Emphasis is on presenting key pedagogical aspects of a seminar offered last fall and reflecting on those issues. I will add some reflections as time permits.
BACKGROUND
Dawn and David are also offering courses, David just finished his course, which was part of PSU world campus
GIS PROFESSION: A NASCENT FIELD

- U.S. DEPARTMENT OF LABOR HIGHLIGHTS “GEOGRAPHIC TECHNOLOGY” AS A KEY HIGH GROWTH JOB FIELD FOR THE 21ST CENTURY
- $3.3 BILLION MARKET WORLDWIDE (DARATECH, 2006)
- ETHICAL ISSUES LOOM LARGE IN THE PUBLIC PERCEPTION OF THE FIELD
  - SURVEILLANCE
  - POLICY
  - SOCIAL INEQUALITIES
- NEED TO PREPARE GIS PROFESSIONALS FOR THESE CHALLENGES
TEACHING GIS PROFESSIONAL ETHICS

- Ethics is a recommended component of undergraduate, graduate, and professional curricula in GIS&T.

- GIS&T Body of Knowledge (BOK) includes ethical issues: privacy, access, intellectual property, and others, among the 329 topics that define the GIS&T knowledge domain.

- "Ethical Aspects" of GIS&T is included among the "core" units.
These are underlying concepts for teaching ethics, broadly defined.

Important in translating issue for professional ethics, from the following pages, into pedagogy. These are drawn from seminal work from computer science ethics education, Huff and Martin, 1995, 81
SELECTED ISSUES

- INDIVIDUAL AND PROFESSIONAL RESPONSIBILITY
  - CRUCIAL FOR STUDENTS TO EXAMINE THEIR OWN IDEAS OF INDIVIDUAL AND PROFESSIONAL RESPONSIBILITY;
    PROFESSIONAL RESPONSIBILITY FROM THE CODE OF ETHICS (ACM/GISCI)
- QUALITY OF LIFE
  - CONSIDER CLAIMS FOR IMPROVEMENT TO QUALITY OF LIFE AND THE POSSIBILITIES OF UNDESIRABLE EFFECTS
- RISKS AND RELIABILITY
  - ERROR-FREE DESIGN IN IMPOSSIBLE AND THE CHOICES AND TRADEOFFS OF DESIGN AND IMPLEMENTATION NEED TO BE ANALYZED.
SELECTED ISSUES

- USE OF POWER
  - KNOWLEDGE GIVES POWER: DESIGN DECISIONS ARE WAYS IN WHICH COMPUTER PROFESSIONALS EXERT POWER. GROUPS AND ORGANIZATIONS IN TURN HAVE POWER OVER COMPUTER PROFESSIONALS. APPLYING AND CREATING DECISIONS ON BEHALF OF OTHER INVOLVES ETHICAL DILEMMAS. BALANCING RESPONSIBILITIES CAN PRODUCE EXCRUCIATING CONFLICTS.
SELECTED ISSUES

- PROPERTY RIGHTS
  - INFORMATION CAN BE INFINITELY REPRODUCED WITH A LOSS AND LEGAL AND ETHICAL RESPONSES ARE EVOLVING TO FIND A BALANCE WITH EXISTING COPYRIGHT AND PROPERTY LAWS
- PRIVACY
  - LEGAL AND ETHICAL ISSUES ARISE IN THE DESIGN AND USE OF SYSTEMS THAT COLLECT, STORE, AND TRANSMIT DATA ABOUT PEOPLE. PRIVACY EXPECTATIONS VARY. POTENTIAL USES AND ABUSES ARE RELEVANT.
SELECTED ISSUES

☐ EQUITY AND ACCESS
☐ MEASURES OF INEQUITIES ARE INSUFFICIENT FOR CONSIDERING THE COMPLEX IMPACTS TECHNOLOGY CAN HAVE ON SOCIETAL ACCESS AND POWER RELATIONSHIPS.

☐ HONESTY AND DECEPTION
☐ FOR THE PUBLIC HONEST, CLEAR AND COMPREHENSIVE APPRAISALS OF TECHNOLOGY'S RISKS AND BENEFITS NEEDS TO BE CONSIDERED WITH SPECIAL ATTENTION ON HOW COMPETING INTERESTS BALANCE EACH OTHER.

Finally,
IMPORTANT POINTS

☐ FOCUS IS ON PROFESSIONAL ETHICS
  ☐ AAAS PROFESSIONAL ETHICS PROJECT
  ☐ MORALLY GOOD CONDUCT IN THE WORKPLACE
    ☐ MORAL ECOLOGIES
    ☐ COMMITMENT
    ☐ RESPONSIBILITY
    ☐ ACCURACY
Will be made available along with other materials on the project website
GEOG 8291 FALL 2009

- COVER BACKGROUND AND DEVELOP PRACTITIONER INTERVIEWS
- 4 PARTS
  - BACKGROUND
  - INTERVIEWS
  - GIS ETHICS
  - PRESENTATIONS
- ASSIGNMENTS
- INTERVIEWS
- POSITION PAPER

GEOG 8291 Seminar on GIS and Society Fall 2009
Meets Tuesdays 9:00 - 12:00, 1:00 - 3:00 PM

Course Topic
GIS Ethics: Accuracy and Responsibility

Instructor
Alicia Yamas
Social Sciences
602-3500
Alicia.Yamas@odu.edu

All assignments related to the use of GIS have been an area of importance for most. The use of GIS for military and surveillance purposes along with concerns about reporting GIS has been challenging. A reassessment of GIS ethics in the development of GIS is needed to provide a sound base of these issues and a thorough comprehension of the concerns facing the ethical development of GIS. However, while most people agree that ethics for GIS professional, we often have great trouble putting ethics issues into action. This seminar aims to bridge this gap and provide a sound base for ethical consideration of accuracy and responsibility issues.

Seminar, as part of a project supported by the National Science Foundation (NSF), in collaboration with activities at Oregon State University and Pennsylvania State University, engages students with an ethically informed approach to researching GIS ethics. This seminar focuses on the ethics of GIS in the development of GIS.
SYLLABUS

- 3 CREDIT GRADUATE SEMINAR
- OFFERED ONCE A WEEK
- INITIAL OFFERING, ONLY 5 STUDENTS ENROLLED
- MODEL FOR FUTURE OFFERINGS
KEY ACTIVITIES

- CRITICAL READING REVIEWS
- ETHICS/SOCIAL INTERACTIONS
- CODES OF ETHICS DISCUSSION
- INTERVIEW TRAINING AND ANALYSIS
- PREPARING CASES
DISCUSSIONS

- STARTED WITH READINGS FROM QUINN’S WIDELY USED BOOK
- NOT INTENTIONALLY PROVOCATIVE, BUT “BALLOON” ANALOGY WAS
- STILL, GOOD COMMON STARTING POINT
INTERVIEWS

- MEANT A GREAT DEAL OF PREPARATION
- ONE INTERVIEW CONDUCTED BY EACH STUDENT
- ANALYSIS WAS STRAIGHTFORWARD
- DEVELOPING CASES WAS MORE COMPLICATED
CASES

☑ INTERVIEWS DESIGNED TO HELP IDENTIFY CASES
☑ STUDENTS RECEIVED GUIDELINES AND DEVELOPED CASES
☑ NOT CONNECTED TO CODES OF ETHICS (MORE LATER)
☑ COMPLEX WRITING ISSUES THAT REQUIRED MUCH CLASSROOM AND ONE-ON-ONE TIME

Consider in preparing cases draws on ideas expressed on the literature of education. As a starting point, I take the ideas of Huff and Martin (1991) about ethical issues in that of the computing professional instead of the list. Further, successful classroom engagement with ethical issues requires of social analysis and by accounting for technical, social, and ethical issues in practice. Under ethical issues, Huff and Martin (1995) distinguish responsibility and then a larger assemblage of topics for ethical analysis: risks and reliability, property rights, privacy, equity and access, and the multidimensionality of the issues, they should be carefully present in their implications for ethical computing. A table intersecting two key approaches to the issue and to points to issues that the must at least point to a simple approach and involve: considerations of groups and impact the design and use of technology: physical and physiological differences concerns of groups impact the design and use of technology differing points of view in an organization on the use, regulation, protection and design.

Consider:
- organizational structure and culture
- workplace procedure
- members' power and areas of interest
- members' position in the corporate hierarchy

Gender, race, economic class, reference group, national culture imparts different interests, preferences, approaches, and assumptions (gender education). Diffusion globally of technology means local decisions can have global impacts.
Cases connect the abstraction of the classroom with the messiness and bustle of professional life. In the teaching of practical ethics, it is important to allow the expression of ethical opinions.
MATTERS TO CONSIDER IN ETHICAL DISCUSSION/ANALYSIS

- INDIVIDUAL AND PROFESSIONAL RESPONSIBILITY
- QUALITY OF LIFE
- USE OF POWER, RISKS AND RELIABILITY
- PROPERTY RIGHTS
- PRIVACY
- EQUITY AND ACCESS
- HONESTY AND DECEPTION

multidimensionality of the issues
<table>
<thead>
<tr>
<th>A LARGER LIST</th>
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<tr>
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From Huff/Martin 1995
Several differences are relevant to consider when considering the social dimensions of ethical issues that impact the design and use of technology
Cases can address some: should not focus on all!
TEACHING APPLIED ETHICS

- Case methods involve
  - Identifying ethical issues
  - Considering practical complexities when making decisions
  - Developing justifications that convince others

Michael Davis 2000
Ethics and the University
This will be part of resources the project will make available through open-source courseware
CONCEPTS
CONCEPTS

- CODES OF ETHICS HAVE LITTLE RELEVANCE
- GREAT CRITICISM OF THEIR VAGUENESS AND IRRELEVANCE
- CASES ARE GOOD, BUT LEARNING THE WRITING IS COMPLICATED AND AN OUTCOME BY ITSELF
- INTERVIEWS ARE MOST IMPORTANT
  - GREAT DISCUSSIONS AFTERWARDS
ISSUES

- Interviews connect students to professional practices
- Cases and texts were abstract
- Bringing in visitors would have been helpful
REFLECTIONS
PEDAGOGICAL CONSIDERATIONS

- Bring in guest speakers
- Spend time on cases
- Leave out position paper
- Bring in speakers to talk about codes of ethics
- Instead of "Why does professional ethics matter for students? Focus on "How does professional ethics matter to students?"
- Morality for individuals and group (in practice)

Since I’ll do this again...
CONCLUSION

- Teaching How Ethics Matters
- Application of Theoretical Ethics
- Case-Based Reasoning in Writing and Teaching
  - Focus on Facts -- Not on Theories
LAST THOUGHTS

MORALITY IS PRACTICAL. IN THE END IT IS ABOUT WHAT TO DO AND WHAT TO FEEL; HOW TO RESPOND TO OUR OWN AND WORLD'S DEMANDS. AND TO APPLY NORMS, WE MUST UNDERSTAND THE EMPIRICAL CONTEXTS IN WHICH WE ARE APPLYING THEM. NO ONE DENIES THAT, IN APPLYING NORMS, YOU WILL NEED TO KNOW WHAT, AS AN EMPIRICAL MATTER, THE EFFECTS OF WHAT YOU DO WILL BE ON OTHERS.

(K. APPIAH, EXPERIMENTS IN ETHICS, 2008, QUOTE FROM PAGE 22)