



COMPUTING LANDSCAPE

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Aim of the Lecture

- You will be a professional who works in an area related to Computing
- Be effective by knowing the Landscape of your domain
- How and in Which ways your profession impacts the society

Agenda

- History of Computers
- Today's Computing Landscape
- Social, Legal, Ethical and Environmental Aspects
- Discussion

History of Computers

- Pre-Generation (Before '40s) – Mechanical
- First Generation ('40s) – Vacuum Tube
- Second Generation ('50s) – Transistor
- Third Generation ('60s) – Integrated Circuits
- Fourth Generation ('70s) – Micro-processors
- Fifth Generation ('00) – AI

History of Computers

- Rapid advancement
 - Components
 - CPUs
 - Hard Disk
 - Memory
 - IO Devices

History of Computers

- Rapid advancement
 - Computers
 - PCs, Workstations, Play stations
 - Notebooks
 - Hand held devices
 - Servers, Server farms and super computers
 - Embedded systems, wearable devices

Today's Computing Landscape

- Connectivity and Digital World
 - Internet
 - Mobile Phones
 - Emails
 - Social Networks
 - Online Education

Today's Computing Landscape

- Video sharing
- Collaboration
- E-commerce
- Free information, Games etc.
- Blogs
- WWW

Areas of Concern in Current Computing Landscape

- Ethical Issues
- Legal Issues
- Social Issues
- Environmental Issues

Ethical Issues

- Intellectual Property
- Information Collection
- Spam
- Differences between personal choices, business policies and Law

Legal Issues

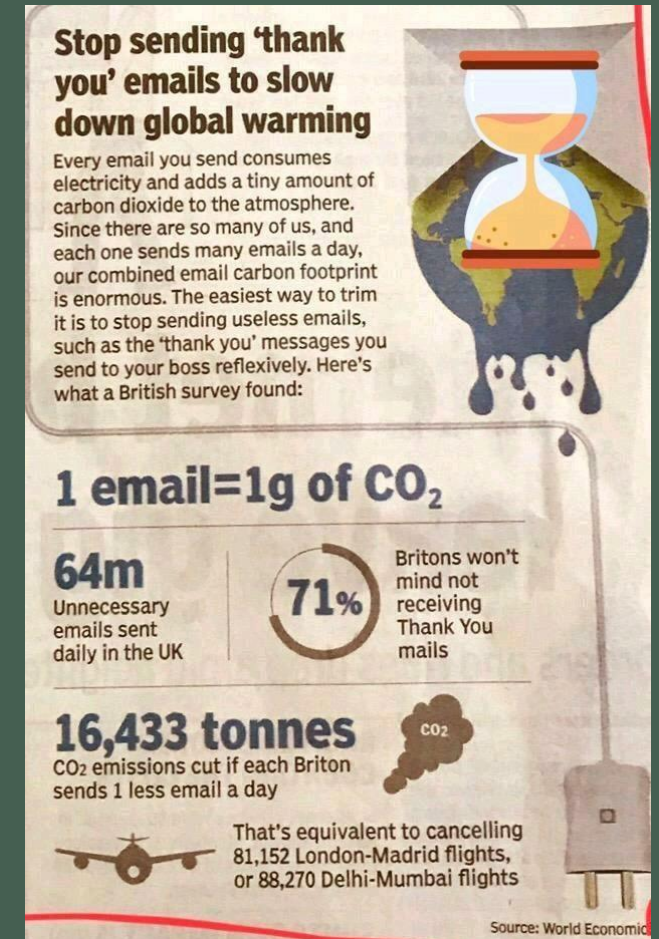
- Intellectual property and Licensing
- Security vs privacy
- Cyber crimes

Social Issues

- Outsourcing and unemployment
- Digital divide and Massive Open Online Courseware (MOOC)
- Computerized customer service
- Increased possibility of identity theft
- Social media related issues: Cyberbullying

Environment Issues

- E waste
- Energy for manufacturing/operating
- Hard copies of documents



Argue on following questions.

- Some say that no technology is inherently good or evil; rather, any technology can be used for either good or evil purposes. Do you share this view?
- “Thanks to a communications and software revolution, we are more ‘connected’ than ever before — by cell phone, email, and video conferencing — yet more disconnected than in the past from social interaction”. Do you agree?
- What do you think are the main driving forces behind technology advances? Are you happy with the fast pace of the changes, or do you wish it were slower?
- Do you tend to acquire new technological devices before or after the majority of your friends? What are the pros and cons of being an early/late adopter of a new technology?

Assignment – Computing Landscape

- Take one of your lifetime experience that resonates most with one of the four questions in the previous slide.
- Write a reflective journal about that experience.
- Submit your assignment as a PDF on or before midnight 16th September, 2020.