need to buy physical IoT devices by virtualizing access to these IoT devices. Our team performance for this category: N/A.

3. Communication Honesty:

This relates to our project as we have weekly meetings with our client. Our team performance: Medium. We give weekly updates on our progress and what we plan on doing. We also get weekly feedback from our client about what he would like. We have experienced slight communication confusion in the past preventing a High score.

4. Health, Safety, Well-Being:

Nothing we are working on will realistically allow harm to come to someone. Our team score: N/A.

5. Property Ownership:

This applies to us as we work on the Client's physical IoT devices. There is some risk in this as we must install vulnerable software on his devices. We are being careful to make sure

the devices may be hacked but not permanently disabled. Our team performance: High. We have this as a central focus as we work. We are enabling vulnerabilities, yet not allowing lateral compromise to legitimate services and functionality.

6. Sustainability:

Be open about factors that could harm the environment. Our team score: N/A. This does not relate to our project as we need not worry about consequences to the environment when we consume minimal resources to provide a functional project.

7. Social Responsibility:

This applies to our project as the primary purpose of our project is to educate the public on the importance of cybersecurity by providing a resource that is accessible to the general public. Our team score is: High. This is the entire purpose of our project. If we do not complete this goal our project is pointless.

5.3 MOST APPLICABLE PROFESSIONAL RESPONSIBILITY AREA

Identify one area of professional responsibility that is both important to your project, and for which your team has demonstrated a moderate or high level of proficiency in the context of your project. Briefly describe what this responsibility means to your project, the ways in which your team has demonstrated the responsibility in the project, and specific impacts to the project that you have observed.

The area of professional responsibility that is most important to our project is social responsibility. Our project aims to improve the public understanding of IoT devices and the dangers surrounding them. In order to most effectively perform this responsibility we are focused on making our product user friendly with clear use instructions. With the usability in mind while developing our project we have gained a focus on documentation that will be able to be utilized to better understand our process.