

Professional Ethics (HS-219)

Topic: Computer, Ethics & the Internet

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History and Evolution of Computers

Introduction

Today, we will be discussing a highly relevant topic: 'Computer, Ethics, and the Internet.' In the modern digital age, technology has become an integral part of our lives, from the way we communicate to the way we work and interact with information.

Early Machines

Began with basic calculators like the ENIAC (1940s) used for calculations and military research.

Transistors

Replaced vacuum tubes in the 1950s, leading to smaller, faster computers.

Microprocessors

Introduced in the 1970s, enabling the development of personal computers (IBM PC, Apple Macintosh).

Introduction to Ethics in Computing

Definition of Ethics

Ethics involves determining what is right and wrong in human conduct. It guides our behavior and decision-making processes.

Key Areas of Impact

1

Privacy

Ensuring that personal data is handled responsibly and transparently.

2

Security

Protecting systems and information from unauthorized access and harm.

3

Ethical Decision-Making

In the context of computers, ethical choices can significantly affect individuals and society, influencing trust and accountability in technology.

Emerging Ethical Concerns

Surveillance

Increasing use of technology for monitoring individuals raises privacy issues.

Impact of Automation on Jobs

The rise of automation and AI threatens traditional employment. While it can enhance efficiency, it also leads to job displacement, raising ethical questions about the responsibility of companies to their workers.

Data Exploitation

Companies often gather vast amounts of personal data, sometimes without user consent, leading to ethical dilemmas regarding privacy and consent.



Link to the Internet and Ethical Issues

1

Information Dissemination

The speed and reach of information sharing raise issues of misinformation and disinformation, making it challenging to discern credible sources.

2

Accessibility

While the internet promotes access to information, it also highlights the digital divide, where not everyone has equal access to technology and online resources.

3

User Behavior

Anonymity online can lead to unethical behavior, such as cyberbullying and harassment, challenging norms of accountability and respect.

The Role of Ethics in the Digital Age

Internet

The internet has transformed from a limited academic network into a global phenomenon, connecting over 5 billion people across the world today. Its impact on communication, commerce, education, and entertainment is immense. But this interconnectedness comes with ethical challenges.

Data Privacy and Security

Every day, we share personal information online—whether it's our location, browsing history, or even financial details. However, companies often collect and exploit this data without our explicit consent.

Intellectual Property

With so much content available online, it's easy to fall into the trap of plagiarism or piracy. Whether it's downloading movies illegally or using someone's creative work without permission, intellectual property theft is rampant.

Cybersecurity

It is another ethical minefield, especially with the rise of hacking. On one hand, we have black-hat hackers who exploit vulnerabilities for malicious purposes—stealing data, disrupting systems, or holding companies ransom and on the other hand, white-hat hackers use their skills for ethical reasons, helping organizations identify security flaws to prevent cyberattacks.

Case Studies

Cambridge Analytica Scandal

In 2018, it was revealed that the political consulting firm Cambridge Analytica had harvested data from millions of Facebook users without their permission. This data was then used to create psychological profiles of voters and influence political campaigns, including the 2016 U.S. presidential election.

Ransomware Attacks

In a ransomware attack, hackers infiltrate systems, encrypt critical data, and demand payment for its release. A notable example is the 2017 WannaCry attack, which affected hospitals, businesses, and government agencies worldwide.



Ethical Theories Applied to Internet Issues

Deontology

It is a duty-based ethical theory, which holds that certain actions are inherently right or wrong, regardless of the consequences. In this framework, ethical behavior is guided by principles and rules. For example, a deontologist would argue that violating user privacy—such as collecting data without consent—is wrong, no matter how beneficial the outcome might be for others.

The Future of Ethics in Computing and the Internet

1

Artificial Intelligence (AI)

Raises ethical concerns in decision-making, bias, and potential job displacement.

2

Machine Learning & Autonomous Systems

Decisions made by machines can be biased or unethical without proper safeguards.

3

Unemployment

Automation may lead to job loss, requiring ethical consideration of social impacts.

Regulation and Laws

GDPR

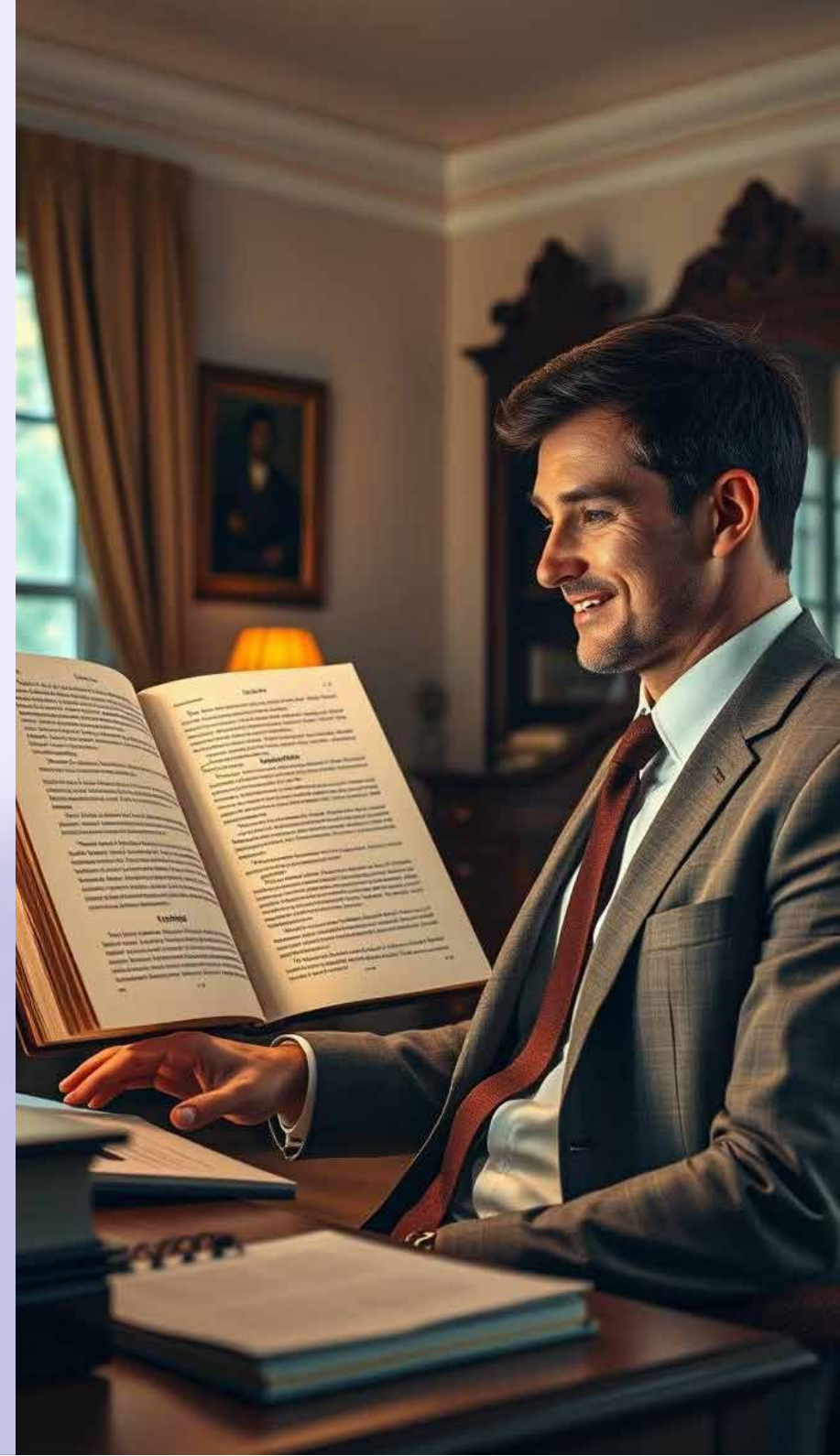
Landmark privacy law in Europe regulating how personal data is collected, stored, and used.

Digital Rights

Questions around data ownership, protection, and user consent.

Government Role

Governments and international bodies play a crucial role in setting ethical and legal standards for the digital world.



Corporate Social Responsibility (CSR) in Tech

1

Tech Giants' Role

Companies like Google, Apple, and Microsoft must ensure ethical practices in data use, AI development, and user privacy.

2

Ethical Innovation

Businesses are responsible for balancing innovation with moral considerations.

The Future Ethical Landscape

1

AI & Automation

The future will require machines to make ethical decisions; developing frameworks for this is crucial.

2

Cyberwarfare & Ethics

As cyber threats grow, nations must address ethical concerns around cyber defense and offense.

Conclusion

As we look to the future, we must recognize that ethical considerations will not only grow in importance but will also become more complex, requiring a proactive approach from individuals, organizations, and governments.