

# Human~Computer Interaction

Dr. Mohammed Al~Ebady  
Computer Science Department  
University of Karbala



# Headlines

- A Brief History of Interaction Design
- Good and Poor Design
- What to Design
- What is Interaction Design?
- Working together as multidisciplinary team
- What is involved in the process of interaction design?
- The goals of interaction design



# A Brief History of Interaction Design

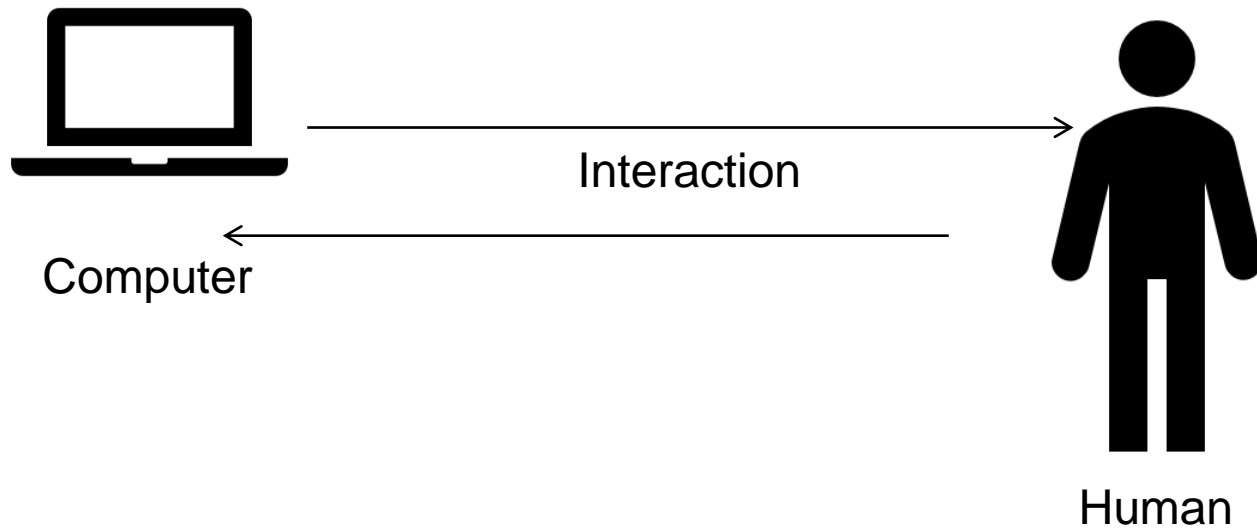
In the late 1970s and early 1980s a dedicated and visionary set of researchers, engineers, and designers in the San Francisco Bay Area were busy inventing how people would interact with computers in the future. At Xerox Parc, SRI, and eventually Apple Computer, people had begun discussing what it meant to create useful and

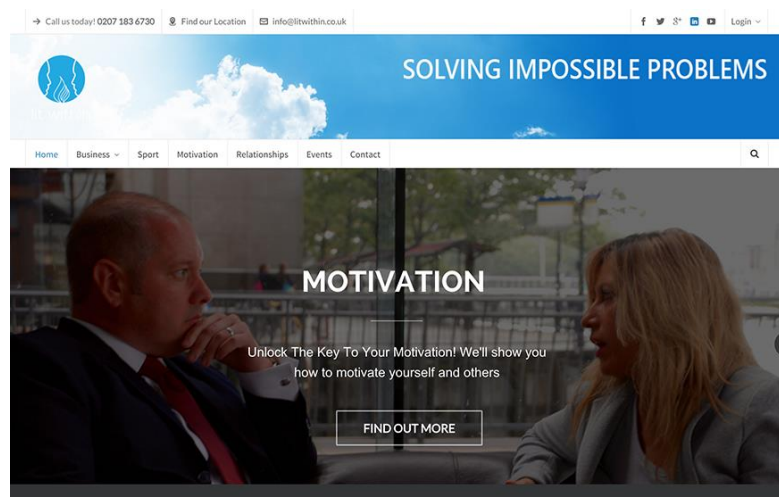
usable “human interfaces” to digital products.



In the mid-1980s, two industrial designers, Bill Moggridge and Bill Verplank, who were working on the first laptop computer, the GRiD Compass, coined the term interaction design for what they were doing, but it would be another 10 years before other designers rediscovered this term and brought it into mainstream use.









# Good and Poor Design

A central concern of interaction design is to develop interactive products that are usable. By this is generally meant 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 and poorly designed ones. **Identifying the specific weaknesses and strengths of different interactive systems**



# SIMON & IMOGEN'S HOUSE

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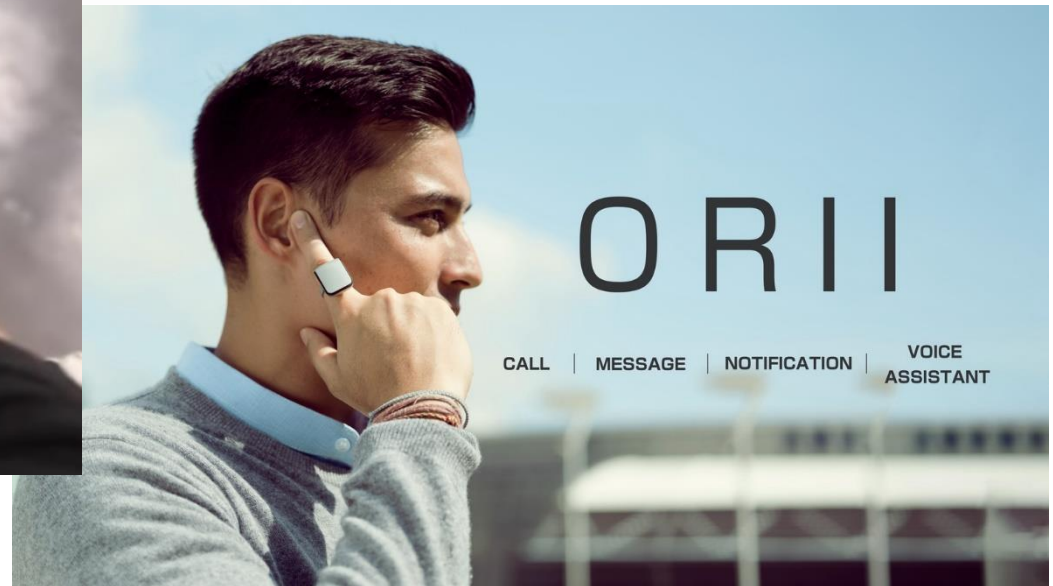
# What to Design

Designing usable interactive products thus requires considering **who** is going to be using them and **where** they are going to be used. Another key concern is understanding the kind of people are doing when with the products. The appropriateness of different kinds of interfaces and arrangements of **input** and **output** devices depends on what kinds of **activities** need to be supported.





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# What is Interaction Design?

By interaction design, we mean

**I designing interactive products to support people in their everyday and working lives.**

In particular, it is about creating user experiences that enhance and extend the way people work, communicate and interact.

Winograd (1997) describes it as "the design of spaces for human communication and interaction."

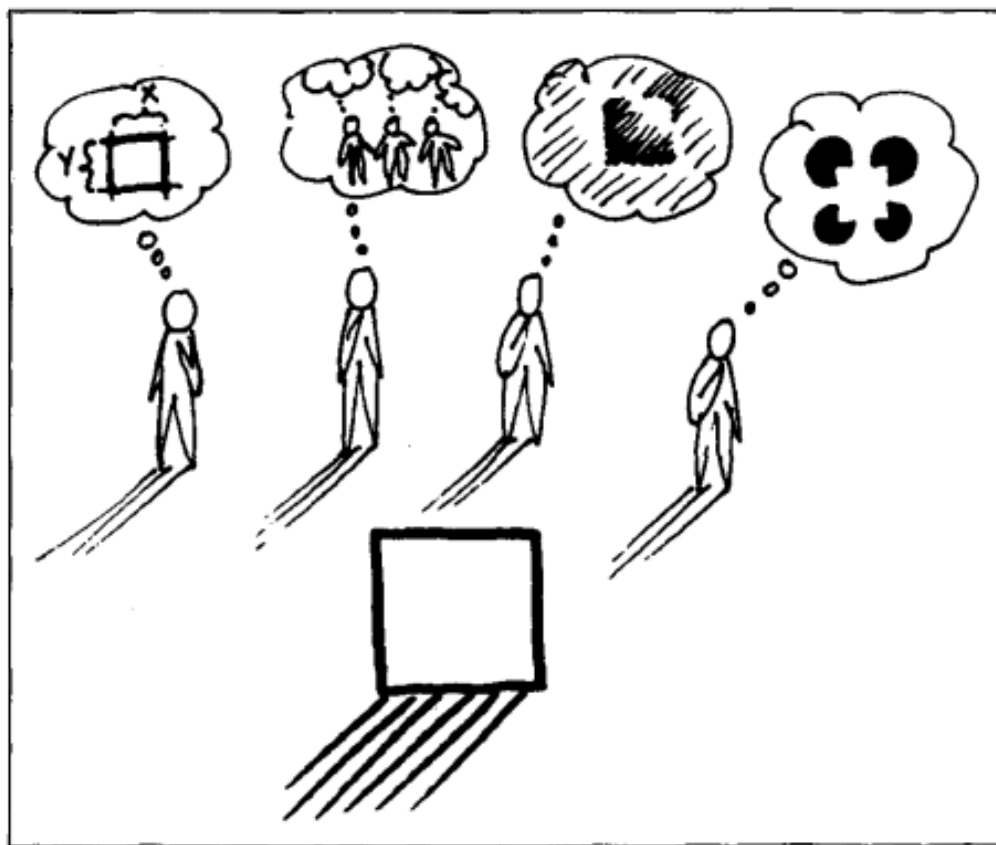


# Working together as multidisciplinary team

Bringing together so many people with different backgrounds and training has meant many more ideas being generated, new methods being developed, and more creative and original designs being produced. However, the down side is the costs involved. The more people there are with different backgrounds in a design team,

the more difficult can be to communicate and progress forward the designs being generated. Why? People with different backgrounds have different perspectives and ways of seeing and talking about the world (see Figure 1.4).





**Figure 1.4** Four different team members looking at the same square, but each seeing it quite differently.



# What is involved in the process of interaction design?

Essentially, the process of interaction design involves four basic activities:

- 1- Identifying needs and establishing requirements.
2. Developing alternative designs that meet those requirements.
- 3- Building interactive versions of the designs so that they can be communicated and assessed.
4. Evaluating what is being built throughout the process





In addition to the four basic activities of design, there are three key characteristics of the interaction design process:

- 1- Users should be involved through the development of the project.
2. Specific usability and user experience goals should be identified, clearly documented, and agreed upon at the beginning of the project.
- 3- Iteration through the four activities is inevitable.



# The goals of interaction design

## **Usability goals**

Usability is generally regarded as ensuring that interactive products are easy to learn, effective to use, and enjoyable from the user's perspective. It involves optimizing the interactions people have with interactive products to enable them to carry out their activities at work, school, and in their everyday life.



# Usability Goals

More specifically, usability is broken down into the following goals:

- ❖ Effective to use (effectiveness)
- ❖ Efficient to use (efficiency)
- ❖ Safe to use (safety)
- ❖ Have good utility (utility)
- ❖ Easy to learn (learnability)
- ❖ Easy to remember how to use (memorability)



# User experience goals

The realization that new technologies are offering increasing opportunities for supporting people in their everyday lives has led researchers and practitioners to consider further goals. The emergence of technologies (e.g., virtual reality, the web, mobile computing) in a diversity of application areas (e.g., entertainment, education, home, public areas) has brought about a much wider set of concerns.



As well as focusing primarily on improving efficiency and productivity at work, interaction design is increasingly concerning itself with creating systems that are:

Satisfying

Enjoyable

Entertaining

Emotionally fulfilling

Aesthetically pleasing

Fun

Helpful

Rewarding

Motivating

Supportive of creativity



# Thank You

