من بعد الله نقوى بالإمام المعصوم الثاني الحسن المجتبى المسموم المظلوم (صلى الله عليه وسلام الله عليه) اللهم أحسن خاتمنا (اللهم عجل لوليك الفرج يا الله)...ترجمة شرائح البوربوينت بنيابة عن الامام المعصوم الثاني عشر صاحب العصر والزمان المهدي المنتظر (عجل الله تعالى فرجه الشريف وصلى الله عليه وسلام الله عليه) قربة الى الله تعالى عزَّ وجل

Philosophical Ethical Issues In Information Technology

القضايا الفلسفية والأخلاقية في تكنولوجيا المعلومات

Source: Michael J. Quinn, Ethics for the Information Age, 3rd Ed., Addison-Wesley 2009

❑ Introduction to Ethical Philosophy in Technology

"Ethics in the Information Age is not just about laws or policies; it concerns the daily decisions we make as individuals and as societies in a technology-driven world."

Key Concept:
Ethical philosophy in information technology seeks to understand the principles that guide individuals' actions when interacting with technology.

Technology requires an ethical framework to address how individuals interact with data, privacy, and responsibility.

❑ مقدمة في الفلسفة الأخلاقية في التكنولوجيا

"الأخلاقيات في عصر المعلومات ليست مجرد مسألة تتعلق بالقوانين أو السياسات، بل تتعلق بالقرارات اليومية التي نواجهها كأفراد وكمجتمعات في عصر تحكمه التكنولوجيا."

المفهوم الأساسي:
الأخلاقيات الفلسفية في تكنولوجيا المعلومات تسعى لفهم المبادئ التي توجه سلوك الأفراد عند التعامل مع التكنولوجيا.

تحتاج التكنولوجيا إلى إطار أخلاقي يحدد كيفية تعامل الأفراد مع البيانات، الخصوصية، والمسؤولية.

- Ethical issues in Information Technology (IT) are often complex and involve deep philosophical considerations.
- The book discusses the philosophical foundations of ethics, including Utilitarianism, Deontological Ethics, and Virtue Ethics.
- These ethical frameworks are applied to real-world issues in IT, such as privacy, security, intellectual property, and societal impacts of technology.

- القضايا الأخلاقية في تكنولوجيا المعلومات غالبًا ما تكون معقدة وتنطوي على اعتبارات فلسفية عميقة.
- يناقش الكتاب الأسس الفلسفية للأخلاقيات، بما في ذلك النفعية، الأخلاقيات القاعدية، وأخلاقيات الفضيلة.
- يتم تطبيق هذه الأطر الأخلاقية على القضايا الواقعية في تكنولوجيا المعلومات، مثل الخصوصية، والأمان، وحقوق الملكية الفكرية، وتأثيرات التكنولوجيا على المجتمع

❑ Utilitarianism and Technology

- Utilitarianism is a philosophical approach where actions are judged based on their outcomes.
- The goal is to maximize overall happiness and minimize harm.
- In IT, utilitarianism helps evaluate whether a technological development benefits the largest number of people, and whether the harm caused is outweighed by the good.
- Example: Evaluating the ethical implications of surveillance systems and privacy laws from a utilitarian perspective: Does the technology serve the greater good or does it infringe on privacy too much?

❑ النفعية والتكنولوجيا

- النفعية هي نهج فلسفي يتم فيه تقييم الأفعال بناءً على نتائجها.
- الهدف هو تعظيم السعادة العامة وتقليل الأضرار.
- في تكنولوجيا المعلومات، تساعد النفعية في تقييم ما إذا كان التطور التكنولوجي يفيد أكبر عدد من الناس، وما إذا كانت الأضرار التي يسببها تفوق الفوائد.
- مثال: تقييم الآثار الأخلاقية لأنظمة المراقبة وقوانين الخصوصية من منظور نفعوي: هل تخدم التكنولوجيا الصالح العام أم أنها تنتهك الخصوصية بشكل مفرط؟

Ethical Questions: Does technology serve the public good? Does the benefit of a new technology outweigh its risks? For example, should companies collect personal data if it benefits the majority by improving services?

أسئلة أخلاقية: هل تخدم التكنولوجيا المصلحة العامة؟ هل تفوق فوائد التكنولوجيا الجديدة على مخاطرها؟ على سبيل المثال، هل يجب على الشركات جمع البيانات الشخصية إذا كانت تفيد الأغلبية من خلال تحسين الخدمات؟

❑ Deontological Ethics (Duty-Based Ethics)

Deontology focuses on duties and rules, asserting that some actions are morally required, regardless of their consequences.

- In IT, deontological ethics dictates that developers must follow laws and ethical rules, such as data protection regulations, even if doing so results in inefficiencies or additional costs.
- Example: Ensuring that software developers respect intellectual property rights, even if violating these rights would lead to a better product for society.

❑ الأخلاقيات المبنية على الواجبات (Deontological Ethics)

- تركز الأخلاقيات القاعدية على الواجبات والقواعد، حيث تؤكد أن بعض الأفعال تكون أخلاقية بشكل جوهري، بغض النظر عن نتائجها.
- في تكنولوجيا المعلومات، تشير الأخلاقيات القاعدية إلى أنه يجب على المطورين اتباع القوانين والقواعد الأخلاقية، مثل لوائح حماية البيانات، حتى وإن أدى ذلك إلى زيادة التكاليف أو تقليل الكفاءة.
- مثال: ضمان احترام مطوري البرمجيات لحقوق الملكية الفكرية، حتى وإن أدى انتهاك هذه الحقوق إلى منتج أفضل للمجتمع

❑ Virtue Ethics in Information Technology

- Virtue ethics emphasizes the importance of developing good character traits and moral virtues.
- In IT, virtue ethics encourages professionals to focus on qualities like honesty, integrity, and fairness when creating software or implementing technology.
- The focus is on the moral character of those who create technology, rather than just the actions or consequences of the technology.
- Example: Encouraging software developers to consider whether their designs promote ethical values, such as transparency, honesty, and fairness.

- أخلاقيات الفضيلة تركز على أهمية تطوير سمات الشخصية الجيدة والفضائل الأخلاقية.
- في تكنولوجيا المعلومات، تشجع أخلاقيات الفضيلة المهنيين على التركيز على صفات مثل الصدق، النزاهة، والعدالة عند إنشاء البرمجيات أو تنفيذ التكنولوجيا.
- التركيز يكون على الشخصية الأخلاقية لأولئك الذين يطورون التكنولوجيا، بدلاً من التركيز فقط على الأفعال أو العواقب الناتجة عن التكنولوجيا.
- مثال: تشجيع مطوري البرمجيات على التفكير فيما إذا كانت تصاميمهم تعزز القيم الأخلاقية، مثل الشفافية، والصدق، والعدالة.

Privacy and Confidentiality

- Privacy is one of the core ethical concerns in the digital age.
- The book discusses the tension between the need for privacy and the growing capabilities of technology to track and monitor individuals.
- Ethical Question: To what extent should personal data be collected and used, and what is the role of consent in this process?
- Example: Discussing the ethical dilemmas of online tracking and personal data collection, especially when companies collect data without explicit consent.

❑ **الخصوصية والسرية**

- الخصوصية هي إحدى القضايا الأخلاقية الأساسية في العصر الرقمي.
- يناقش الكتاب التوتر بين الحاجة إلى الخصوصية والقدرات المتزايدة للتكنولوجيا في تتبع الأفراد ومراقبتهم.
- السؤال الأخلاقي: إلى أي مدى يجب جمع واستخدام البيانات الشخصية، وما هو دور الموافقة في هذه العملية؟
- مثال: مناقشة المعضلات الأخلاقية المتعلقة بتتبع البيانات عبر الإنترنت وجمع البيانات الشخصية، خاصة عندما تقوم الشركات بجمع البيانات دون موافقة صريحة

❑ Privacy in the Digital Age

- Privacy is one of the most pressing ethical issues in the digital age. The widespread use of digital technologies raises questions about the extent to which personal information should be collected, stored, and shared.
- Ethical Dilemmas: Is it ethical for companies to track users' online behavior for commercial purposes? How should privacy be protected while still enabling the benefits of data-driven technologies?

- الخصوصية هي واحدة من القضايا الأخلاقية الأكثر إلحاحًا في العصر الرقمي. يثير الاستخدام الواسع للتقنيات الرقمية أسئلة حول مدى جمع وتخزين ومشاركة المعلومات الشخصية.
- المعضلات الأخلاقية: هل من الأخلاقي أن تقوم الشركات بتتبع سلوك المستخدمين على الإنترنت لأغراض تجارية؟ كيف يمكن حماية الخصوصية مع تمكين فوائد التقنيات التي تعتمد على البيانات؟

❑ Ethical Challenges in Artificial Intelligence

- Artificial Intelligence (AI) poses unique ethical challenges, especially regarding decision-making and accountability.
- Ethical Issue: How do we ensure that AI systems make fair and unbiased decisions?
- The book also addresses the concerns regarding AI systems replacing human jobs and the ethical implications of automated decision-making.
- Example: Discussing the ethical responsibility of AI developers to create systems that are transparent and free from biases.

❑ التحديات الأخلاقية في الذكاء الاصطناعي

الذكاء الاصطناعي يطرح تحديات أخلاقية فريدة، خاصة فيما يتعلق باتخاذ القرارات والمساءلة.

المسألة الأخلاقية: كيف نضمن أن أنظمة الذكاء الاصطناعي تتخذ قرارات عادلة وغير منحازة؟

يناقش الكتاب أيضًا القلق بشأن أنظمة الذكاء الاصطناعي التي تحل محل الوظائف البشرية والآثار الأخلاقية لاتخاذ القرارات التلقائية.

مثال: مناقشة المسؤولية الأخلاقية لمطوري الذكاء الاصطناعي في إنشاء أنظمة شفافة وخالية من التحيزات

- **The Role of Technologists in Society**
- Technology professionals have a moral responsibility to consider the social impact of their work and the consequences of the technologies they create.
- Ethical Responsibilities: IT professionals should ensure that their creations benefit society, are accessible, and do not harm vulnerable populations.
- Example: Developers of autonomous vehicles must consider the ethical implications of their decisions, such as programming cars to prioritize human lives.

❑ دور خبراء التكنولوجيا في المجتمع

- يتحمل المحترفون في مجال التكنولوجيا مسؤولية أخلاقية في النظر في تأثير عملهم الاجتماعي ونتائج التقنيات التي يخلقونها.
- المسؤوليات الأخلاقية: يجب على محترفي تكنولوجيا المعلومات التأكد من أن ابتكاراتهم تفيد المجتمع، وتكون متاحة، ولا تضر بالفئات الضعيفة.
- مثال: يجب على مطوري السيارات الذاتية القيادة مراعاة التداعيات الأخلاقية لقراراتهم، مثل برمجة السيارات لإعطاء الأولوية للأرواح البشرية.

Individual Rights in the Digital Space

"It is important to think about the rights of individuals in the digital world, especially with the increasing use of technology to collect personal data."

- Concept: Acknowledging individual rights such as privacy, equal access to information, and control over personal data.
- Philosophical Issues:
  - Privacy: Can technology truly protect individuals' privacy?
  - Data Control: Who owns the right to control personal data, and how can it be secured?

حقوق الأفراد في الفضاء الرقمي

- "من المهم التفكير في حقوق الأفراد في العالم الرقمي، خاصة مع زيادة استخدام التكنولوجيا في جمع البيانات الشخصية."
- المفهوم: الاعتراف بحقوق الأفراد مثل الخصوصية، الوصول المتساوي للمعلومات، والتحكم في بياناتهم الشخصية.
- الموضوعات الفلسفية:
  - الخصوصية: هل يمكن للتكنولوجيا أن تحمي خصوصية الأفراد بشكل حقيقي؟
  - التحكم في البيانات: من يملك الحق في التحكم بالبيانات الشخصية، وكيف يمكن ضمان حماية هذه البيانات؟

Justice in the Information Age

- "Does technology promote social justice or enhance the gaps between individuals? Achieving justice is one of the core values that must be considered in developing any technology."
- Concept: Technology should contribute to promoting social justice and not deepen the gaps between different individuals or groups.
- Applications:
  - Fair Distribution of Technology: Is access to information technology equitable across different social strata?
  - Digital Justice: Does technology create equal opportunities for all people worldwide?

العدالة في عصر المعلومات

- "هل تعزز التكنولوجيا العدالة الاجتماعية أم تعمق الفجوات بين الأفراد؟ تحقيق العدالة هو إحدى القيم الأساسية التي يجب مراعاتها عند تطوير أي تقنية."
- المفهوم: يجب أن تساهم التكنولوجيا في تعزيز العدالة الاجتماعية وألا تزيد الفجوات بين الأفراد والمجتمعات.
- التطبيقات:
  - التوزيع العادل للتكنولوجيا: هل يمكن الوصول إلى التكنولوجيا بشكل متساوٍ بين جميع الفئات الاجتماعية؟
  - العدالة الرقمية: هل تساهم التكنولوجيا في توفير فرص متساوية للجميع؟

❑ Social Responsibility in Information Technology

- "Social responsibility in technology means that businesses and individuals must consider the social and environmental impacts of using technology."
- Concept: Technological development should not just be driven by profit but should also include a sense of responsibility to society.
- Applications:
  - Technology and the Environment: How does technology affect the environment? (e.g., energy consumption in data centers).
  - Social Impact: How do platforms like social media affect relationships and communities?

❑ المسؤولية الاجتماعية لتكنولوجيا المعلومات

- "المسؤولية الاجتماعية في التكنولوجيا تعني أن الشركات والأفراد يجب أن يأخذوا بعين الاعتبار التأثيرات الاجتماعية والبيئية الناتجة عن استخدام التكنولوجيا."
- المفهوم: يجب أن يتجاوز تطوير التكنولوجيا الربح فقط ليشمل المسؤولية تجاه المجتمع.
- التطبيقات:
  - التكنولوجيا والبيئة: كيف تؤثر التكنولوجيا على البيئة؟ (مثل استهلاك الطاقة في مراكز البيانات).
  - التأثير الاجتماعي: كيف تؤثر وسائل التواصل الاجتماعي على العلاقات المجتمعية؟

❑ Conclusion

- "Ethics in the Information Age is not just a set of rules or regulations; it is an ongoing process of reflection and discussion to ensure that technology serves humanity.“
- Philosophical ethics in information technology is grounded in core principles such as utilitarianism, duty-based ethics, and individual rights. These principles must be continuously applied to ensure fairness, privacy, and justice in the digital world.
- Both deontological and utilitarian frameworks are vital for addressing ethical issues in IT.
- Virtue ethics adds an important perspective, focusing on the moral character of those who develop and use technology.
- Continuous ethical reflection is necessary as technology continues to evolve. As technology advances, the need for ongoing ethical discussions grows to ensure its responsible use for the benefit of all.

- "الأخلاقيات في عصر المعلومات ليست مجرد مجموعة من القواعد أو اللوائح، بل هي عملية مستمرة من التفكير والنقاش لضمان أن التكنولوجيا تعمل لصالح الإنسان.“
- تستند الأخلاقيات الفلسفية في تكنولوجيا المعلومات إلى مبادئ أساسية مثل النفعية، الأخلاقيات المستندة إلى الواجبات، وحقوق الأفراد. يجب تطبيق هذه المبادئ باستمرار لضمان العدالة، الخصوصية، والحقوق في الفضاء الرقمي.
- كل من الأطر القاعدية و النفعية ضرورية لمعالجة القضايا الأخلاقية في تكنولوجيا المعلومات.
- أخلاقيات الفضيلة تضيف منظورًا مهمًا، حيث تركز على الشخصية الأخلاقية لأولئك الذين يطورون ويستخدمون التكنولوجيا.
- من الضروري الاستمرار في التأمل الأخلاقي مع تطور التكنولوجيا. مع تقدم التكنولوجيا، تزداد الحاجة إلى المناقشات الأخلاقية المستمرة لضمان استخدام التكنولوجيا بشكل مسؤول لصالح الجميع.

❑ Final Notes:

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Another source was used. The source is: Deborah G. Johnson, Computer Ethics (3rd Edition, 2001)

الملاحظات الختامية: يركز هذا العرض التقديمي على القضايا الأخلاقية الفلسفية التي تم طرحها في بعض فصول كتاب مايكل جيه كوين "الأخلاقيات في عصر المعلومات". وللحصول على فهم أكثر شمولاً، راجع الكتاب مباشرة.

وتم الاستعانة بمصدر اخر المصدر هو : ديبورا ج. جونسون، الأخلاقيات الحاسوبية (الطبعة الثالثة، ٢٠٠١)

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What intellectual property rights

ما هي حقوق الملكية الفكرية؟

Source: Michael J. Quinn, Ethics for the Information Age, 3rd Ed., Addison-Wesley 2009

Intellectual Property Rights

- Intellectual property is any unique product of the human intellect that has commercial value [8].
  - Examples of intellectual property are books, songs, movies, paintings, inventions, chemical formulas, and computer programs.
- It is important to distinguish between **intellectual property** and its **physical manifestation** in some medium. If a poet composes a new poem, for example, the poem itself is the intellectual property, not the piece of paper on which the poem is printed.

- In most of the world there is a widely accepted notion that people have the right to own property. Does this right extend to intellectual property as well? To answer this question, we need to examine the philosophical justification for a natural right to property.

Property Rights

- The English philosopher John Locke (1632–1704) developed an influential theory of property rights. In **The Second Treatise of Government**, Locke makes the following case for a natural right to property.

  - First, people have a right to property in their own person. Nobody has a right to the person of anybody else.
  - Second, people have a right to their own labor. The work that people perform should be to their own benefit.
  - Third, people have a right to those things that they have removed from Nature through their own labor [9].

For example, suppose you are living in a village, in the middle of woods that are held in common. One day you walk into the woods, chop down a tree, saw it into logs, and split the logs into firewood (Figure 4.2). Before you cut down the tree, everyone had a common right to it. By the time you have finished splitting the logs, you have mixed your labor with the wood, and at that point it has become your property. Whether you burn the wood in your stove, sell it to someone else, pile it up for the winter, or give it away, the choice of what to do with the wood is yours.

- Locke uses the same reasoning to explain how a person can gain the right to a piece of land. Taking a parcel out of the state of Nature by clearing the trees, tilling the soil, and planting and harvesting crops gives people who performed these labors the right to call the land their property.

- To Locke, this definition of property makes sense as long as two conditions hold.
    - First, no person claims more property than he or she can use. In the case of harvesting a natural resource, it is wrong for someone to take so much that some of it is wasted. For example, people should not appropriate more land than they can tend.
    - Second, when people remove something from the common state in order to make it their own property, there is still plenty left over for others to claim through their labor. If the woods are full of trees, I can chop a tree into firewood without denying you or anyone else the opportunity to do the same thing.

- Locke's description of a natural right to property is most useful at explaining how virtually unlimited resources are initially appropriated. It is not as useful in situations where there are limited resources left for appropriation.

Figure 4.2 According to John Locke, people have a natural right to the things they have removed from Nature through their own labor.

In Short Property Rights

- Locke: The Second Treatise of Government
- People have a right...
  - to property in their own person
  - to their own labor
  - to things which they remove from Nature through their labor
- As long as…
  - nobody claims more property than they can use
  - after someone removes something from common state, there is plenty left over

Benefits of Intellectual Property Protection

- Some people are altruistic; some are not
- Allure of wealth can be an incentive for speculative work
- Authors of U.S. Constitution recognized benefits to limited intellectual property protection

Limits to Intellectual Property Protection

- Giving creators rights to their inventions stimulates creativity
- Society benefits most when inventions in public domain
- Congress has struck compromise by giving authors and inventors rights for a limited time

❑ Protecting Intellectual Property

- Intellectual Property Protection Schemes:
  1. Trade secrets
  2. Trademarks
  3. Patents
  4. Copyright law

1. Trade Secret

- Confidential piece of intellectual property that gives company a competitive advantage
- Never expires
- Not appropriate for all intellectual properties
- Reverse engineering allowed
- May be compromised when employees leave firm

2. Trademark, Service Mark

- Trademark: Identifies goods
- Service mark: Identifies services
- Company can establish a "brand name"
- Does not expire
- If brand name becomes common noun, trademark may be lost
- Companies advertise to protect their trademarks
- Companies also protect trademarks by contacting those who misuse them

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3. **Patent**
   - A public document that provides detailed description of invention
   - Provides owner with exclusive right to the invention
   - Owner can prevent others from making, using, or selling invention for 20 years

4. **Copyright**
   - Provides owner of an original work five rights
     1. Reproduction
     2. Distribution
     3. Public display
     4. Public performance
     5. Production of derivative works
   - Copyright-related industries represent 6% of U.S. gross domestic product (> $900 billion/yr)
   - Copyright protection has expanded greatly since 1790

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Computer And Internet Crime

Source: Ethics in information technology by George W. Reynolds
Prepared by: Arfan Arshad

Overview

- The security of information technology used in business is of utmost importance.
- Confidential business data and private customer and employee information must be safeguarded, and systems must be protected against malicious acts of theft or disruption.
- Although the necessity of security is obvious, it must often be balanced against other business needs and issues.

❑ Types of Exploits

- **Virus** is a piece of programming code, usually disguised as something else, which causes a computer to behave in an unexpected and usually undesirable manner.
- **Worm** is a harmful program that resides in the active memory of the computer and duplicates itself. Worms differ from viruses in that they can propagate without human intervention.
- **Trojan Horse** is a program in which malicious code is hidden inside a seemingly harmless program.
- **Botnet** is a large group of computers controlled from one or more remote locations by hackers, without the knowledge or consent of their owners. Botnets are frequently used to distribute spam and malicious code.

- **Distributed Denial-of-Service (DDoS) Attacks** is one in which a malicious hacker takes over computers on the Internet and causes them to flood a target site with demands for data and other small tasks.
- **Rootkit** is a set of programs that enables its user to gain administrator level access to a computer without the end user's consent or knowledge.
- **Spam** E-mail spam is the abuse of e-mail systems to send unsolicited e-mail large numbers of people. Most spam is a form of low-cost commercial advertising.
- **Phishing** is the act of using fraudulently to try to get the recipient to reveal personal data.
- **Spear-phishing** is a variation of phishing in which the phisher sends fraudulent s to a certain organization's employees.

Types of Perpetrators

TABLE 3-5 Classifying perpetrators of computer crime

Type of perpetrator	Typical motives
Hackers	Test limits of system and/or gain publicity
Crackers	Cause problems, steal data, and corrupt systems
Malicious insiders	Cause problems, steal data, and corrupt systems
Industrial spies	Capture trade secrets and gain competitive advantage
Cybercriminals	Gain financially
Hacktivists	Promote political ideology
Cyberterrorists	Destroy infrastructure components of financial institutions, utilities, and emergency response units

Source Line: Course Technology/Cengage Learning

Implementing Trustworthy Computing

- Trustworthy computing is a method of computing that delivers secure, private, and reliable computing experiences based on sound business practices—which is what organizations worldwide are demanding today. Software and hardware manufacturers, consultants, and programmers all understand that this is a priority for their customers. For example, Microsoft has pledged to deliver on a trustworthy computing initiative designed to improve trust in its software products, as summarized in Figure 3-4 and Table 3-7.33

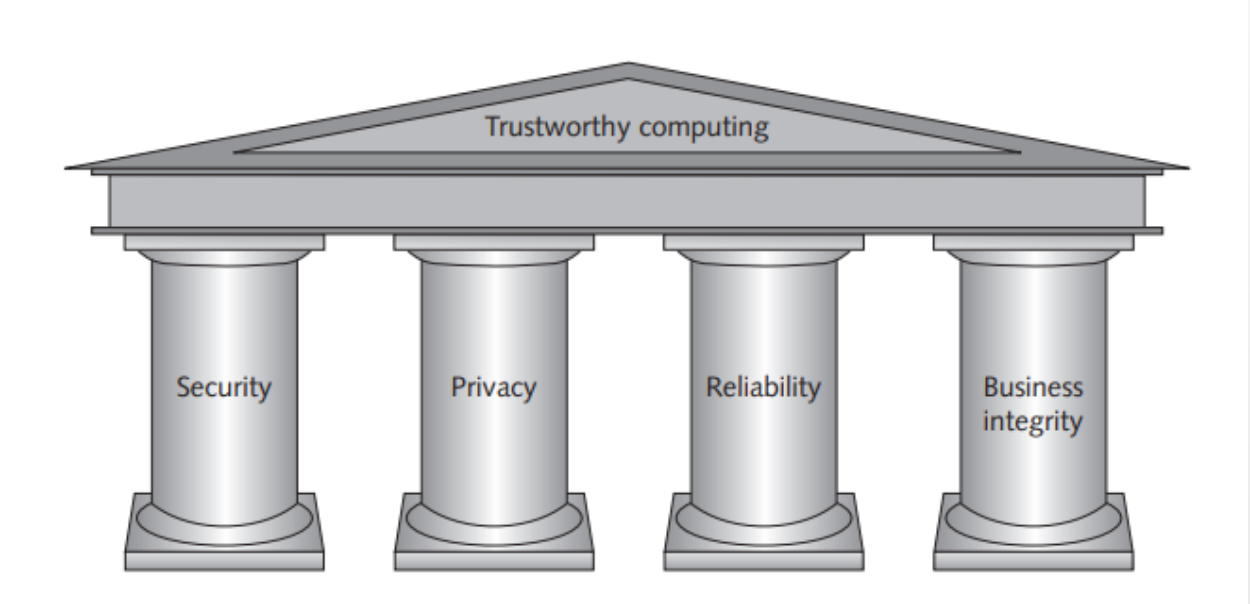

FIGURE 3-4 Microsoft's four pillars of trustworthy computing
Source Line: Course Technology/Cengage Learning.

TABLE 3-7 Actions taken by Microsoft to support trustworthy computing

Pillar	Actions taken by Microsoft
Security	Invest in the expertise and technology required to create a trustworthy environment. Work with law enforcement agencies, industry experts, academia, and private sectors to create and enforce secure computing. Develop trust by educating consumers on secure computing.
Privacy	Make privacy a priority in the design, development, and testing of products. Contribute to standards and policies created by industry organizations and government. Provide users with a sense of control over their personal information.
Reliability	Build systems so that (1) they continue to provide service in the face of internal or external disruptions; (2) they can be easily restored to a previously known state with no data loss in the event of a disruption; (3) they provide accurate and timely service whenever needed; (4) required changes and upgrades do not disrupt them; (5) they contain minimal software bugs on release; and (6) they work as expected or promised.
Business integrity	Be responsive—take responsibility for problems and take action to correct them. Be transparent—be open in dealings with customers, keep motives clear, keep promises, and make sure customers know where they stand in dealing with the company.

Source Line: Course Technology/Cengage Learning.

Risk Assessment

- A risk assessment is the process of assessing security-related risks to an organization's computers and networks from both internal and external threats.
- The goal of risk assessment is to identify which investments of time and resources will best protect the organization from its most likely and serious threats.

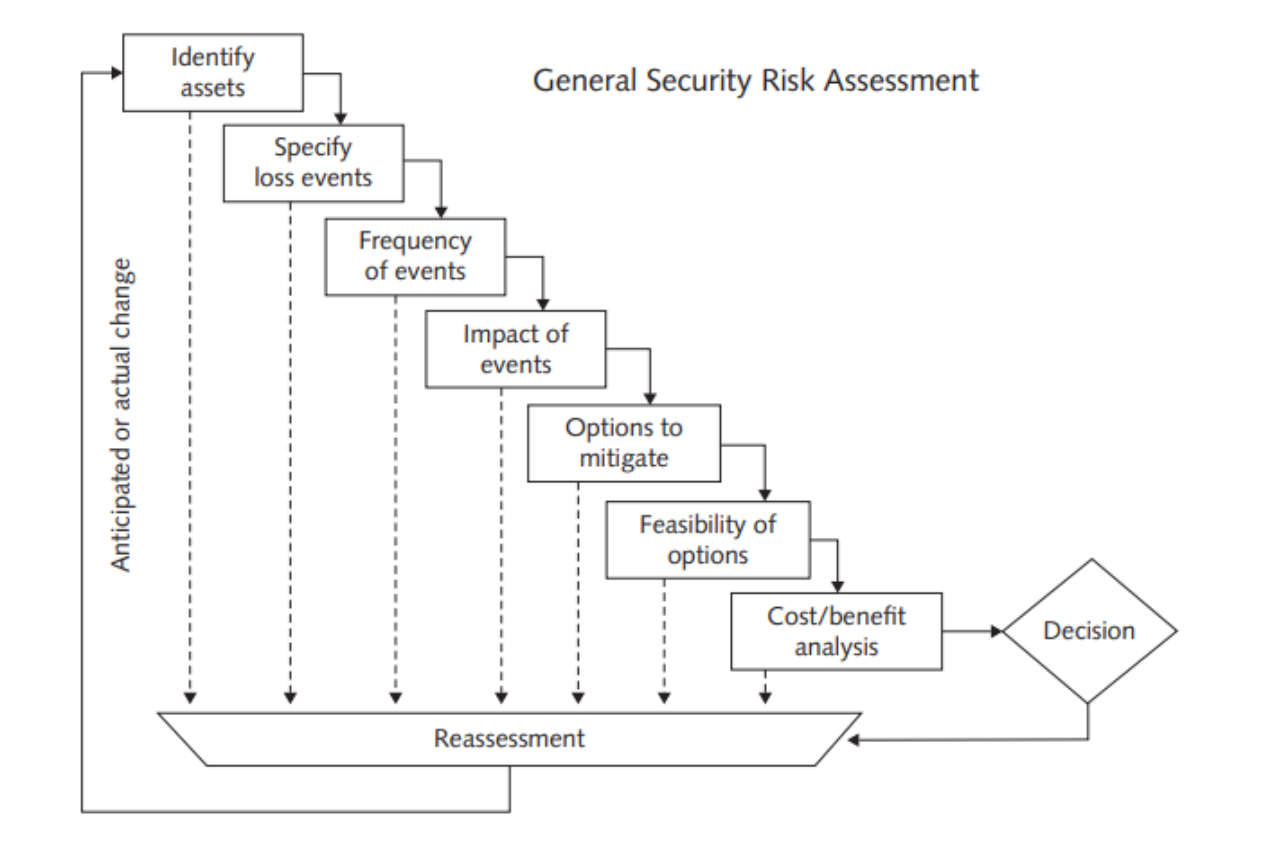

FIGURE 3-5 General security risk assessment
Source Line: General Security Risk Assessment Guidelines, ASIS International (2003).

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❑ Establishing a Security Policy

- A security policy defines an organization's security requirements, as well as the controls and sanctions needed to meet those requirements.
- A good security policy delineates responsibilities and the behavior expected of members of the organization.
- A security policy out-lines what needs to be done but not how to do it.
- The details of how to accomplish the goals of the policy are provided in separate documents and procedure guidelines.

❑ Educating Employees, Contractors, and Part-Time Workers

Employees, contractors, and part-time workers must be educated about the importance of security so that they will be motivated to understand and follow the security policies.

For example, users must help protect an organization's information systems and data by doing the following:

- Guarding their passwords to protect against unauthorized access to their accounts
- Prohibiting others from using their passwords
- Applying strict access controls (file and directory permissions) to protect data from disclosure or destruction
- Reporting all unusual activity to the organization's IT security group

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❑ **Prevention from threats**

- Installing a Corporate Firewall
- Intrusion Prevention Systems
- Installing Antivirus Software on Personal Computers
- Implementing Safeguards against Attacks by Malicious Insiders
- Conducting Periodic IT Security Audits

❑ **Detection**

Even when preventive measures are implemented, no organization is completely secure from a determined attack. Thus, organizations should implement detection systems to catch intruders in the act. Organizations often employ an intrusion detection system to minimize the impact of intruders. An intrusion detection system is software and/or hardware that monitors system and network resources and activities, and notifies network security personnel when it identifies possible intrusions from outside the organization or misuse from within the organization.

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Chapter 5 – Information Privacy

Source: Michael J. Quinn, Ethics for the Information Age, 3rd Ed., Addison-Wesley 2009

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Topics

- Introduction
- Perspectives on Privacy
- Disclosing Information
- Public Information
- U. S. Legislation
  - Fair Credit Reporting Act
  - Family Education Rights and Privacy Act
  - Video Privacy Protection Act
  - Children's Online Privacy Protection Act
  - Health Insurance Portability and Accountability Act
- Public Records
  - Census
  - Internal Revenue Service
  - FBI National Crime Information Center (NCIC) 2000
- Privacy Act of 1974
- Covert Government Surveillance
- Wiretaps & Bugs
- Operation Shamrock

❑ Introduction

- Computers, Internet make it easier to collect and distribute information
- Previously private information is now easily available
- Google makes it easy to cross reference phone number and address
- Information collection, exchange, combination, and distribution easier than ever
- More information access ➡ less privacy
- Trade-offs
  - Privacy vs. need for credentials
  - Privacy vs. desire for free expression
  - Privacy vs. safety / security

❑ Perspectives on Privacy

1. Defining privacy

- Privacy related to notion of access
- Access
  - Physical proximity to a person
  - Knowledge about a person
- Edmund Byrne: Privacy is a "zone of inaccessibility"
  - Physical access
- Edward Bloustein: Privacy violations are an affront to human dignity
- Privacy is not the same as being alone
- Too much individual privacy can harm society
  - Ex: a group that facilitates business among its members, not helping the whole society

2. Harms and benefits of privacy

- **Harms of Privacy**
  - Illegal and immoral activities take place under the cover of privacy
  - Restricts community involvement
  - Puts a greater burden on nuclear family
  - Enables dysfunctional or abusive relationships
- **Benefits of Privacy**
  - Provides for freedom, individuality
  - Allows for private expression and "blowing off steam"
  - Allows for building personal relationships

3. Is There a Natural Right To Privacy?

- Privacy rights stem from property rights
- The right to be left alone
- Every privacy violation is a violation of another right
- Privacy is required to be an autonomous moral agent
- Privacy is a prudential right
  - ➢ Ex: Telemarketing and the Do Not Call Registry
    - Telemarketing bothers us inside of our homes
    - Violates our privacy and right to be left alone
    - Do Not Call Registry
      - May lead to increase in junk mail and other mass marketing methods

4. Privacy and Trust

- Privacy is growing increasingly important
- We are less community oriented than 200 years ago
- Automobile permits individual rather than group travel
- TV is individual entertainment
- Internet provides individual research rather than going to the library
- We move more often and frequently do not know our neighbors
- Since we don't know people how do we trust them?
  - Trial by ordeal, lie detector or drug test
  - Credentials, such as Driver's license, Credit card, Degrees or certifications

Information Disclosures

- We leave electronic trails as we go through life
- Purchases via credit or debit cards
- Customer discount/loyalty cards
- Video, book rental records
- Purchasing profiles at Amazon.com
- Public records
  - Maintained by government agencies
    - Birth certificates
    - Marriage licenses
    - Motor vehicle records
    - Criminal records
    - Deeds and mortgages
  - Non-government such as telephone books

- Personal (private) records
  - Can be made public through consent
  - May require disclosure
    - As an airline passenger
    - To obtain loans
    - To obtain marriage licenses
  - May be inadvertently disclosed
    - Court records

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Public Information

- Rewards or loyalty programs (shopping cards)
  - Have been around for more than 100 years
  - S&H Green Stamps
  - Shoppers collected stamps based on purchase amounts
  - Pasted them into books
  - Redeemed by shopping in S&H catalog
  - Replaced by club cards
  - Members only discounts
  - Information is tracked individually
  - Rewards are tailored to card holder
  - Critics claim member prices are the same as those at non-membership stores
  - Therefore, non-members pay more

- Digital video recorders (Sells info about viewing habits)
  - TiVo did not publicize that it collected viewer information
  - It tipped its hand when it announced that Janet Jackson's "wardrobe malfunction" was the most recorded program in history

- Automobile "Black Boxes" (New Automobile "comes with black boxes like airplanes")
  - Microprocessor that records driving information
  - Speed, braking time, distance, seat belt use, etc.
  - Can be used by police and insurance

- Enhanced 911 Service (Track locations of cell phones)
  - FCC requires cell phones be tracked to within 100 meters by December 2005
  - Safety benefit is obvious
  - Potential for abuse is tremendous

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- Radio Frequency ID (RFID)
  - Tiny wireless transmitter
  - Replacing bar codes
    - ✓ Contain more information
    - ✓ Easier to scan
    - ✓ Can be read from up to 6 feet away
  - Could be used to track employee locations at work

- Implanted chips
  - Currently several versions in veterinary use
  - About the size of a grain of rice
  - Required in Taiwan, implanted in dog's ear
  - Relatively inexpensive ($30 - $50)
  - Could be used in people

- Cookies
  - Text files
  - Generated and used by web pages
  - Stored on local hard drive
  - Potential for use by multiple pages
  - Generally unrestricted, except by browser

- Spyware
  - Monitors web surfing
  - Can log keystrokes, activities
  - Sends reports back to host
  - Increasing problem

U. S. Legislation

1. Fair Credit Reporting Act
   - Three main credit reporting agencies
   - Sell reports to financial organizations, potential employers, landlords, etc.
   - Act is designed to promote accuracy and privacy of information

2. Family Education Rights and Privacy Act
   - Guarantees students and parents access to records
   - Insures privacy for students over 18

3. Video Privacy Protection Act
   - Prompted by Bork nomination hearing
   - Stores can not disclose information without consumer's consent
   - Must destroy personal records within one year, unless currently required

4. Children's Online Privacy Protection Act
   - Requires parental consent prior to collecting online information from children 12 and younger
   - Intent is to prevent contact with child
   - How do we prove identities?

5. Health Insurance Portability and Accountability Act
   - Protects patient information
   - Effective April 2003
   - Forbids releasing information to life insurance companies, banks, family members, etc. without authorization
   - Insures patient rights to see own records

❑ ublic Records

- Federal government maintains thousands of databases
- Generally not connected
- Examples of Public Records
  1. Census
  2. IRS
  3. FBI

1. Census

- Constitutionally required every 10 years
- Intended for House of Representative apportionment
- Census of 1790 had six questions
  - Name of head of household
  - Number of free white males over 16
  - Number of free white males under 16
  - Number of free white females
  - All other free persons (by sex and color)
  - Number of slaves
- 1820 added occupation questions
- 1840 added school attendance and illiteracy
- 1850 included taxes, schools, wages, crime, property values
- 1940 – 5% of population received longer questionnaire
- Individual information is to be kept confidential
- During World War I provided names and addresses of young men to military
- After Pearl Harbor attack, provided information on Japanese-Americans who were later interred

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2. Internal Revenue Service (IRS)

- First national income tax 1862
- Repealed in 1872
- Reinstated in 1898
- Ruled unconstitutional in 1899
- 16th Amendment 1913
- Tax form contains much personal information
- IRS investigates hundreds of employees yearly for misusing information in tax returns
- 2003 – five consumer groups complained that costumers of H &R Blocks's web based filing received advertising for related products

3. FBI National Crime Information Center (NCIC) 2000

- Collection of databases
- Supports federal, state and local LEO
- First established in 1967
- Originally, 5 databases, about 95k records
- Stolen autos, stolen license plates, stolen or missing guns, missing persons
- Currently
- Currently 39 million records
- Convicted or wanted persons, criminal histories, fugitives, suspected terrorists, etc.
- 80,000 LEO's have access
- 2 million requests per day, about 1 second response time

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❑ Privacy Act of 1974

- Prohibits use of secret government databases
- Requires individual access to correct or amend own information
- Requires collecting agencies to assure reliability of information
- Only applies to government databases
- Applies only to records indexed by individual's name
- Places no one in charge of enforcement
- Allows inter-agency sharing for "routine use"
  - "Routine use" is not defined and allows each agency to define that term for itself.

❑ Covert Government Surveillance

- History of government information gathering
- Colonial US under English law had writs of assistance
  - Gave authority to enter house or building and seize prohibited goods
  - Not popular with colonists
- Fourth Amendment to US Constitution "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."

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❑ Wiretaps & Bugs

- Wiretap – interception of telephone communication
- Wiretaps: relates to interception of telephone conversations
- Bugs are hidden microphones used for surveillance
- Wiretapping and bugs are not legal
- FBI continues secret wiretapping

❑ Operation Shamrock

- Operation Shamrock was a covert, domestic intelligence gathering operation that monitored telegraph communications.
- Expanded to telephone calls
- Kennedy
  - Organized crime figures “watch list”
  - Individuals and companies doing business with Cuba
- Johnson and Nixon
  - Vietnam war protesters
- Nixon
  - War on drugs
  - Monitoring phone calls