

# Computer-mediated reality

**Mediated Reality** refers to the ability to add to, subtract information from, or otherwise manipulate one's perception of reality through the use of a wearable computer or hand-held device<sup>[1]</sup> such as a smart phone.

Typically, it is the user's *visual* perception of the environment that is mediated. This is done through the use of some kind of electronic device, such as an EyeTap device or smart phone, which can act as a visual filter between the real world and what the user perceives.

Computer-mediated reality has been used to enhance visual perception as an aid to the visually impaired<sup>[2]</sup>. This example achieves a mediated reality by altering a video input stream light that would have normally reached the user's eyes, and computationally altering it to filter it into a more useful form.

It has also been used for interactive computer interfaces<sup>[3][4]</sup>.

The use of computer-mediated reality to *diminish* perception, by the removal or masking of visual data, has been used for architectural applications, and is an area of ongoing research (see for instance, here<sup>[5]</sup> and here<sup>[6]</sup>)

## Window managers

One common window manager in mediated reality is the "Reality Window Manager"<sup>[7]</sup>

## Wireless mediated reality

Bluetooth devices are often used with mediated reality<sup>[8]</sup>

With wireless communications, mediated reality can also become a communications medium among different communities<sup>[9]</sup>

With the use of EyeTap, such interaction is called "seeing eye-to-eye"<sup>[10]</sup>

## Applications

Applications of mediated reality include devices that help people see better, as well as devices for gaming and equipment repair, telemedicine, remote expert advice interfaces, and wayfinding. Mediated reality is also used in robotics<sup>[11]</sup> and drawing applications such as the "Loose and Sketchy" drawing package<sup>[12]</sup>

## Related concepts



Art installation illustrating the mediated reality concept. First we display what's really there, and then this allows a computer to be inserted into the "reality stream" to modify it.



Mediated Reality application running on Apple iPhone

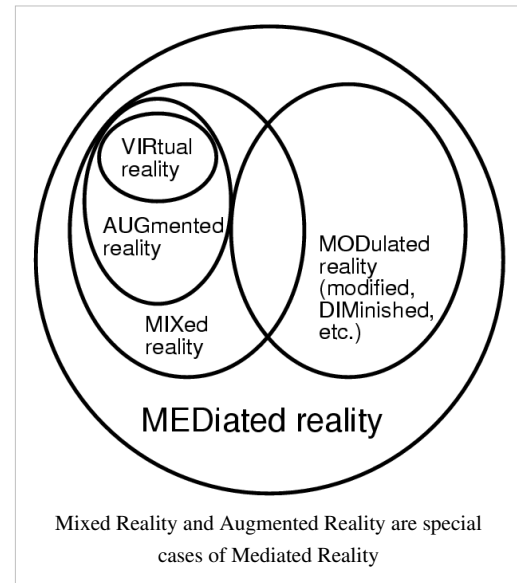
Mediated Reality is related to other concepts such as Augmented Reality (which is a special case of Mediated Reality), Virtual Reality, etc.<sup>[13]</sup>.

## See also

- Augmented reality
- EyeTap
- Simulated reality
- Ubiquitous computing
- Virtual reality

## References

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- [12] A Loose and Sketchy Approach in a Mediated Reality Environment ([http://vision.ai.uiuc.edu/~tankh/citations/nonphotorealistic\\_camera\\_siggraph2004/haller\\_graphite2005.pdf](http://vision.ai.uiuc.edu/~tankh/citations/nonphotorealistic_camera_siggraph2004/haller_graphite2005.pdf)), by Haller, M., Landerl, F., and Billingham, M.
- [13] Mediated Reality with implementations for everyday life ([http://wearcam.org/presence\\_connect/](http://wearcam.org/presence_connect/)), Presence Connect, MIT Press journal PRESENCE: Teleoperators and Virtual Environments, Date Posted: 2002 August 6



## External links

- EyeTap.org Mediated Reality Research (<http://eyetap.org/research/medr.html>)
- Mediated Reality based on the VideoOrbits head tracker (<http://glogger.mobi/v/43546>)
- Diminished Reality example to show something where Mediated Reality is definitely a proper superset of Augmented Reality ([http://wearcam.org/diminished\\_reality\\_redoct.mpg](http://wearcam.org/diminished_reality_redoct.mpg))

# Article Sources and Contributors

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