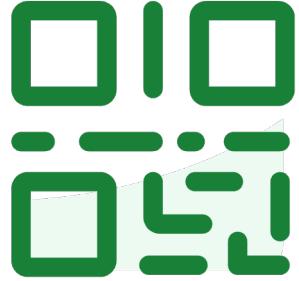


# Introduction (part 2)

Notes for the SIT-DP module: **Developing Immersive Applications**

Created by: Chek Tien TAN





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#dia-week02-intro2**

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# Recap

- differentiate AR, VR, MR and XR
- describe the historical evolution of immersive technologies

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## **VR was invented in the 21st Century (2001 - 2100)**

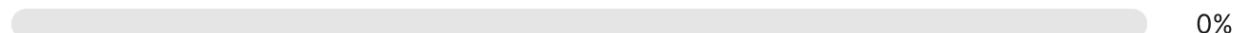
- ① Start presenting to display the poll results on this slide.

VR was invented in the 21st Century (2001 - 2100)

True



False



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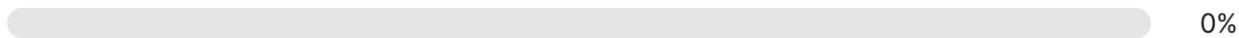


## Which device sparked the current (21st Century) rise of VR?

- ① Start presenting to display the poll results on this slide.

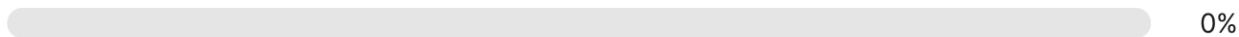
Which device sparked the current (21st Century) rise of VR?

Sega VR



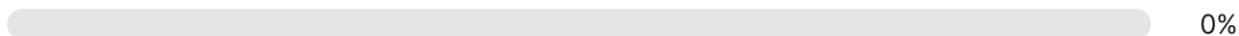
0%

Oculus Rift DK1



0%

Google Cardboard



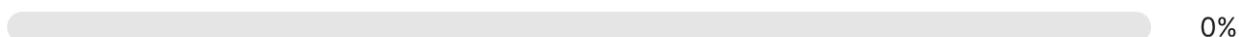
0%

Oculus Quest



0%

Meta Quest 2



0%

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**What is the common public perception  
(influenced by Microsoft) of the  
difference between AR and MR?**

- ① Start presenting to display the poll results on this slide.

**What is the common public perception of the difference between AR and MR?**

They are the same

0%

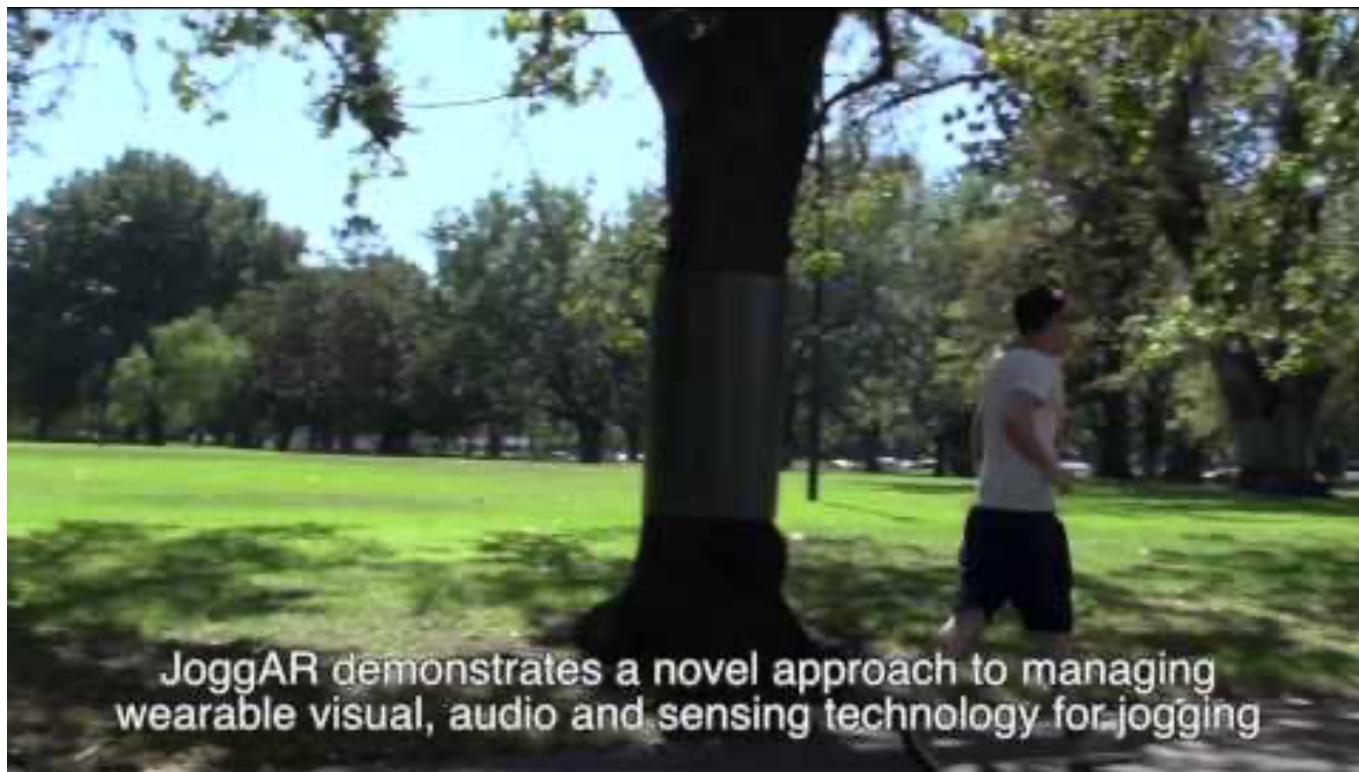
AR refers to blending virtual objects onto the real-world

0%

Virtual entities in MR can interact with real-world objects

0%

# What type of experience is this?



<https://youtu.be/d3wx3VGtFjo>

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## What type of experience does this best represent?

- ① Start presenting to display the poll results on this slide.

What type of experience is this?



AR

0%

VR

0%

MR

0%

# What type of experience is this?



<https://youtu.be/d3wx3VGtFjo>

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**According to Microsoft, what type of experience does this best represent?**

- ① Start presenting to display the poll results on this slide.

What type of experience is this?



AR



VR



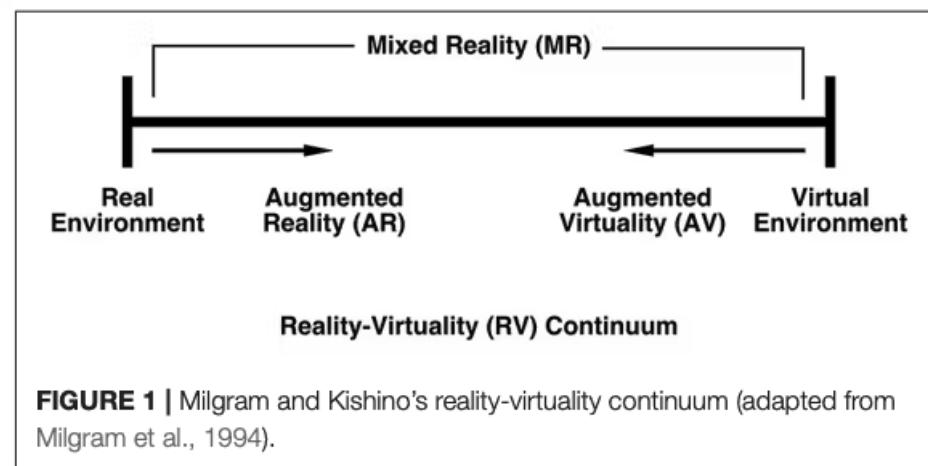
MR



# Milgram-Kishino's RV Continuum

- not the immersification continuum...
- originally meant for display technologies

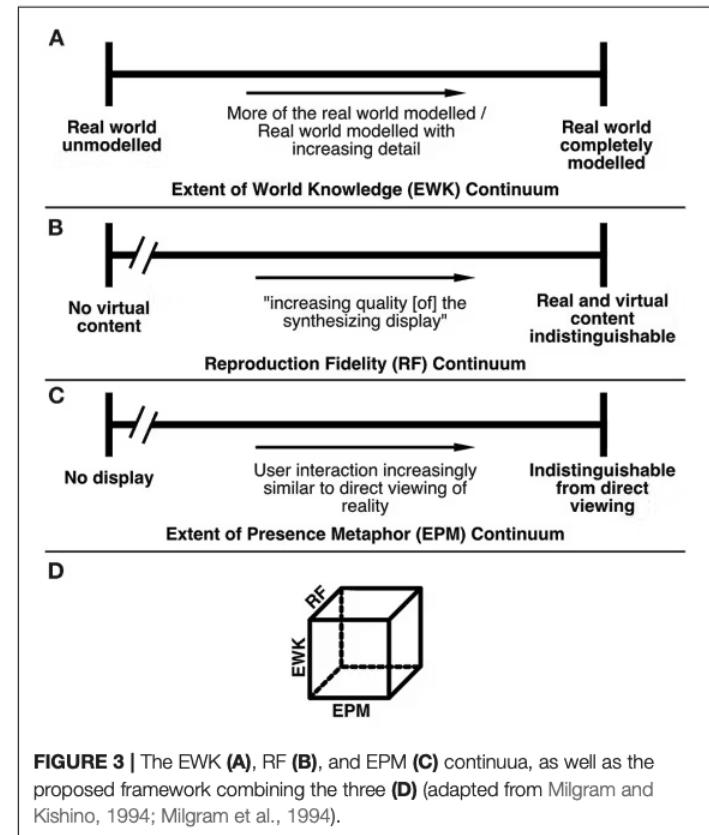
[https://doi.org/10.1117/12.197321](https://doi.org/10.1111/12.197321)



# Dimensions of RV Continuum

- EWK is how much system understands the real world
- RF is how realistic the assets are
- EPM is how interaction affords realism

<https://doi.org/10.1111/12.197321>



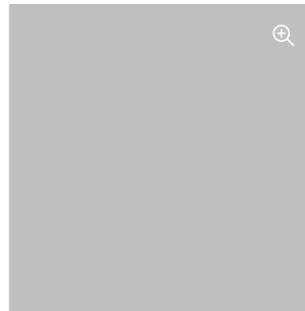
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## Where should Pokemon GO be placed on the RV Continuum?

- ① Start presenting to display the poll results on this slide.

Where should Pokemon GO be placed on the RV Continuum?

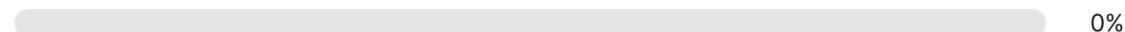


A      B      C      D      E

A



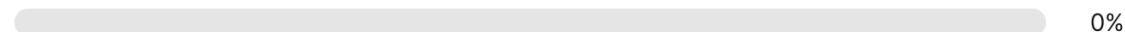
B



C



D



E



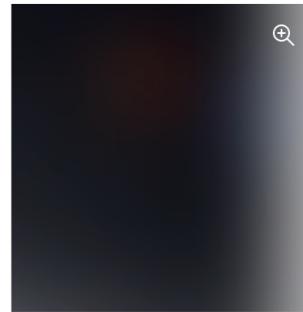
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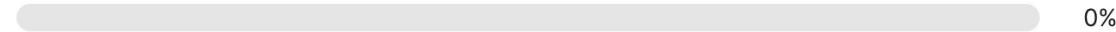
## Where should Beat Saber be placed on the RV Continuum?

- ① Start presenting to display the poll results on this slide.

### Where should Beat Saber be placed on the RV Continuum?



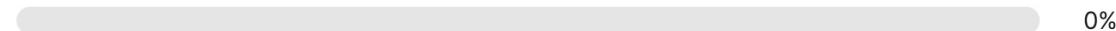
A



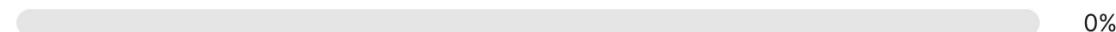
B



C



D



E



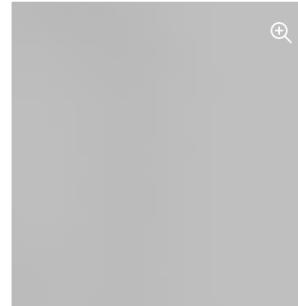
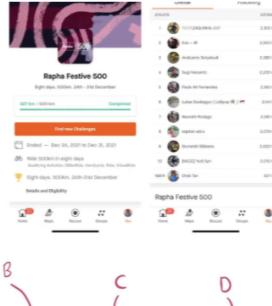
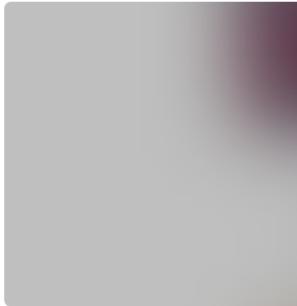
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## Where should Strava be placed on the RV Continuum?

- ① Start presenting to display the poll results on this slide.

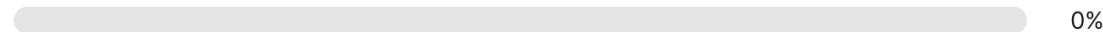
## Where should Strava be placed on the RV Continuum?



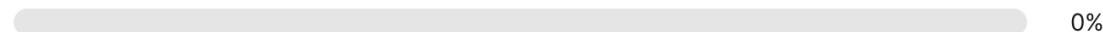
A



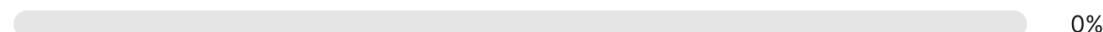
B



C



D



E



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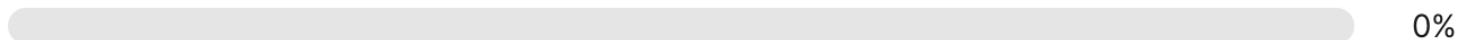


**Why is Strava not considered to be near the extreme end of "Real Environment" in the RV spectrum?**

- ① Start presenting to display the poll results on this slide.

**Why is Strava not considered to be near the extreme end of "Real Environment" in the RV spectrum?**

- It has some "Extent of World Knowledge"



- It has some "Reproduction Fidelity"



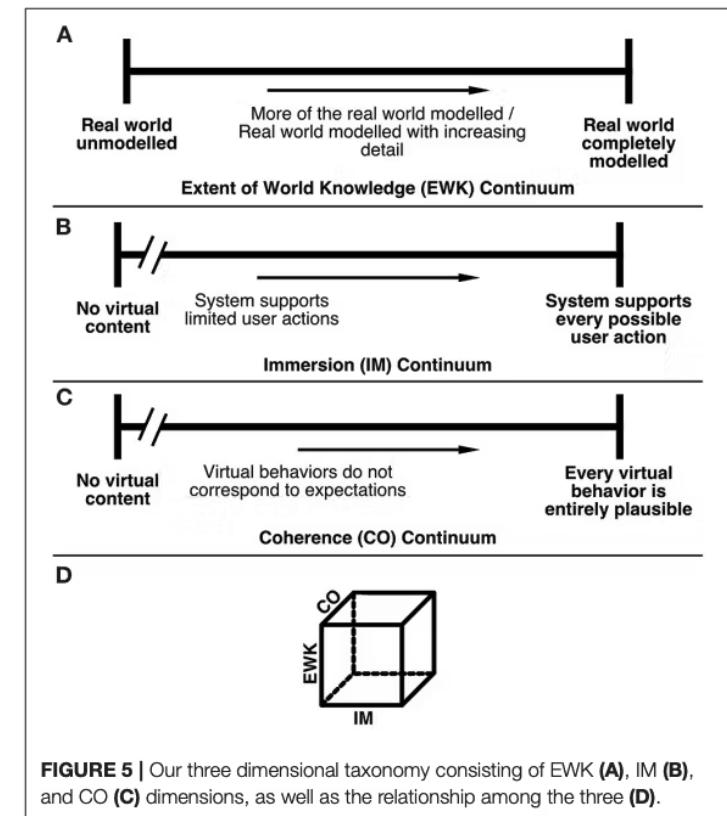
- It has some "Extent of Presence Metaphor"



# Revisiting the RV Continuum

- combined the RF and EPM into IM (our THE article came before this 😅)
- added CO to represent the user
- note that this but one academic paper
- common perception of MR is different

<https://doi.org/10.3389/frvir.2021.647997>



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**"The 3D models are extremely high quality."**

**What dimension of the RV continuum is this referring to?**

- ① Start presenting to display the poll results on this slide.

"The 3D models are extremely high quality."

What dimension of the RV continuum is this referring to?

- "Extent of World Knowledge"



- "Reproduction Fidelity"



- "Extent of Presence Metaphor"



- "Coherence"





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**"The 3D virtual dogs are able to jump onto the real table seen through the camera."**

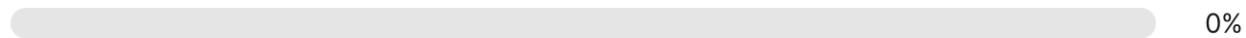
**What dimension of the RV continuum is this referring to?**

① Start presenting to display the poll results on this slide.

"The 3D virtual dogs are able to jump onto the real table seen through the camera."

What dimension of the RV continuum is this referring to?

- "Extent of World Knowledge"



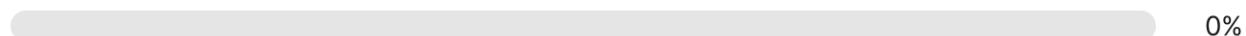
- "Reproduction Fidelity"



- "Extent of Presence Metaphor"



- "Coherence"



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**"The stereo optics provide a perception of depth through an LCD display."**

**What dimension of the RV continuum is this referring to?**

- ① Start presenting to display the poll results on this slide.

"The stereo optics provide a perception of depth through an LCD display."

What dimension of the RV continuum is this referring to?

- "Extent of World Knowledge"



- "Reproduction Fidelity"



- "Extent of Presence Metaphor"



- "Coherence"





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**"For a moment I believed that I was actually 1000ft above ground."**

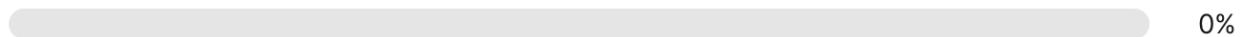
**What dimension of the RV continuum is this referring to?**

- ① Start presenting to display the poll results on this slide.

"For a moment I believed that I was actually 1000ft above ground."

What dimension of the RV continuum is this referring to?

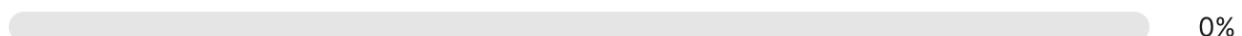
- "Extent of World Knowledge"



- "Reproduction Fidelity"



- "Extent of Presence Metaphor"



- "Coherence"

