

**1. COURSE TITLE/NUMBER, NUMBER OF CREDIT HOURS:**

**ISM 4041  
Section 001  
Social, Legal, and Ethical Issues of Digital Data  
3 credit hours**

**2. COURSE PREREQUISITES: No prerequisites**

This course is part of the College of Business Major in Management Information Systems. If used towards a major or minor, a grade of “C” or better is required to pass the course.

**3. COURSE LOGISTICS:**

<b>Term:</b>	<b>Spring 2012</b>
<b>Class Location:</b>	<b>FL 423</b>
<b>Time:</b>	<b>Monday 4:00 – 6:50</b>

**4. INSTRUCTOR CONTACT INFORMATION:**

<b>Instructor:</b>	<b>Robert Cerveny, Ph. D.</b>
<b>Office Address:</b>	<b>FLH 213</b>
<b>Office Hours:</b>	<b>Tuesday 2:30 – 3:30 pm Thursday 2:30 – 3:30 pm and by appointment</b>
<b>Phone:</b>	<b>(561) 297-3191</b>
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<b>E-mail:</b>	<b>cerveny@fau.edu</b>

**5. TA CONTACT INFORMATION:** There is no TA in this class

**6. COURSE DESCRIPTION:** The course covers larger ethical and social issues of computing, including the role of a digital society in the modern world. The material includes information privacy and security, ethical and legal theories and value systems and their application to the networked digitized world. Discussed also are social impact, human factors, use and misuse of computers.

**7. COURSE OBJECTIVES/STUDENT LEARNING OUTCOMES.** Upon completion of this course, students will be able to gain declarative knowledge and understanding on:

- Privacy and Security
  - Identify and articulate situations, reasons, problems, solutions in computer privacy and security.
  - Distinguish the needs of the different parties having a stake in the privacy/security of a computer system.
  - Understand and use different theories and technologies for achieving computer security as well as their strengths and weaknesses.
  - Relate privacy and security considerations to real and constructed ethics cases.
- Computers and Society:
  - Characterize the issues and controversies surrounding free speech, intellectual property, and fair use with respect to computers and the Internet.
  - Explain the issues and problems involved with placing trust in computational entities.
  - Discuss the implications of the growth and development of online communities.

- Develop a greater understanding of the ways in which a student's skill set and career can influence and impact the larger world.
- Write about and reflect on the ways in which they are able to apply their skills and knowledge toward community service.
- **Ethics**
  - Understand and evaluate the way that their skills and careers impact the larger world.
  - Identify and articulate central ethical problems concerning equality, justice, and rights, and understand the role these play in personal and professional life.
  - Investigate ways of settling ethical disputes in arriving at ethical judgments.
  - Think and write critically about classic and contemporary moral issues, in particular those relating to computers and technology.
  - Identify the contributions of diversity and recognize the challenge that it presents in resolving contemporary ethical issues
  - Demonstrate an ability to apply ethical theories and values in personal and professional decision-making.

**8. COURSE EVALUATION METHOD:**

<b>Component:</b>	<b>Weight</b>
Homework assignments	30%
Class Participation	20%
Presentation	20%
Mid-Term Exam	15%
Final Exam	15%

**9. COURSE GRADING SCALE:**

<b>A</b> = (93-100) %	<b>C</b> = (73-76.99) %
<b>A-</b> = (90-92.99) %	<b>C-</b> = (70-72.99) %
<b>B+</b> = (87-89.99) %	<b>D+</b> = (67-69.99) %
<b>B</b> = (83-86.99) %	<b>D</b> = (63-66.99) %
<b>B-</b> = (80-82.99) %	<b>D-</b> = (60-62.99) %
<b>C+</b> = (77-79.99) %	<b>F</b> = < 60 %

Student mastery of the concepts of the course will be demonstrated through the use of homework problems solved by the student, in class discussions of topics between the student and the instructor, in-class team presentations and a combination of in-class and take-home exams and a term paper.

**10. POLICY ON MAKEUP TESTS, LATE WORK, AND INCOMPLETES.**

**COURSE COMPONENTS.**

**Homework:** Homework is to be turned in by 4:00 pm on Monday of the week assigned (see course content and tentative schedule attached). Late homework (homework turned in before the assignment has been discussed in class) will lose 10% of its value. Homework turned in after an assignment has been discussed in class returned and/or a solution posted will lose 75% of its original value.

**Teams:** Students will be divided into teams for portions of the course.

**Class Participation:** There will be a discussion of the materials contained in the text. Two teams will be responsible for leading the discussion each week. One team will lead the discussion and the other will

comment on their presentation. However, this is meant to be a class activity so all members of the class are expected to have read the material and be prepared to comment on it.

Each team is to use library resources and/or the internet to find at least two unique references concerning social, legal, or ethical issues of digital data from **different** sources, analyze the articles and prepare a **wiki** page for each article. A second team will be assigned to edit the **wiki** for each article to insure completeness and readability. All students will be responsible for reading the wikis and participating in the class discussion over the articles, led by the team which created the Wiki. Articles must be substantive, i.e. an announcement of a new product or a new release about a product does not count. The team will turn in a copy of the article when each **wiki** is posted.

**Presentation:** Your no more than 20 min presentation to class will be analyzing a real-life ethical, legal, or societal issue relevant to the course topics. Students will be expected to a) articulate the basic issues surrounding this topic, b) fairly and accurately characterize the different positions around this issue, and c) advocate and argue for a particular position. You will be graded on your presentation skills, your notes, and how you lead the class discussion. A more detailed description, with examples, will be provided in class.

A list of suggested topics is provided below. At the end of each chapter in AGF is a section for assignments. You should use these as a basis for selecting your presentation topics, though you may select other topics based on ideas shared in class, your own interest and relevance to class discussions, etc. Topics and presentation dates must be approved in advance and scheduled.

**Exams and Exam Make-Up Policy:** There will be two exams during the semester. The last one (the final) is cumulative in this course. These exams will be taken on-line during the time periods noted in the course content outline.

A student who is unable to take an exam due to an emergency must inform me of that fact on or earlier than the day of the exam (except for extreme cases, i.e., you are in a coma in the hospital due to a car accident suffered on the way to the exam) and arrange for a make-up exam before the graded exam is returned to the class. Any student requiring a make-up will have to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead stating the nature of illness **and its severity**). Exams missed without prior approval (or documented proof that the unapproved absence was unavoidable) cannot be made up. In no event will a make-up be given after the graded exam is returned to the class, which is usually the week after the exam is scheduled.

**Incompletes:** University policy states that an incomplete may be given only if a student has a passing grade in the course. An incomplete is only meant for students who are unable to complete the course due to severe hardships beyond their control. It is not meant to accommodate students who decide that the workload is too heavy. If an "I" is given, work must be completed within the time period specified by the instructor which is not to exceed 12 months from the time the incomplete is given.

**Religious Accommodation:** In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments. For further information, please see <http://www.fau.edu/academic/registrar/catalog/academics.php>

**Students Representing The University At Official Functions:** Students representing the University at official functions will not be penalized for missing exams or quizzes while performing these functions. Reasonable accommodations will be made to allow the student to make up the work, usually after the majority of the class has taken the exam or quiz. It is up to the student to bring to the instructor's

attention the need for the accommodation, both by presenting the instructor a University form attesting to the need for the accommodation and by reminding the instructor of the event close to its occurrence.

### **11. SPECIAL COURSE REQUIREMENTS:**

**Blackboard:** You must use Blackboard to retrieve class notes, take tests, and to receive class e-mail from me. Go to <http://blackboard.fau.edu> to log in.

**Web Assist Course:** This course will make use of the Blackboard Internet feature. Lecture material and homework assignments will be posted on Blackboard, with due dates. Grade information will also be found there. We will experiment with an occasional on-line session using Blackboard Collaborate. Additionally there will be occasional on-line discussion periods. The times of these discussion periods will be determined as the semester progresses.

**12. CLASSROOM ETIQUETTE POLICY:** Inappropriate behavior distracts other students and interferes with their learning experience. Inappropriate behavior would include rude and inappropriate comments in either live or on-line discussions. Additionally, in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions. Behavioral deviation from these policies will not be tolerated. Since it is my responsibility to provide an environment that is conducive to learning for everyone in the class, I will deduct points from the final grade of a student who chooses to repeatedly distract others. In particularly egregious cases, I will have the student permanently removed from the class.

**13. DISABILITY POLICY STATEMENT:** In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute course work must register with the Office for Students with Disabilities (OSD) – in Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow all OSD procedures.

If you are recognized as a student with learning disability by the university, please provide the necessary documentation as soon as possible (no later than the first two weeks of the semester) so that I can make arrangements for you to take tests, etc., according to the prescribed procedures. If you have any other special needs please let me know. If you don't inform me of your special status and arrange for the paperwork with the Office Students with Disabilities, you will be given the same status as the rest of the students in class until you have provided the required information and the Office Students with Disabilities. Grades will not be changed retroactively based on any information provided late.

For further information, please see [http://www.fau.edu/eop/ada/ada\\_policy.php](http://www.fau.edu/eop/ada/ada_policy.php)

### **14. CODE OF ACADEMIC INTEGRITY POLICY STATEMENT:**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see the College of Business Academic Honesty Policy at <http://business.fau.edu/undergraduate/current-students/academic-policies/academic-honesty-policy/index.aspx>.

While the FAU Honor Code governs all student activities throughout the course, there are some specific comments which are applicable.

Homework is to be an individual effort. It is certainly permissible to work with other students on assignments, but the final result turned in must be your own work. It is almost impossible for a program of any size above trivial to use identical variables, algorithms and computer memory. Having said that, you may incorporate code you find from other sources as long as you properly reference the sources. (Reuse of code is one of the objectives of object oriented programming after all). However, cheating, plagiarism, and unauthorized collaboration are unacceptable and subject to disciplinary actions. Plagiarism is turning in someone else's ideas as your own work. Cheating is copying from someone or giving your work to someone else. Such actions may include an "F" in the course and the placement of a letter of fact in your student record in accordance with the rules of the University and the College of Business.

**15. REQUIRED TEXTS AND READINGS:**

**Texts:** Sara Baase, A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet, 3rd edition, ISBN: 0-13-601918-8.

**16. SUPPLEMENTARY/RECOMMENDED READINGS**

Additional readings may be assigned during the semester as part of the homework or project components. These readings will be provided online, including articles about technical topics and current events.

**17. COURSE TOPICAL OUTLINE, INCLUDING DATES FOR EXAMS/QUIZZES, PAPERS,**

**COMPLETION OF READINGS:** The table below contains a schedule of topics by week. Homework assignments over the material will be found in the assignments section of Blackboard. Assignment due dates are given with the assignments in Blackboard.

**TENTATIVE SCHEDULE**

Week	Topic	Text	Homework
Week 1	Code as social structuring; code as law; code as programming; codecs implementing privacy, security, efficiency, and economy. Alan Turing, the code-breaker.	Baase Ch 1	
Week 2	History of code. Early codecs. Public and private key	Baase Ch 2, 3	
Week 3	Privacy and security on computers and networks. Technologies, laws, customs. Privacy and Use of Personal Information. Legal rights in the US (particularly post-Patriot Act), ways in which personal information is gathered, data mining, anonymization techniques, legal, ethical and security issues regarding the gathering of personal information, both by businesses and the government.	Baase Ch 2	HW 1
Week 4	Reliability and risk. Protection, consequences, cases, also legal and ethical responsibility and liability	Baase, Ch 4	HW 2
Week 5	Cybercommunities. Digital society. Democracy, access, diversity, issues of online identity	Baase, Ch 5	HW 3
Week 6	Intellectual property issues. Who owns programs? Who owns the Web? Patent and copyright. Open source, GNU GPL/lesser GPL, Creative Commons, peculiar qualities of information goods, digital	Baase, Ch 6	HW 4

	rights management - watermarking, usage tracking. Intellectual Property, Fair Use, and Copyright. What is intellectual property? How is copyright established? Terms of use. GNU Public license and copyleft. Philosophy of open source. File sharing and piracy, including the ethics thereof. Pros and cons of digital rights management (e.g. watermarking, copy protection).		
Week 7	Mid Term Exam		
Week 8	Computer mischief and crime. Hackers and crackers, viruses, the ethics of developing potentially harmful or dangerous programs. Fraud and embezzlement. Ethical tradeoffs between privacy and law enforcement.	Baase, Ch 7	
Week 9	Ethical theories. Deontological vs. utilitarian, with many subforms. Applications of theory in computing	Baase, Ch 10	
Week 10	Practical and professional computer ethics. Codes of practice. Ethical programming	Baase, Ch 11	HW 5
Week 10	Application of ethics in computing. Case studies and discussion of "real-world" ethical dilemmas, disputes, legislation, and litigation.	Baase, Ch 10, 11	
Week 12	Social impacts of computing. Computers and work. Ethical and moral decisions of the past and future. Role of Computers and Information in Society. Impact of the computer and the Internet on education, the workforce, and the media. Impact of the 'digital divide' on US and global society. Consequences of a changing US workforce (telecommuting, loss of blue-collar jobs, repetitive strain injury). Role of the Web in providing timely access to information (for example, during the recent Iraq war, Web coverage compared to television coverage.) Consequences of automation in society; for example in credit checks, system failures, etc. Rights and responsibilities of automated programs and their creators. (for example, who is responsible for unintended damage caused by a computer program?) . Digital Society. Discussion of online communities, forums, blogs, and means of communication. Emphasis on the traditional and novel social and ethical issues that are raised by a digital society: diversity, access, fairness, democracy. Rights and regulation.	Baase, Ch 8, 9	HW 6
Week 13	Student Presentations		
Week 14	Student Presentations		

Week 15	Final Exam		
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The above is tentative and I reserve the right to change it depending upon the progress of the class.

**Suggested topics for Final Papers and Team Presentations:**

Deep packet inspection.

What is it? What are its positive uses? What are its negative uses? Give examples. Consider network security, censorship, management of network traffic, privacy, and any other relevant areas.

Devices to assist people with disabilities.

Report on computer-based technologies that assist people with disabilities. Consider blind people, deaf people, people who use wheelchairs, people with limited use of their hands and arms, Alzheimer patients, etc. Describe some of the new tools and their impact. Discuss issues such as cost, any problems with these devices, etc. (Focus on newer developments, e.g., devices not mentioned in the textbook.)

Identification and biometrics.

A company sells an identification chip that is implanted under a person's skin. About the size of a grain of rice, it contains personal information and emits a radio signal that identifies the person. Give examples of where the chips is currently used. Discuss beneficial uses, potential problems and abuses, and appropriate guidelines for use of such a chip and other identification technologies, including various biometrics.

Telemedicine.

Describe applications, from remote consultation to remote surgery. Benefits, possible problem areas (privacy, errors, loss of personalized care).

Health information on the Web.

Research and report on Web-based health information sites, including such issues as benefits, reliability of the information, privacy protections, techniques being developed to rate or accredit sites, impact on medical care. Patients of some healthcare providers can access their own records online. Describe an example. How does it affect medical care?

Privacy on the Web.

What's happening now? Recent abuses and improvements. Describe and evaluate Web site policies and technical and policy privacy protections provided by the market, and current proposals for government regulations.

Privacy for organizations and businesses.

All our discussion of privacy concerns privacy for people. There have been incidents in which sensitive information that organizations and businesses must provide to government agencies has been made public, intentionally, accidentally, or by leaks. Release of information about fund-raising, sales plans, pricing, members, or customers might aid competitors. Release of information about manufacture of, storage of, and security for certain chemicals could aid terrorists. Report on some cases and discuss reasonable extensions of principles about privacy for organizations and businesses.

Personal data privacy regulations in other countries.

Report on personal data privacy regulations, Web site privacy policies, and law enforcement access to personal data in one or more countries, e.g. the European Union.

Computers in law enforcement.

Issues include benefits to crime fighting, invasion of privacy, problems caused for innocent people

because of errors. Describe cases where a computer system has been very helpful in catching a criminal or vindicating an innocent person, and describe cases where a computer system has caused serious problems. An activity for this project could include a ride-along in a police car. (A few students did this in the past and found it very instructive.) Another possible activity is to interview someone who runs or supervises the use of local law enforcement computer systems. What databases do they access? How do they prevent unauthorized access?

Computers in the legal/justice system.

Describe systems in use, from legal databases to artificial intelligence programs that help judges determine sentences. Consider the possibility of AI systems making judgments in some legal cases. Describe and evaluate pros and cons.

Technological responses to terrorism.

Describe and evaluate some of the computer-based technologies implemented or expanded after Sept. 11, 2001. Consider effectiveness, cost, impact on daily life, air travel, risks, etc., and arguments related to privacy and civil liberties.

Children on the Internet.

There are several problem areas: availability of material not appropriate for children, contact with people who seek to abuse children, and privacy risks from game sites that ask children for extensive personal and family information (for marketing purposes). How serious are these problems? What is being done about them? Evaluate various solutions. Do benefits for children on the Net outweigh risks? Can we arrange to have the benefits without the risks?

The Global Economy.

What are the roles and impacts of computers and communications technology in the increase of trans-border economic activity (e.g., eBay as a global garage sale; customer service workers in other countries handling U.S. consumer calls; databases to track the origin of a cow with Mad Cow Disease; etc.)? What are the benefits? What are the problems? Is this aspect of increased globalization a good thing for people in the U.S., for people in other countries, for humanity in general?

Automated systems.

Study progress, safety, and social issues related to an automated system such as automated highways and self-driving vehicles.

Safety-critical applications.

Find a local application to study, or study the Air Traffic Control system, systems to prevent train crashes, a particular area of medical devices, or other similar topic. Describe systems in use, discuss benefits and risks.

Use of computer and Web technology by restaurants. Investigate and discuss issues such as customer service, impact on employment, food safety, ambiance. Visit a restaurant with self-service ordering terminals. Some fast food restaurants use robotic devices for food preparation; report on one. Interview a waiter or restaurant manager. (This could be part of a paper that looks at the impact of computer automation in two or three industries or consumer services.)

Spam.

Describe and evaluate technical solutions, current legislation and regulation, and significant proposed legislation. Some people propose that the federal government create a "Do not spam" list, like the "DO not call" list for telemarketers. Discuss privacy problems that could occur with implementation of such a list. Discuss the roles of technical and legislative solutions for spam. Consider the relevance of freedom of speech.



Censorship of the Internet.

Some aspect not covered in the text, or study some issue in more detail.

Information warfare.

Will the next wars be fought without bombs? Will computer networks and computer-controlled infrastructure be the targets of military hackers? What is happening now? What kind of defenses are possible?

Recent copyright battles for music and movies.

Report on several recent strategies used by the entertainment industries (legal, technological, and business) to prevent unauthorized copying. Evaluate the effectiveness and ethics of the methods. Describe current controversies.

Free software and open source software.

What's happening with "free" software and open-source software now? What is their impact? What are the implications for consumers? For big companies like Microsoft?

Identity theft.

What is the current state of the problem? Describe relevant laws. How have consumers and businesses changed behavior in response to Identity Theft? What technical solutions have developed?

Hactivism.

Report on specific incidents or organizations engaged in hactivism. Compare to civil disobedience and to other kinds of hacking.

Are Web issues really new?

Choose two other technologies or innovations, such as radio, telegraph, railroads, or electricity, and find out what ethical, social, and legal issues and controversies arose about them. Compare the problems and issues to current problems and issues about the Web. What solutions developed? How well do those solutions fit the Web?

Computers and the environment.

How are computers used by nature researchers and organizations. Describe applications that help protect the environment. Describe aspects of computers that cause environmental problems. What do environmentalists think of computers?

Political activism on the Net in the U.S. (or other politically free country).

How has the Internet helped or hurt political groups outside the mainstream? How is it used by major political parties and candidates? What is the impact? How do/should current regulations about political campaigns affect individuals and small organizations that set up Web pages to support/oppose candidates and issues?

Political organizing in unfree countries.

Choose one country or a few countries that restrict political freedom. Describe how people use social networking sites and other Internet technologies to organize political events, strikes, protests, boycotts, etc. How have these techniques affected the politics of the country? How have the governments responded? What do these experiences suggest for the future of political freedom and democracy?

Electronic Voting and Internet Voting.

The U.S. and some other countries have experimented with voting on the Internet or using electronic voting machines. How successful were the first experiments? Will most political elections be held on the Internet in the future? Discuss the problems of maintaining secret ballots, preventing election fraud, and

providing for recounts (for both electronic voting machines and Internet voting). What other issues are relevant? How are the states (and other nations) handling these issues?

Violence in video/computer games.

What is the impact on children? How does it differ from television? Interview people who write and publish computer games to find out their policies and views about violent games.

Use of the Web in schools.

Are students being taught to use the Web effectively, wisely, and safely?

Distance learning.

What are the common uses? What will be the impact on universities? On adult education? Is cheating a problem?

Monitoring of employees' Web use and e-mail.

What policies are employers using? Perhaps study a few large businesses in your area. Evaluate policies for different kinds of employers (e.g., for your university, covering students, faculty, and staff, and for a software company in a highly competitive business).

Cyberspace communities.

What makes a "community"? How do cyberspace communities handle decision making, dealing with troublesome members, etc.? Find one community to study in depth, preferably one that you are a member of or have a special interest in. (Please respect the community's privacy guidelines and ask permission if quoting members.)

Gender or ethnic issues.

The Journal of Women and Minorities in Science and Engineering might have some useful articles for background and ideas for specific projects. There have been several studies of differences in the way men and women use computers. Compare Web sites aimed at women or at specific ethnic minority audiences with the Web in general.

Computing and network access in other countries.

For example, how are computers used in rural, poor areas of Africa? Choose one country to study in depth or compare a few.

Science fiction and prediction.

Find several science fiction stories published at least 30 years ago that are set in the present time or near future and describe computer and communications technologies. Report on how closely their view of the technology corresponds to what is actually available. What social benefits and problems did they anticipate?

What will the world be like 50 years from now?

How will electronic communications and commerce affect the power of centralized governments? Everyday life? What will happen as computers are connected to the human body? Will human intelligence be of less value in the future? Several experts have written books addressing these issues. You could read two or three and evaluate their predictions.

## **REFERENCES:**

Informatics and the Digital Society: Social, Ethical and Cognitive Issues, Tom J. van Weert (Editor), Robert K. Munro (Editor) Springer; 2008 ISBN-10: 1402073631

Virtual Shadows - Your Privacy in the Information Society, Karen Lawrence Oqvist. British Informatics Society Ltd (January 5, 2009) ISBN-10: 1906124094

Smith, H. J., Dinev, T., and Xu, H. 2011. The Information Privacy Research: An Interdisciplinary Review, MIS Quarterly, Theory and Review, (35:4) pp. 989-1016 with Appendix pages A-A27

Dinev, T., Hart, P., Mullen, M. 2008. Internet privacy concerns and beliefs about government surveillance - an empirical investigation, Journal of Strategic Information Systems, 17, 3, 214-233.

Ethics for the Information Age (4th Edition), Michael J. Quinn, Addison Wesley, 2010, ISBN-10: 0132133873

Ethics and Technology: Controversies, Questions, and Strategies for Ethical Computing, Herman T. Tavani, Wiley; 3 edition, 2010, ISBN-10: 0470509503

Understanding Privacy, Daniel J. Solove, Harvard University Press, 2008, ISBN: 0674027728

Nothing to Hide: The False Tradeoff between Privacy and Security, Daniel J. Solove, Yale University Press, 2011 ISBN: 0300172311

The Shallows: What the Internet Is Doing to Our Brains, Nicholas Carr, W. W. Norton & Company (June 6, 2011), ISBN: 0393072223

Legal Issues in the Global Information Society, Center for International Legal Studies, Salzburg, ISBN10: 0379215160