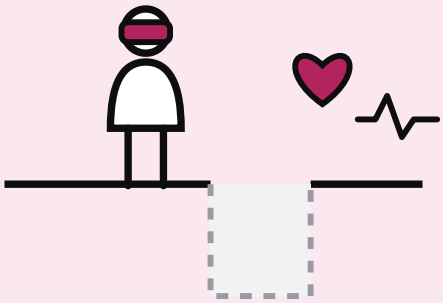
Concept

Presence

The feeling of being inside a virtual environment as if it were a real place, and of reacting as if it were, even though you know it isn't.



In Spanish
Presencia

Origin
Several antecedents; Slater and Wilbur (1997) and Slater (2009)

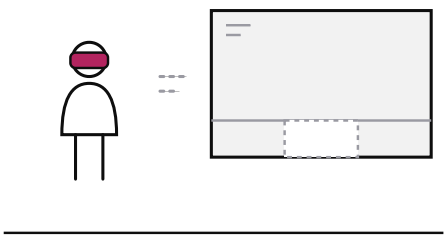
What problem it addresses

It explains why a virtual reality experience works or doesn't: if people don't feel they are there, the environment stays an image they look at from outside.

An example

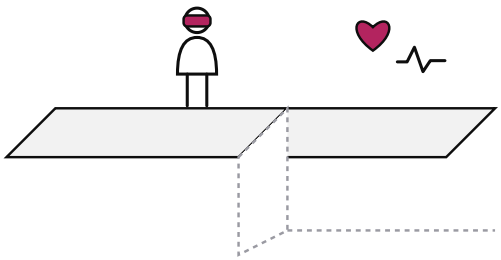
An illustrative example: a virtual room with a pit in the floor.

Without presence



If the image lags when the head turns or doesn't follow the steps, the person looks at the room as if it were a screen. **I see it.**

With presence



If everything responds to movement, their pulse speeds up at the edge, even though they know the pit doesn't exist. **I'm here.**

Presence doesn't depend on a more realistic image, but on the environment responding to the body as a real place would.

Why it happens

1 

The system tracks the movements of the head and body.

2 

The mind accepts the place as real.

3 

And the body reacts as if it were.

Applications in design

Use it like this

Make the image respond instantly to every head movement before investing in more visual detail.

Avoid

Breaking the feeling with menus, notices or floating text that don't belong to the place.

Don't fall for it

If the experience is frightening or causes vertigo, the body lives it as real: warn people first and let them leave at any moment.

+6.3 beats

What the research says

On entering a virtual room with a 20-foot pit, participants' heart rate rose by an average of 6.3 beats per minute compared with the previous room (Meehan et al., 2002).

●●● **Solid evidence.** On the first visit the rise was larger, 8.1 beats per minute. According to Slater (2009), these reactions appear when the place feels real and what happens in it seems believable.

Connections

Used in

- XR design (extended reality)

Authors and works

1997	**Mel Slater and Sylvia Wilbur**	Separated immersion, what the technology offers, from presence, the feeling of being in the place.
2002	**Michael Meehan et al.**	Also measured presence through the body, using the heart rate of people looking over a virtual pit, and compared it with questionnaires.
2009	**Mel Slater**	Distinguished two illusions: that of being in the place and that of what is happening really happening.

Sources

Original sources

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- Meehan, M., Insko, B., Whitton, M., & Brooks, F. P. (2002). Physiological measures of presence in stressful virtual environments. ACM Transactions on Graphics (SIGGRAPH 2002), 21(3), 645–652. View source (https://www.cs.uky.edu/~sgware/reading/papers/meehan2002psysiological.pdf)
- Slater, M. (2009). Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments. Philosophical Transactions of the Royal Society B: Biological Sciences, 364(1535), 3549–3557. View source (https://doi.org/10.1098/rstb.2009.0138)

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