Ethics Statement

Overarching Principal: The IPRO 315 team would like to provide the highest quality standards for any industry that uses a drive-through system, as well as enabling the best possible service to customers through clear two way communication.

1. **Industry Standards**

   - IPRO 315 will work within the standards of the electronic industry, using green technology that is sustainable and renewable.
   - Purchasing and using environmentally friendly parts in the circuitry and kiosk
   - Creating an energy efficient system.
   - Creating a system that is not easily duplicated.
   - Creating a system that reduces the risk of customers using handheld devices while simultaneously driving.

2. **Community**

   - IPRO 315 will hold the satisfaction of the customers using the system in the highest regard.
   - Create clear two way communications between the business and the customer.
   - Ensure the equipment can make the drive-through experience the best it can be.
   - Release equipment before it has been thoroughly tested properly in all environments.
   - When the system is in use it creates an environment where customers are satisfied with the experience and the drive-through business saves money.

3. **Personal Relationships**

   - The 315 team will ensure that any communication that takes place between group members or current and potential stake holders will be handled in a respectful and professional manor.
   - Team members not asking for help from fellow team members when needed
   - Individual team members or the team as a whole communicating with outside stake holders in a non tactful manor.
   - Holding all members with different backgrounds to the same standard.
   - Success will result in the working environment where team members feel comfortable and feel they are all being treated fairly. Also communication with outside stakeholders is clear and concise.

Carl Cochran

Ethics Reflection

When discussing ethics in IPRO 315 there is one point that arises repeatedly and that has not been resolved with complete satisfaction from all points of view. The *National Society of Professional Engineers* code of ethics contains a fundamental canon pertaining to this point: "1. Hold paramount the safety, health, and welfare of the public." The next section of the document provides rules of practice under this topic, but none addresses the extent to which an engineer is responsible for protecting the public from its own uses or misuses of the engineered product in question. Let me be specific now.

In our IPRO project we are programming a handheld device to place an order from a fast food drive-through restaurant remotely. The safety concern is that the driver of an automobile may be using the handheld device while driving to prepare the order, and that raises the same safety concerns as talking on a cell phone (without using a hands-free device) or texting while driving. Some ideas to circumvent this problem are: to find a way to allow only a passenger in the car to place the order; to allow order-placing only when the car is not in motion.

The cell phone industry does not enact any of these measures, and they are the manufacturers of the devices. The workaround has been the creation of laws illegalizing the non-hands-free use of mobile devices while driving in some states—according to http://www.iihs.org/laws/cellphonelaws.aspx in the state of Illinois texting while driving is illegal but talking is only illegal in construction zones and school zones for most drivers. Placing an order using our system most closely resembles sending a text message, which per this site is illegal in 30 states and Washington, D.C. Operating a handheld GPS unit even more closely resembles the operation of our device and, while laws are still being developed for that, according to http://www.absolutelygps.com/gps-devices-and-texting-while-driving-laws/ a dashboard-mounted GPS unit does not violate the texting law while using it hand-held does.

I don't believe we have the ability to use programming techniques to restrict the operation of a handheld device to when it is dash-mounted or when it is operated by a vehicle's passenger, but we are using technology which will allow the device to place an order only when it is within a certain radius of the ordering kiosk, ensuring that the car is not doing more than traveling slowly through the restaurant's driveway at that moment. We have not made an

ultimate consensus about whether the ordering application can be accessed outside of this radius so that it can be prepared in advance, but I believe that this concern lies within the same jurisdiction that texting or GPS devices fall and that the laws decided for those actions should apply also to our technology.

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Tom Tsai

4/4/2011

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IPRO 315: Ethics Reflection

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The Association for Computing Machines (ACM) specifies eight general moral imperatives and eight specific professional responsibilities as part of its Code of Ethics.

The general moral imperatives are 1. Contribute to society and human well-being 2. Avoid harm to others 3. Be honest and trustworthy 4. Be fair and take action not to discriminate 5. Honor property rights including copyrights and patent 6. Give proper credit for intellectual property 7. Respect the privacy of others 1.8 Honor confidentiality. Two of these are especially applicable to the voiceless aspect of this IPRO: 7 and 8. Respecting the privacy rights of others is addressed by ensuring the accuracy of orders by allowing users to review their orders before submission and allowing them to correct mistakes at time of delivery. Unauthorized access and accidental disclosure is prevented through WiFi security protocols and hard coded transmission procedures. Personally identifiable information is not collected from the user by the server and the user is responsible for the protection of any locally stored data. The data retention and disposal period is explicitly defined as one year in the terms of service agreement. The honoring of confidentiality is addressed by restricting access to order histories for both the user and server.

The specific professional responsibilities are defined as 1. Strive to the highest quality, effectiveness and dignity in both the process and products of professional work 2. Acquire and maintain professional competence 3. Know and respect existing laws pertaining to professional work 4. Accept and provide appropriate professional review 5. Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks. 6. Honor contracts, agrees and assigned responsibilities 7. Improve public understanding of computing and its consequences 8. Access computing and communication resources only when authorized to do so. Particularly relevant to the voiceless system are 5 and 8. The impact of the

voiceless system, as well as the risk analysis, are key components of the design phase. The use of a synchronization point that essentially requires static positioning addresses the risks of ordering from a mobile vehicle. The risk of motor vehicle accidents is no higher than that caused by using cellular phones without hands-free systems while driving. Legal precedent has established that it is the sole responsibility of the driver to make such decisions and in doing so, assume all associated risks. User authorization of access to computing and communications resources are enforced by iOS's strict communication resource framework. Enabling of Bluetooth communication requires explicit user authorization and WiFi access is disabled within the application unless Bluetooth communication has been authorized.

Timothy Ranttila
IPRO 315 ethics paper
April 3, 2010

For IPRO 315 we chose to look at the professional codes of ethics for professional organizations of the fields that the individual members of our group are going into. Since the majority of our class are either Electrical Engineering or Computer Science students we spent the majority of our time looking over the ACM and the IEEE codes of ethics. We discussed the similarities and the differences of the two and also discussed how they were relevant to the projects that we are working on.

IPRO 315 is focused on improving the order accuracy of fast food drive through ordering systems. We early on in the semester decided that we wanted to take a two sided approach. We would continue working on the Improvement of the sound quality of the voice based system, but we would also start working on a voiceless system that could be used from a smartphone or other similar device. This brought us to our biggest ethical hurdle, how to prevent the driver of the vehicle from placing his order while driving.

While the ACM code of ethics had no part applicable to this, the IEEE code of ethics touched on the underlying principal of our want to prevent the driver from being able to order while driving.   The first statement on the IEEE code of ethics is " to accept responsibility in making decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment."   This was exactly the reason that we needed to be concerned whether the driver was able to order while driving. Overcoming this hurdle was the biggest design issue with the voiceless system. All the other parts just needed to be implemented in fairly straight forward ways. Our design was to use a bluetooth transmitter as a proximity sensor as to prevent the ordering from happening anywhere but at the kiosk while in line for the drive through. This also solved the queuing issue that we had, previously we had no way to line up the orders being prepared in the resturant with the line of cars coming through the drive through.

This issue is still not completely resolved. We can not decide whether we will make it so that the car cannot be moving while the order is being input into the smart device or whether only the placement of the order must be done while stopped.   Both options have their good points and bad points, but only one would truly prevent any chance of the driver using the voiceless ordering system while driving.   If the driver was not even able to use the application until they were in front of the kiosk this would prevent anyone from driving while ordering. This also could end up slowing down the whole drive-through process for someone that is not used to ordering in this manner.

While we have been having discussions about the ethical implications it was not until we actually looked at our professional organizations that we saw that the issues that we were dealing out were part of our professional code of ethics.

Shan Lu

In the IPRO project student came from different department and have different academic backgrounds that might cause a variety of opinions on one question. We should treat each group member fairly and equally.

Good communication can avoid harassment, discrimination, and arbitrary treatment when question arise between members.

So, how can we build good communication between members?

(1) Methods of communication

Face to face meeting vs. igroup

IIT provides us with igroup accounts to communicate within group members. This is good because we can easily contact each other and exchange information online. However, it also has bad influences on communication.

First of all,

The direct consequence of using igroup is groups are having less and less face to face meetings. Face to face meeting is not only a better way to communicate but also a good time for team members to build up the connection between themselves.

Secondly

It is of a low chance that members check their mails at the same time, which causes a delay of information transportation.

Base on the above analysis, we need face to face meeting and internet communication to build good relationship between members and help us to solve problems easily.

(2)

Listen and ask

Group members may come from different countries and may have different religions that may cause issues.

For instance Chinese people may get used to listen to leaders and may not express their opinions even they have lots different opinions.

And speaking skills also may cause problems when members who do not use English as their first language.

A protestant may have different opinion on certain issues with a catholic.

Bad communication can cause unfair treatment and it is hard to find out.

To solve those problems we need to listen carefully when other people express their opinions and if we find anywhere unclear we should voluntarily ask other people's opinion them to say it again in detail.

All in all, by using igroup accounts and face to face meeting, members can communicate to each other efficiently but also build good relationship with each other. While during meetings, ask and listen are key elements to good communication. Based on people's mutual respect to each other, fair and equal team relationship can be built to increase the effectiveness of communication.

In this project-improving the user experience with mobile devices and intercoms: optimizing Audio quality and energy efficiency we face many ethical challenges.

First

In this semester we will build a voiceless system which is new to our community.

So quickly analyze, conduct research and implement optimization solutions it is a big challenge we face.

And also members may not accomplish tasks due to a lacking the knowledge and aid to operate the new facility.

Solutions

By addressing this problem we can create sub-teams and assign different roles that will match with the individual's competency.

Second

Because I am the only one who is in charge of purchasing, which to be honest is very important sector of this project.

Good communication can make sure that I understand which components and at what price are needed.

Comparing prices between different venders and trying to buy things on the same sits are the most important aspects of this job.

Solutions

Keep receipts and record items in time

Third

Because members came from different department, it is difficult to find a meeting time that fits everybody's schedule. Due to insufficient meetings, it is difficult to control the progress of the whole project.

Especially we have two implement teams: voiceless team and wireless team. When we start to implement it is hard to update each team's progress.

Solutions

We have two coordinators who are responsible for updating each team's progress.

And before every meeting we will have a brief for every member to catch up.

Works Cited

A. 1 IEEE Code of Ethics.

http://www.ieee.org/web/membership/ethics/code_ethics.html

B. 2 NSPE Code of Ethics for Engineers.

http://www.nspe.org/ethics/eh1-code.asp

C. 3 Illinois Institute of Technology code of Ethics

http://ethics.iit.edu/iitcode/Version_6.2.pdf

Michael Olmos

IPRO 315

Professor Wong

April 4, 2011

<div align="center">Code of Ethics Assignment</div>

For the Code of Ethics Assignment, I looked at the Association for Computer Machinery's (ACM) code of ethics. ACM split their code of ethics into different sections: General Moral Imperatives, Professional Responsibilities, and Organizational Leadership. The section about General Moral Imperatives mainly dealt with the basic morals of technology that people should uphold. The section about Professional Responsibilities talks about a professional's responsibility to their work. The Organizational Leadership section talks about the responsibilities that leaders should have in the work area and with their employees.

In more detail, the General Moral Imperatives section aims to help each professional develop themselves and be prepared to work in the technology field. Some of the ethics statements in this section that most stand out are: "Contribute to society and human well-being", "Honor property rights including copyrights and patent", "Give proper credit for intellectual property", and "Honor Confidentiality". These ethics statements stand out the most in this section because they provide the some of the better goals and morals that people in the technology field should have. Professionals in this field should always aim to build and create new technologies that will help and better human kind. The other three statements are all also very important because they deal with privacy, rights, and property. The idea that the people responsible for creating new technologies should get their due respect.

In more detail, the Professional Responsibilities section aims to help each professional grow in their fields and become a better professional. Some of the ethics statements that stand out in this section are: "Honor contracts, agreements, and assigned responsibilities", "Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks", "Improve public understanding of computing and its consequences", and "Accept and provide appropriate professional review". These ethics statements are very key

for professionals – they remind professionals of some of the key components and responsibilities needed so that they can fulfill their obligations as a professional.

In more detail, the section on Organizational Leadership helps leaders improve themselves and reminds them of their duties as a leader. Some of the statements in this section that stand out the most are: "Create opportunities for members of the organization to learn the principles and limitations of computer systems", "Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities", and "Manage personnel and resources to design and build information systems that enhance the quality of working life". These statements give leaders reminders on what they should accomplish so that their personnel will be happy in the work place. It also reminds them of their responsibilities as leaders so that objectives are met and carried out properly.

Jaime Rodriguez

April 4, 2011

IPRO 315: Ethics Reflection

In the ASCE fundamental code of ethics there are 4 fundamental principles and 7 fundamental canons consisting of:

Fundamental Principles

using their knowledge and skill for the enhancement of human welfare and the environment;

being honest and impartial and serving with fidelity the public, their employers and clients;

striving to increase the competence and prestige of the engineering profession; and

supporting the professional and technical societies of their disciplines.

Fundamental Canons

Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development3 in the performance of their professional duties.

Engineers shall perform services only in areas of their competence.
Engineers shall issue public statements only in an objective and truthful manner.
Engineers shall act in professional matters for each employer or client as faithful

agents or trustees, and shall avoid conflicts of interest.
Engineers shall build their professional reputation on the merit of their services and

shall not compete unfairly with others.
Engineers shall act in such a manner as to uphold and enhance the honor, integrity,

and dignity of the engineering profession and shall act with zero-tolerance for

bribery, fraud, and corruption.
Engineers shall continue their professional development throughout their careers,

and shall provide opportunities for the professional development of those engineers

under their supervision.

In reference to our IPRO project, many of these principles and canons can be

applied easily. They all state how we should fundamentally apply our skills learned

and carryout this project to the best of our knowledge. In our project one major

safety issue is the use of our idea while the car is in motion but it's the same risk of

owning a cell phone. Another issue we are trying to resolve is making our design

efficient and having it work to its maxium potential by using the necessary

equipment to provide the best results.