CIS 381: Social & Ethical Issues of Computing

The Digital Divide

Dr. David Koop
Globalization

• Globalization: Process of creating a worldwide network of businesses and markets

• Arguments for:
  - Increases competition
  - People in poorer countries deserve jobs, too
  - Global jobs reduce unrest and increase stability

• Arguments against:
  - Forces American workers to compete with foreigners who do not get decent wages and benefits
  - Accelerates exodus of manufacturing and white-collar jobs from United States
  - Hurts workers in foreign countries
Foreign Workers and Foreign Competition

• Foreign workers in the US:
  - H-1B Visa
    • Right to work up in United States to six years
    • Company must show no qualified Americans available
  - L-1 Visa: Allows a company to transfer a worker from an overseas facility to the United States

• Foreign competition:
  - China is world’s number one producer of computer hardware
  - IT outsourcing to India is growing rapidly
  - Number of college students in China increasing rapidly
  - ACM Collegiate Programming Contest provides evidence of global competition
The Digital Divide

• The Digital Divide: Some people have access to modern information technology while others do not.

• Underlying assumption: people with access to telephones, computers, Internet have opportunities denied to those without access.

• Concept of digital divide became popular with emergence of World Wide Web.
Models of Technological Diffusion

• Technological diffusion: rate at which a new technology is assimilated

• Given highest (A) to middle (B) to lowest (C) socioeconomic status
US Broadband Speeds

Percent of Downloads Reaching Broadband Speed

Quintile
- Most
- Least

[Daily Yonder]
Assignment 7

• April 12:
  - No lecture at 9am
  - Attend CIS Seminar: Ralph Clifford, UMass Law School, 3-4pm, LIB 207
  - Talk on intellectual property
  - Write a reaction to the talk

• If you cannot attend the talk, I will provide another reading/video for A7 instead
Term Paper Presentation

• Presentation dates announced
• Topic presentations are done in groups, but each person should speak for 3-4 minutes
• Try to be succinct in discussion of the background and focus on the ethical issues and dilemmas
  - Can have one person summarize background (e.g. extra minute)
  - All should dig into the ethical issues and dilemmas
• Need to evaluate issues using ethical frameworks
• Groups can choose to examine different issues related to a topic or examine a similar issue using different frameworks
Test 2

- Wednesday, April 10, in class
- Same format as Test 1
- More information and example questions posted on the web site
Quiz
Net Neutrality

• What is net neutrality?
  - Require all Internet packets be treated the same
  - Companies cannot charge more for certain services or throttle selected content

• Supporters of tiered service say it is needed to support Voice-over-IP and other services

• Opponents to tiered service (e.g., Google, Yahoo!) say it would hurt small start-up companies and lower innovation

• Other critics believe companies controlling Internet might favor some content over other content
Net Neutrality

• Idea that broadband Internet service is a common carrier
  - As a public utility, service providers cannot give preferential treatment to customers
  - Regulated by the Federal Communications Commission (FCC)

• Is high speed internet access a right?
  - Does everyone have a right to broadband?
  - What are the impacts on society when people don’t?
Net Neutrality History

- In 1980s, Internet primarily used by researchers and developers rather than consumers
- In late 1990s, Internet becomes more pervasive in homes and businesses as broadband replaces dial-up services
  - Cable modem access categorized under U.S. law as an information service rather than telecommunications services (not a common carrier)
- In 2004, FCC Chairman Michael Powell presents “guiding principles” for the industry to preserve Internet freedom
  - Consumers should have freedom to access content, freedom to use applications, freedom to attach personal devices, freedom to obtain service plan information
  - Presented as guidelines rather than regulations
Net Neutrality History

• In 2005, the FCC reclassified phone-based internet access (e.g. DSL) as an information service
  - Relaxed common carrier regulations for providers

• In 2009, Comcast settles class-action lawsuit for throttling P2P connections of users in 2007 and 2008
  - Paid $16M across affected users and provided FCC with its new congestion management system that is application agnostic

• In 2010, Federal court overthrew FCC’s cease-and-desist order against Comcast In 2010, FCC created first Open Internet Order
  - Restates general ideas of Internet freedoms but a compromise
  - ISPs cannot block or slow online services
  - Wireless companies can throttle services
Net Neutrality History

• In 2014, DC circuit court ruled that the FCC cannot require ISPs to treat all traffic equally in Verizon vs. FCC
  - Court ruled on basis that ISPs are not common carriers
• In 2015, FCC reclassifies broadband as a telecommunications service (Open Internet Order)
  - ISPs cannot block, throttle or fast lane users
• In 2017, FCC chairman Ajit Pai led “Restoring Internet Freedom” order to repeal 2015 rules
  - Currently 23 State Attorneys General suing order as a violation of federal law
  - Some states have passed legislation to protect net neutrality
  - Pai claims FCC has authority that trumps states/municipalities
  - ISPs must abide with state rules
The Winner-Take-All Phenomenon

• Winner-take-all: a few top performers have disproportionate share of wealth

• Causes
  - IT and efficient transportation systems
  - Network economies
  - Dominance of English language
  - Changing business norms
CEO Pay vs. Production Worker Pay

Worker 1980

CEO

Worker 2003

CEO

[M. J. Quinn]
Sports and Winner-Take-All

• Winner-take-all has existed in sports, arts, and entertainment
• Gap between very good players and great players is not huge
• … but the difference in compensation/endorsements/etc. is huge

<table>
<thead>
<tr>
<th>Metric</th>
<th>Rory McIlroy</th>
<th>Sergio Garcia</th>
<th>Derek Ernst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving distance (yards)</td>
<td>310.5</td>
<td>294.3</td>
<td>297.0</td>
</tr>
<tr>
<td>Driving accuracy (%)</td>
<td>59.93</td>
<td>62.19</td>
<td>64.41</td>
</tr>
<tr>
<td>Greens in regulation (%)</td>
<td>69.44</td>
<td>68.68</td>
<td>63.52</td>
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<tr>
<td>Putts/round</td>
<td>28.59</td>
<td>28.59</td>
<td>29.92</td>
</tr>
<tr>
<td>Scoring average</td>
<td>69.12</td>
<td>69.80</td>
<td>72.59</td>
</tr>
<tr>
<td>Winnings per tournament</td>
<td>$487,064</td>
<td>$308,725</td>
<td>$10,916</td>
</tr>
</tbody>
</table>

Table 10.2 Comparison of personal statistics of PGA Tour professionals Rory McIlroy, Sergio Garcia, and Derek Ernst for the 2014 season.
Reducing Winner-Take-All Effects

- Limit number of hours that stores remain open
- Businesses form cooperative agreements to reduce positional arms races (e.g. salary caps on pro sports teams)
- More progressive tax structures: difference in modern tax rates compared to the past
- Campaign finance reform: limit political influence of wealthy
Critiques of the Digital Divide

- DD talk suggests the difference between “haves” and “have nots” is simply about access
- DD talk puts everyone in two categories, but reality is a continuum
- DD implies lack of access leads to less advantaged social position, but maybe it is the other way around
- Internet is not the pinnacle of information technology
Watkins: "Navigating the Digital Edge"

- Digital divides or participation gaps?
- In 1999, youth 8–18 years old living in homes with Internet access
  - White: 57%
  - Black: 34%
  - Latino: 25%
- In 2010, youth amount of time online
  - White: 77 mins
  - Black: 84 mins
  - Latino: 109 mins
- African Americans are 30% more likely than the average American to use Twitter
Questions

• How do race, class, gender, and geography influence the digital media practices of young people?
• Are some youth more likely to experience the risks than the opportunities of technologies?
Youth Participation in Digital Culture

- Friendship-driven
- Interest-driven
- Civic-oriented (critiques)
- "Contrary to popular opinion, young people are developing important social, technical, and civic skills while hanging out online"

[S. C. Watkins]
Mobile

• "If we define the digital divide as largely a matter of access to technology, then Internet-capable phones, to the degree that poor and working-class communities can afford them, may be bridging the access gap"

• "[I]f we define the divide in terms of participation and social ecology, the issue of mobile phones and equity is cloudy at best"

• Mobile paradox: "Even as black and Latino youth are early adopters of mobile devices they are also less likely than white youth to grow up in households with access to broadband Internet."

[S. C. Watkins]
Digital Literacy = Digital Equity

• "The emphasis on digital literacy shifts the focus from access to the skills and expertise that establish more robust and more meaningful learning outcomes."

• "The divide that deserves increasing attention from educators, media researchers, & practitioners is the 'digital literacy divide'."

• "Tools literacy is foundational; design literacy is transformational"

[S. C. Watkins]