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CSE 40175
Project 1 -- Our Code of Ethics
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PREAMBLE

As representatives of the University of Notre Dame, we carry a responsibility to uphold the shining ethical and moral standards established both by those who have come before us and those who see our university as a global force for good for many years to come.

This code addresses the moral and ethical responsibilities held not only by Notre Dame students, but more specifically the Computer Scientists and Engineers of Notre Dame. Section 1 contains the general moral imperatives assigned to each Computer Scientist and Engineer. Section 2 contains a specific listing of the responsibilities held by the Computer Scientists and Engineers of Notre Dame. Meanwhile, Section 3 contains a listing of the moral imperatives assigned to us as leaders within our university. Finally, Section 4 details how the code is to be complied with.

Each imperative is accompanied with a detailed explanation of the imperative, which shall serve as guidelines for carrying out the given responsibility. Each imperative should be as concise as possible, but the guidelines should help to elaborate on the spirit of the imperative and eliminate ambiguity.

1.   GENERAL MORAL IMPERATIVES.

As a Notre Dame Computer Science and Engineering student I will …

1.1. Contribute to the well-being of the University and its students.

College is about more than just getting good grades. As students of the University of Notre Dame, we should be actively trying to make the University a better place for our faculty/staff/students. We have to increase the quality of learning in the classroom, by being more inclusive and less judgmental of our peers. A lot of these subsequent points will help to contribute to the everyone's well-being, and give a clearer definition of this overarching point.

1.2. Avoid harm to others.

When most people think of harm, they first picture bodily harm. However, the word "harm" defines so much more than physically attacking someone. Additionally, there is a difference between *not* bringing harm upon others, and *avoiding* harming others entirely.

Academically, we want to minimize harm. This means providing more constructive feedback instead of hateful comments. Seemingly light hearted jabs or jokes may not come across as such to all. We need to build a more inclusive community where students can feel safe to learn. While healthy competition amongst peers can be a good thing,

anything taken to extremes can yield negative consequences.

Bullying is still a large problem facing schools/individuals in our area. Physical harm to other students or faculty members has never been, and will never be, acceptable. This point could end here if this section was titled "do no harm to others." However, it isn't only enough for us personally not to harm anyone. We have to be actively mitigating/preparing for potential harm. Examples of this are reading up on school safety protocols, being an active bystander instead of a passive one, etc.

Perhaps the biggest key to *avoiding* harm is being aware. You must be aware of your own actions and the actions of those around you. If you are wondering whether something is right or wrong (in a moral sense), chances are it is wrong. By being aware, we can help create a safer learning environment for everyone in our community. This whole sense of avoidance is especially important when we talk about emerging technology. Should we create something if it has the potential to do harm to others, even if the technology, at its core, is good and moral? While that is a very philosophical question, the answer can be a simple one. We should not misuse technology for applications which the technology was not intended, if it that intended action is immoral or unethical.

1.3. Be honest, trustworthy, and reliable.

The decisions we make and the actions we choose to take do not only affect the individual. The reputation of Notre Dame, and how its students are perceived, is influenced with every little thing we do.

Therefore, one must be honest, trustworthy, and reliable. While this code of ethics is in place to offer guidance on how a Notre Dame student should act, a strong moral compass and an understanding of ethics should also help guide our actions/decisions.

Be honest and truthful in all that you do. Make clear your strengths, and perhaps more importantly, your weaknesses. Admit when you've made a mistake or when you need help. It is easier to fix a mistake, when you admit you have made one in the first place.

By being honest and truthful, eventually you will earn the trust of those around you. Only after you are viewed as honest and trustworthy can you be viewed as reliable. By relying upon someone, you are believing that: a) you can take them at their word and trust that they will do what they commit to; b) they will act in an honest way that is in line with your moral/ethical compass.

1.4. Be fair, and take action not to discriminate.

For better or for worse, we are all human. Because of that, we make mistakes. Thus, when someone has made a mistake, be fair and try not to be judgmental when you do not have all of the facts. Instead of ridiculing someone for making a mistake, work with them to find a solution. By doing so, both individuals will grow in the process.

Do not discriminate. Try to assume less, and learn more. Regardless of who we are or what choices we've made, we can all contribute a unique perspective. Everyday, there are

those that are discriminated against their ethnicity, religious beliefs, sexual orientation, gender, age, and/or appearance. The previous list is meant to raise awareness, and is not meant to be all inclusive. Let a person's actions speak louder than your preconceived thoughts/feelings about them. Differences are what makes us interesting. If both parties are comfortable, talk about those differences. In acknowledging differences, and being open and considerate about them, we can start to get rid of discrimination in our personal lives and in the classroom.

1.5. Be aware of and follow the academic honor code.

Ignorance has never been a valid excuse, especially now that we are grown-up and in college. Before going to our first day of class, we all had to sign and take a quiz on The University of Notre Dame Academic Code of Honor. Intrinsically, by following this code of Honor, you are already doing a lot of these previous points.

1.6. Give credit where credit is due.

Living in such a digital age, there are a lot of answers online. A lot of solutions to homework problems are posted and can be found by simply googling the question. Is this the fault of the teacher for not coming up with original questions? Or is this the fault of the student for looking at someone else's work? Regardless of who you believe is at fault, if you are the student, give credit if you come across an idea/page that is not your own work/thought. It is better to credit when unsure than risk plagiarizing someone else's work.

1.7. Respect the privacy of others

There's a thin line between being curious and being invasive. For example, in an effort to rid the classroom of discrimination, it may be necessary to talk about differences. However, we can only do this, and have a meaningful conversation, if everyone involved feels comfortable.

Regarding the more traditional sense of the word, only access what you are authorized to access. It is good to be curious. Where that line changes from good to bad occurs when curiosity becomes exploitive (ie. JavaScript attacks in textbars of HTML pages).

2. MORE SPECIFIC COLLEGIATE RESPONSIBILITIES FOR CS STUDENTS

As a Notre Dame Computer Science and Engineering student I will …

2.1. Strive to achieve the highest quality, effectiveness and dignity in my school work and the products of my school work.

As coursework for various classes piles up, it may be tempting for a Notre Dame Computer Science student to cut corners, take shortcuts, and generally put in less than 100% effort on any given assignment, especially those assignments that might seem less substantial than other longer, larger, more complex projects. One should realize that each portion of one's coursework is vital to his/her overall education as a computer scientist.

Furthermore, the quality of each assignment reflects not only on the individual but also on the University as a whole. By establishing an expectation of excellence on each assignment, early in one's academic career, the Notre Dame computer scientist is able to build on this foundation throughout their academic career and carry it into his/her first post-graduate endeavors.

2.2. Approach each course and assignment with the intention of acquiring professional skills.

At a prestigious academic institution like Notre Dame, there exists the temptation for students of all disciplines to lose focus on the true reason they are here - to gain the knowledge and skills necessary for lifelong post-graduate success. Instead of maintaining this focus, students - including those in the College of Engineering - often spend more of their time worrying about grades. While getting good grades and maintaining a high GPA should be important objectives of any well-intentioned computer science student, these objectives will naturally follow if one simply focused on properly absorbing and applying the material taught in one's classes. The same does not apply in reverse. That is to say, if one focuses solely on achieving high grades, one may find upon the conclusion of a class that he/she never actually retained the new knowledge he/she was supposed to.

2.3. Know and respect both Notre Dame rules and existing laws governing work as a computer scientist.

While all Notre Dame students should be cognizant of and abide by all University rules and regulations in addition to general rules of law, computer science and engineering students have an imperative to more acutely follow those rules and laws that pertain to responsible, ethical use of computers and the computer skills acquired through education as a computer scientist at Notre Dame. Education as a computer scientist includes gaining skills that likely make it possible/easier for students to break certain rules/laws such as those pertaining to cyber security and computer hacking in general. Notre Dame Computer Science and Engineering students have an ethical responsibility to use their newfound skills for "good," which most often involves following University rules and government laws. Should a student determine that using their abilities for "good" necessitates that they break a University rule or government law, he/she should be prepared to accept any and all responsibilities and punishments that stem from his/her actions.

2.4. Accept and provide appropriate peer review of academic work.

Students can gain a great deal of knowledge and experience by assisting each other as well as by constructively reviewing and criticizing each other's work. This should only be done when appropriate, and always with the University's honor code in mind to ensure one does not plagiarize another's work. One should not seek to gain unsanctioned aid on an assignment under the pretense of a peer review. When used properly, peer reviews are a great source learning resource.

2.5. Honor assigned responsibilities and fully complete all assignments and projects.

Computer science is unique in its diversity and the variety of post-graduate opportunities it

provides students. As a result, Notre Dame allows students to concentrate in specific areas of study. Despite this allowance, students are nonetheless expected to give the appropriate time and attention to all courses, including those that may not seem to directly pertain to their chosen area of concentration. This includes completing all assignments and projects to the best of one's abilities - for both required and elective courses. The University aims to provide all computer science students a well rounded education regardless of concentration. Appropriately applying oneself to non-concentration courses now will allow one vital flexibility in his/her future career.

2.6. Improve your peers' understanding of computing and its consequences.

Much like how computing professionals in industry carry the responsibility of encouraging the broader public understanding of computing, its consequences, and its misconceptions, Notre Dame computer science students bear this responsibility on a smaller scale. The Notre Dame community at large benefits from the sharing of knowledge between students of all disciplines and areas of study. Computer science students are thus encouraged and obligated in some regards to share their knowledge - notwithstanding the specific scenarios of knowledge 'sharing' that fall under the academic honor code - with their peers and in some instances such as research, the world.

2.7. Access University computing and communication resources in addition to all other public or private resources only when authorized to do so.

The University of Notre Dame and the Department of Computer Science takes seriously its commitment to teaching the ethical use of computer science skills. As such, students are expected to only access those systems, files, programs, and other resources that they have explicit permission to access. "Hacking" via any means into protected, private files, systems, or other resources of any individual - whether related to the University or not - is an egregious offense.

3. ORGANIZATIONAL LEADERSHIP IMPERATIVES

As a Notre Dame Computer Science and Engineering student I will …

3.1. Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.

This is one of the key virtues that a Notre Dame computer scientist is taught to follow, perhaps more than students at non-catholic universities. The scientist must value their social responsibilities just as must as their responsibilities to their work. When a Notre Dame computer scientist leaves the university, they will encounter those that may not understand that there are even social responsibilities in their work. Thus it is the responsibility as a Notre Dame student to teach others of the social consequences of their actions.

3.2. Manage personnel and resources to design and build information systems that enhance the quality of working life.

This imperative builds on our previous one. A Notre Dame computer scientist, when designing a computer system that will have an impact on many users, has to be extremely careful to take into account the impact on all workers. Once again as a Notre Dame student we must realize our work has an impact on many lives, and thus we are responsible for many lives. We must balance efficiency and cutting costs to make sure we are not having a negative effect on our user's lifes. Cutting costs on an information system could lead to privacy issues or simply leave users with a system that degrades their working life.

3.3. Acknowledge and support proper and authorized uses of an organization's computing and communication resources.

This is something a Notre Dame student may not have enough responsibility to have to deal with currently, but may have in the future. Once again, we look back at the Notre Dame teaching that we need to look at our social responsibilities. Having control over an organization's computing resources means you wield a lot of power in the organization. You must wield this power wisely and ethically. Do not allocate resources to friends or coworkers, allocate them fairly and securely. Don't allow the resources to be used as a tool of harm as well as good.

3.4. Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements.

This imperative something that I believe only a few Notre Dame computer scientists may be introduced to through school depending on the electives that they take. However it is something that a student should research and understand on their own before moving into the workforce. A software engineer is ethically required to clearly understand and document the needs of all those who will be affected by a system. Those indirectly affected are often left out of this process and those needs are left off the table.

4.   COMPLIANCE WITH THE CODE

As a Notre Dame Computer Science and Engineering student I will …

4.1. Internalize the Principles Espoused by this Code

It is important to grapple with the ideals which are detailed above and come to active endorsement of them myself. It is not enough to blindly accept these principles; I must work to comprehend, accept, and internalize them. I must discuss these principles and debate their validity with others in order to truly understand what this code means to me.

4.2. Challenge the Assumptions in this Code (if counter to your beliefs etc. - foster discussion and improvement)

I will challenge any beliefs or assumptions implicitly or explicitly included in this code of ethics. This will allow the code to be updated according to the circumstances of the day, and keep the content relevant to those to whom it applies.

4.3. Encourage others at the university to accept the responsibilities herein contained (confront those who are not)

I will hold my peers accountable for having internalized this code and acting in accord with its principles. If necessary, I will confront my peers whose actions are destructive to our the pursuit of ethical conduct.

4.4. Use reasonable judgment when specific topics are not listed in the code but could be considered to fall under the heart of the code

I will not take any loopholes in this code for granted. If a topic is not included in the code, then I must attempt to determine how the spirit of the code would apply to a given situation, and work to have the topic included in the code in the future.