

Anonymity, Security, Privacy, and Civil Liberties

From: Ethical and social issues in the Information Age

Book of Kizza

Objectives

to be able to:

1. Legally summarize the right to privacy and freedom of expression
2. Critically analyze stated security procedures
3. Propose appropriate security measures for different situations
4. Describe current computer-based threats to privacy
5. distinguish between proper and improper use of internet tools for freedom of expression.
6. Describe and suggest solutions for trends facing privacy as the technology develops.

Introduction

- *There is nowhere to run ... nowhere to hide . Personal privacy is dead .*
- Every student describes his digital activity during last week. The student then tabulates the activities in terms of time, type, third party, privacy safeguard (y/n) , third party codes and terms of ethics, relevant advertisements received during last week, third party scoring, self scoring
- Eg.

Example: who is reading my bills?

scoring	# or relevant received ads after purchase	Service provider codes of ethics	Privacy safeguard	Membership/disc ount card	transaction	Third party	activity	time	Day
= no of adds/ activities	3	NA	y/n	e.g. Iktisab	Visa/Bank, cash	Danube	buying food	9:00 a.m	M

Why they are interested in me?

- Information is a treasure
- Liabilities
- High demand
- Increased competition
- Increased awareness
- Increased digitization and smartization

Possibility: Anonymity

- Pseudo identity
 - Student no
- Pseudo address
- Untraceable identity

Anonymity in the internet

1. Anonymous servers

- Via encryption

2. Anonymous users

- Simple Mail Transfer Protocol (SMTP) and
- Network News Transfer Protocol (NNTP),

During class discussion

1. Safeguarding privacy

1. • *Legislation*
2. • *Regulation*
3. • *Self-help*

2. Do they work?

3. What do you think is the best way to safeguard privacy?

4. How much privacy are you willing to give up/tolerate to feel secure?

Pros and cons of anonymity

- Pros:
 - National security
 - Whistle blowing:
 - e.g. unhealthy, illegal activities.
 - Avoiding intimidation
 - Self interest
- Cons
 - Personal and societal harm, especially through social media.
 - Complicates investigations on disputes and crimes.
- Q: is there any about who shall legally use anonymity in KSA? How this impact the freedom of internet?

Security

Why do we need security?

- To prevent
 - unauthorized access
 - Unauthorized use
 - Theft
 - Physical damage to digital properties

Security domains

- Confidentiality:
 - means of preventing unauthorized disclosure to third parties
- Integrity: preventing unauthorized modification of files and maintaining the existing situation.
 - Includes : system, information, and personal integrity
- Availability: preventing unauthorized **withholding** of information and facility (from and when needed)
- To prevent

Types of encryption

- Physical Security
 - prevention of access to physical facilities(e.g. computer Systems)
 - Defense mechanisms
 1. Deterrence : create an atmosphere which defend against intruder access
 2. Prevention: stop intruder access.
 3. Detection: assume access and monitor who and what intruder is doing
 4. Response: analyze and minimize damage.
 - Physical access control by:
 - Physical security barriers: fences, dogs, sensors, CCTVs, etc
 - Electronic access control: cards, firewalls and passwords
 - Packet filters firewalls
 - Proxy servers
 - Stateful inspection (filter + proxy)
- Information security
 - prevention of access to information by encryption, authentication, and other means.
 - Encryption = cryptography → symmetric, asymmetric and hash functions.

Types of encryptions (2)

Types of Encryption

DES
TripleDES
AES
RC5

Symmetric Keys

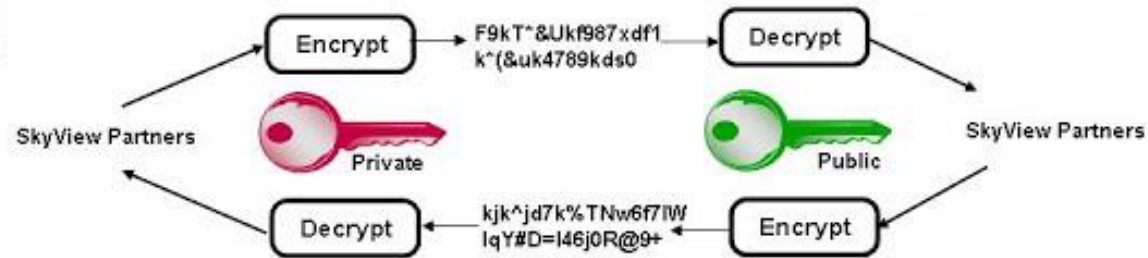
- Encryption and decryption use the **same key**.



RSA
Elliptic Curve

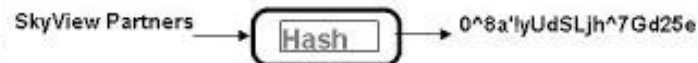
Asymmetric keys

- Encryption and decryption use different keys, a **public key** and a **private key**.



MD5
SHA-1

One-way hash



Authentication

- System gathers information about the user and validates them to assure genuine user access.
- Ensuring message integrity
- Digital signature
- Tools
 - Username, password
 - Retinal image
 - Fingerprint
 - Physical locality
 - Identity cards
 - Etc.



Authentication versus authorization

- Authentication
 - Verify that I am whom I claim
 - Login
 - http authentication
 - Certificate
- Authorization
 - Decides if you have permission to access a resource
 - Access control via URL
 - Access control lists
 - Secure methods

Security Policy

- A document specifying
 1. organizational security guidelines which are mandatory for all members to follow.
 2. Guidelines about how to handle security incidents.

Example 1: Information Security policy for using KSU domain?

- **Example 2: policies and procedures**
- **Sample security policy for a financial organization**
- **Sample security policy of a health institution**
- **Sample security policy for a governmental organization**
- **Sample security policy for a software product**

Privacy

Definitions

1. The ability of individuals or groups to hide or selectively express themselves or information about themselves.
2. A human value with the following rights:
 - **Solitude** : The right to be alone without disturbances حق العزلة
 - **Anonymity** : The right to have no public personal identity اخفاء الهوية عن العامة
 - **Intimacy** : The right not to be monitored
 - **Reserve** : The right to control one's personal information including the methods of dissemination of that information

Durlak J Privacy and security. Communications for tomorrow.
<http://renda.colunato.yorku.ca/com4tom/1296.html>

3. **Relative in culture, locality, religion, political system, ...etc.**

Types of privacy

- Personal privacy
 - All personal attributes
 - US fourth amendment
 - right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.
 - "ولا تجسسوا"
- Information privacy
 - Preventing unauthorized access to
 - Personal information
 - Financial information
 - Medical information
 - Internet activity
- Institutional privacy
 - Protecting research data, product data, sales data, marketing strategies, ..etc.

Importance of privacy

1. Guards our personal identity
2. Preserves our autonomy
3. Supports establishing new social relationships

How these attributes are violated?!

1. Technology, national address, national id, iqama ,etc,
2. Challenging autonomy
3. Search on other-side information (marriage)
4. Internet crawlers gather information on us without our consent

Privacy acts and policies

- They restrict illegal and harmful privacy violation
 - **Privacy policy** :
 - the institution is bound to tell us the nature, type, usage of information about us.
 - **Right to opt out** :
 - the institution is bound to explain our recourse to prevent the transfer of our data to third-party beneficiaries
 - **Safeguards** :
 - the institution must put in place policies to prevent fraudulent access to confidential information

Legal issues in privacy violations

- Privacy violations are now widespread. We are victims on daily bases due to
 - Inadequate privacy policies
 - Giving up little or more information when shopping, responding to ads, etc.
 - Failure of companies to commit and follow up their own privacy policies
 - Internet temptation
 - Intrusion: wrongful entry, seizing, or acquiring possession of the property of others.
 - Misuse of information
 - Interception of information
 - Information matching

Privacy protection

- Technical
 - Do not reveal personal information inadvertently.
 - Turn on cookie notices in your Web browser, and/or use cookie management, software or intermediaries.
 - Keep a “clean” email address.
 - Don’t reveal personal details to strangers or just-met “friends.”
 - Realize you may be monitored at work.
 - Use encryption
 - Contractual
 - Type and dissemination
- Legal
 - Protection acts
 - Children, family, consumer, etc
 - Freedom of information
 - Privacy
 - Financial privacy
 - Financially services
- Search the internet on possible Saudi Acts available to protect privacy.
- Ethics

Reading

- Chapter 5 of the book

Questions

1. Define security and privacy. Why are both important in the information age?
2. What is anonymity? Discuss two forms of anonymity.
3. Discuss the importance of anonymity on the Internet.
4. Develop two scenarios—one dealing with ethical issues involving security and the other dealing
5. with ethical issues involving privacy.
6. List and discuss the major threats to individual privacy.
7. Identity theft is the fastest growing crime. Why?
8. Suggest steps necessary to protect personal identity.
9. Anonymity is a doubly edged sword. Discuss.
10. Modern day information mining is as good as gold! Why or why not?
11. How do consumers unknowingly contribute to their own privacy violations?