CS 4873: Computing, Society & Professionalism

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Week 3: Do Artifacts Have Politics?

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What do Winner's terms mean?

- Artifacts?
  - Objects created by people; "Technology"

- Politics
  - "Arrangements of power and authority in human associations as well as the activities that take place within those associations"
  - Not just formalized politics, but all of societies structures!

- *Do technologies have impact on human authority and power structures and activities within them?*

How Do We Assess any Technology?

- Economic costs and benefits?
  - jobs created, income generated, etc.
  - distribution of those costs and benefits for different populations
- Environmental impacts?
  - pollution
- Risks to public health and safety?
  - exposure to natural disaster impact, "unsafe at any speed"

How Do We Assess any Technology?

- The ability to alter the the structure of society?
    - Social Determinism
    - Technological Determinism

    - Technological Politics

Can technologies have intentional politics?

Can technologies have intentional politics?

- Bridges in NYC
  - Intended to keep poor people, especially minorities, away from the beaches
  - How do we know that was the reason?
    - Because Robert Moses said so explicitly
- Cyrus McCormick's pneumatic molding machine
  - Creates inferior product at higher cost
  - Used to get rid of skilled labor in the union
  - Then abandoned

Can technologies have unintentional politics?

Can technologies have unintentional politics?

- Stairs
    - Stairs weren't intended to exclude people in wheelchairs
    - Americans with Disabilities Act (ADA) mandates that we fix this

- Automatic tomato harvester
    - Saves money
    - Gives an advantage to big farms
    - Tougher tomatoes were bred

Socio-Technical Systems

- Combinations of people, artifacts, and social practices
  - All affect the others
  - We need to take a holistic view

Technologies and Political Organization

- Are some technologies more compatible with kinds of social organization?
  - Can you imagine democratic control of nuclear power?
  - Can you imagine authoritarian control of solar power?
  - Can solar power support decentralization of authority?

What Consequences Does This Have for us as Computing Professionals?

- Are there technologies you would or would not develop?
  - Why or why not?

Does this Affect Basic Science?

- Is more knowledge always better?
- Are there scientific things we shouldn't study?

Obligation to do Good?

- Do we have an obligation to do good in our work?

Would You Develop a Technology That Has Good and Bad Uses?

- Assume everything will fall into the hands of an authoritarian regime eventually

The Politics of Computing

Focus of your recitation discussions

Focus of homework 2

Does Computing Have Politics

- Winner's ideas and approach:
  - Computing as extensions of social order
  - Inherently political computing

- The Internet / Web?

- AI / "Algorithms"?

- Blockchain / decentralized computing?

- Social networking services / Surveillance capitalism?

- Robotics?

E.g., AI/"Algorithms"

- The Relevance of Algorithms – Gillespie

- Digs into a variety of issues that instill politics in algorithms
    1. Patterns of inclusion of data (choices, availability, preparation)
    2. Cycles of anticipation a user action and needs, how conclusions drawn
    3. The evaluation of relevance, authority, legitimacy, truth
    4. The promise of algorithmic objectivity
    5. Entanglement with practice of real people getting real things done
    6. The "production of calculated publics", reflection and creation of groups

The Politics of Technologies

Homework 2

- Due Feb 8

- Pick a technology (that involves computing) and describe its values

  - What values are intentional?

  - What values are unintentional?

  - Does it affect different groups differently?

For Next Time: Utilitarianism

- Discussion section guide available
  - Bring a question, observation or relevant news item
  - You'll discuss
    - Something interesting about your Therac + 737 MAX homework
    - Politics of some technology