Chapter 1: What is Interaction Design

1.1 Introduction 📝

Definitions:

- **Interaction Design (IxD)**: Designing interactive products that aim to make the user experience easy, effective, and enjoyable.
- **User Experience (UX) Design**: Focuses on optimizing the user's overall experience while interacting with a product or service.
- **People-Centered Design**: Focuses on a broader approach that goes beyond individual users, addressing groups, societies, and their interactions with technology.
- **Customer Experience (CX)**: Covers the total experience a person has with a product, including brand engagement, and the likelihood to recommend it (Lowden, 2014).

Key Attributions:

- **Alan Cooper (2018)**: Criticized the failure of many modern products to apply basic interaction design principles, labeling it as "inexplicable and unforgivable."
- **Don Norman (2018)**: Advocated for shifting the language from "user" to "people" to emphasize broader impact.

Key Lists:

- **Usability Goals** (e.g., effectiveness, efficiency, safety, utility, learnability, memorability).
- **Design Principles** (e.g., visibility, feedback, constraints, consistency, affordance).

1.2 Good and Poor Design 👍👎

Concepts of Good and Poor Design:

- **Good Design**: Interactive products that are easy, enjoyable, and efficient. For example, using a smartphone or tablet, where swiping through photos feels natural and satisfying.
- **Poor Design**: Products that are confusing or frustrating, often due to a lack of clear guidance or feedback. An example is setting the time on a stove, which can be unintuitive due to non-obvious button combinations.

Alan Cooper's Perspective:

- **Alan Cooper (2018)**: Critiques the continued existence of poor design in software products, stating many still do not offer basic features like "undo." This suggests that even modern software lacks essential interaction design principles.

1.3 Switching to Digital 💻🔄

Considerations in Digital Transformation:

- Focuses on the shift from physical artifacts to digital interactions.
- Raises questions about what is gained and what is lost during this transformation.
- Emphasizes the importance of carefully designing digital versions of activities that were traditionally done in a physical manner.

1.4 What to Design 🎨

Design Goals:

- Products must be designed with users in mind to enhance ease of use and satisfaction.
- Need to identify real-world user requirements and use cases to guide effective design.
- Emphasis on understanding users' mental models and designing accordingly.

1.5 What Is Interaction Design? 🤔✨

Interaction Design Overview:

- **Interaction Design (IxD)**: Encompasses the design of how users interact with products.
- Uses various approaches, including user interface design, product design, and UX design.
- Aims to ensure products are useful, usable, and provide a delightful experience.

Design Approaches Mentioned:

- **User-Centered Design (UCD)**
- **Human-Centered Design (HCD)**
- **Interactive System Design**

IxD serves as an overarching term that includes many of these approaches.

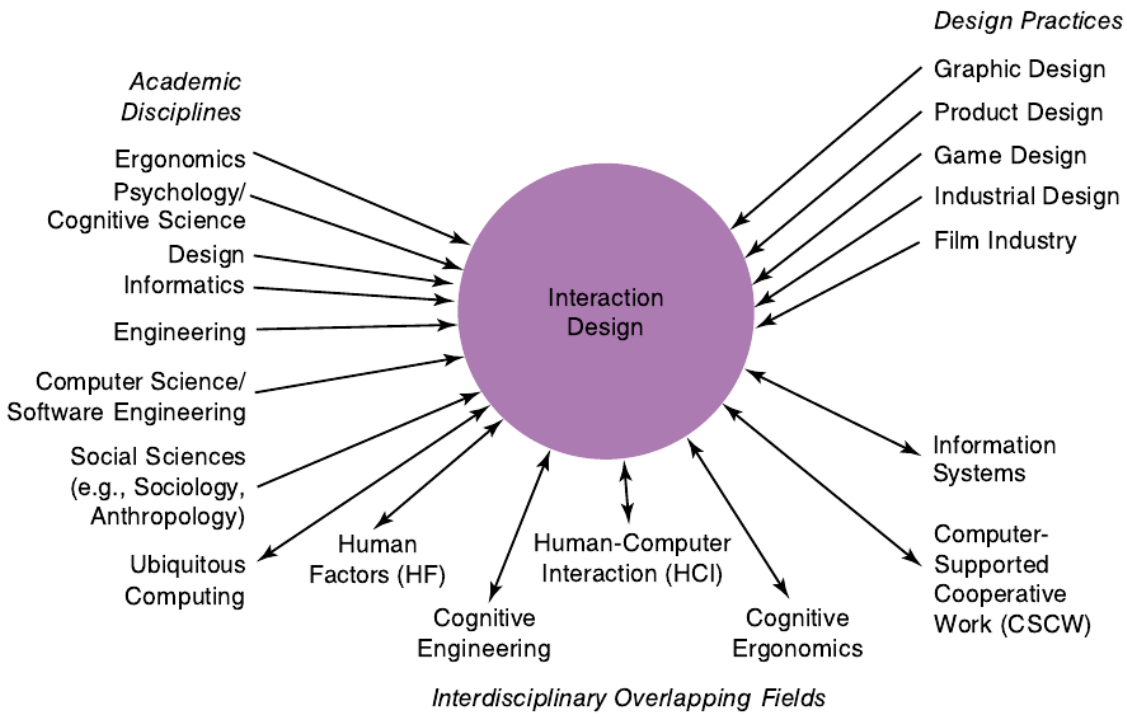

Figure 1.5 Relationship among contributing academic disciplines, design practices, and interdisciplinary fields concerned with interaction design (double-headed arrows mean overlapping)

1.6 People-Centered Design 👥❤️

Don Norman's Proposal:

- **Don Norman (2018)**: Advocates for the use of "people-centered design," which emphasizes designing with the broader implications for groups and societies in mind rather than focusing solely on individual users.

Terminology Debate:

- **User vs. People vs. Customer**: The choice of terminology should match the context:
  - **User** is appropriate for specific technological interactions.
  - **People** is broader, suitable for social or community impacts.
  - **Customer** encompasses the entire customer journey and overall experience.

1.7 Understanding People 🧠👥

Key Considerations:

- Interaction design requires a deep understanding of people's needs, abilities, and preferences.
- Focus on how individuals think, perceive, and use products.
- Understanding these aspects can help to design products that are intuitive and effective.

1.8 Accessibility and Inclusiveness ♿🤲

Key Principles:

- Design should accommodate users with different abilities and backgrounds.
- **Accessibility**: Products should be usable by as many people as possible, including those with disabilities.
- **Inclusiveness**: Considering diverse user groups to ensure that products are beneficial to a wide range of people.

Goals:

- **Inclusiveness**: Design should ensure products are accessible to everyone, regardless of physical, sensory, or cognitive capabilities.

1.9 Usability and User Experience Goals 🎯😊

Usability Goals:

- ✅ **Effectiveness**: The system should help users achieve their goals.
- ⏱️ **Efficiency**: Users should be able to accomplish tasks with minimal time and effort.
- 🛡️ **Safety**: Minimize risks and errors while ensuring that users can recover from mistakes.
- 🛠️ **Utility**: The product must have the right functionality to meet user needs.
- 📘 **Learnability**: Easy to learn how to use the product initially.
- 🔁 **Memorability**: Users should be able to remember how to use the product even after not using it for some time.

User Experience (UX) Goals:

- Focus on the overall **user satisfaction** and the **emotional** aspect of the interaction.
- Emphasis on **positive emotions** like enjoyment, pleasure, and satisfaction while avoiding negative experiences like frustration or confusion.

Design Principles (to achieve Usability and UX goals):

- 🔍 **Visibility**: Users should easily understand what actions they can take.
- 🔔 **Feedback**: The system should give immediate responses to user actions.
- 🚧 **Constraints**: Limit user interactions to prevent errors.
- 🔄 **Consistency**: Ensures that similar actions have similar results across the system.
- 🔴 **Affordance**: Elements should suggest their use (e.g., buttons look clickable).

Desirable aspects		
Satisfying	Helpful	Fun
Enjoyable	Motivating	Provocative
Engaging	Challenging	Surprising
Pleasurable	Enhancing sociability	Rewarding
Exciting	Supporting creativity	Emotionally fulfilling
Entertaining	Cognitively stimulating	Experiencing flow
Undesirable aspects		
Boring	Unpleasant	Creepy
Frustrating	Patronizing	Intrusive
Making one feel guilty	Making one feel stupid	Invasive
Annoying	Cutesy	Deceptive
Childish	Gimmicky	Annoying

Table 1.1 Desirable and undesirable aspects of the user experience

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Summary

- 🤝 **Interaction design** is concerned with designing interactive products to support the way people communicate and interact in their everyday and working lives.
- 🌐 **Interaction design** is multidisciplinary, involving many inputs from wide-ranging disciplines and fields.
- 🔄 There is a growing shift toward replacing the term **user-centered design** with **people-centered design**.
- 🧠 Optimizing the **interaction between people and interactive products** requires consideration of a number of interdependent factors, including:
  - **Context of use** 🌍
  - **Types of activity** 🏃‍♂️📖
  - **Design goals** 🎯
  - **Accessibility** ♿
  - **Cultural differences** 🌎🌏
  - **User groups** 👥
- 🎯 Identifying and specifying relevant **usability and user experience goals** can help lead to the design of good interactive products.
- 📝 **Design principles**, such as **feedback** 🔔 and **simplicity** ✨, are useful heuristics for informing, analyzing, and evaluating aspects of an interactive product.

Glossary for Chapter 1: Interaction Design

1. **Interaction Design (IxD)**
   Designing interactive products to support effective, pleasurable, and seamless communication and interaction in everyday life. Emphasizes user-centered approaches to improve usability and user experience.

2. **Good Design**
   A product that is easy to learn, effective to use, and enjoyable. It reflects user needs and follows principles of usability, resulting in a positive user experience.

3. **Poor Design**
   A product that fails to consider user needs, often resulting in frustration, confusion, or difficulty during use. Typically lacks adherence to good interaction design principles.

4. **People-Centered Design**
   An approach that focuses on understanding and augmenting the experiences of individuals and groups. Considers not only the needs of individual users but also broader societal contexts.

5. **Accessibility**
   Ensuring an interactive product can be used by as many people as possible, including those with disabilities. It aims to remove barriers that might prevent interaction for those with impairments.

6. **Inclusiveness**
   Being fair, open, and accommodating to a wide range of people, regardless of disability, age, or education. Inclusive design strives to make products accessible to everyone.

7. **Usability Goals**
   Objectives that define how effective, efficient, and satisfying a product is to use. Includes criteria like effectiveness, efficiency, safety, utility, learnability, memorability, and satisfaction.

8. **User Experience (UX) Goals**
   Goals that focus on how a product feels to a user, covering a range of emotions and subjective experiences. It includes aspects like fun, excitement, engagement, and emotional fulfillment.

9. **Visibility**
   A design principle referring to how clearly an interface shows users what to do next. Effective visibility allows users to easily understand what actions are possible.

10. **Feedback**
    Providing users with information about what action has been done and what has been accomplished, allowing them to understand the current state and what to do next.

11. **Constraints**
    Design elements that limit the way users interact with a product, guiding them towards correct actions and preventing mistakes.

12. **Consistency**
    Ensuring that similar actions are carried out in similar ways across an interface, making the product easier to learn and use.

13. **Affordance**
    Attributes of an object that make it clear how it can be used. In interaction design, it refers to designing elements that naturally indicate their use, such as buttons that look "clickable."

14. **Human-Computer Interaction (HCI)**
    A discipline focused on the design and use of computer technology, especially regarding how users interact with computers and other digital systems.

15. **Prototyping**
    Creating a simplified version of a product to explore ideas and gather feedback. It helps in evaluating design feasibility and ensuring stakeholders understand the design.

16. **A/B Testing**
    A method for comparing two versions of a design by deploying them to users and measuring performance. Often used to decide between alternative designs based on real-world data.

17. **Dark Patterns**
    Deceptive design elements that trick users into taking actions they might not want to. Often used for financial gain, these undermine trust and provide a negative user experience.

18. **Customer Experience (CX)**
    Refers to all interactions a person has with a company, including their overall satisfaction and likelihood of recommending the product or service to others. UX is a part of CX, but CX also covers broader aspects.

19. **Microinteractions**
    Small, focused design elements that add to the overall user experience, such as the feedback from a button press or the way notifications appear. They can greatly influence satisfaction.

20. **User-Centered Design**
    An approach that focuses on the needs, wants, and limitations of end-users at every stage of the design process. It's similar to people-centered design but often refers specifically to individual product usage.

21. **Flow**
    A state of optimal experience where the user is fully engaged and immersed in an activity, often characterized by a feeling of energized focus and enjoyment.