CSE312/ISE312

Chapter 7: pages 329-350
Digital Divide


What We Will Cover

- The “Digital Divide”
- Neo-Luddite Views of Computers and Technology
- Predicting Technology Advances

Corresponding page number: 311
The "Digital Divide"

- Some groups of people access and regularly use various forms of information technology, while others do not.
- Text relates this to "haves" and "have-nots".
- 1990s focus – access to computers and to the Internet.
- Current focus – access to broadband.

In your experience is the digital divide related more to wealth or to geographic location?

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The Next Billion Users

- Approximately two billion people worldwide have access to the Web, a fivefold increase over roughly a decade.
- Approximately five billion do not use the Internet.
- Non-profit organizations and huge computer companies are spreading computer access to people in developing countries.
- Bringing new technology to poor countries is not just a matter of money to buy equipment.

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Criticisms of Computing Technology

- The textbook cites some criticisms of computers, namely, that computers:
  - Cause massive unemployment and de-skilling of jobs.
  - Do not satisfy real needs.
  - Cause social inequity
  - Cause social disintegration
  - Are dehumanizing
  - Weaken communities
  - Lead to isolation of people from each other.

Do you agree with these criticisms of computers?

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Luddites

- Luddite refers to the backlash against the Industrial Revolution in early 1800s England
- Fought to preserve home-weaving
- Term has evolved to describe those who oppose technological progress

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Similarities to 2016 US

- **Situation**
  - Anger among displaced factory workers
  - Loss of real income
- **Stated causes**
  - Undocumented workers
  - Global trade
- **Unstated causes**
  - Robots
  - Computer-related de-skilling

Will a reduction in global trade and a decrease in undocumented workers help with the situation?

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Neo-Luddite Views of Computers

- Textbook lists the following criticisms of computers:
  - Computers separate humans from nature and destroy the environment
  - Computers benefit big business and big government the most
  - Use of computers in schools thwarts development of social skills, human values, and intellectual skills in children
  - Computers do little or nothing to solve real problems
- Textbook states that the case that computers cause unemployment is not convincing
- **Alternate view**
  - Income inequality is a better measure of social impact

Do you think that computerization has had an effect on income inequality?
Accomplishments of Technology

- Increased life expectancy
- Elimination or reduction of many diseases
- Increased standard of living
- Assistive technologies for those with disabilities

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The Difficulty of Prediction

- Each new technology finds new and unexpected uses
- The history of technology is full of wildly wrong predictions
- Classic quotes:

  *I think there is a world market for maybe five computers*
  - Thomas J. Watson, IBM Chairman, 1943
  
  *Computers in the future may ... only weigh 1.5 tons.*
  - Popular Mechanics, 1949
  
  *There is no reason for any individual to have a computer in their home*
  - Ken Olson, president of DEC, 1977

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Intelligent Machines

- Technological Singularity - point at which artificial intelligence or some combined human-machine intelligence advances so far that we cannot comprehend what lies on the other side
- We cannot prepare for aftermath, but prepare for more gradual developments
- Select a decision making process most likely to produce what people want

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