## **Muryan Awaludin**

- SDN 09 Petarukan Pemalang (1997)
- SMP PGRI 5 Petarukan Pemalang (2000)
- SMK ISLAM Pemalang (2003)
- S.Kom di STIKOM CKI Jakarta (2010)
- M.Kom di STMIK ERESHA Jakarta (2014)

## Contact Us

#### Phone : 08562616116

Email : <u>muryan\_awaludin@yahoo.co.id</u>

Blog : <u>www.ilmudesaingrafis.blogspot.com</u>

- : www.muryanawaludin.blogspot.com
- Twitter : @muryan\_awaludin
- FB : muryan.awaludin

Ym : muryan\_awaludin

## Textbook

## Human–Computer Interaction Fundamentals and Practice C Gerard Jounghyun Kim

#### MURYAN AWALUDIN, M.KOM

CRC Press

## Content

# 1. What HCI is and Why it is Important

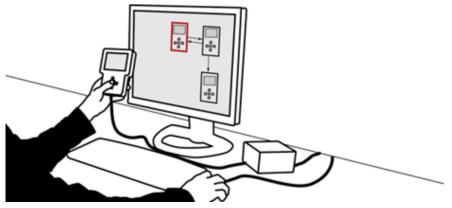
- 2. Principles of HCI
- 3. Summary

## 1. What HCl is and Why it is Important

# What is HCl ?

## 1. What HCI is and Why it is Important

HCl is a cross-disciplinary area (e.g., engineering, psychology, ergonomics, design) that deals with the theory, design, implementation, and evaluation of the ways that humans use and interact with computing devices



## 1. What HCl is and Why it is Important

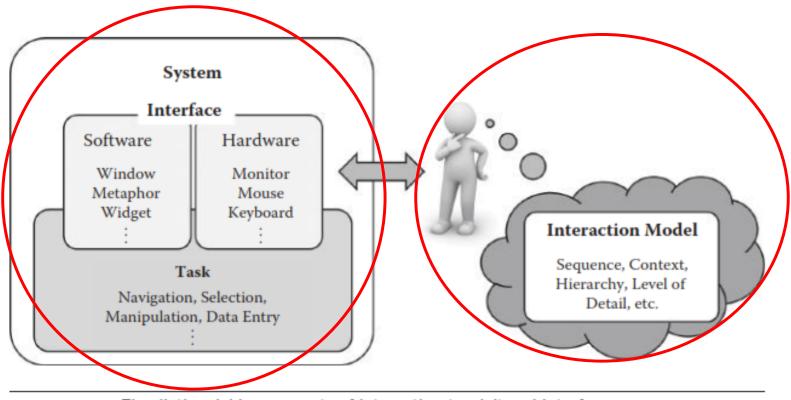
# What is Interaction ?

## 1. What HCI is and Why it is Important

# **Interaction is** a concept to be distinguished from another similar term, interface



## 1. What HCl is and Why it is Important



The distinguishing concepts of interaction (model) and interface.



Goals of human-computer interaction (HCI): (a) functional completeness (Apple iPhone 5s, http://www.apple.com/iphone-5s), (b) high usability (Microsoft® Pixelsense, http://blogs. msdn.com/b/pixelsense), (c) aesthetic appeal (Apple iPhone 5s), and (d) compelling user experience (UX) (Microsoft Kinect, http://www.xbox.com/ko-KR/Kinect).

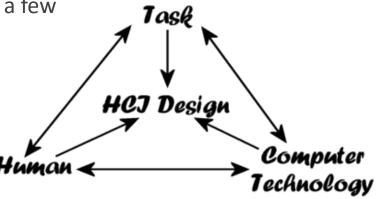
## 1. What HCI is and Why it is Important



The evolution of interfaces in the course of the history of computing (i.e., terminal and keyboard, graphic user interface and mouse, and handheld and touch-based interface). (Courtesy of Cox, J., https://www.flickr.com/photos/15587432@N02/3281139507, Melbourne, FL.)

Despite its importance, good HCI design is generally difficult, mainly because it is a multiobjective task that involves simultaneous consideration of many things,

SUCh as the types of users, characteristics of the tasks, capabilities and cost of the devices, lack of objective or exact quantitative evaluation measures, and changing technologies, to name just a few



## A short review of the main HCI principles

- 1. Know Thy User
- 2. Understand The Task
- 3. Reduce Memory Load

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- 4. Strive for Consistency
- 5. Remind Users and Refresh Their Memory
- 6. Prevent Errors/Reversal of Action
- 7. Naturalness

## A short review of the main HCI principles

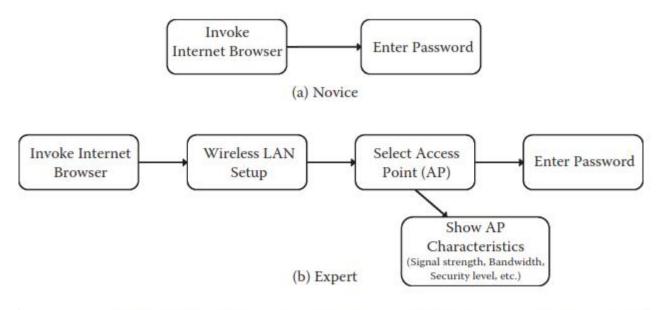
## 1. Know Thy User



Examples of user-centered designs of web pages for (a) kids (courtesy of Junior Naver, http://jr.naver.com), and (b) the elderly (courtesy of SilverNet News, http://www.silvernews.or.kr).

## A short review of the main HCI principles

## 2. Understand The Task



Two interaction models at different levels of detail for the task of "connecting to the Internet from a smartphone," depending on the user type.

## A short review of the main HCI principles

3. Reduce Memory Load

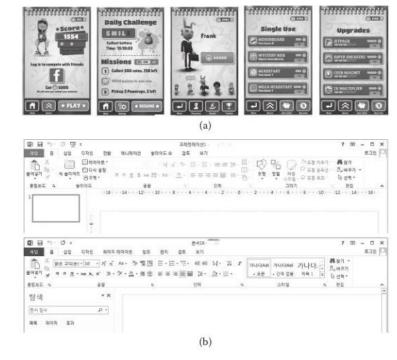


Interfaces designed for minimal short-term memory: (a) a menu system with fewer than 10 items (left) and (b) categorization by colors, areas, icons, and labels. Badges are used to display status information such as the current weather (see circled portions) and number of unread mails as a constant reminder. (From Microsoft®, Microsoft Metro interface, http://www.microsoft.com.)

## A short review of the main HCI principles

4. Strive for Consistency





**Figure 1.9** (a) A consistent look of the interface within an application (a game called Subway Surfers, https://play.google.com/store/apps/details?id=com.kiloo.subwaysurf) and (b) a consistent interface between Microsoft PowerPoint and Word.

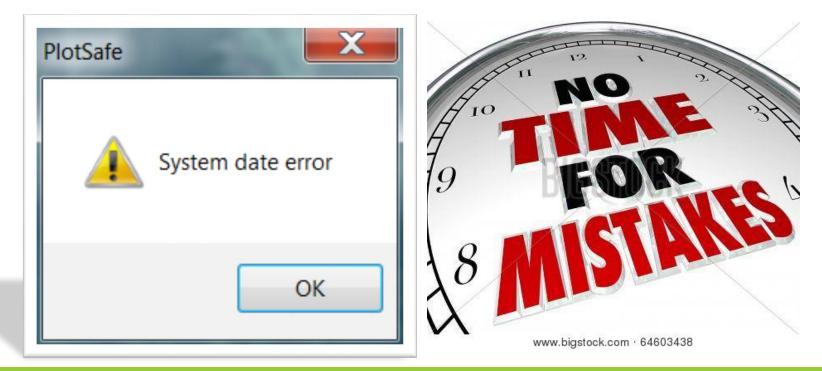
## A short review of the main HCI principles

5. Remind Users and Refresh Their Memory



## A short review of the main HCI principles

6. Prevent Errors/Reversal of Action



## A short review of the main HCI principles

## 7. Naturalness



## Summary

In this chapter, I have introduced the field of HCI, namely its objective and importance

I also have reviewed some of the main highlevel principles of HCI and Presented some relevant examples.

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## Thank You