



Fakultas  
Ekonomi & Bisnis  
School of Economics & Business  
Telkom University

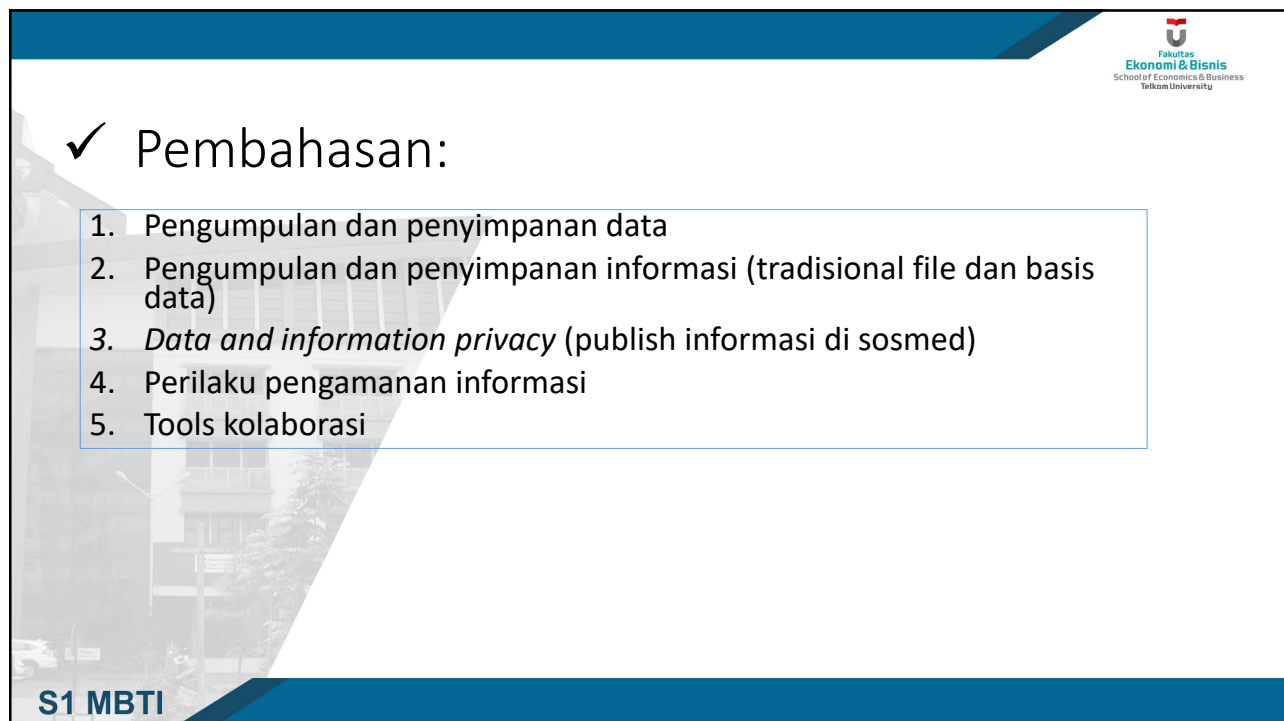
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# DUH1A2 ICT Literacy

*Pengelolaan Informasi*

Amarilis Putri Y

Semester Ganjil - TA 2016/2017



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✓ Pembahasan:

1. Pengumpulan dan penyimpanan data
2. Pengumpulan dan penyimpanan informasi (tradisional file dan basis data)
3. *Data and information privacy* (publish informasi di sosmed)
4. Perilaku pengamanan informasi
5. Tools kolaborasi

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## ✓ Tujuan Pembelajaran:

1. Mampu memahami proses pengumpulan dan penyimpanan data
2. Mampu memahami konsep pengumpulan dan penyimpanan informasi (tradisional, file dan basis data)
3. Mampu memahami konsep *data and information privacy* (publish informasi di sosmed) dan aplikasinya dalam penggunaan teknologi
4. Mampu memahami konsep perilaku pengamanan informasi dan implementasinya
5. Mengetahui dan mampu menggunakan beberapa *tools* kolaborasi untuk mempermudah pekerjaan

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## Pengumpulan dan Penyimpanan Data

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## Data Vs Informasi

### Data :

- Raw Facts
- No Context
- Number or Text

### Information :

- Data with Context
- Processed Data
- Value-Added to Data
  - Summarized
  - Organized
  - Analyzed

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## Teknik Pengumpulan Data

- Interview/wawancara
- Kuesioner
- Observasi

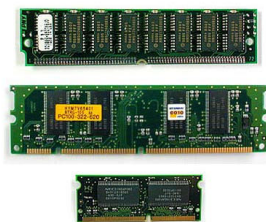
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Masih ingat yang ini ?




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Atau ini ? ? ?




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# Is this **file system** ???



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# Data Storage

Magnetism Data Storage → <https://www.youtube.com/watch?v=f3BNHhfTsvk>  
DBMS → <https://www.youtube.com/watch?v=FR4QIeZaPeM>  
Relational Database Concept → <https://www.youtube.com/watch?v=NvrpuBAMddw>  
Non Relational Database Concept → <https://www.youtube.com/watch?v=pHAItWE7QMU>

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## Pengumpulan dan Penyimpanan Informasi

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## Pengumpulan Informasi

### Traditional Method :

- Book, people,
- Static
- General
- Only certain people or institutions become source of information
- Commonly valid
- Restricted

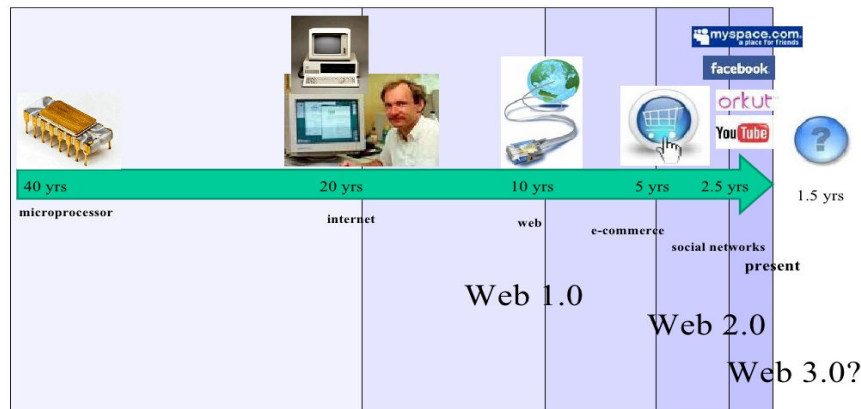
### ICT era:

- e-book, web based content, database
- Dynamic
- More specific
- Anyone can become source of information
- Need to check on validity
- More and more free

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## Web Technology

### Evolution of the Internet



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## Web Technology

### Key Characteristics

web 1.0	web 2.0	web 3.0
<ul style="list-style-type: none"> <li>• <b>Content</b> content destination sites and personal portals</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Speedy</b> more timely information and more efficient tools to find information</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Ubiquitous</b> available at any time, anywhere, through any channel or device</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Search</b> critical mass of content drives need for search engines</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Collaborative</b> actions of users amass, police, and prioritize content</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Individualized</b> filtered and shared by friends or trust networks</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Commerce</b> commerce goes mainstream; digital goods rise</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Trust-worthy</b> users establish trust networks and hone trust radars</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Efficient</b> relevant and contextual information findable instantly</li> </ul>

present

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# Web Technology

## Restaurants

web 1.0

zagat's



- infrequent publication
- centralized editorial control

web 2.0

yelp



- user submitted reviews
- related items based on similarity of user preferences

web 3.0



need reco for great Italian

+ GPS  
+ Yelp 5-star

Babbo, been there, love it

- Yelp content vetted through a user's trust network and individual recommendations made based on situation and need, in real-time

present

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## *Data and Information Privacy*

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## Definition

- **Def. of privacy** [Alan Westin, Columbia University, 1967]  
= the claim of individuals, groups and institutions to determine for themselves, when, how and to what extent information about them is communicated to others
- **3 dimensions** of privacy:
  - 1) **Personal** privacy  
Protecting a person against undue interference (such as physical searches) and information that violates his/her moral sense
  - 2) **Territorial** privacy  
Protecting a physical area surrounding a person that may not be violated without the acquiescence of the person
    - Safeguards: laws referring to trespassers search warrants
  - 3) **Informational** privacy  
Deals with the gathering, compilation and selective dissemination of information

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## Recognition of Need for Privacy Guarantee

- By **individuals** [Cran et al. '99]
  - 99% unwilling to reveal their SSN
  - 18% unwilling to reveal their... favorite TV show
- By **businesses**
  - Online consumers worrying about revealing personal data held back \$15 billion in online revenue in 2001
- By **Federal government**
  - Privacy Act of 1974 for Federal agencies
  - Health Insurance Portability and Accountability Act of 1996 (HIPAA)

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## Threats to privacy

### 1) Threats to privacy at application level

- Threats to **collection** / **transmission** of large quantities of **personal data**

- Incl. projects for new applications on Information Highway, e.g.:

- Health Networks / Public administration Networks
- Research Networks / Electronic Commerce / Teleworking
- Distance Learning / Private use

- Example: Information infrastructure for a better healthcare
- [cf. Danish "INFO-Society 2000"- or Bangemann-Report]
- National and European healthcare networks for the interchange of information
- Interchange of (standardized) electronic patient case files
- Systems for tele-diagnosing and clinical treatment

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## Threats to privacy

### 2) Threats to privacy at communication level

- Threats to anonymity of **sender** / **forwarder** / **receiver**
- Threats to anonymity of **service provider**
- Threats to **privacy of communication**

- E.g., via monitoring / logging of transactional data
- Extraction of user profiles & its long-term storage

### 3) Threats to privacy at system level

- E.g., threats at system access level

### 4) Threats to privacy in audit trails

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# Perilaku Pengamanan Informasi

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## Privacy Control

- 1) **Technical** privacy controls - **Privacy-Enhancing Technologies (PETs)**
  - a) Protecting **user identities**
  - b) Protecting **usee identities**
  - c) Protecting **confidentiality & integrity of personal data**
- 2) **Legal** privacy controls

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# Privacy Control

## 1) Technical controls - Privacy-Enhancing Technologies (PETs)

### a) Protecting user identities via, e.g.:

- **Anonymity** - a user may use a resource or service without disclosing her identity
- **Pseudonymity** - a user acting under a pseudonym may use a resource or service without disclosing his identity
- **Unobservability** - a user may use a resource or service without others being able to observe that the resource or service is being used
- **Unlinkability** - sender and recipient cannot be identified as communicating with each other

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# Privacy Control

## b) Protecting usee identities via, e.g.: **Depersonalization (anonymization)** of data subjects



- **Perfect** depersonalization:
  - Data rendered anonymous in such a way that the data subject is no longer identifiable
- **Practical** depersonalization:
  - The modification of personal data so that the information concerning personal or material circumstances can no longer **or only with a disproportionate amount of time, expense and labor** be attributed to an identified or identifiable individual
- **Controls** for depersonalization include:
  - **Inference controls** for statistical databases
  - **Privacy-preserving methods** for data mining

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# Tools Kolaborasi

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## Pentingnya tools kolaborasi

- Working together
- Different workplace
- Monitoring and Evaluation

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## Collaboration Tools

- Dropbox
- Google Drive
- Office Online
- Asana
- Trello

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## Latihan

- Carilah suatu informasi dengan tema yang dikonsultasikan terlebih dahulu dengan dosen masing-masing. Simpanlah hasil informasi yang ditemukan dalam sheets menggunakan fasilitas google docs. Simpan informasinya dalam bentuk kolom-kolom. Semakin lengkap atribut/nama kolom-nya semakin baik pula informasi yang dapat dianalisis (lihat pertemuan terkait pencarian dan evaluasi kritis informasi)

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## Daftar Pustaka

- <http://www.slideshare.net/EinsteinX2/data-vs-information>
- Bharat Bhargava, Leszek Lilien, Arnon Rosenthal, Marianne Winslett, "Pervasive Trust," IEEE Intelligent Systems, Sept./Oct. 2004, pp.74-77
- <https://www.youtube.com/watch?v=f3BNHhfTsvk>
- <https://www.youtube.com/watch?v=FR4QleZaPeM>
- <https://www.youtube.com/watch?v=NvrpuBAMddw>
- <https://www.youtube.com/watch?v=pHAItWE7QMU>