Chapter 1:

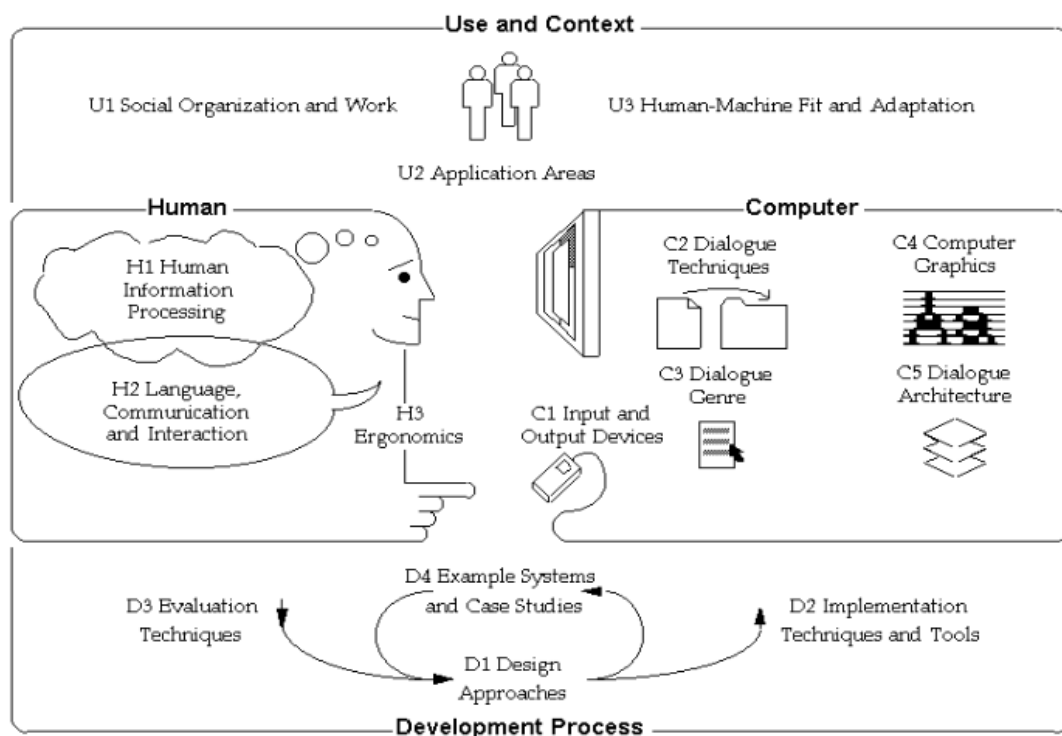## Introduction to Human Computer Interaction

Terms and Concepts

Before we go into the details of terms and concepts: Think about the different areas, which are relevant in Human Computer Interaction and which perspectives are required to frame this field.

Use and Context

The field of Human Computer Interaction looks at the intersection of Humans and Computers, such as the name suggests. This combines two very big and dominant research fields with their possibilities, challenges and constraints and investigates how humans can interact with computers to their personal benefit.

HCI: An Interdisciplinary Area

Human-Computer Interaction is not a nice-research topic but rather a very broad field, which can be examined from different perspectives. Successful HCI research is characterized by communication between experts from Computer Science, Sociology & Anthropology, Design & Industrial Design and Psychology. Thus, people who understand, that the view of other fields than their own need to be included are one step ahead in building products, that are not only innovative but also easy to use.
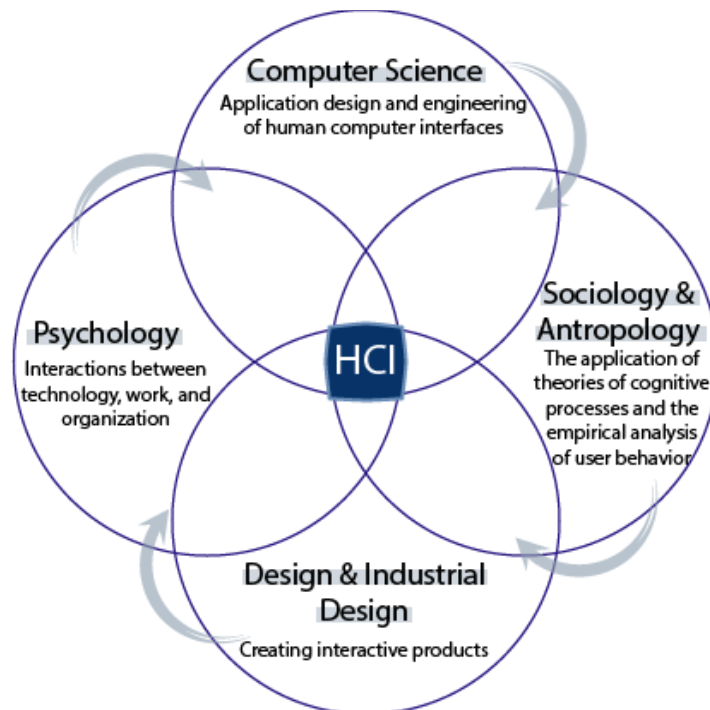
Utility, Usability, Likeability

In order to communicate with each other about HCI concepts, we need to get the terminology right!

Utility A product can be used to reach a certain goal or to perform a certain task. This is essential!

Usability Relates to the question of quality and efficiency.
E.g., how well does a product support the user to reach a certain goal or to perform a certain task.

Likeability This may be related to utility and usability but not necessarily. People may like a product for any other reason...

What is Usability?

> "Usability is a quality attribute that assesses how easy user interfaces are to use. The word 'usability' also refers to methods for improving ease-of-use during the design process." (Usability 101 by Jakob Nielsen [5])

Usability has five quality components

Learnability How easy is it for users to accomplish basic tasks the first time they encounter the design?

Efficiency Once users have learned the design, how quickly can they perform tasks?

Memorability When users return to the design after a period of not using it, how easily can they reestablish proficiency?

Errors How many errors do users make, how severe are these errors, and how easily can they recover from the errors?

Satisfaction How pleasant is it to use the design?

References

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4. B. Shneiderman. Leonardo's Laptop: Human Needs and the New Computing Technologies. https://mitpress.mit.edu/books/leonardos-laptop
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