

Human Machine Interface (HMI)

Level: Master 1

Option: Information systems and software engineering

Mahmoud BRAHIMI

Reminder

WHAT IS HUMAN-MACHINE INTERACTION?

Discipline that studies the exchanges between machines (computers) and their users.



Cognitive sciences

Cognitive sciences form a discipline that mainly combines psychology, linguistics, artificial intelligence and neurosciences. Anthropology, sociology and social psychology tend to be integrated into it, as well as neuropsychology, psycholinguistics and psychophysics.

What do we do in HMI?

- Observation of human behavior
- Creation of models of human behavior
- Design of systems adapted to human behavior

...to improve interaction.

What are we looking to improve?

The field of action

Allowing the user to do what they need to do... and even more.

Ease of learning

The time taken by a novice to understand how the system works. The percentage of system services implemented by a novice at after a given time.

User efficiency

The time taken by the user to complete a given task.

Security of actions

Limit errors, ensure that they do not have consequences.

The HMI challenges

- Growing population of computer system users
- Growing power of computers
- New interaction devices
- Explosion of multimedia: sound, image, video etc.
- Development of computer networks DIGITAL CONVERGENCE

Shneiderman's Eight Golden Rules of Interface Design

- Consistency (easiest to identify and identify).
- Abbreviations
- Informative feedback
- Completeness of the dialogue
- Simple error handling
- Reversibility of actions
- Controllability of the system
- Reduction of the mental load in the short term