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

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.

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?

IEEE Code of Ethics:

https://www.ieee.org/about/corporate/governance/p7-8.html

Area of REsponsibility	IEEE Code of Ethics
WORK COMPETENCE	To maintain and improve technical competence.
FINANCIAL RESPONSIBILITY	Honest estimates, reject bribery, give proper credit to the contribution of others
COMMUNICATION HONESTY	Protect others' privacy, and disclose conflicts to affected parties.
HEALTH, SAFETY, WELL-BEING	To hold paramount the safety, health, and welfare of the public. Treat all fairly
PROPERTY OWNERSHIP	To accept criticism, correct errors, and give credit to whom it is due.

SUSTAINABILITY	To strive to comply with sustainable development practices. Reveal factors that might endanger the environment without delay.
SOCIAL RESPONSIBILITY	Improve the understanding of society about emerging technologies

The NSPE CANON focuses on being honest and values integrity and ethical conduct. IEEE adds by including future conduct such as seeking criticism, informing public about emerging technologies, improving technical competence, and disclose factors that might endanger the environment. IEEE code of conducts strives for holding a high standard and raising that bar.

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.

	APPLICATION TO PROJECT	TEAM PERFORMANCE
WORK COMPETENCE	THE EE STUDENTS ARE MAINLY FOCUSED ON THE HARDWARE SIDE OF THE PROJECT WHILE THE CPRE/SE STUDENTS ARE MAINLY FOCUSED ON THE SOFTWARE SIDE.	HIGH: THE SEPARATE TEAMS MAKE INDIVIDUAL PROGRESS AS A TEAM AND MEET UP WEEKLY TO FURTHER THE DEVELOPMENT OF THE PROJECT.
FINANCIAL RESPONSIBILITY	DELIBERATIONS ARE MADE AS A TEAM TO DETERMINE THE BUDGET FOR EACH ASPECT OF THE PROJECT	HIGH: EVERY COMPONENT IS RESEARCHED TO FIND THE BEST DEAL FOR THE DESIRED PERFORMANCE.
COMMUNICATION HONESTY	WEEKLY REPORTS ARE SUBMITTED TO THE ADVISOR, WHILE AN OPEN FORM OF COMMUNICATION IS PRESENT FOR REAL TIME COLLABORATION BETWEEN THE PROJECT TEAM AS A WHOLE AND THE INDIVIDUAL TEAMS	MEDIUM: WEEKLY FORMAL REPORTS ARE SUBMITTED TO DR. ROVER AND THE TEAM MEMBERS UTILIZE SLACK AND DISCORD FOR INFORMAL COMMUNICATION. SOME WEEKS WE HAVE ISSUES GETTING EVERYBODY TO REPORT THEIR PROGRESS IN A TIMELY MANNER.
HEALTH, SAFETY, WELL-BEING	OUR PROJECT HAS LOTS OF PHYSICAL COMPONENTS SO WE MUST CONSIDER POTENTIAL SAFETY HAZARDS WHENEVER WE ARE MAKING DESIGN DECISIONS	HIGH: WE'VE ALREADY DECIDED ON A LIMIT FOR THE ROBOT'S MAXIMUM SPEED. WE JUST NEED TO BE MINDFUL OF POTENTIAL DANGERS POSED BY THE MATERIALS WE SELECT TO CONSTRUCT OUR PROJECT OUT OF, ESPECIALLY IF THEY WERE TO BECOME DAMAGED.
PROPERTY OWNERSHIP	WE HAVE TO RESPECT EACH TEAM MEMBER'S IDEAS FOR OUR BRAINSTORMING SESSIONS, AS WELL AS ACKNOWLEDGE THE CREATORS OF THE	MEDIUM: WE SHARE OUR IDEAS WITH EACH OTHER, AND WE RESPECT EACH PERSON'S INPUT AS PART OF THE DECISION MAKING PROCESS. WE ARE BASING OUR GAME OFF OF THE VIDEO GAME

	GAME OUR PROJECT IS BASED UPON (ROCKET LEAGUE).	ROCKET LEAGUE WITHOUT CONTACTING THEM, WHICH MAY BE DISRESPECTFUL TOWARDS THEIR CREATORS.
SUSTAINABILITY	MINIMIZE THE AMOUNT THAT COULD END UP AS WASTE	HIGH: MOST ALL OF THE COMPONENTS CAN BE REPURPOSED AND SCAVENGED FROM THE PROJECT EASILY. WE ARE TRYING TO GET OLD ELECTRONICS AND MATERIALS TO USE FOR OUR PROJECT, SO WE DON'T HAVE TO USE NEW MATERIALS.
SOCIAL RESPONSIBILITY	WE ARE MAKING A GAME THAT WILL BRING JOY TO THE USERS, AND SHOW DR. ROVER THAT EMBEDDED MACHINE LEARNING CAN BE A POTENTIAL COURSE FOR STUDENTS AT ISU.	MEDIUM: WE HAVE NOT BEEN FOCUSING ON OUR SOCIAL RESPONSIBILITY, AND WE HAVE INSTEAD BEEN MAINLY FOCUSING ON THE TECHNICAL ASPECTS OF THE GAME.

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

Being that our project is primarily designed for recreation and not financed by a company, financial responsibility is key to the success of our project. Financial responsibility is also an area where we have exercised a high degree of proficiency.

Currently, our project has no external financial support outside of the provided budget of $500-$600 provided by this being a senior design project. While Dr. Rover has offered to support us within reason if that budget is not sufficient, we still are planning only within the already allotted financial constraint. Every decision we have made as a team has been made considering the financial implications of it. When considering which areas our project can grow in with the most potential, the software space is favored as open source software is available for most solutions and otherwise, we can create what we need while hardware has a material cost in most situations. Many costly materials we have needed for the prototyping phases of our project have been borrowed from the ETG rather than purchasing what may not be the best fit. This allows us to experiment and determine what materials (raspberry pi's, servos, etc.) will best suit our project within our budget constraints.