POLITECNICO DI MILANO

Computer Ethics

Ethics in IT-configured societies

Viola Schiaffonati

October 17th 2019

Overview

- Technology as the **instrumentation** of **human action**

  - Focus on **ICT**

- **IT-configured activities**

  - Three features

- **IT-configured domains of life**

IT-configured societies (Johnson 2009)

- The term 'information society' is often used to refer to societies in which IT is a critical part of the **infrastructure** through which **economic**, **political**, and **cultural** life is constituted

- IT **shapes**, and **is shaped by**, these societies

  - Configuring ethical issues and shaping social values

POLITECNICO DI MILANO

A socio-technical perspective (Johnson 2008)

"*Computer* experts aren't just building and manipulating hardware, software, and code, they are **building systems** that help to achieve important **social functions**, systems that constitute **social arrangements, relationships, institutions,** and **values**"

(Johnson 2008)

Sociotechnical system

- The **world civil aviation system** is an example of a sociotechnical system

- Sociotechnical systems are composed of

  - **Physical** objects (e.g., airplanes)

  - **Organizations**, **institutions**, **conditions**, **rules** (e.g., air traffic regulations)

  - **People** (e.g., air controllers)

- Sociotechnical systems have **an hybrid character** as they consist of components which belong in many different 'worlds'

  - Components requiring a **physical description**

  - Components requiring a **social description**

- Technology **adds to** - **expands**, **enhances** – the instrumentation of our bodies

- Particular technologies instrument human activity in quite **distinctive ways**

  - Automobiles instrument mobility, eyeglasses expand vision, …

New possibilities

- Technology not only expands human capabilities, but constitutes **form of action that weren't possible** or even conceivable without the technology

  - Genetically modifying food, watching TV

- IT expands what individuals can do and constitutes actions inconceivable before the technology existed

  - **Sending spam, searching the Web, blogging**

POLITECNICO DI MILANO

IT-configured activities

- Although it is difficult to generalize about IT because it is such a **malleable technology**, many of the ethical issues arising in IT-configured societies seem to **cluster around three features**

  - **Global, many-to-many scope**

  - **Distinctive identity conditions**

  - **Reproducible**

Malleability

- Logical malleability (Moor 1985)

of the Computer Revolution is found in the nature of a computer itself. What is revolutionary about computers is *logical malleability*. Computers are logically malleable in that they can be shaped and molded to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations. Logical operations are the precisely defined steps which take a computer from one state to the next. The logic of computers can be massaged and shaped in endless ways through changes in hardware and software.

Global, many-to-many scope

- Internet-instrumented communication has a global scope

  - The **expanded scope** is achieved with **relatively little effort**

  - The significance of the global scope of the Internet is a function of **ease**, **immediacy**, and **affordability**

- Radio and television communication are similar to the Internet in global scope and immediacy

- The important difference is that they are a **one-to-many communication** in contrast with the Internet's capacity for **many-to-many communication**

Distinctive identity conditions

- To say that anonymity is a distinctive feature of communication on the Internet is not quite accurate

    - Communications on the Internet **monitored** by service providers and **traced** by other interested parties (both legally and illegally)

- To say that **communication** on the **Internet** is **mediated** is a more accurate characterization

    - A complex sociotechnical system instruments what we say to one another online

- There are **distinctive identity conditions** in Internet communication coming from two elements

    - **Mediation**: Internet communication is mediated through a vast sociotechnical system

    - The range of **identity conditions** that are **available** (variety of formats)

Reproducibility

- Electronic information is **easy to copy** and there is generally **no loss of quality** or value in the reproduction

- Moreover, because the **original** is **left intact** in the process of copying, there may be no evidence that electronic information was copied

- **Reproducibility** expands the **scope** of IT-instrumented communication **in time** and **place** but

    - This expansion means **less control** of written words by those who write them

    - This expansion enlarges the **possibilities for disconnection** between words and people

POLITECNICO DI MILANO

It-configured domains of life

- Three domains of life in which **IT plays a prominent role** to illustrate the **ethical challenges** and **changes** occurring when activities are constituted with IT

  - Virtuality, avatars, and role-playing games

  - Friendship and social networking

  - Education and plagiarism detection

Virtuality, avatars, role-playing games

- Opportunities for participation in virtual environments and **new types** of **behavior**

- Anonymity and pseudo-anonymity

- **Conceptual muddles** and **policy vacuum**

- **Analogical thinking**

  - We might think of behavior in virtual environments as a form of expression like writing a story or making a movie

  - Different degree of harms?

POLITECNICO DI MILANO

Friendship and social networking

- Whether **true friendship** can be formed online

- Differences between **online** and **offline relationships** are not limited to differences in self-disclosure

- IT structures the **construction** of **identity** online

  - We can see that the architecture of a system can make a difference in how one construct one's identity and the conception that friends have of us

  - **Reproducibility** also plays an important role: from recording conversations to reproducing interactions

Education and plagiarism detection

- **Collision** between what is **possible** and **easy** and the **norms of education** as an illustration of the changes in ethical norms and values occurring when education is instrumented with IT

- Possibility of **plagiarism** detecting devices

- They tend to create an environment of **mistrust**

- **Reconfiguration** of **education** around IT

POLITECNICO DI MILANO

Democracy and the Internet

- Many have suggested that IT and the Internet are 'democratic technologies'

  - **Technological determinism**: this claim seems to affirm that adoption of IT and the Internet will lead (necessarily) to the adoption of democratic practices

- Arguments based on **malleability** and **reproducibility**

- What is **democracy**? Cluster of ideas, values, and arguments

Arguments

- The Internet

  - It allows **individuals** to be **producers** and **distributors** of **information**

  - It provides **forums** that are **mediated differently** than mass media

  - It facilitates **access to many more sources** of information (lower barriers to **production** and **distribution** of information)

  - It facilitates the **formation of associations** that are independent of geographic space

Is the Internet a democratic technology?

- Are **search engine democratic**? What would a democratic search engine look like?

  - The very fact that we cannot examine algorithms for the Web seems somewhat undemocratic

- **Net neutrality** as an example of how powerful forces seek to control the Internet

  - Some Internet Service Providers advocate that some content providers be allowed to pay for enhanced network speeds, but some large providers advocate to keep all Internet communications on equal footing

  - Battle between the **extremely wealthy** (Google, Amazon, …) and the **merely rich** (the telephone and cable industries)

- **Global scope** of the Internet as another challenge to its democratic character

  - **Global democracy** vs. **nation-states**

Is the Internet a democratic technology?

- The Internet is **not inherently democratic**

- The Internet is not merely an artifact or technological system, but a **socio-technical system**

  - More than software, hardware, and telecommunications lines

  - It is **malleable** and can support **democratic** and **undemocratic** patterns of behavior and institutional arrangements

POLITECNICO DI MILANO

References

- Johnson, D. (2009). *Computer Ethics*, Forth Edition, Prentice-Hall

POLITECNICO DI MILANO