

Semoga ALLAH memberikan kita  
**KEBERKAHAN** dan **KEMUDAHAN**  
dalam belajar...

Ilmu yang bermanfaat



(DIH3A3)

# Implementasi User Experience Design

Pekan 2

## KONSEP USER INTERACTION DESIGN

TFN, RHN, FRA, SKS | Ganjil 2016/2017



Telkom  
University

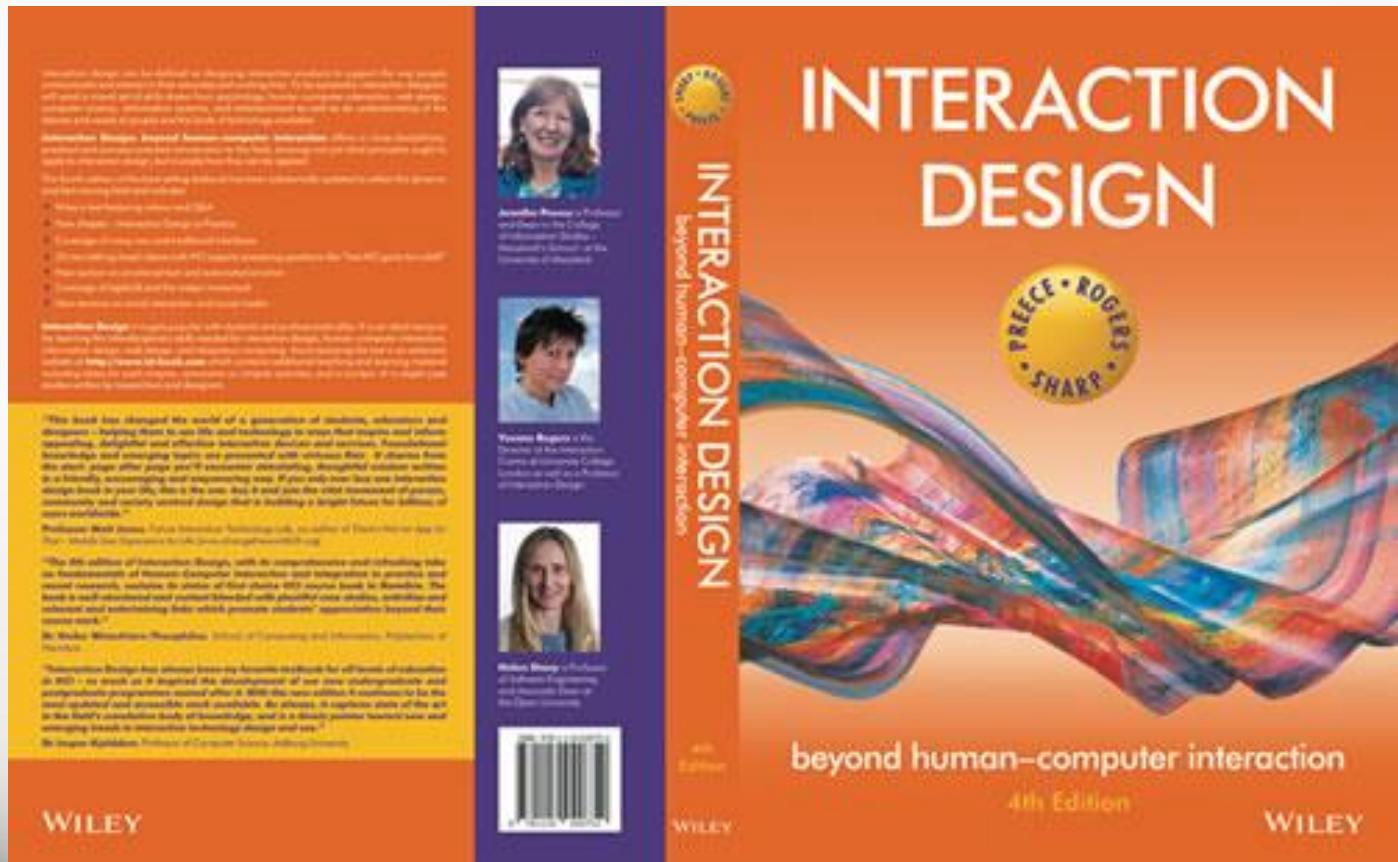
(DIH3A3) Implementasi User  
Experience Design

# Materi Kajian #1

Mg Ke-	Kemampuan Akhir Sesuai tahapan belajar (CP-MK)	Materi Pembelajaran [Pustaka]	Metode Pembelajaran [Estimasi Waktu]	Asesmen					
				Indikator	Bentuk	Bobot (%)			
<b>IMPLEMENTASI USER EXPERIENCE DESIGN</b>									
<b>[C2] Mampu memahami dan menggunakan Prinsip dasar UI design, serta konsep User Experience pada tampilan Aplikasi</b>									
1	Mampu memahami dan menggunakan Prinsip dasar UI design	1. Perkenalan dan Kontrak Perkuliahan 2. Overview materi perkuliahan IUXD 3. Review 8 Golden Rules for UI (Ben Shneidermans) 4. Review General Principle of UI (Galitz) 5. Nielsen 10 Usability Heuristic	100 menit pertemuan tatap muka: Ceramah & Diskusi  100 menit pertemuan tatap muka: Ceramah & Diskusi. Tugas-1	Mampu menjelaskan prinsip dasar UI design seperti, 8 Golden Rules for UI, General Principle UI, dan mampu menjelaskan penerapannya pada tampilan Web atau Mobile	Ujian Tulis	25%			
2	Mengetahui konsep dasar User Interaction Design	Konsep dasar Interaction Design Visibility, Feedback, Limitation, Consistency, Affordance  Model Conceptual and Perceptual Design Interaction	100 menit pertemuan tatap muka: Ceramah & Diskusi  100 menit pertemuan tatap muka: Ceramah & Diskusi. Tugas-2	Mampu menjelaskan definisi User Interaction Design, Karakteristik Interaction Design dan Model Konseptual pada Interaction Design	Ujian Tulis	25%			
3-4	Mengetahui konsep dasar User Experience Design	Konsep, Strategic dan Principle UX  Goals: Usability vs User Experience  Elemen pengembangan UX design Process Lifecycle User Experience  Contoh Penerapan desin Web dan Mobile Pembahasan Studi Kasus UX (Diskusi Tugas)	100 menit pertemuan tatap muka: Ceramah & Diskusi  150 menit pertemuan tatap muka: Ceramah & Diskusi. Tugas-3  150 menit pertemuan tatap muka: Ceramah & Diskusi	Mampu menjelaskan definisi dan konsep dasar UX design, Strategi dan elemen pengembangan UX. Mampu menyebutkan contoh penerapan UX pada design Web dan Mobile	Ujian Tulis	50%			
5	ASESSMENT 1	Sesuai materi pada pekan 1-4	Ujian Tulis, 100 menit	Capaian Kajian 1 dan Indikator Materi	Ujian Tulis	100%			

# Buku Referensi?

Rogers, Sharp. **Interaction Design: Beyond Human - Computer Interaction**. 3rd Edition. 2013



# Quote of the day



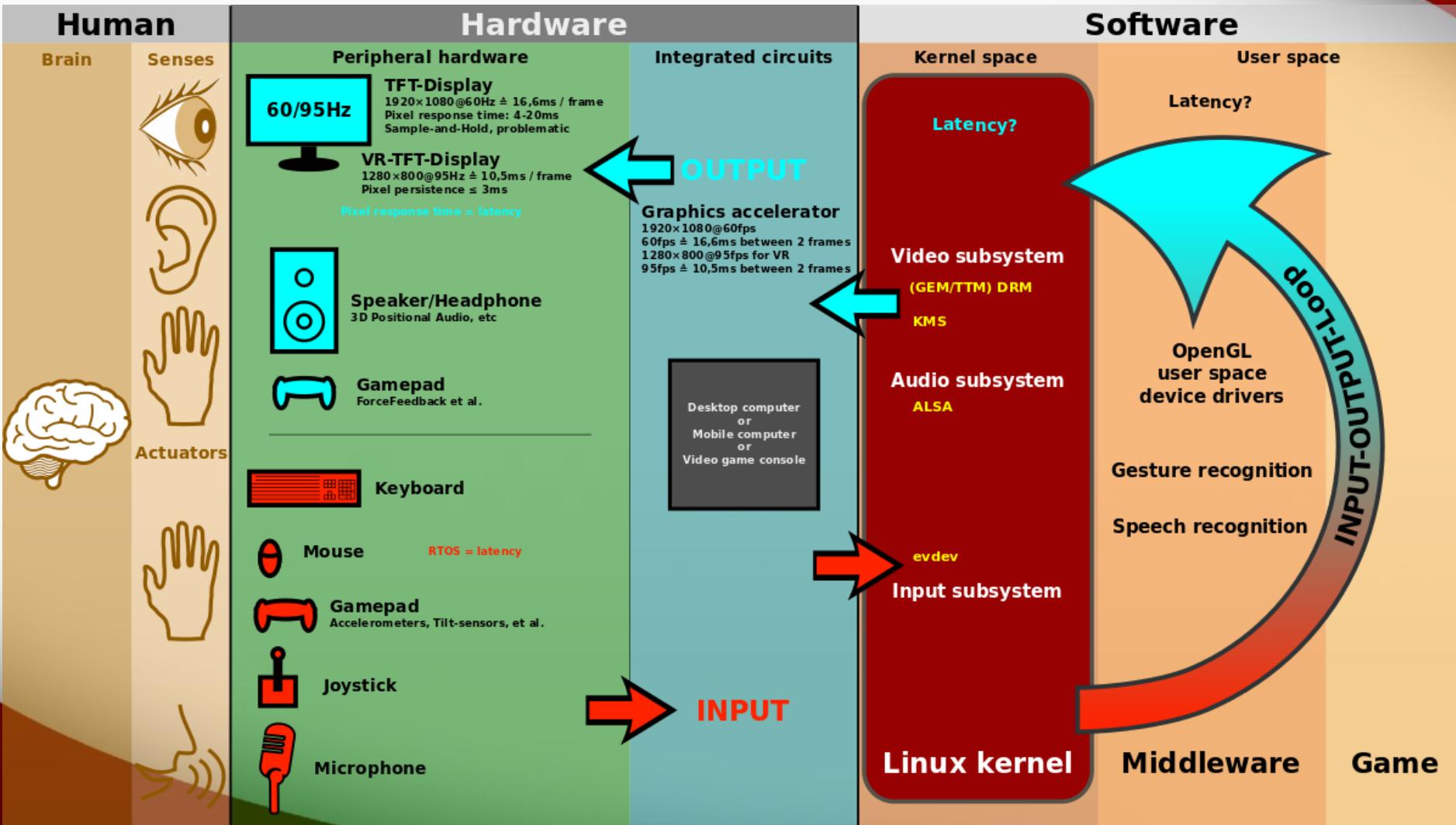
A picture is worth a thousand words.  
An interface is worth a thousand  
pictures.

— *Ben Shneiderman* —

AZ QUOTES

# Materi sebelumnya...

Human Computer Interaction → User Interface Design

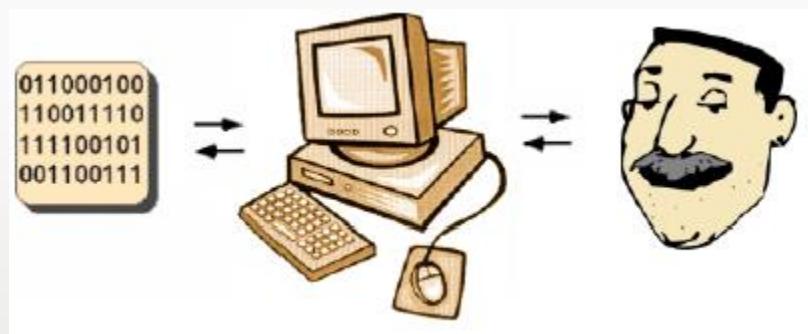


Ada yang mau  
**ditanyakan** tentang  
perkuliahan sebelumnya?



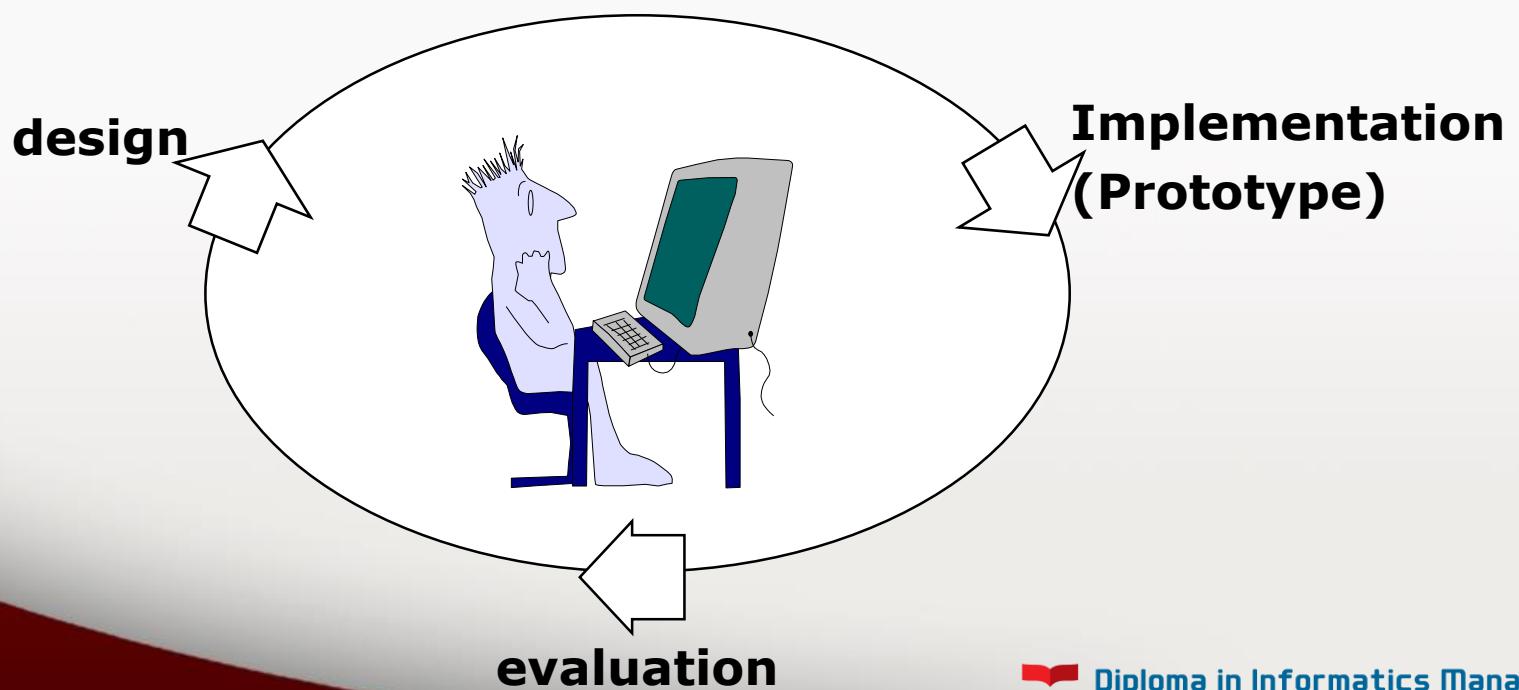
# masih ingat apa itu **User Interface**?

The *user interface* is the part of a software program that allow users to interact with computer (system) and carry out their task.



# Human Computer Interaction – User Interface development cycle

**HCI** = *design, prototyping, evaluation, and implementation of user interfaces (UIs)*



# What is **interaction design**?

- Designing interactive products to support people in their everyday and working lives
  - Sharp, Rogers and Preece (2002)
- The design of spaces for human communication and interaction
  - Winograd (1997)



# Goals of interaction design

- Develop usable products
  - Usability means easy to learn, effective to use and provide an enjoyable experience
- Involve users in the design process



# Contoh BAD design vending machine?



- Need to **push button** first to activate reader
- Normally **insert bill** first before making selection
- Contravenes well known convention

apanya yang BAD?



# Theory?

## From HCI to Interaction Design

- **Human-computer interaction (HCI)** is:  
“concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them” (ACM SIGCHI, 1992, p.6)
- **Interaction design (ID)** is:  
“the design of spaces for human communication and interaction”
  - Winograd (1997)
- Increasingly, more application areas, more technologies and more issues to consider when designing ‘interfaces’



# five (six) Key Interaction Design

1. Visibility
2. Feedback
3. Constraints (Limitation?)
4. Mapping
5. Consistency
6. Affordance



Cek buku:

Rogers, Sharp. *Interaction Design: Beyond Human - Computer Interaction*. 3rd Edition. 2013 (page 21)

Don Norman. *The Design of Everyday Things*. (page 10) → *Fundamental Principles of Interaction*



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# HCI: Key Interaction Design

- **Visibility:** all necessary controls should be visible for the user – he/she is supposed to be able to use them in correct way.
- Always keep users informed about what is going on, through providing appropriate feedback within reasonable time.
- Visibility is the mapping between a control and its effect:
  - Show controls (toolbars, menus).
  - Indicate mappings (Toolbar icons and graphics, enable & disable).
  - Provide feedback (Messages).
- The User Interface should help the user always understand:
  - The current state of the system.
  - What operations can be done.



# HCI: Key Interaction Design



## Visibility:

Contoh evaluasi Visibility?

- Ini adalah contoh gambar panel tombol LIFT
  - Setiap tombol menandakan lantai tujuan
  - Namun, setelah di tekan tombol, LIFT tetap tidak bergerak
- Kenapa??



# HCI: Key Interaction Design

## Feedback

- When anything changes it should be made visible.
- Feedback concerning the actions executed:
  - When you are executing an action give a feedback to the user.
- Feedback concerning their results:
  - After an action executed, display results and make user aware of the results.
- Sending information back to the user about what has been done
- Includes sound, highlighting, animation and combinations of these

[Previous](#) → “ccclichhk”

[Previous](#) → [Previous](#)



# HCI: Key Interaction Design

## Affordance → Clue?

- An affordance is a quality of an object, or an environment, which allows an individual to perform an action
- The set of operations and procedures that can be done to an object (is the fundamental properties of an object which express how it might be used).
- **‘Perceived affordance’** is what typical users think can be done to an object
  - Should a door be pulled or pushed?
  - What does this icon mean?



# HCI: Key Interaction Design

## Constraints

- Restricting the possible actions that can be performed, Helps prevent user from selecting incorrect options
- Constraint: Three main types (Norman, 1999)
  - physical
  - cultural
  - logical



# HCI: Key Interaction Design

## Physical Constraints

- Refer to the way physical objects restrict the movement of things
  - E.g. only one way you can insert a key into a lock
- How many ways can you insert a CD or DVD disk into a computer?
- How physically constraining is this action?
- How does it differ from the insertion of a floppy disk into a computer?



# HCI: Key Interaction Design

## Logical Constraints

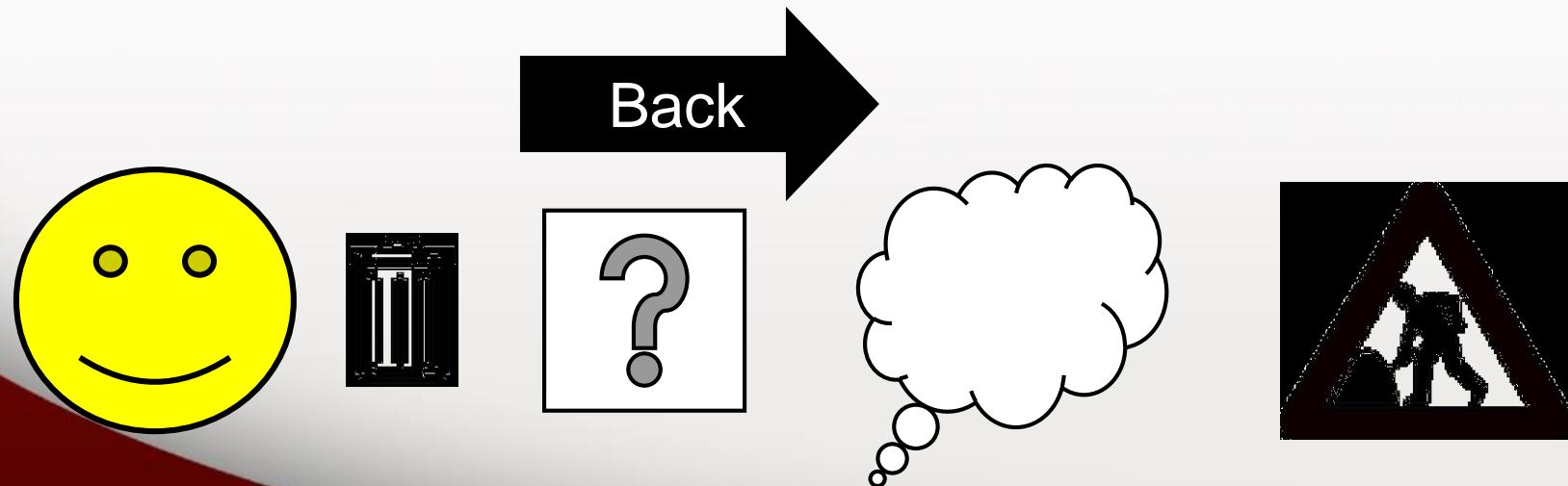
- Exploits people's everyday common sense reasoning about the way the world works
- An example is the logical relationship between physical layout of a device and the way it works as the next slide illustrates



# HCI: Key Interaction Design

## Cultural Constraints

- Learned arbitrary conventions like red triangles for warning
- Can be universal or culturally specific



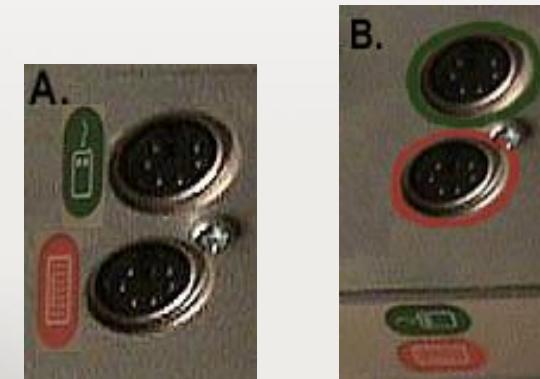
# HCI: Key Interaction Design

## Logical vs Ambiguous?



- Where do you plug the **mouse**? Where do you plug the **keyboard**?
  - **top** or **bottom** connector? Do the **color coded** icons help?
- 
- direct adjacent mapping between icon and connector
  - color coding to associate the connectors with the labels

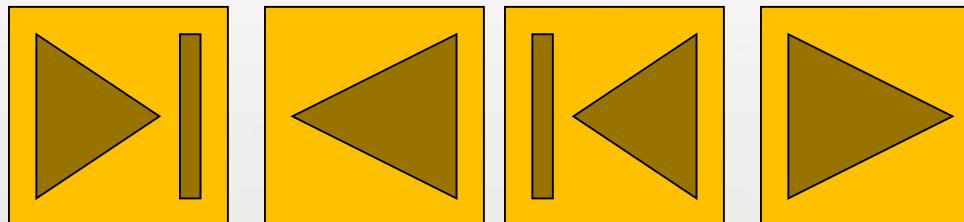
From: [www.baddesigns.com](http://www.baddesigns.com)



# HCI: Key Interaction Design

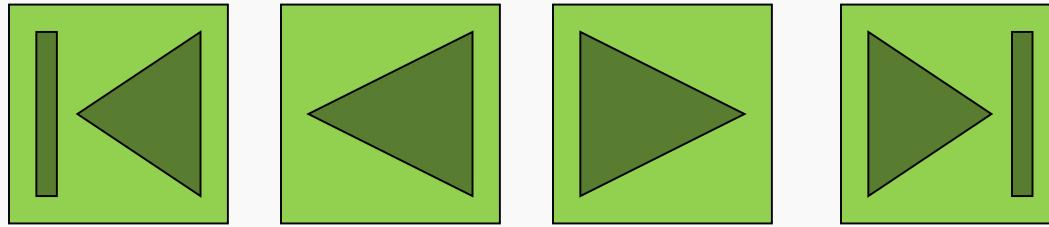
## Mapping

- Relationship **between controls and their movements** and the results in the world
- Why is this a poor mapping of control buttons?



# HCI: Key Interaction Design

- Why is this a better **mapping**?



- The **control buttons** are mapped better onto the **sequence of actions** of fast rewind, rewind, play and fast forward

# HCI: Key Interaction Design

## Consistency

- Design interfaces to have similar operations and use similar elements for similar tasks
- For example:
  - always use ctrl key plus first initial of the command for an operation – ctrl+C, ctrl+S, ctrl+O
- Main benefit is consistent interfaces are easier to learn and use

### Inconsistency??

- What happens if there is more than one command starting with the same letter?
  - e.g. save, spelling, select, style
- Have to find other initials or combinations of keys, thereby breaking the consistency rule
  - E.g. ctrl+S, ctrl+Sp, ctrl+shift+L
- Increases learning burden on user, making them more prone to errors



# HCI: Key Interaction Design

## Internal vs External

- **Internal consistency** refers to designing operations to behave the same within an application
  - Difficult to achieve with complex interfaces
- **External consistency** refers to designing operations, interfaces, etc., to be the same across applications and devices
  - Very rarely the case, based on different designer's preference

**external inconsistency?**



(a) phones, remote controls

1	2	3
4	5	6
7	8	9
0		

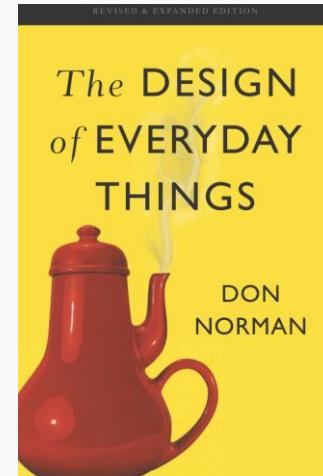
(b) calculators, computer keypads

7	8	9
4	5	6
1	2	3
0		



# five (six) Key Interaction Design

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Ada yang mau  
ditanyakan tentang  
**Interactive Design??**



# Diskusi?

- Adakah aplikasi Games yang membutuhkan **perangkat interaktif** dan **konten interaktif** untuk memainkannya?
- Berikan contoh Aplikasi Interaktif yang menurut Anda **mampu menerapkan 6 Key Interactive Design??**



# Conceptual Models for Interactive Design

(DIH3A3)  
Implementasi User Experience  
Design



# Five Key Ideas about UIs in HCI

## Cont.

- **Task**
  - An action the user wants to do:
    - To call somebody
    - To save the file
  - Task Analysis?



# Mainan IUXD #1

1. Buatlah kelompok berisi 3 mahasiswa
2. Temukan Web dengan kategori **Berita/News** (Web nasional atau international)
3. Kemudian berikan komentar Anda mengenai User Interface Design dari web tersebut. **Gunakan pendekatan “18 General Principle UID”** untuk argument pada komentar Anda tersebut
4. Pastikan **seluruh point pada 18 prinsip** tersebut sudah Anda komentari. Jika **Buruk** maka jelaskan, jika **Bagus** maka berikan juga penjelasanya.

# Quote of the day

**“Design is not  
just what it  
looks like &  
feels like.  
Design is how  
it works.”**

– Steve Jobs

pax|media