

**Course : COMP6176 / Human - Computer
Interaction**

Year : 2019

REVIEW I

SESSION 07

LEARNING OUTCOMES

- LO 1: Describe the concept of interaction design
- LO 2: Use guidelines, principles, models, and framework related with interaction design
- LO 4: Design the user requirements with interaction styles

OUTLINE

- Interaction Design
- Understanding and Conceptualizing Interaction
- Cognitive Aspects
- Social Interaction
- Emotional Interaction
- Interfaces

INTERACTION DESIGN

- Interaction Design :
 - Designing interactive products to support the way people communicate and interact in their everyday and working lives.
- Who is involved in Interaction Design :
 1. Designers
 2. Developers
 3. Multidisciplinary Team

INTERACTION DESIGN

- The process of interaction design involves four basic activities :
 1. Establishing requirements
 2. Designing alternatives
 3. Prototyping
 4. Evaluating

UNDERSTANDING AND CONCEPTUALIZING INTERACTION

- There are the ways a person interacts with a product or application.
- There are four main types :
 1. Instructing
 2. Conversing
 3. Manipulating
 4. Exploring

UNDERSTANDING AND CONCEPTUALIZING INTERACTION

- **A paradigms** refers to a general approach that has been adopted by a community of researchers and designers for carrying out their work.
- A theory is a well-substantiated explanation of some aspect of a phenomenon.
- **A Model** is a simplification of some aspect of human-computer interaction intended to make it easier for designer to predict and evaluate alternative designs.

UNDERSTANDING AND CONCEPTUALIZING INTERACTION

- A conceptual model provides a working strategy and a framework of general concepts and their interrelations.
- The core components are :
 - **Metaphors and analogies** that convey to people how to understand what a product is for and how to use it for an activity. (ex browsing, bookmarking)
 - **The concepts** that people are exposed to through the product, including the task-domain objects, the attributes, the operations. (ex saving, revisiting, organizing)
 - **The relationships** between those concepts
 - **The mappings** between the concepts and the user experience the product is designed to support or invoke. (ex : one can revisit, most frequently visited, or saved websites).

COGNITIVE ASPECTS

- ✓ Depending on when, where, and how it happens, cognition can be distributed , situated, extended, and embodied.
- ✓ There are kind of cognitive processes :
 1. Attention
 2. Perception
 3. Memory
 4. Learning
 5. Reading, speaking, and listening
 6. Problem solving, planning, reasoning, and decision making.

COGNITIVE ASPECTS

- Interface metaphor :
 - Intended to provide familiar entities that enable people to readily understand the underlying conceptual model and know what to do at an interface.
- There are the ways a person interacts with a product or application.
- There are four main types :
 1. Instructing
 2. Conversing
 3. Manipulating
 4. Exploring

BEING SOCIAL

- Face to face conversation
- Remote Conversation
- Telepresence
- Co-Presence

EMOTIONAL INTERACTION

- **Emotional interaction** is concerned with how we feel and react when interacting with technologies.
- Frustrating Interface can occurs by :
 - Gimmicks
 - Error Message
 - Waiting
 - Upgrading
 - Appearance

EMOTIONAL INTERACTION

- **Anthropomorphism** is :
 - The propensity people have to attribute human qualities to animals and objects
 - For example : the development of computer-based cuddly toys such as Barney was programmed to congratulate the child whenever she produced a right answer.

INTERACTION TYPES

- Interaction types :

Command Based	Touch
GUI	Air-based gesture
Multimedia	Haptic
Virtual Reality	Multimodal
Information Visualization	Shareable
Web	Tangible
Consumer Electronics and Appliances	Augmented Reality and mixed reality
Mobile	Wearable
Speech	Robotic
Pen	Brain-Computer

REFERENCES

- Interaction Design 5th Edition 2019, Chapter 1-7
- <http://www.uiparade.com/>