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Course : COMP6176 / Human - Computer Interaction

Year : 2019

# INTERACTION DESIGN

SESSION 01

# LEARNING OUTCOMES

- LO 1: Describe the concept of interaction design

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# OUTLINE

- Introduction
- Good and Poor Design
- What is Interaction Design ?
- The User Experience
- Usability and User Experience Goals
- What is involved in Interaction Design

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# INTRODUCTION

- How many interactive products are there in everyday use ?
- Now think how useable they are ?
- How many are actually easy, effortless, and enjoyable to use ?
- Many products that require users to interact with such as Smartphone and social networking sites, have been designed primarily with the user in mind. They are generally easy and enjoyable to use.

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# INTRODUCTION

• Others have not necessarily been designed with the users in mind. Rather, they have been engineered primarily as software systems to perform set functions. An example is setting the time on a stove that requires a combination of button presses that are not obvious as to which ones to press together or separately..

•One main aim of interaction design is to reduce the negative aspects (e.g. frustration, annoyance) of the user experience while enhancing the positive ones (e.g. enjoyment, engagement).

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# GOOD AND POOR DESIGN

• A central concern of interaction design is to develop interactive products that are usable. By that's mean product that are generally easy to learn, effective to use and provide an enjoyable user experience.

• A good place to start thinking about how to design usable interactive products is to compare examples of well-designed and poorly designed ones.

• Through identifying the specific weaknesses and strengths of different interactive products, can begin to understand what it means for something to be usable or not.

• Here the examples of poorly designed products : a voice mail system used in hotels, and the ubiquitous remote control device.

# GOOD AND POOR DESIGN

• When considering the design of an integrative product , it is important to take into account where it is going to be used and who is going to use it.
• Remote Control Device ( The Tivo Remote vs Standard Remote) (See Fig. 01.01(a)&(b))

Figure 01.01 (a) The Tivo Remote


Figure 01.01(b) Standard Remote

•Every home entertainment system, such as TV, Music System, DVD Player, comes with its own remote control device. Each one is different in terms of how it looks and works.

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# GOOD AND POOR DESIGN

(a) TiVo Remote

- The buttons are large
- Cleary labeled
- Logically arranged
- Making them easy to locate and use in conjunction with the menu interface that appears on the TV monitor.
- It has a playful look and feel about it
- Colorful buttons and cartoon icons have been used that are very distinctive, making it easy to identify them in the dark and without having to put reading glasses on.

# GOOD AND POOR DESIGN

(b) Standard Remote

- Many viewers especially when sitting in their living room , find it difficult to locate the right ones, even for the simplest of tasks, like pausing or finding the main menu.
- Need to put their reading glasses each time to read the buttons. It can be frustrating.
- The remote control device appears to have been put together very much as an afterthought.

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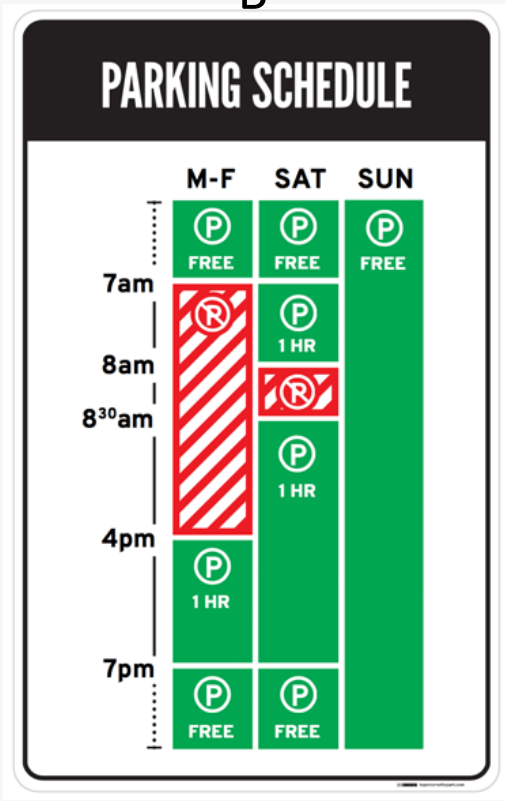
# EXAMPLE GOOD AND POOR DESIGN (Your Turn)

A

**Parking Sign**


B




Based on the image above, which one the best interaction design? Please explain!

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# WHAT IS INTERACTION DESIGN

- Interaction Design :

  Designing interactive products to support the way people communicate and interact in their everyday and working lives.

- Interaction design is generally used as the overarching term to describe the field, including its methods, theories, and approaches. UX is used more widely in industry to refer to the profession. However, the terms can be used interchangeably. Also, it depends on their ethos and brand.

# WHAT IS INTERACTION DESIGN

• Relationship among contributing academic disciplines, design practices, and interdisciplinary fields concerned with interaction design (double arrow means overlapping) ( See Figure 0

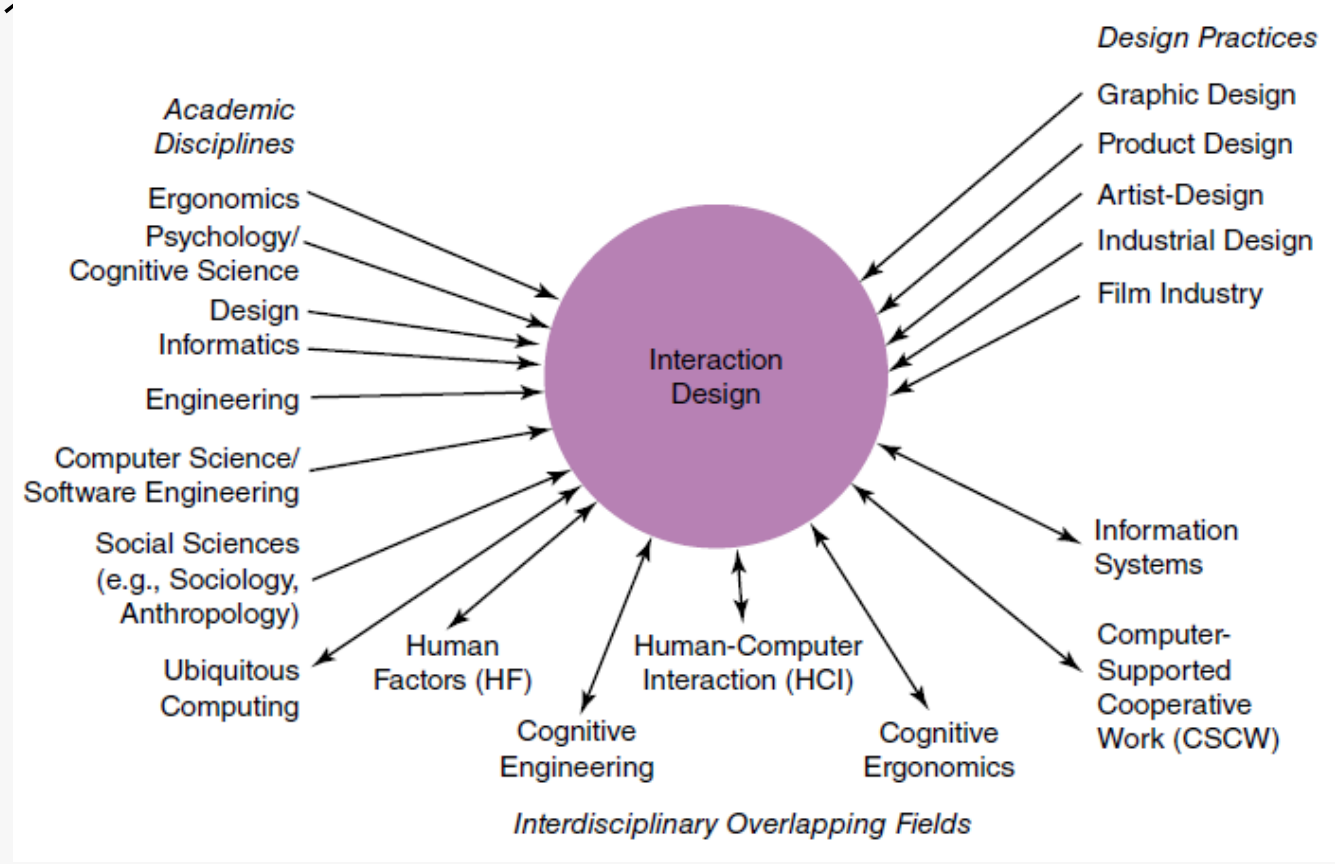


Figure 01.02 Relation Interaction Design with other academic disciplines

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# WHAT IS INTERACTION DESIGN

- **Who is involved in Interaction Design**
  - **a. Designers :**
    - need to know many different things about users, technology, and interaction between them in order to create effective user experiences.
    - need to understand how people act and react to events and how they communicate and interact with each other.
    - need to understand how emotions work, what is meant by aesthetics, desirability, and the role of narrative in human experience.
  - **b. Developers**
    - Need to understand the business side, the technical side, the manufacturing side, and the marketing side.

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# WHAT IS INTERACTION DESIGN

- **Who is involved in Interaction Design ( continue)**
  - **Multidisciplinary teams** where the skill sets of engineers, designers, programmers, psychologist, anthologists, sociologists, artists, toy makers, and others.
  - **Who to include in a team** will depend on a number of factors, including a company's design philosophy, its size, purpose, and product line.

# WHAT IS INTERACTION DESIGN

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

- These activities are intended to inform one another and to be repeated .
- Evaluating what has been built is very much at the heart of interaction design. **Its focus** is on ensuring that the product is appropriate.

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# THE USER EXPERIENCE

•**The user experience** refers to how a product behaves and is used by people in the real world.

•More specifically, it is about how people feel about a product and their pleasure and satisfaction when using it, looking at it, holding it, and opening or closing it.

•It includes their overall impression of how good it is to use, right down to the sensual effect small details have on them, such as how smoothly a switch rotates or the sound of a click and the touch of a button when pressing it

# USABILITY AND USER EXPERIENCE GOALS

## Usability Goals

- The following goals :
  - Effective to use ( effectiveness)
  - Efficient to use ( efficiency)
  - safe to use ( safety)
  - having good utility ( utility)
  - easy to learn ( learnability)
  - easy to remember how to use ( memorability)

- User Experience Goals
  - A diversity of user experience goals has been articulated in interaction design, which cover a range of emotions and felt experiences. ( See table 1)

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# USABILITY AND USER EXPERIENCE GOALS

Table 1 Aspects of the User Experience

| **Desirable Aspects** | | |
|---|---|---|
| Satisfying | Helpful | Fun |
| Enjoyable | Motivating | Provocative |
| Engaging | Challenging | Surprising |
| Pleasurable | Enhancing Sociability | Rewarding |
| Exciting | Supporting creativity | Emotionally fulfilling |
| Entertaining | Cognitively stimulating | |
| Undesirable Aspects | | |
| Boring | Annoying | Patronizing |
| Frustrating | Childish | Making one feel stupid |
| Making one feel guilty | unpleasant | Cutesy |
| Gimmicky | | |

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# USABILITY AND USER EXPERIENCE GOALS

- They differ from the more objective usability goals in that they are concerned with how users experience an interactive product from their perspective, rather than assessing how useful or productive a system is from its own perspective.

- Recognizing and understanding the nature of the relationship between usability and other user experience goals is **central to interaction design**.

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# USABILITY AND USER EXPERIENCE GOALS

- **Design principles** are used by interaction designers to aid their thinking when designing for the user experience.

- Here the most common ones of design principles :
  - Visibility
  - Feedback
  - Constraint
  - Consistency
  - Affordance

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# WHAT IS INVOLVED IN INTERACTION DESIGN

**Interaction Design**

• Interaction design has specific activities focused on discovering requirements for the product, designing something to fulfill those requirements, and producing prototypes that are then evaluated. In addition, interaction design focuses attention on users and their goals.

• Interaction design have 4 phases as follows:

- ✓ **Discover** – Insight into the problem
- ✓ **Define** – Develop a clear brief that frames the design challenge
- ✓ **Develop** – Solutions or concepts are created, prototyped, tested and iterated.
- ✓ **Deliver** – The resulting project is finalized, produced and launched.

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# WHAT IS INVOLVED IN INTERACTION DESIGN

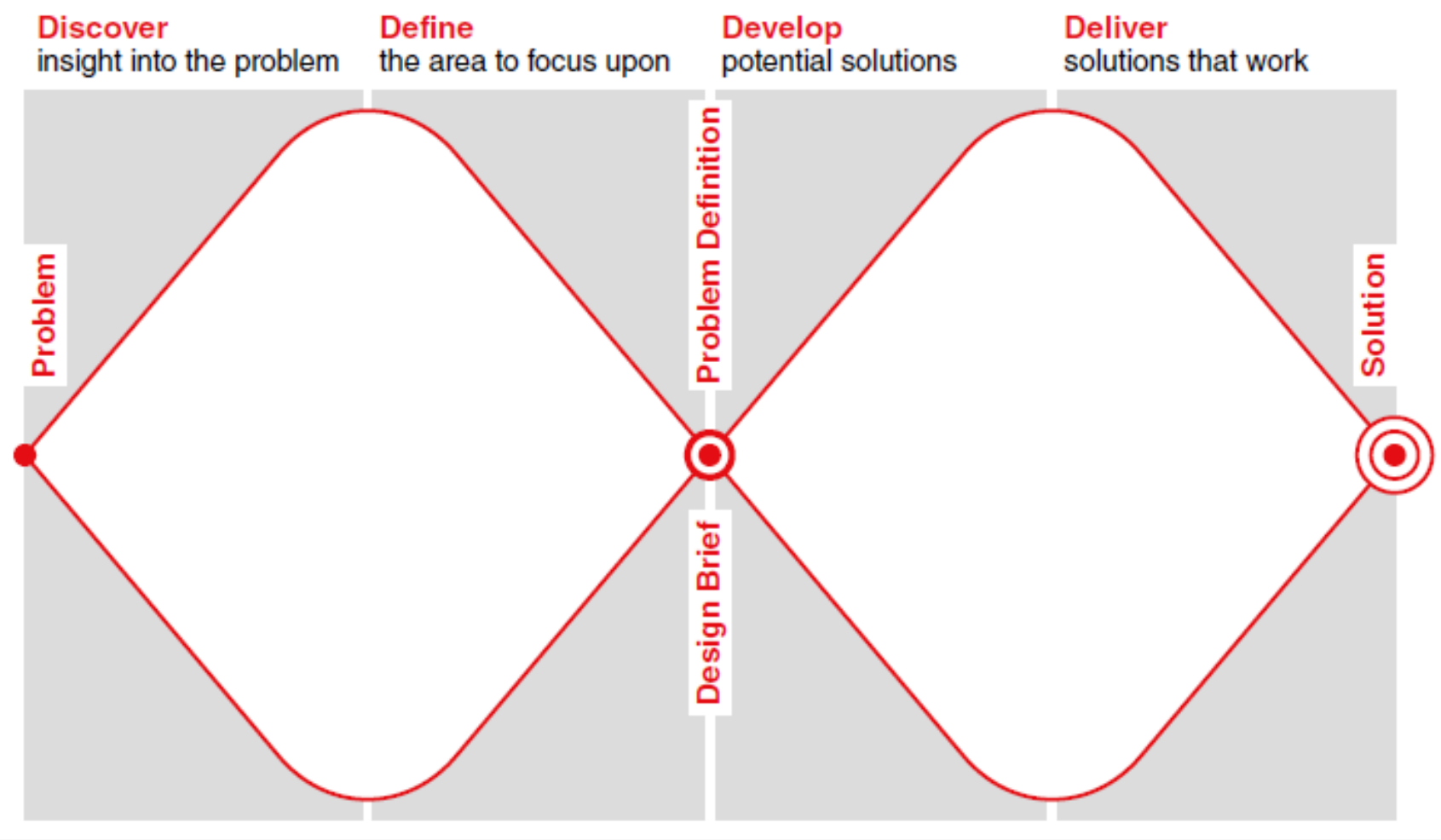


Figure 01.03 The double diamond of design.

# WHAT IS INVOLVED IN INTERACTION DESIGN

**User-Centered Approach**

• There are three principles on User Centered Design :

1. Early Focus on Users and tasks.
2. Empirical Measurement
3. Iterative design

• **Early Focus on Users and tasks**

- This means first understanding who the users will be directly studying their cognitive, behavioral, anthropomorphic, and attitudinal characteristics.
- This principle can be expanded and clarified though the following principles :

1. User's task and goals are the driving force behind the development

# WHAT IS INVOLVED IN INTERACTION DESIGN

2. User's behavior and context of use are studied and the system is designed to support them
3. User's characteristics are captured and designed for.
4. Users are consulted throughout development from earliest phases to the latest and their input is seriously taken into account.
5. All design decisions are taken within the context of the users, their work, and their environment.

**Empirical Measurement**

Specific usability and user experience goals should be identified, clearly documented, and agreed upon at the beginning of the project.

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# WHAT IS INVOLVED IN INTERACTION DESIGN

**Iterative Design**

- Iteration allows designs to be refined based on feedback.
- When problems are found in user testing, they are fixed, and then more tests and observation are carried out to see the effects of the fixes.

# REFERENCES


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