

DES102: Introduction to Human Computer Interaction

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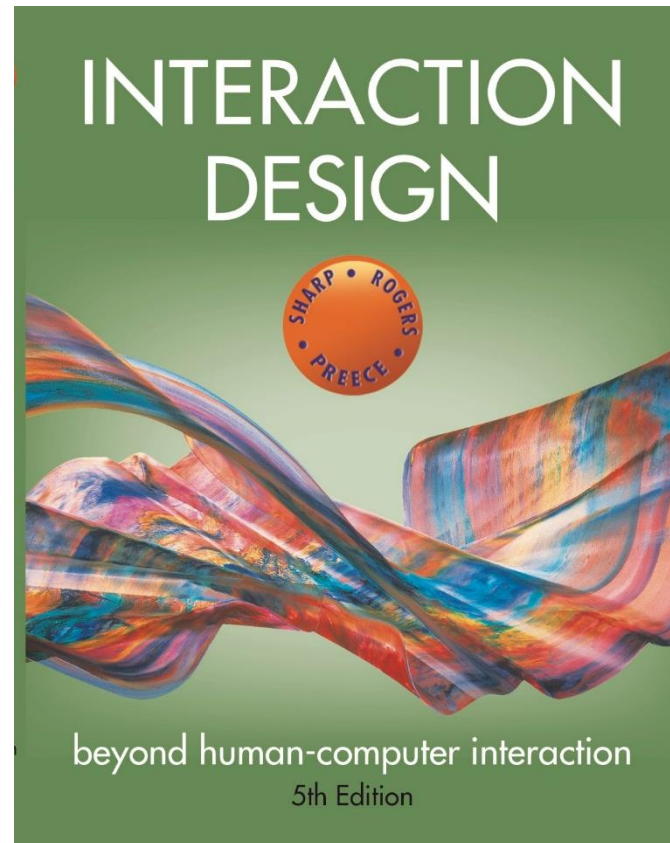
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Class Code: qzrt54j

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Recap: Understanding of the Users

- Considering what people are **good and bad** at
- Considering **what might help people** with the way they **currently do things**
- Thinking through what might provide **quality user experiences**
- Listening to **what people want** and getting them **involved in the design**
- Using **user-centered techniques** during the **design process**



Chapter 1

WHAT IS INTERACTION DESIGN?

Weeks 1-3

1 WHAT IS INTERACTION DESIGN?

- 1.1 Introduction
- 1.2 Good and Poor Design
- 1.3 What Is Interaction Design?
- 1.4 The User Experience
- 1.5 Understanding Users
- 1.6 Accessibility and Inclusiveness
- 1.7 Usability and User Experience Goals

Interview with Harry Brignull

2 THE PROCESS OF INTERACTION DESIGN

- 2.1 Introduction
- 2.2 What Is Involved in Interaction Design?
- 2.3 Some Practical Issues

Objectives

Objectives

The main goals of this chapter are to accomplish the following:

- Explain the difference between good and poor interaction design.
- Describe what interaction design is and how it relates to human-computer interaction and other fields.
- Explain the relationship between the user experience and usability.
- Introduce what is meant by accessibility and inclusiveness in relation to human-computer interaction.
- Describe what and who is involved in the process of interaction design.
- Outline the different forms of guidance used in interaction design.
- Enable you to evaluate an interactive product and explain what is good and bad about it in terms of the goals and core principles of interaction design.

Bad designs

Elevator controls and labels on the bottom row all look the same, so it is easy to push a label by mistake instead of a control button.



www.baddesigns.com

People do not make same mistake for the labels and buttons on the top row. Why not?

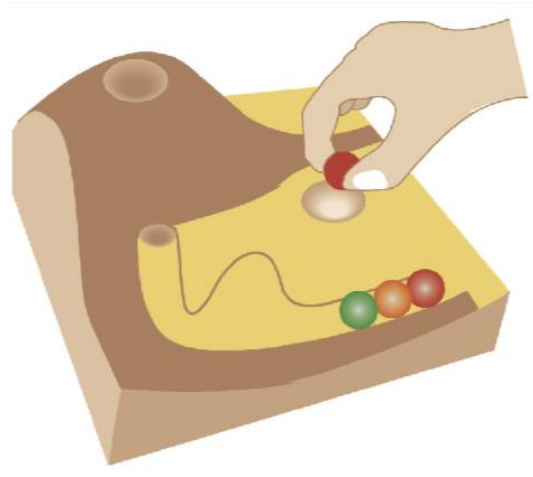
Why is this vending machine so bad?



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

Good design



- Marble answering machine (Bishop, 1995)
- Based on how everyday objects behave
- Easy, intuitive, and a pleasure to use
- Only requires one-step actions to perform core tasks

Good and bad design

Why is the TiVo remote much better designed than standard remote controls?

- Peanut shaped to fit in hand
- Logical layout and color-coded, distinctive buttons
- Easy-to-locate buttons



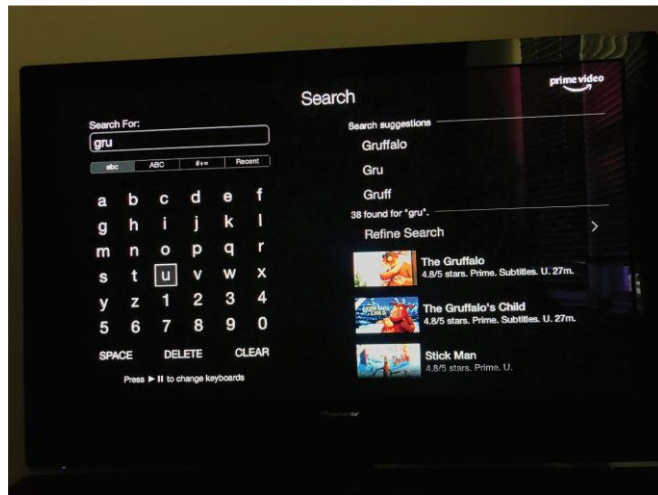
Good and bad design



Dilemma

Which is the best way to interact with a smart TV? Why?

- Pecking using a grid keyboard via a remote control
- Swiping across two alphanumeric rows using a touchpad on a remote control
- Voice control using remote or smart speaker



What to design

Need to take into account:

- Who the users are
- What activities are being carried out
- Where interaction is taking place

Need to optimize the interactions users have with a product:

- So that they match the users' activities and needs

What is interaction design?

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

Sharp, Rogers, and Preece (2019)

“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 provides an enjoyable experience

Involve users in the design process

User Experience (UX)

UX focuses on having a deep understanding of **users**, what they need, what they value, their abilities, and also their limitations.

“UX has emerged during the Internet era to emphasize the enjoyment and engagement of the whole interactive experience.”

Interaction Design (ID)

“How do you optimize the users’ interactions with a system, environment, or product so that they support the users’ activities in effective, useful, usable and pleasurable ways?”

“ID has come from design schools, applying traditional approaches to design that emphasize research, insight and critical reflection.”

Design of Interactive Systems

UX and **ID** are concerned with the **development** of novel apps, visualizations, auditory displays and responsive environments.

HCI is about how to **design** for these **experiences** in a **human-centred** way that takes account of human abilities and preferences and ensures that systems are accessible, usable and acceptable.

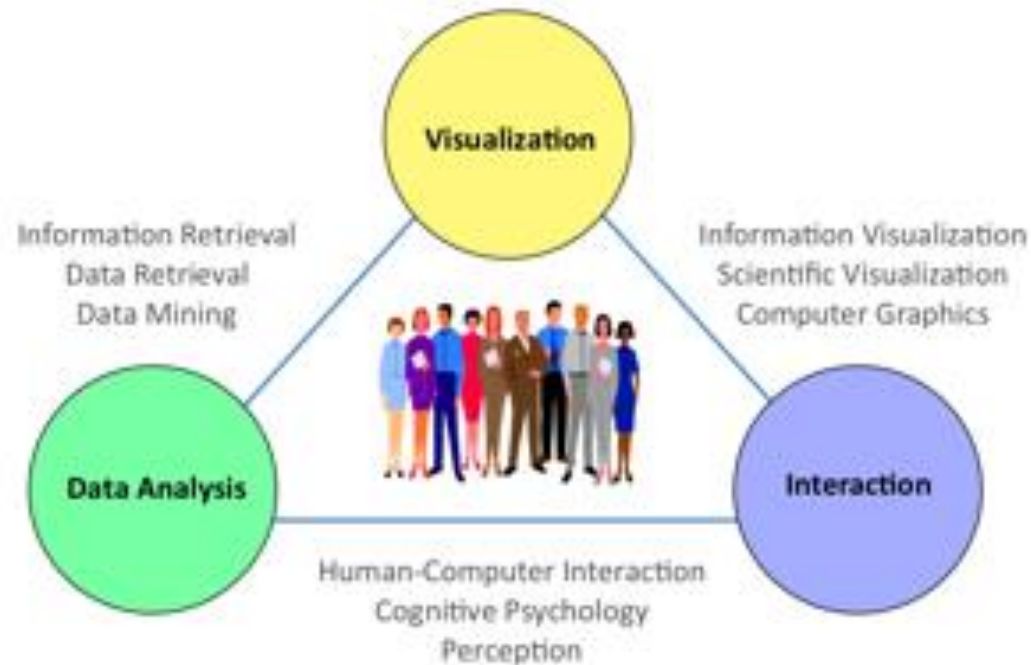
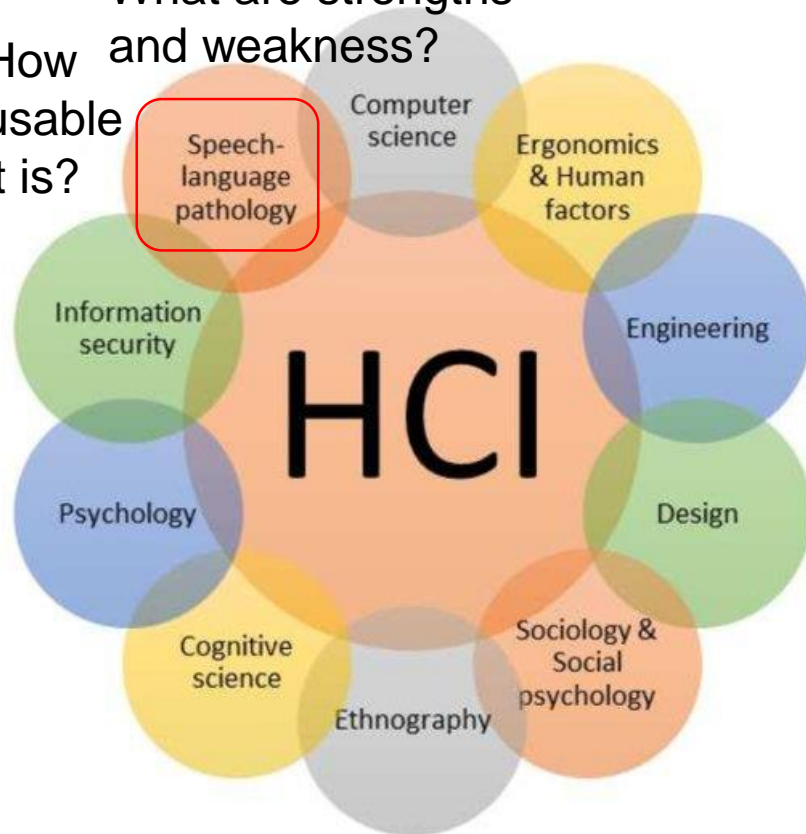
Design of Interactive Systems

*“Designing Interactive Systems aims to focus this emerging discipline by bringing together the best practice and experience from **HCI, UX and ID.**”*

Designing Different Interactive Systems

What are strengths
and weakness?

How
usable
it is?



- **Social interaction is increasingly important to UX and ID**
- **Hearing, haptics (touch) and other ways of perceiving the world are considered alongside the psychology**

TAs Project:

- **Mehul Arora**

- <https://www.behance.net/gallery/145586929/ScrapBytes>

- **Parth Bartwal**

- <https://www.behance.net/gallery/148106445/SEVA-For-the-People>

First hand UX: Android vs iPhone



<https://www.youtube.com/watch?v=IhOntzLYPJ8>

First hand UX: Android vs iPhone



The user experience

How a product behaves and is used by people in the real world

- The way people feel about it and their pleasure and satisfaction when using it, looking at it, holding it, and opening or closing it
- “Every product that is used by someone has a user experience: newspapers, ketchup bottles, reclining armchairs, cardigan sweaters.” (Garrett, 2010)
- “All aspects of the end-user's interaction with the company, its services, and its products. (Nielsen and Norman, 2014)

Cannot design a user experience—only can design ***for*** a user experience

Defining user experience

How users perceive a product, such as whether a smartwatch is seen as sleek or chunky, and their emotional reaction to it, such as whether people have a positive experience when using it.

(Hornbæk and Hertzum, 2017)

Hassenzahl's (2010) model of the user experience

- Pragmatic: how simple, practical, and obvious it is for the user to achieve their goals
- Hedonic: how evocative and stimulating the interaction is to users

User experience key

“It is not enough that we build products that function, that are understandable and usable, we also need to **build joy and excitement, pleasure and fun, and yes, beauty to people’s lives.**”