



# Course Introduction

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Lecture#0

2023/1402



# HUMAN-COMPUTER INTERACTION

THIRD  
EDITION

DIX  
FINLAY  
ABOWD  
BEALE

Human Computer Interaction (HCI)

تعامل انسان و کمپیوتر

# Course Policy

- 2 (Theory) + 1 (Project)
- Two small assignments - individual
- One Group project

## Grading:

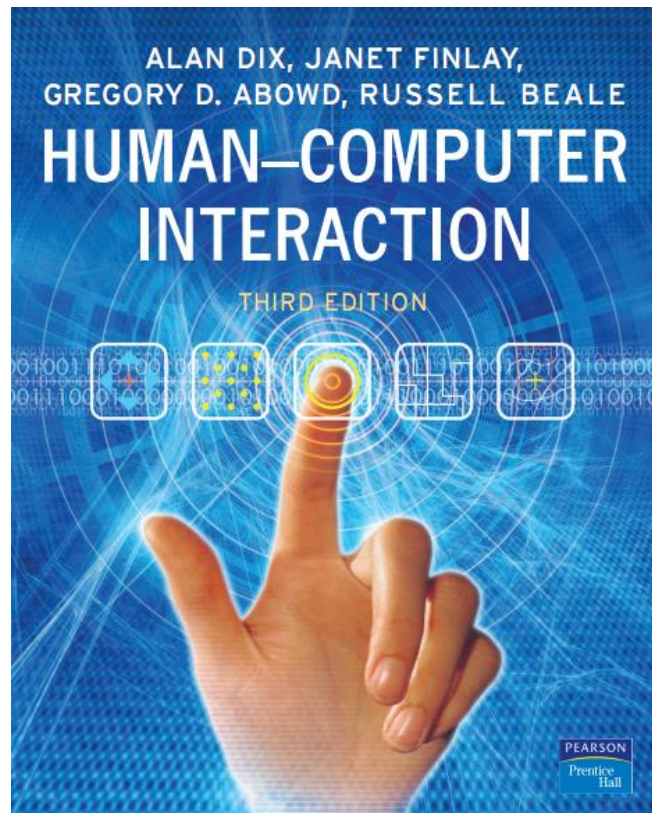
- 10 % Small assignments – 5 each
- 30% Project & presentation
- 20% Mid-Term
- 40% Final exam

# Forming Teams

- Groups of 2-4
- Students will need to find their own team members.
- Students in a team will be equally graded, unless someone report about someone.
- Team formulation is not changeable after third week.

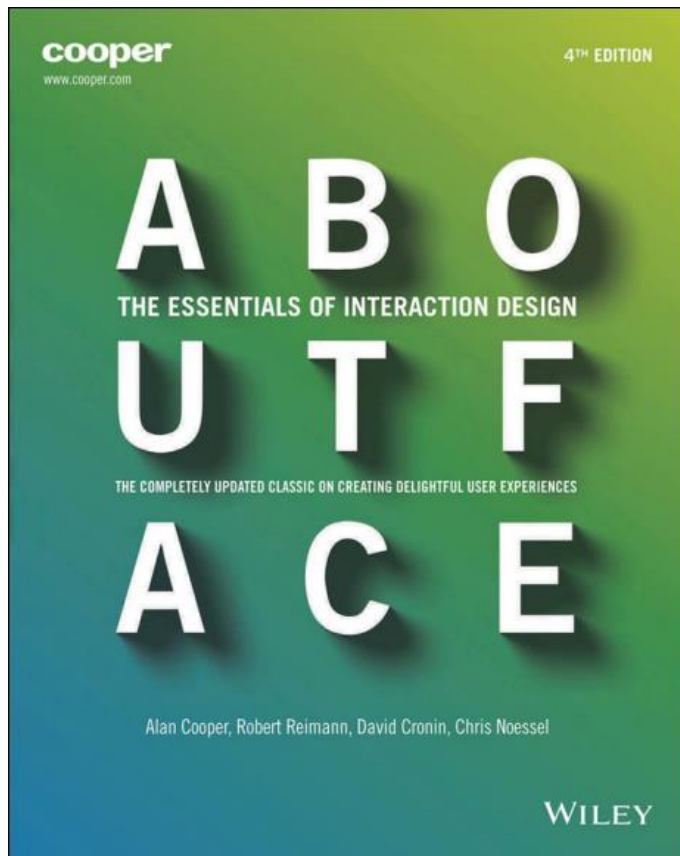
# Textbook

Dix A. et al., Human-Computer Interaction. Harlow, England: Prentice Hall, 2004, ISBN-10: 0130461091



# Additional Resources

- Donald Norman, The Design Of Everyday Things, ISBN 0465067107
- Cooper A. et al., About Face: The Essentials of Interaction Design, Fourth Edition, 2014, Wiley





# Assignment #1

in this Individual assignment you  
will read **The Design of Everyday  
Things** by **Donald Norman**  
and write a **book review**



the book review should be approximately a  
**thousand** words in length and it should  
demonstrate your ability to write concisely so  
that a comprehensive evaluation of the book can  
be obtained from a brief reading

so, do not write more, write more concisely and  
find creative ways to communicate your critical  
evaluation of the book in a short essay

You should include...

**an exploration** of the author's main arguments

**an explanation** of the type of sources the author used,  
and the methods the author employs in choosing and  
organizing those sources

**an assessment** of the strong points or shortcomings of  
the book

**a discussion** of how does this book change the way one  
should think about HCI and related topics

→ **references** to specific portions of the book to illustrate  
your work

send your work as a PDF/Word  
to [Sadiquees@gmail.com](mailto:Sadiquees@gmail.com)

**this assignment accounts for  
5% of the final grade**

the **deadline** for this assignment is the  
end of Second week. هفته دوم (20 حمل)



# Assignment #2

in this group assignment you are  
invited to watch **Objectified**, a  
documentary by **Gary Hustwit**  
illustrating the complex  
relationship between  
manufactured objects and  
designers

the purpose is to provide a **broader context of human computer interaction design** focused on industrial design because you may have to work with people from these disciplines

further, industrial design is yet another root of human-computer interaction and it surely provides additional and different points of view to our understanding of Human-Computer Interaction



in groups of three or four, the assignment is to watch this documentary and to cooperatively write a 2 to 3 pages long reflection on its contents in the context of our course

the **deadline** for this assignment  
is by the end of 3<sup>th</sup> week,

send your work as a PDF or  
hand it over as hardcopy

**this assignment accounts for  
5% of the final grade**

# Project(Assignment) #3

this is the group assignment  
**carried out partially in the  
classroom**

by the end of the project you are required to hand in a **report** that **describes all steps in the project, starting with the selected challenge/problem and finishing with a discussion of the outcomes**

this report should also be  
**presented** to the class and  
discussed among all by end of  
the course



**this assignment accounts for  
30% of the final grade**

**The deadline for the project is  
end of the course,  
But one week before!**

Please send group name,  
members and a short  
description of the chosen  
topic ASAP to  
[sadiquees@gmail.com](mailto:sadiquees@gmail.com)

# What is HCI?

- HCI is a field that deals with the **theory, design, implementation, and evaluation** of the ways that humans use and interact with computing devices.
- Human computer interaction (HCI) is a Multi-discipline field(e.g., engineering, psychology, ergonomics, design, CS) that deals with the **theory, design, implementation, and evaluation** of the ways that humans use and interact with computing devices.

## What is HCI? (cont.)

- HCI is about understanding and creating software and other technology that people **will want to use**, will **be able to use**, and will **find effective when used**.

# Why HCI?

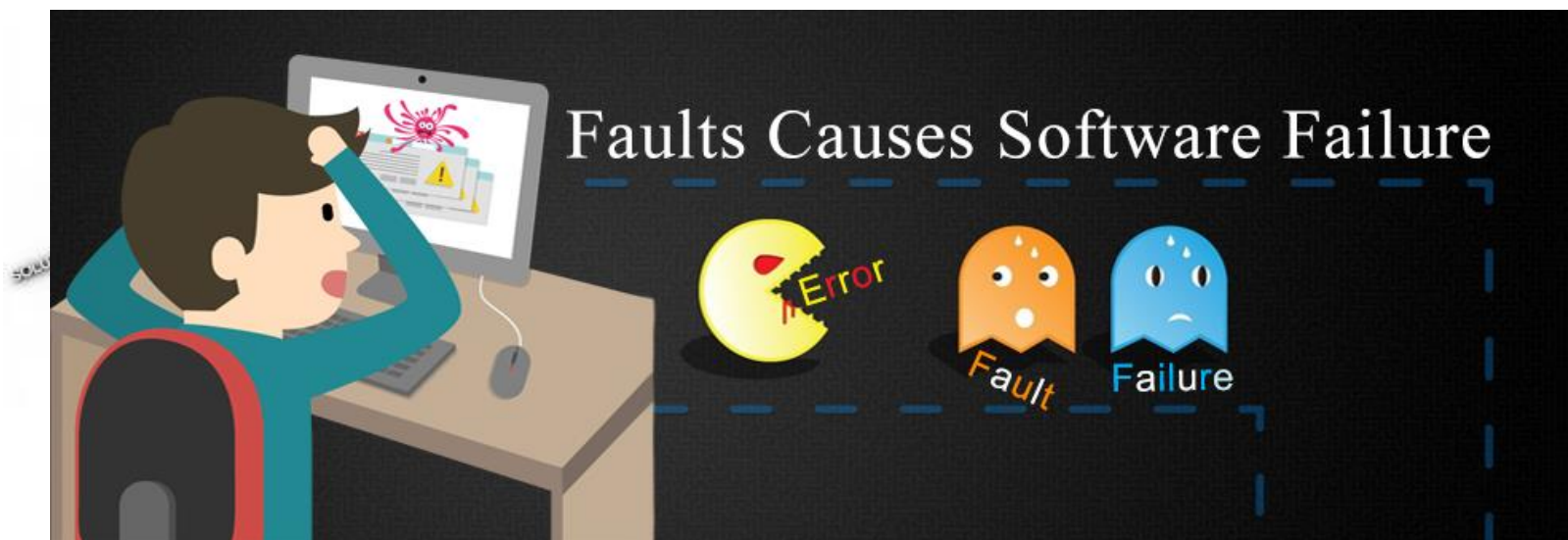
- A lesson repeatedly learned in engineering is that a **major source of failure** is the less attention to users and **contextual factors** in design.





# Why HCI? (cont.)

- Inadequate attention to users and task context not only leads to bad user interfaces, it puts **entire systems at risk**.
- So, in HCI the focus is on the **user** and the **context of any computer system** under development, and to **avoid risk of failure**.



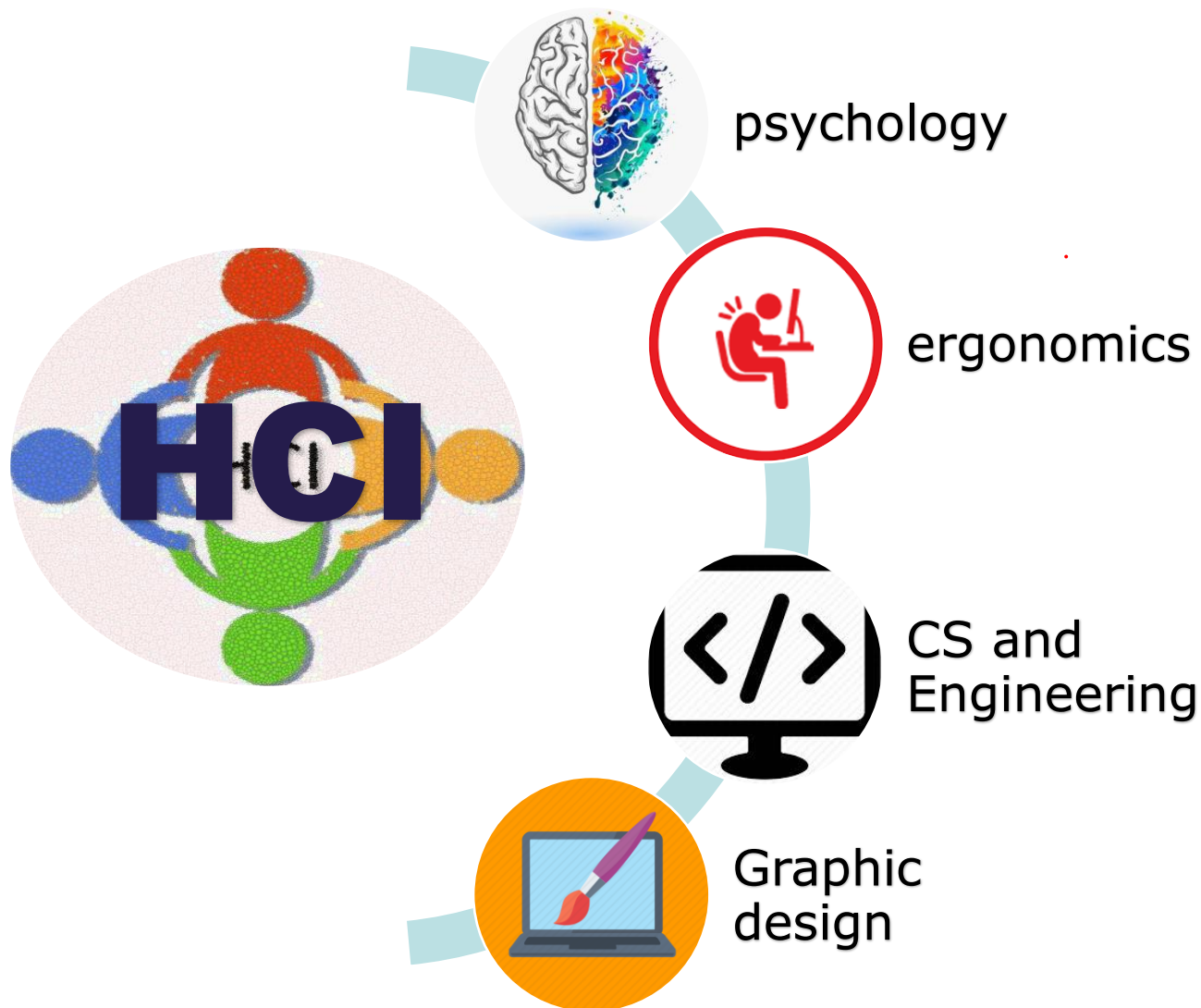
# Related Fields with HCI?

HCI is undoubtedly a multi-disciplinary subject:

- **psychology** : to give developer the knowledge of the user's perceptual, cognitive and problem-solving skills;
- **ergonomics** for the user's physical capabilities;
- **computer science and engineering** to be able to build the necessary technology;
- **business** to be able to market it;
- **Graphic design** to produce an effective interface;
- **technical writing** to produce the manuals, and so it goes on.



# Related Fields with HCI?

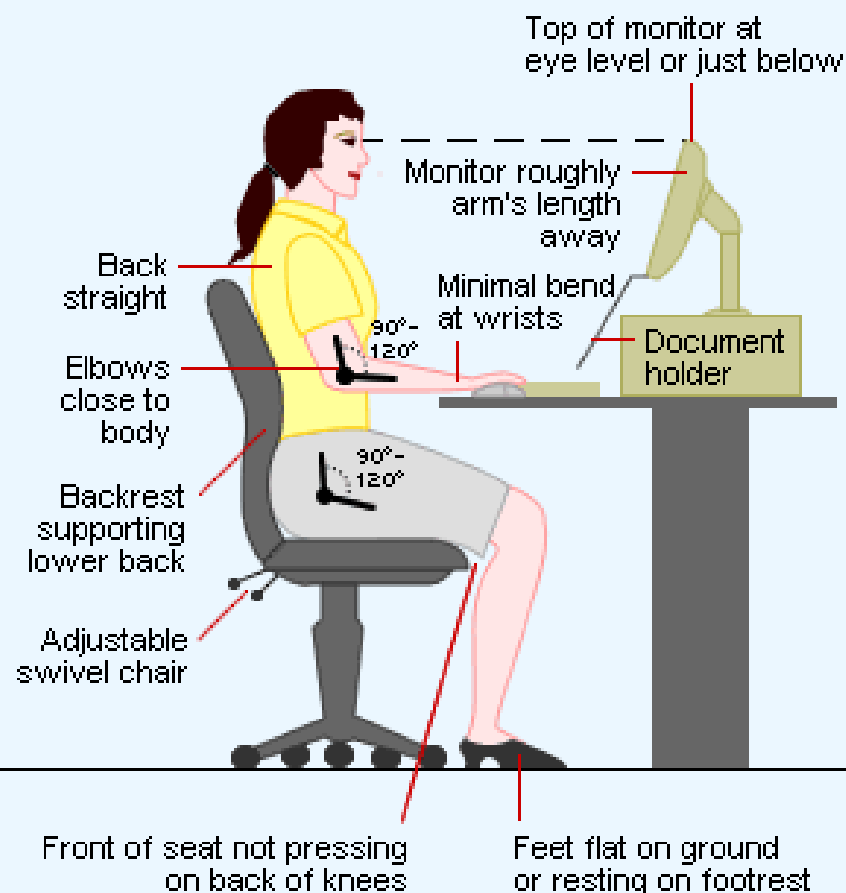


# Who is involved in HCI?

## Ergonomics at a Glance!!!



### Workstation ergonomics: ideal set-up



# Who is involved in HCI?

Ergonomics at a Glance!!!

what are other  
words for  
ergonomics?



bioengineering, biotechnology,  
comfort design,  
functional design,  
human factors



# Theory and HCI

**“people use computers to do work/task”**

- The system must support the **user's task**, in term of **functionality** کارایی, be **usable** اسان, and **used** جالب، جذاب, which is understood under the general term,

**Usability.**

# Theory and HCI (cont.)

- There are three 'use' words that must all be true for a product to be successful; which is called **usability**:
  - **Useful (effectiveness موثر)**: accomplish what is required: play music, cook dinner, format a document;
  - **Usable (efficiency مثمر)**: do it easily and naturally, without danger of error, etc.;
  - **Used (satisfaction رضایت بخش)**: **make** people want to use it, be attractive, engaging, fun, etc

## HCI in curriculum (cont.)

- Now designers **cannot afford to ignore the usability of interface in favor of the functionality** of their systems.
- The two are too closely intertwined. If the interface is poor, the functionality is obscured; if it is well designed, it will allow the system's functionality to support the user's task.
- Therefore, CS educators cannot afford to ignore HCI.

## HCI in curriculum (cont.)

- Now HCI is integrated into every computer science or software engineering course, either as part of modules or, preferably, as a module itself.
- This view is shared by the **ACM** SIGCHI +IEEE curriculum development group, who propose a curriculum for such a core course.



Any Questions?

