



What is HCI ?

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- ▶ Human Computer Interaction is the name of the set of physical and cognitive processes that allow the design by a human of tasks on a computer;
- ▶ HCI depicts as well the set of software or hardware parts that permits the achievement of these tasks;
- ▶ HCI is essential for every machine

- ▶ is concerned with designing, evaluating and deploying usable, effective and enjoyable technologies in a range of contexts - be it home, work, school, cyberspace or other domain.
- ▶ Safety
- ▶ Fast learning curve (for a fixed user kind)
- ▶ User satisfaction

- ▶ A lot of simultaneous criteria;
- ▶ Need for a trade-off

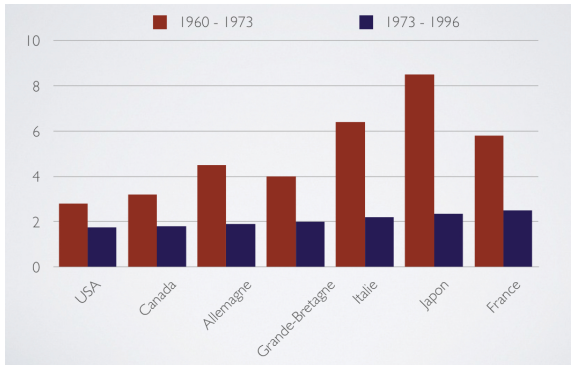
- ▶ productivity
- ▶ economy
- ▶ critical domains (nuclear, military, medical)

- ▶ Huge invests in information technology
- ▶ whilst a decreasing productivity profits

Decreasing Productivity Profits

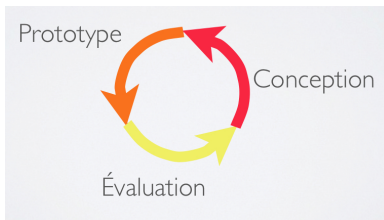


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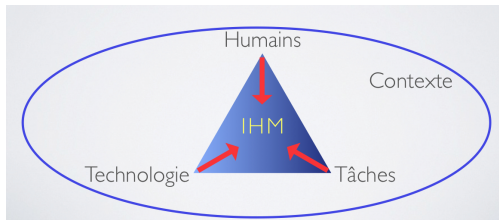
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- ▶ whilst a decreasing productivity

- ▶ user centered design process;
- ▶ human directed (not computer centered);
- ▶ classical design cycle;



- ▶ HCI design must be a collaborative task between clients and designers
- ▶ This collaboration must last for the whole design process
- ▶ The result of a good HCI is a satisfied client

- ▶ The User;
- ▶ The Tasks to accomplish;
- ▶ Computer System.



- ▶ lighting
 - ▶ sufficient and not dazzling, no reflection, no back light
- ▶ soundless environment
- ▶ stable image of good quality
 - ▶ frameRate, screen geometry
- ▶ well-fitted keyboard
- ▶ large enough mouse pad
- ▶ armchair and resting feet pad
- ▶ enough space for the legs

For the User :

- ▶ physical and physiological (weight, visual acuity, skill, endurance ...)
- ▶ psychological (learning speed, memory, curiosity, vivacity...)
- ▶ social (gender, academic level, social background, cultural background...)
- ▶ Work experience (skill level, task knowledge, computer ability...)

For the Tasks :

- ▶ is it a repetitive task / depending on the environment?
- ▶ task frequency (regularly, unique, occasional...)?
- ▶ required skills?
- ▶ What kind of knowledge are required?
- ▶ is there a risk of critical situation?
- ▶ is it a collaborative tasks (or a single user task) ?
- ▶ is it an atomic task ? (can't be broken in sub-tasks)? lasting time?
- ▶ what are the decisions that remain to the user, to the computer?
- ▶ do the tasks required a specific environment (cloth, input/output tools...)

For the System :

- ▶ hardware constraints?
- ▶ software constraints?
- ▶ computer organization?

For the organization :

- ▶ task allocation, results control (who does what?)
- ▶ tasks inter-dependance ?
- ▶ responsibility sharing ?
- ▶ internal technical support ?
- ▶ training policy ?
- ▶ Staff management
- ▶ Economic constraints

- ▶ Designing the user interface, B. Schneiderman, Addison Wesley, 1988
- ▶ Human Computer Interaction, A. Dix, J. Finlay, G. Abowd, R. Beale, Prentice Hall, 1997
- ▶ Designing the user interface, J. Raskin, Addison Wesley, 2000
- ▶ The psychology of Human-Computer Interaction, S. Card, T. Moran, A. Newell, Lawrence Herblum Associates, 1983