

To **Mixed Reality** and **Beyond!**

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What is Mixed Reality (MR)?

What Is Mixed Reality?

6 working definitions

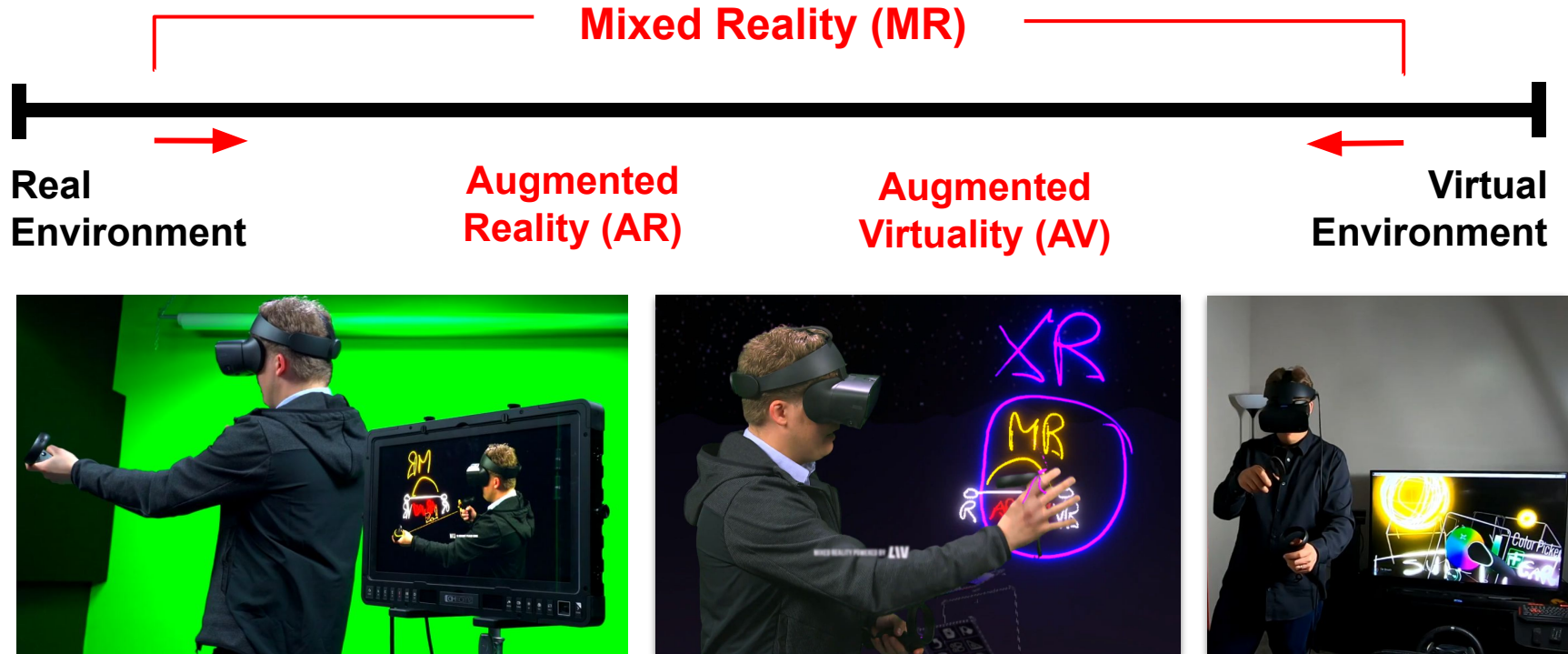
68 sources

10 experts

1. Reality–Virtuality Continuum	35.3%	3/10
2. Synonym for Augmented Reality	23.5%	2/10
3. Combination of AR and VR	7.4%	2/10
4. “ Stronger ” version of AR	7.4%	3/10
5. Type of Collaboration	11.8%	0/10
6. Alignment of Environments	23.5%	0/10



Reality–Virtuality Continuum



Milgram et al.: *Augmented Reality: A class of displays on the reality-virtuality continuum* (1994)

Terms

VR = **Virtual** Reality (*computer-generated virtual world*)

AR = **Augmented** Reality (*enhanced physical world*)

MR = **Mixed** Reality (*includes AR + AV, usually not VR*)

XR = **Extended** Reality (*X is wildcard for A, V, or M*)

Questions

1. In **your own words**, how would you **describe** what augmented reality is, what virtual reality is, and then **what mixed reality is?**

Avoid trying to give definitions of each; rather, focus on highlighting the differences between them.

2. Can you **think of an example** (one of your own) of a user interface/application that best illustrates these differences?

What do these differences mean in terms of user experience?

Iron Man



Super Mario



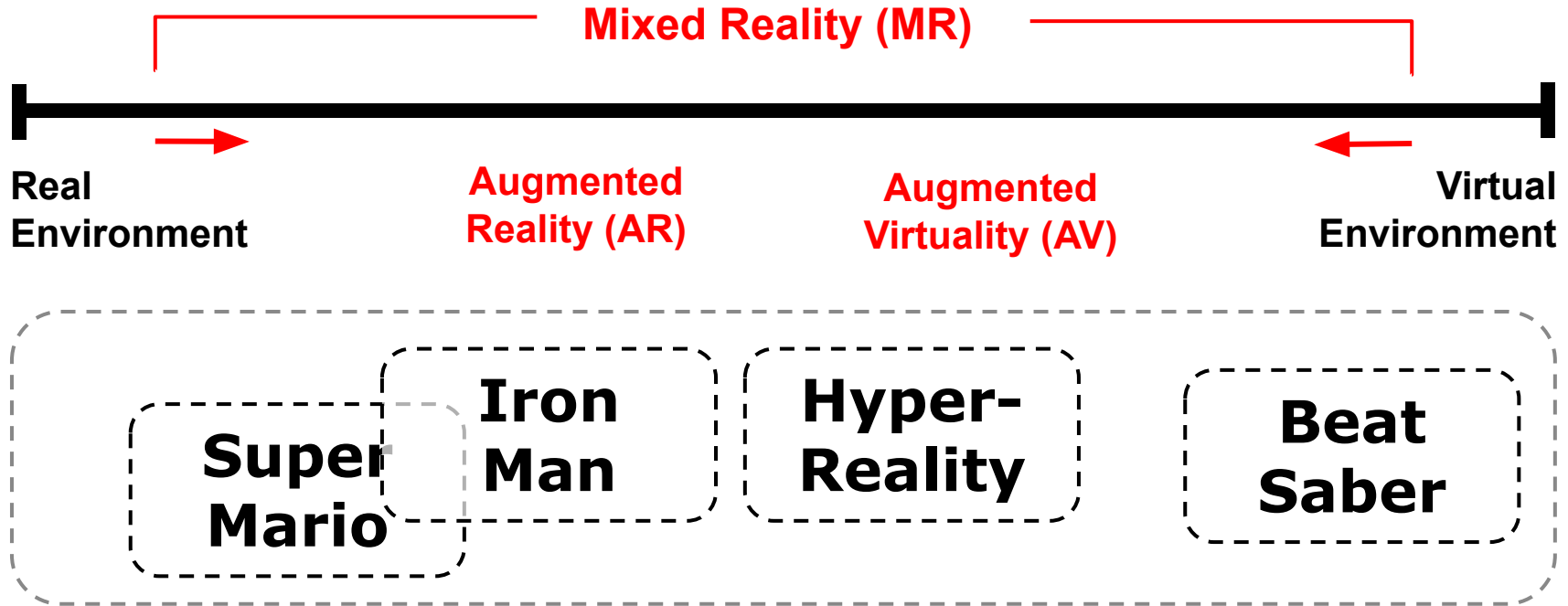
Beat Saber



HYPER-REALITY



Reality–Virtuality Continuum

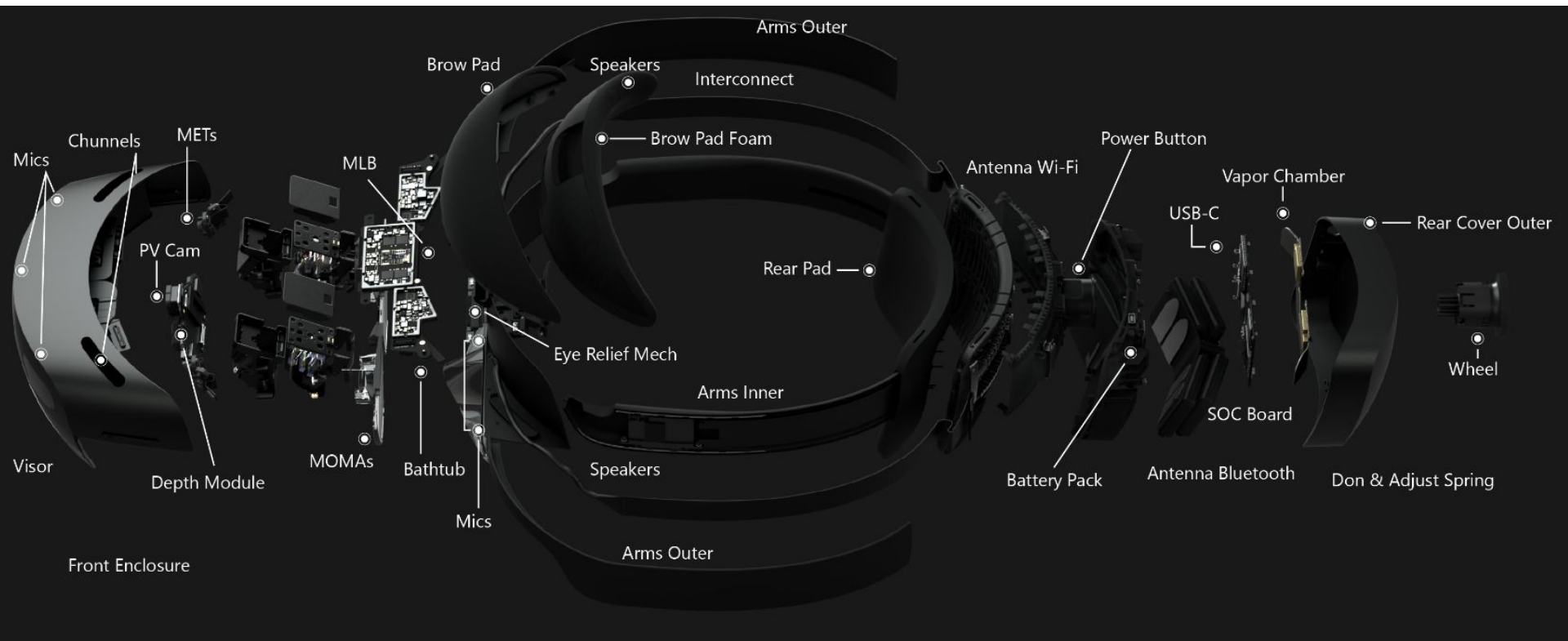


HoloLens 2




This exploded view diagram illustrates the assembly of the Oculus Rift CV1 headset. The components are arranged in a sequence from left to right, corresponding to the assembly order. Key parts labeled include:

- Front Enclosure:** The outer shell of the headset, featuring **Mics** (microphones), **Chunnels** (channels), **METs** (micro-electromechanical transducers), **PV Cam** (photoeye camera), **Depth Module**, and **Visor**.
- Internal Components:** **MOMAs** (magnetic optical modules), **Bathtub**, **MLB** (main logic board), and **Eye Relief Mech** (eye relief mechanism).
- Headband:** Consists of **Arms Outer**, **Arms Inner**, **Speakers**, **Interconnect**, **Brow Pad**, **Brow Pad Foam**, and **Rear Pad**.
- Back Components:** **Antenna Wi-Fi**, **Power Button**, **Battery Pack**, **Antenna Bluetooth**, **SOC Board**, **USB-C**, **Vapor Chamber**, **Rear Cover Outer**, and **Don & Adjust Spring**.
- Accessory:** A **Wheel** is shown separately.

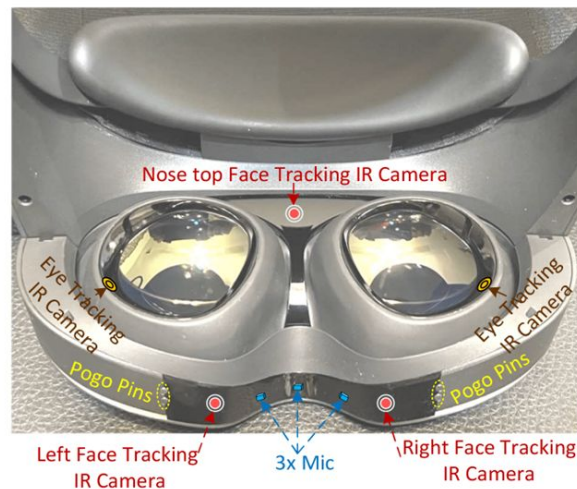
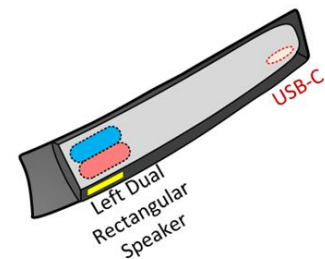
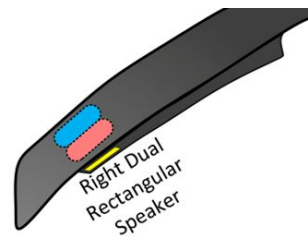
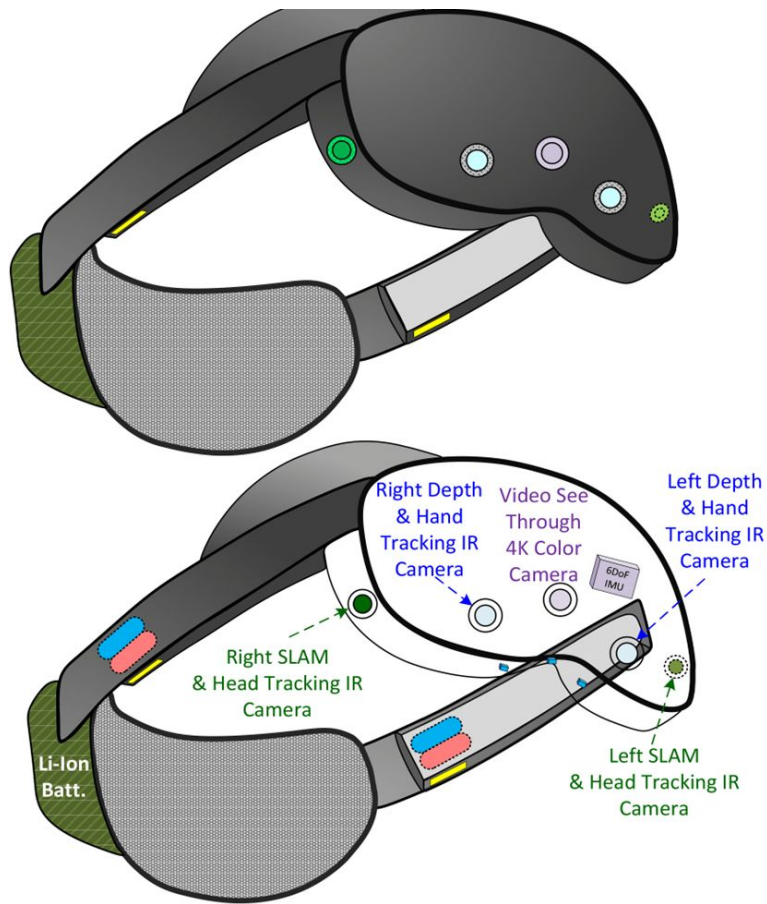


Quest Pro



 Meta Quest Pro

Quest Pro



Meta Ray-Ban



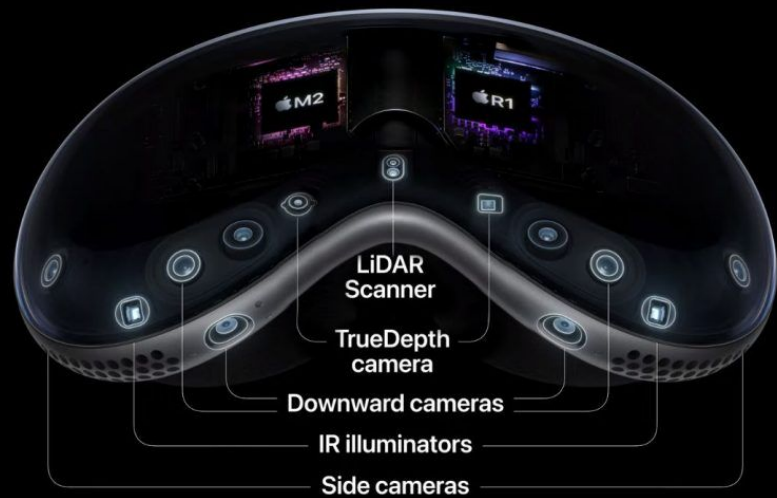
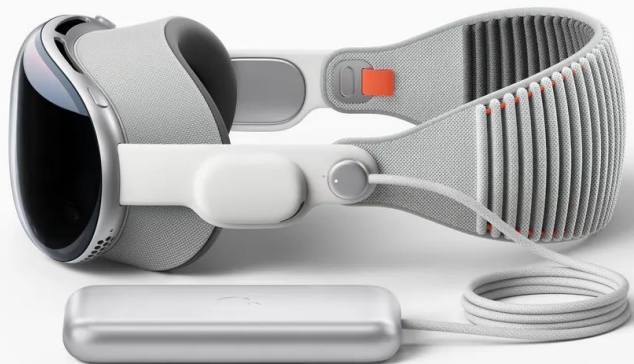
Meta Ray-Ban



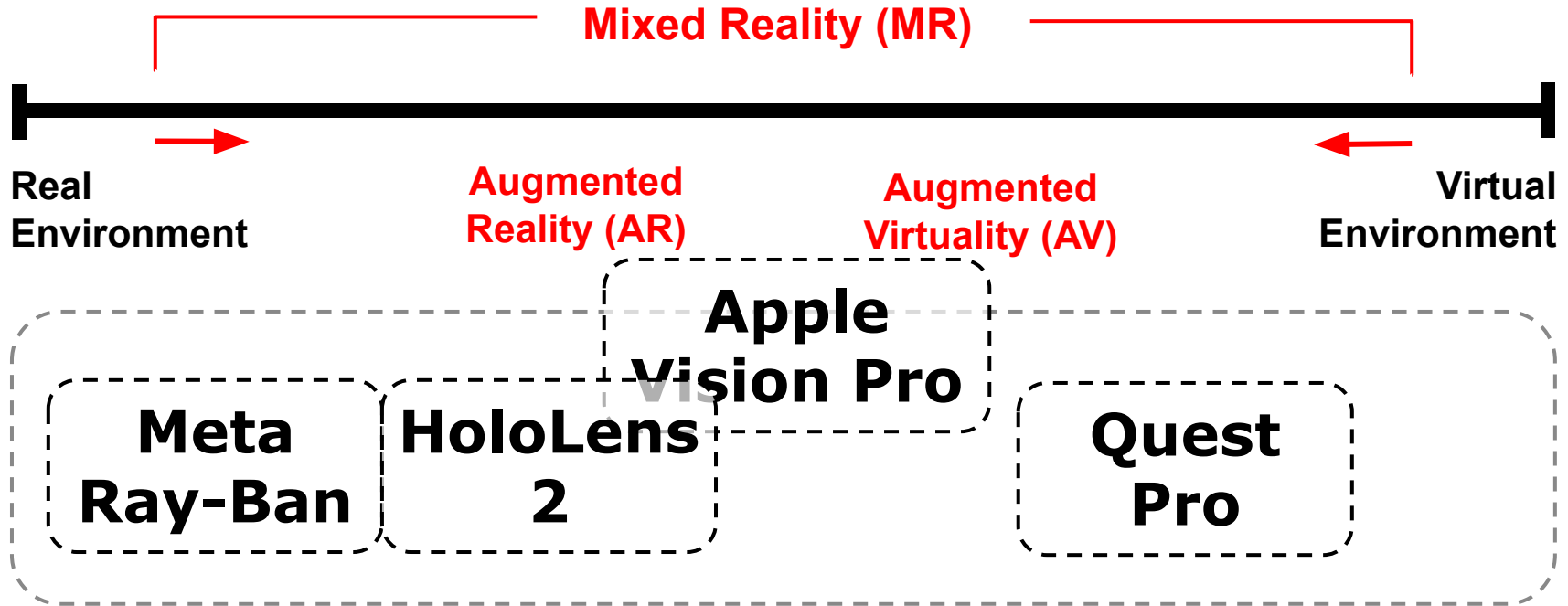
Apple Vision Pro



Apple Vision Pro

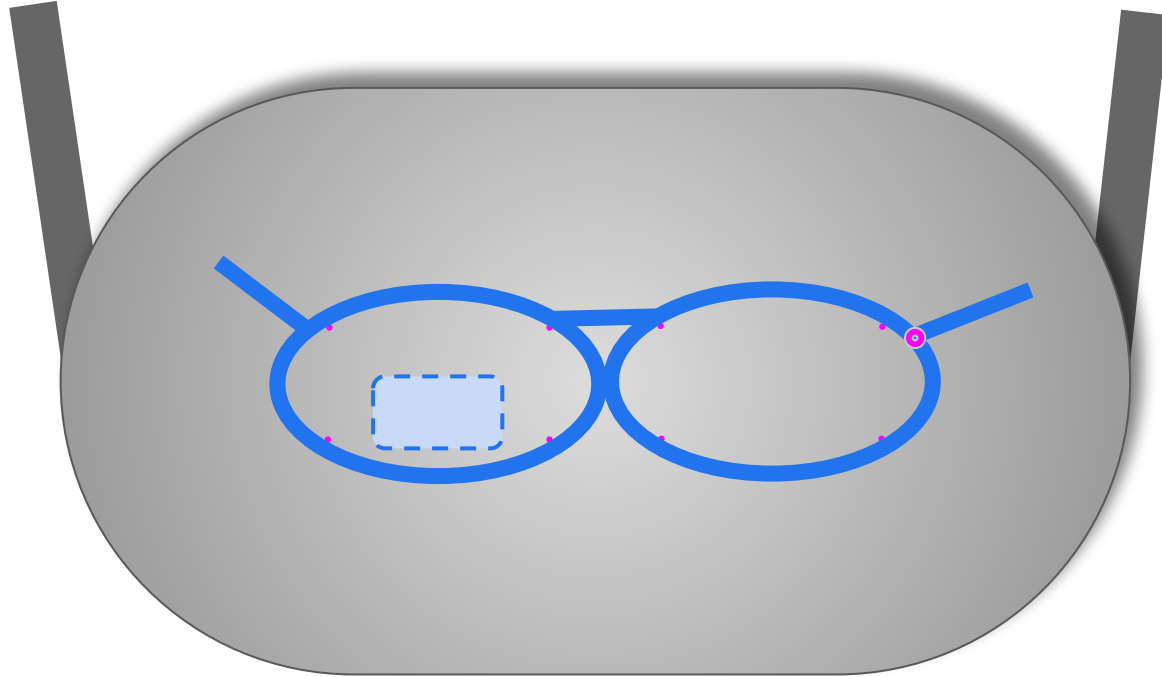


Reality–Virtuality Continuum



What's the future of AR?

The Future of AR/MR



Always-on AR

Limited or no visual display

Sophisticated sensing

CORRE & KINH MI

275 THOMAS ST
FOOD



min