Broader Issues on the Impact and Control of Computers

1. Computers and Community

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Computers & Community

- Do computers enable or disable social interaction?
- Chats, blogs, & surfing
- fewer opportunities to be "co-present" $\Rightarrow$ isolation
- "technology emphasizes individual at expense of community and family"
- Is Real Life interaction superior to virtual?

- Participation in clubs is declining. Why?
- Is the Internet a forum for participation?
- Earlier example of telephone
- different modes of communication can be enabling
- AOL used more for "community" than info. retrieval
- online relationships often based on similar interests

- are computers enabling distributed relationships at the expense of local ones?

- many professionals, info. workers, & businesses relocating to small towns – a transition facilitated by computer technology

- many advantages of a big city can now be imported to a smaller venue: education, information, entertainment, shopping, recreation

- The Internet can create or facilitate an addiction

- Walmart, e-commerce & downtown
- Economies of scale & efficient management have helped Walmart & e-commerce
- what do malls have in common with shopping on-line?
- Why have downtown & community retail venues been declining despite a consumer wish for them not to?
- Can this trend be effectively slowed or reversed? How? Would these methods be popular?

- “Change creates new options and causes some old options to disappear.”

- Individualism & community strength are not mutually exclusive (Baase)

- “Think global – act local”?

Information Haves & Have-Nots: Access & the *Digital Divide*

- Many different dividing lines can be drawn:
  - developed vs. undeveloped or developing countries
  - rich vs. poor (economic classes)
  - young vs. old
  - differing ethnicities
- deprivations not restricted to computer access

- 1934: telephone companies required to provide affordable subsidized service to the poor. $\Rightarrow$ universal service

- should there be a similar universal access to the internet requirement?

- How necessary is access to the internet?

- CPSR: universal internet access is a necessary and basic condition of citizenship. Any notion of equity impossible w.o. it.

  – NII: National Information Infrastructure

- Everyone in the country must have access to a place from which to connect to the NII
- Hardware & software must be easy to use for all (including handicapped)
- training in use must be available
- pricing must be tiered so that service is affordable by all
- access to all features must be available to all
- access also includes hardware

- Trends in computer access

- "virtually all tech. innovation is first available to the rich"
- user interfaces & reliability also improve as the technology matures
- gaps: income, ethnicity, remoteness, gender – some have closed more than others
- " haves vs. have-laters"
- community access: internet cafe's, public & school libraries, community centers

- FreeNet volunteer movement: networks & education

- 2nd hand equipment

- is the above sufficient?

Loss of Skills & Judgment

- The convenience afforded by a computer system can encourage mental laziness and less attention to details.
  - similar effects with cars & calculators
- historical precedents for skill loss due to adoption of new technologies, e.g., writing
- $\exists$ a tendency now to emphasize data at the expense of analysis

- A vast amount of information is now accessible, but there is relatively little knowledge.

- Is dialog & debate a receding skill?

- Changes in social patterns are often based on the widespread use of new technologies

- Has the Internet enhanced interpersonal communication?

- computer literacy $\Rightarrow$ Information literacy (innumeracy)

- the discrimination of truth from falsehood and degrees of certainty are a necessary skill.

- e.g. “Web of Lies” in *A Fire Upon the Deep* by Vernor Vinge

Abdication of Responsibility

- to exercise judgment & skepticism
- people tend to act on data without ascertaining its veracity.
- spell-checkers
- "just go along with what the computer says" $\Leftarrow$
  - convenience
  - ignorance

- institutional pressure
- expert systems are intended to supplement and assist
- legal liability

- "*droidism*"

Evaluations of the Impact of Computer Technology

- Neo-Luddite views
  - tied to a particular view of how to *properly* live
  - computers:
    * cause unemployment & deskilling
    * manufacture needs (we use them 'cause they're there)
    * cause social inequity
    * cause social disintegration & dehumanization

    - weaken communities & cause isolation
    - separate people from nature & destroy environments
    - benefit big corporations & governments most
    - in schools reduce development of social skills, human values and intellectual skills, and a uniformity of knowledge, in children
    - do little if anything to solve real human problems
- computers are the latest but worst stage in the decline of the best of human societies
- computers &, more generally, all computers are malevolent

- Business, consumers, and work
  - Luddites have a negative view of
    - capitalism
    - business
    - markets
    - consumer products
    - factories
    - modern forms of work
  - purpose of technology:

    * Luddite: eliminate jobs to reduce cost of production
    * pro tech: reduce effort to produce goods & services
- Luddite:
    * negative attitude towards business & corporate power
    * disadvantages of tech outweigh advantages
    * technology creates want for unneeded products
    * low view of the judgment & autonomy of ordinary people
    * little value on comforts & conveniences
    * often exploit tech to disseminate ideas & opinions

- Accomplishments of Technology
  - ultimate benefits in many different respects
  - other factors: stability, freedom, & flexibility of political & economic systems
- Who benefits most?
  - Luddites: largest corps
  - Naisbitt: telecommunications is driving force creating robust global economy & reduction in size of both political & business units
  - disabled

– health & life expectancy

Prohibiting Bad Technologies

- Why & How?
  - technology may be used for benefit or ill
  - should the development of a new technology be postponed until, after exhaustive study, all consequences are determined & judged as overall acceptable? Who would judge?
  - Denning: "Although a technology does not drive human beings to adopt new practices, it shapes the space of possibilities in which they can act: people are drawn to technologies that expand the space of their actions and

relationships." I.e., tech. is adopted when it yields more choices for actions & relationships.

– E.g. restrictions on telemedicine – good or bad?

- Difficulty of Prediction
  - experts have consistently failed to anticipate profound new uses of technology – for benefit or ill.
  - "prediction is difficult, especially about the future"
- Is it socially or ethically justifiable to prohibit people from developing new tech via their own efforts & investments?
- How certain need we be to prohibit technological development?

- Conclusions:

  1. decisions about developing new tech should be limited in scope

  2. decision-making process should be decentralized & non-coercive

- Fundamental problem: select a decision-making process that:

- produces what people want

- works well despite the difficulty of predicting consequences

- respects diversity of opinions on what constitutes a desirable life style

- relatively free of political manipulation