ABSTRACT
Access to networked computing over the last 20 years has evolved from being a rare privilege to being nearly ubiquitous through the deregulation of the internet and the emergence of ISPs. Where users in the past were either affiliated with educational sites, government organizations, or were employees of a computer vendor, today's users only require a modem and the ability to pay $20 per month for full internet access. Further, where it was once the case that computer users were at least college-age, now children in grade school, and in some cases, pre-school, have internet access. The access to the technology is more commonplace, but the instruction on how to appropriately use the technology is often missing. As students, who often possess impressive technical knowledge and skills, enter institutes of higher education, they are often under-prepared to use their skills and internet access responsibly and ethically. As educators, it falls upon us to provide them with policies and service guidelines which are easy to find, easy to understand, and which provide clear examples of violations which could impact their future, and the security and reputation of the school that they are attending. Violations need to be resolved by appropriate personnel quickly and professionally. While computing staff may be adequate to resolve issues of "service guideline" violations, university policies and ethical issues should be resolved using the organization's judicial procedures. Most computing "abuses" would be unethical regardless of the vehicle used in the transaction; oddly, if a computer is used there are people who believe it to be a technology issue instead of an ethical or legal issue. This paper discusses why it is important to have clearly defined policies and guidelines, some methods of getting the word out, and how to appropriately handle incidents, hopefully balancing the need for individual user's rights against the "common good" of the campus community.

Keywords
Policy, Guideline, Ethics, Instruction.

1. INTRODUCTION
This paper discusses the importance of having well defined, and well distributed policies, guidelines and procedures for the ethical use of computing. Methods for "getting the word out" to the campus community, making users aware of common problems, how to handle incidents appropriately, and how to maintain a proper perspective will be discussed.

2. POLICIES, GUIDELINES AND PROCEDURES
Policies and Guidelines will serve to define both acceptable and unacceptable behavior. Care must be taken to ensure that policy documents are specific enough to clearly outline various activities, but remain vague enough not to become a "lawyer list" which can be circumvented. Thus, a policy could specifically state that systems which are not part of the university infrastructure may not act as routers. This is specific enough that it should be clear that no routers of any kind are permitted. It is vague enough, however, that by not defining any specific protocol or type of router (e.g. an
Copyright violations have been "all the rage" over the last couple of years. Publicity has focussed on the distribution of music files in MP3 format over the internet. It is easy enough, and most likely technically good enough, to have a policy that says "Though shall not violate copyright laws using the campus network." Such a statement is unambiguous and fairly straight forward. But what if your users do not know what does and does not constitute a violation of copyright laws? Distributing MP3s may or may not be legal, depending on the content. And can it really be a problem if "everyone is doing it?" Making commandment-like statements is a good starting point for a policy, but it's usually not enough. Clear examples of violations will help users to understand what the commandment really means and covers. Here is an example of how this might appear in a policy:

Copyright - It is a violation of computing policy to distribute copyright protected materials using the campus network. Such actions could result in disciplinary action resulting in loss of service and the public tarring with feathers.

Examples:

Sharing copyright protected music in MP3 format such as ZZ Top Eliminator, Pink Floyd's The Wall, or Indigo Girls

Sharing copied motion pictures such as South Park, The Movie, The Matrix, or A Perfect Storm

Sharing copyright protected software such as Adobe Photoshop, Microsoft Access, or Mathematica

If you want to share works via the campus network and are not sure if the work is protected by copyright law, please ask either Legal Affairs or Computing Services for advice before you share the files.

By providing specific examples along with a relatively open general statement, the rule and it's intent can be more clearly conveyed to your users.

2.2 Policies as a Positive Influence

Policies can also be used to explain appropriate usage or behavior. If it is permitted for users to sell personal items by advertising on their web pages, this can also be put in the policies. If email accounts can be used for personal messaging, this too can be explained so that users expectations can be set.

2.3 Email as an Example

University Email Accounts - electronic mail accounts may be used for university business, the free exchange of information and ideas between other internet users, and for the exchange of personal messages to family, friends and colleagues. Email accounts may not be used to initiate unwanted commercial solicitations or mass mailings to groups of users for commercial purposes.

Examples:

Email sent to an appropriate newsgroup advertising the sale of your dorm refrigerator is permitted

Email sent to a group of users subscribed to a mailing list advertising a product that you sell through a home based business is not permitted.

Email may not be used to harass other network users.

Again, by providing some examples (non-inclusive), appropriate uses can be explained as well as inappropriate use.

2.4 Procedures

In addition to defining policies and guidelines, procedures should be defined. This does not have to be public information, but should be available to all staff members who are responsible to handle violations. This could include
procedures on how to authorize a password changes, deactivate accounts, or how to report a specific abuse. In some cases, you can also use ‘canned’ responses and customize them on a case by case basis. By codifying procedures, dependencies on specific staff members can be minimized. Additionally, your users will be treated equally for any given situation. This will enable your support staff to set user expectations and will (hopefully) minimize the users' perception that they are being "singled out" unfairly. Procedures will be discussed further in the section on incident handling.

2.5 Explanations Count Too!

It is relatively easy to tell people that they are not allowed to configure their machines as DHCP servers. However, simply stating that it's not allowed is not always good enough. Users need to know why various actions are not allowed if they are to "buy into" your policies. By understanding why something is not permitted, users are typically more willing to follow the rules. For example, running a DHCP server on your machine may cause other systems on your network to be granted incorrect (and non-functional) IP addresses. This causes those systems affected to not be able to access network services, disrupting other people's ability to work, do homework, or obtain information by surfing the web. Clearly, this is not a desirable state of affairs. By explaining this 'prohibition' on DHCP servers to the users, they will be less likely to configure their systems as DHCP servers. Knowing that others can be hurt by their actions often causes people to more carefully consider their actions.

3. TAKING IT TO THE MASSES

Policies and guidelines are a good start, but they are only useful if the users are able to find and understand them. There are, of course, obvious places to publish them - your university's web pages, and student, staff and faculty handbooks. While these areas should not be overlooked, and do serve a purpose, they usually serve as reference copies which can be pointed to when users are informed about infractions. However, regardless of how many publications contain your policies, in fact, you are the only person who will ever read them. Students, staff and faculty members only tend to read them when they are attempting to defend an action taken. Please refer back to the concept of policies being sufficiently vague, but containing specific examples.

3.1 Alternate Publications

Because no one ever reads the "manual" (in this case, the various handbooks containing policies), alternate publications should be considered. The following examples should be considered, but are certainly not all-inclusive.

**School Newspaper Ads** - Advertising in the school paper can serve to warn users about an existing problem or an upcoming one. Everyone has seen the billboard ads showing that you can "Commit insurance fraud and get new clothes" with a picture of a man in a prison uniform. The same type of "catchy" ad can be used to minimize the spread of a Melissa-like computer virus:

"Open unexpected email attachments and get a whole new system!"

(picture of a computer in a crashed state)

Similarly, if your university has a new trend in policy violations, such as a sudden increase in the sharing of copyright protected MP3 files from the residence halls, an ad can be done like this one:

"Share your MP3 collection and make new friends"

(picture of a user going into a crowded computer lab, disk in hand)

**Computing Newsletter** - A regular article on policy violations, changes to policies, or misconceptions about existing policies can raise awareness. By not only discussing a specific issue, but also providing a pointer to those web pages that no one reads, you may prompt some users to actually look at the policies.

**Posters in Residence Halls** - Posters can have a major impact on raising awareness. Focusing on topics which students are more likely to violate, either intentionally or by not understanding the issue, can also help. A policy stating that systems in residence halls are not allowed to serve web pages should be well advertised, especially if the sanctions for doing so are severe. The more frequently the students violate the policy, the less likely is that they either know about it, or understand
Posters in Computing Labs - If lab usage has different policies and rules than "normal" computing, posters are an excellent way to make sure that users know the rules. If you have a policy against game playing the labs, a poster showing a cartoon user being dragged away in handcuffs for playing Half-life could serve to get the point across.

Freshmen Orientation - During freshman orientation, or during a pre-college program, students can be presented with a slide show, lecture or even a puppet show, detailing where to find policies and outlining some of the more prominent ones. Similarly, staff and faculty orientation can be used to inform employees about policies.

By putting the policies "in your face", and by advertising policies in the areas where they have the most impact, users will be better able to avoid getting into trouble in the first place. Educating the users about policies and usage guidelines needs to be part of any computing organization's mission and should be well planned and regularly updated.

4. INCIDENT HANDLING

In the ivory clad, mainframe days, a bearded "guru" in a lab coat not only ran the system, but also doled out judgement and justice. After all, only those truly immersed in the inner sanctum of the computing rooms were able to determine which behaviors were condoned and which were not. And it was only the privileged few who were able to access the (now internet) ARPAnet to send email and files through that which was to become cyberspace. Times have changed. Everyone and their brother is on the internet, and at only $19.95 a month for unlimited access! And their kids are growing up with net access, surfing the web to do their homework and using Instant Messenger to chat with buddies, classmates and total strangers (my 15 year old niece bragged to me recently that her AIM buddy list contains over 190 entries). The days when the sys admin or guru doled out justice from on-high are gone. Computing support staff have to know and understand the rules, but are now primarily technologists. That doesn't mean that there are not times when it is appropriate for computing professionals to pass judgement, but more often than not, we have no business being in the position to act as judge and jury.

4.1 Policies and Service Guidelines

Many universities have two distinct classes of "policies". I like to consider them as either being a University Policy or a Service Guideline. University Policies tend to be more general, and more encompassing, having an impact on all members of the campus community. Such policies tend to include statements about legal issues, account usage, and tie into local and federal laws. Service Guidelines, on the other hand, are generally tied to a specific service, such as access to a dial-up modem pool, or to a specific kind of account, or access to specialized equipment. Each can be handled in very different manners.

4.2 Policies - To Serve and Protect

When University Policies are violated, computing support staff should act in a policing, rather than judging role. Information regarding an incident should be gathered, and individuals involved might be interviewed in order to try to determine what actually happened, but the role of passing judgement and possible sanctions should not be handled at this level. Instead, the information, along with explanations of what policies have been violated, should be submitted to an appropriate authority. Such authorities might include any of the following:

Student Affairs
Department Heads
Deans of Colleges
Staff Supervisors
Campus or Local Police
The F.B.I. or other appropriate federal agencies

Computing policies should not create or reflect some special state of "right and wrong" based upon technologies. Instead, such policies should reflect the use of technology to commit acts which would be appropriate or inappropriate using any other venue. Harassment is harassment whether done via electronic mail, IRC, physical mail, telephone, or via-physical stalking. The action itself is "right or wrong", and the computer is only the medium by which it is perpetrated. It should not be within the jurisdiction or purview of a computing support person to pass judgement on
the ethics of a persons' behavior. All universities have organizations and authorities in place, or have access to legal authorities, who are better equipped to pass judgment on users' behavior.

4.3 Service Guidelines - No Shirt, No Shoes, No Service

Service Guidelines should cover the rules and restrictions associated with a specific service or privilege. Examples would include access to network connections in a residence hall, access to special equipment such as video editing stations or CD burners, and perhaps access to post to internet newsgroups. As such, the rules for accessing the special service should be clearly defined and should be made available to the user when service is granted. Violations of the guidelines might result in warnings, and eventually loss of access to the service. In most cases, loss of access to such services would not be a critical burden on an individual's ability to pursue coursework or to do their jobs in the case of staff and faculty members, but might impose considerable inconvenience. The organization which provides the services may have control over the granting and denial of access to those services. In such cases, it is appropriate for that group to define, distribute and enforce the guidelines pertaining to the specific services offered.

5 The Point

As computing becomes increasingly commonplace in our society, less attention is being spent on educating individuals on appropriate, legal, and ethical behavior. Children are exposed to computing and internet access at increasingly early ages, and unless provided with guidance from parents, often are given no clue as to what is right and wrong, and just as importantly, why. By the time that students arrive at college, they will have become accustomed to using computing for word processing, programming, communicating with friends and family, listening to music, watching films, playing on-line games, and more. And while they'll be more and more connected via the internet, they'll be less and less connected as human beings, lacking the face-to-face interaction that earlier generations took for granted. With this disconnect comes a tendency to overreact to imagined slights and to retaliate rather than question. Further, the ease with which trojans, viruses and denial of service attacks can be initiated or spread makes even the moderately clueful user potentially dangerous in an ever more connected environment. The focus in education tends more towards "technology" issues than towards "behavioral" issues. Thus, we are left with the question of "Who will teach them right from wrong?" The answer, of course, is US.