Ethics in Computer Science

An executive summary!

1

Ethics in Computer Science

- **Ethics** according to Merriam-Webster, is "a set of moral principles or values". You may derive your own personal ethics from many sources: your family and culture, your religion or faith, the legal system where you live, etc.

- **Computing Ethics** is a whole range of ethical questions surrounding computer science and the use of computers.

- **Professional Ethics** (or professional practice): the "principles of conduct" that we agree to be governed by as computer scientists and engineers.

2

Code of Ethics

- There are many computer science-related organizations that have codes of ethics. However, most computer scientists are members of the ACM or the IEEE, and so have agreed to be bound by one of the following:
  - **The ACM Code of Ethics (http://www.acm.org/constitution/ code.html)**
  - **The ACM/IEEE Software Engineering Code of Ethics and Professional Practice (http://www.acm.org/serving/se/ code.htm)**
  - **The IEEE Code of Ethics (See next slide)**

3

IEEE Code of Ethics

- We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

  1. to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;

  2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;

  3. to be honest and realistic in stating claims or estimates based on available data;

  4. to reject bribery in all its forms;

  5. to improve the understanding of technology, its appropriate application, and potential consequences;

4

IEEE Code of Ethics

- 6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

  7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;

  8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;

  9. to avoid injuring others, their property, reputation, or employment by false or malicious action;

  10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.
- *Approved by the IEEE Board of Directors August 1990*

© Juan Pablo Zamora Zapata 2005-2006

5

The ACM/IEEE Software Engineering Code of Ethics and Professional Practice

Software engineers shall commit themselves to making the analysis, specification, design, development, testing and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety and welfare of the public, software engineers shall adhere to the following Eight Principles:

1. PUBLIC - Software engineers shall act consistently with the public interest.

2. CLIENT AND EMPLOYER - Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest.

3. PRODUCT - Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.

4. JUDGMENT - Software engineers shall maintain integrity and independence in their professional judgment.

© Juan Pablo Zamora Zapata 2005-2006

6

The ACM/IEEE Software Engineering Code of Ethics and Professional Practice

5. MANAGEMENT - Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.

6. PROFESSION - Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.

7. COLLEAGUES - Software engineers shall be fair to and supportive of their colleagues.

8. SELF - Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

© Juan Pablo Zamora Zapata 2005-2006

7

Other Issues

- Social responsibility of developers:
  - What is the software used for?
- Privacy: how much information about users is it proper for an application (game, search engine, etc.) to collect in order to improve the 'user experience' but also to set advertisement and sell customer lists…
  - **Think of Zuckenburg's "mistake"…**
- Monitoring ISPs: FBI's Carnivore
- Military applications and levels of control: is human intervention required?
- Security, reliability
- Quality horror stories: Therac 5

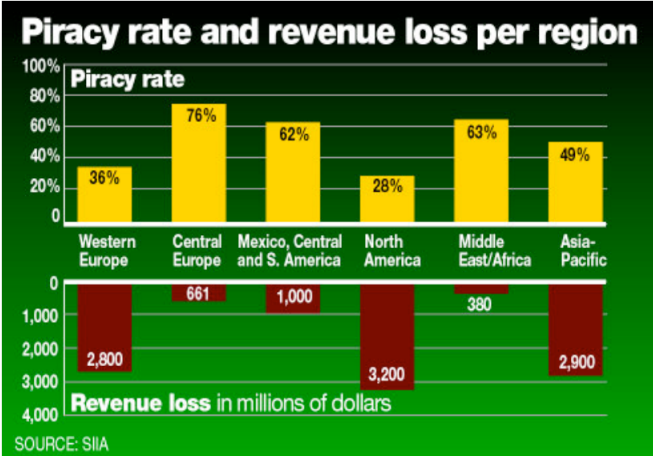© Juan Pablo Zamora Zapata 2005-2006

8

Ethics in Games
An Overview!

In 2005

Software Piracy

Piracy rate and revenue loss per region

Piracy rate

	Western Europe	Central Europe	Mexico, Central and S. America	North America	Middle East/Africa	Asia-Pacific
Piracy rate	36%	76%	62%	28%	63%	49%
Revenue loss (millions)	2,800	661	1,000	3,200	380	2,900

Revenue loss in millions of dollars

SOURCE: SIIA

Ethics in Game Design?

- "Anyone who does something for a mass market has a responsibility. You tread carefully on the lessons that you teach. … If it is obvious this is an artificial world and you can't do these things in real life then that is more acceptable. But if it parades itself as a real world, you have to be careful about that.'

  -- Peter Molyneux

  (Populous, Black and White, Fable)

Ratings

- Game ratings set by Entertainment Software Rating Board
- Started in 1994 by the Interactive Digital Software Association (IDSA)
- Rating is a consensus of at least three independent, trained raters
- Rates over 1,000 games per year

Controversy in Psychology

- Anderson & Bushman: Exposure to violent games…
  - … increases physiological arousal
  - … increases aggressive thoughts
  - … increases aggressive emotions
  - … increases aggressive actions
  - … decreases positive prosocial actions

13

Questions to Ponder

- What social responsibilities do game designers have to the users of their products?
- Should violence in video games even be an issue, since we can see it often in other, more popular mass media?
- Have you personally observed a change in a friend due to videogame usage, violent or otherwise?
- Do you notice any changes in your own attitude after playing a violent video game?

14

Game Addiction

I have played the game for 10 hours continuously or more.

N male = 2760, N female = 406
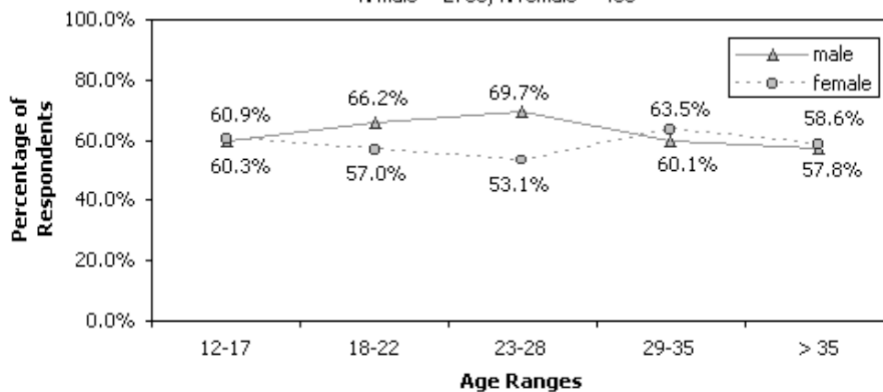
Signs of Game Addiction

- Would you rather log into your online game than spend time with friends in person?
- Are the majority of your friends gamers as well, who mostly get together for LAN parties to play games such as Counterstrike, Unreal Tournament, or Diablo?
- Do you try to find ways of playing your online game when you're not at home?
- Do you skip appointments, miss classes, or miss days of work because you're at a critical point in your online character's advancement or adventures?
- Are you finding yourself flirting with those of the opposite sex in the game, to build a relationship, rather than in person?
- Do you deny addiction to an MMORPG, but somehow still feel the need to play, or just keep your character and possessions updated (you may be masking it by pretending you're having fun)?
- Do you feel your heart racing as you control your character in a flee from danger? ...to save his or her virtual life? ...when stumbling upon some serious loot?
- Do you feel a sudden rush of intense joy and relaxation after you safely manage to steal, pickpocket, or murder another character?
- Do you experience stronger emotions while in your online game than you do in real life? (this is very dangerous)