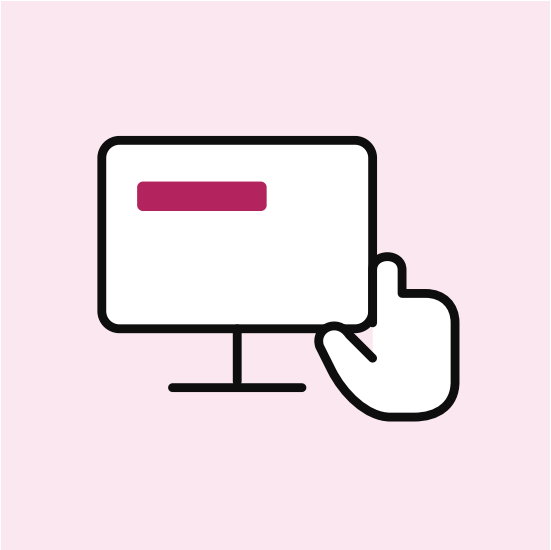
Field

Human-computer interaction (HCI)

Studies how people use computers and other digital systems, and how to design them to fit what people perceive, remember and are able to do.



In Spanish

Interacción persona-computadora

Origin

Roots in human factors and interactive computing; Card, Moran and Newell (1983) popularized the name

What it studies

How to make technology adapt to people and not the other way around. It gives design methods for evaluating interfaces and knowledge about the limits of the people who use them.

Principles

People first

Design starts from how people perceive, remember and move.

Test

With real people, instead of assuming.

Back and forth

What is learned from testing goes back into the design.

Applications in design

✓ Use it like this

Test the interface with people before calling it done.

✗ Avoid

Designing around how the team itself uses the product.

👁 Don't fall for it

An interface that is easy for its designer can be hard for someone seeing it for the first time.

Theories and concepts



Concept

Usability

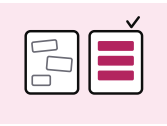
How well specific people achieve what they want with a product, without extra effort.



Model

Nielsen's usability heuristics

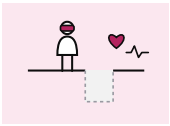
Ten general rules for reviewing an interface and finding usability problems.



Concept

Aesthetic-usability effect

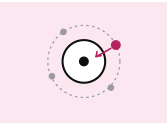
What looks beautiful to us also seems easier to use, even when it isn't.



Concept

Presence

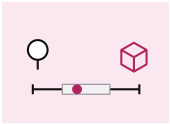
The feeling of really being in a virtual place, even though you know you aren't there.



Concept

Calm technology

Technology that informs without demanding attention, staying in the periphery until it is needed.



Concept

Reality–virtuality continuum

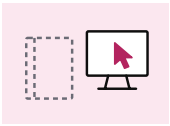
A line from the real world to the fully virtual; mixed reality is everything in between.



Concept

Cybersickness

The dizziness, nausea or discomfort caused by some headset or moving-image experiences.



Concept

Paradox of the active user

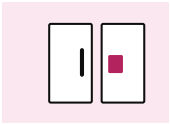
We want to use the program right away, even though learning first would save us time later.



Concept

Doherty threshold

When the system responds almost instantly, nobody waits for anybody and work moves much faster.

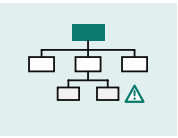


Concept

Affordance

What an object lets you do, and whether you can tell at a glance.

Methods and tools



Method

Hierarchical task analysis (HTA)

Breaks a task down into goals and subgoals, with the plan that says in what order they're done.



Approach

User-centered design

Designing systems around the tasks and abilities of the people who use them, testing early and often.



Method

Cognitive walkthrough

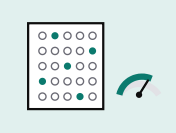
Walking through a task step by step as a newcomer would, to see where they'd get lost.



Method

Usability testing

Watching real people attempt tasks with the product to find out where they get stuck.



Method

System Usability Scale (SUS)

A ten-statement questionnaire that gives a 0 to 100 score for how easy something is to use.

Connections

Campos cercanos

- Ergonomics and human factors
- Cognitive psychology
- Fitts's law

Used in

- Interaction design
- UI design
- UX design

Authors and works

1983	**Stuart K. Card, Thomas P. Moran and Allen Newell**	Popularized the name of the field and grounded it in cognitive psychology.
1985	**John D. Gould and Clayton Lewis**	Summed up designing for usability in three principles: know users early, measure with real tests, and iterate.
1993	**Jakob Nielsen**	Brought together methods for measuring and improving usability throughout development.

Sources

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- Card, S. K., Moran, T. P., & Newell, A. (1983). The psychology of human-computer interaction. Lawrence Erlbaum Associates.
- Gould, J. D., & Lewis, C. (1985). Designing for usability: Key principles and what designers think. Communications of the ACM, 28(3), 300–311. View source (https://doi.org/10.1145/3166.3170)
- Nielsen, J. (1993). Usability engineering. Academic Press.

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