



Today...



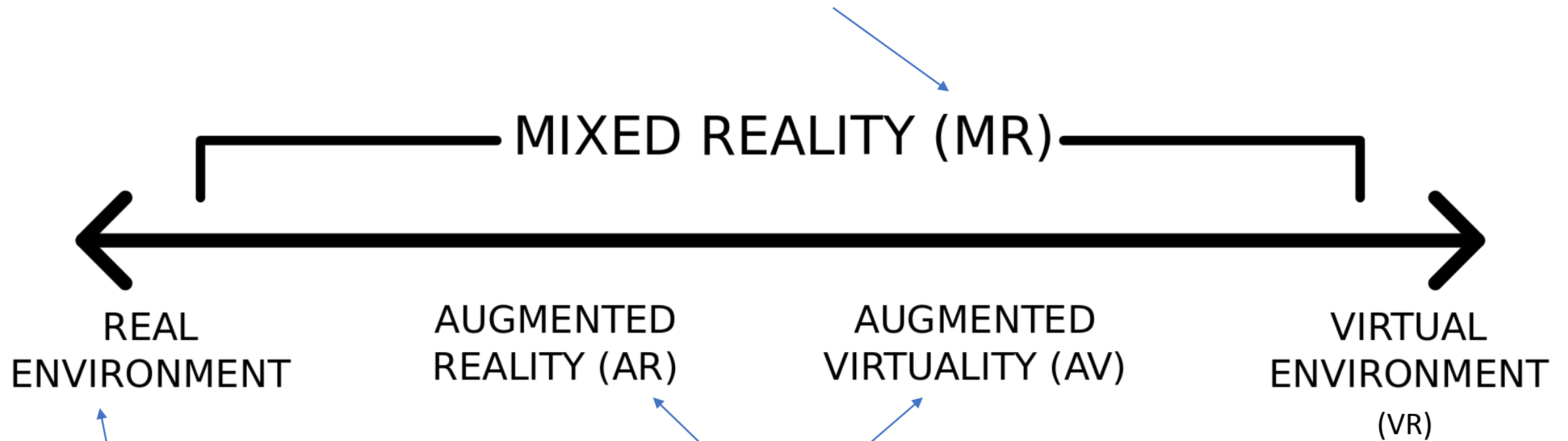
- Learn a bit about AR, VR and MR
- Provide some opportunities and considerations for this sort of tech

A woman with long brown hair is wearing Google Glass. She is looking upwards and to the right. Her right hand is raised towards her temple, with her index finger pointing upwards. The background is a plain, light-colored wall.

Why do we need to know  
about this stuff?



# The Virtuality Continuum



Hopefully self explanatory

# Augmented Reality

- Provides additional information (computer generated)
- It's about **enhancing** reality with digital information
- Lots of potential and already lots of examples available
- Largely driven by handheld devices



# Tracking (or triggering)

## Marker

- Specific visual cues to display information

Example:

- Specific geometries (e.g. in a drawing / printout) to display more detail



## Marker-less

- Uses device sensors to understand appropriate data to display

Example:

- Pokemon Go
- Google Maps AR









# Takeaway messages

- Augmented reality provides the ability to include extra information / data in a way that can be intuitive, interactive and exciting
- The ‘immersiveness’ depends on the quality of the augmentation – you can spend more or less on it and that can translate to what it can do
- Ultimately, you don’t lose your place in ‘reality’ as the information is linked to the real world / objects

# Virtual Reality

- Fully immersive environment that can duplicate / replicate / be complete different from our reality
- A range of possible technologies (and costs)
- Current examples include gaming, education, entertainment





- Low-end (e.g. Google Cardboard) – powered through your phone that ‘slides’ into the casing



- Mid-range (e.g. Oculus Go) – self-contained but does not extend to six-degrees of movement (use while seated)



- High-end (Oculus Rift / HTC Vive) – run through external devices (PC) but allow full ranges of movement and immersion





# Takeaway messages

- VR has the power to immerse the user into completely different environments
- There's a range of levels that you can use for VR experiences
- Immersiveness varies significantly from low-end to high-end
- A great way of 'taking people there' and exposing them to new environments or experiences

# Mixed Reality

- Definition is a bit murky but basically takes the 'best bits' of VR / AR and interweaves them
- Essentially enables digital objects to be overlaid with reality, so you can interact with both and they respond to each other

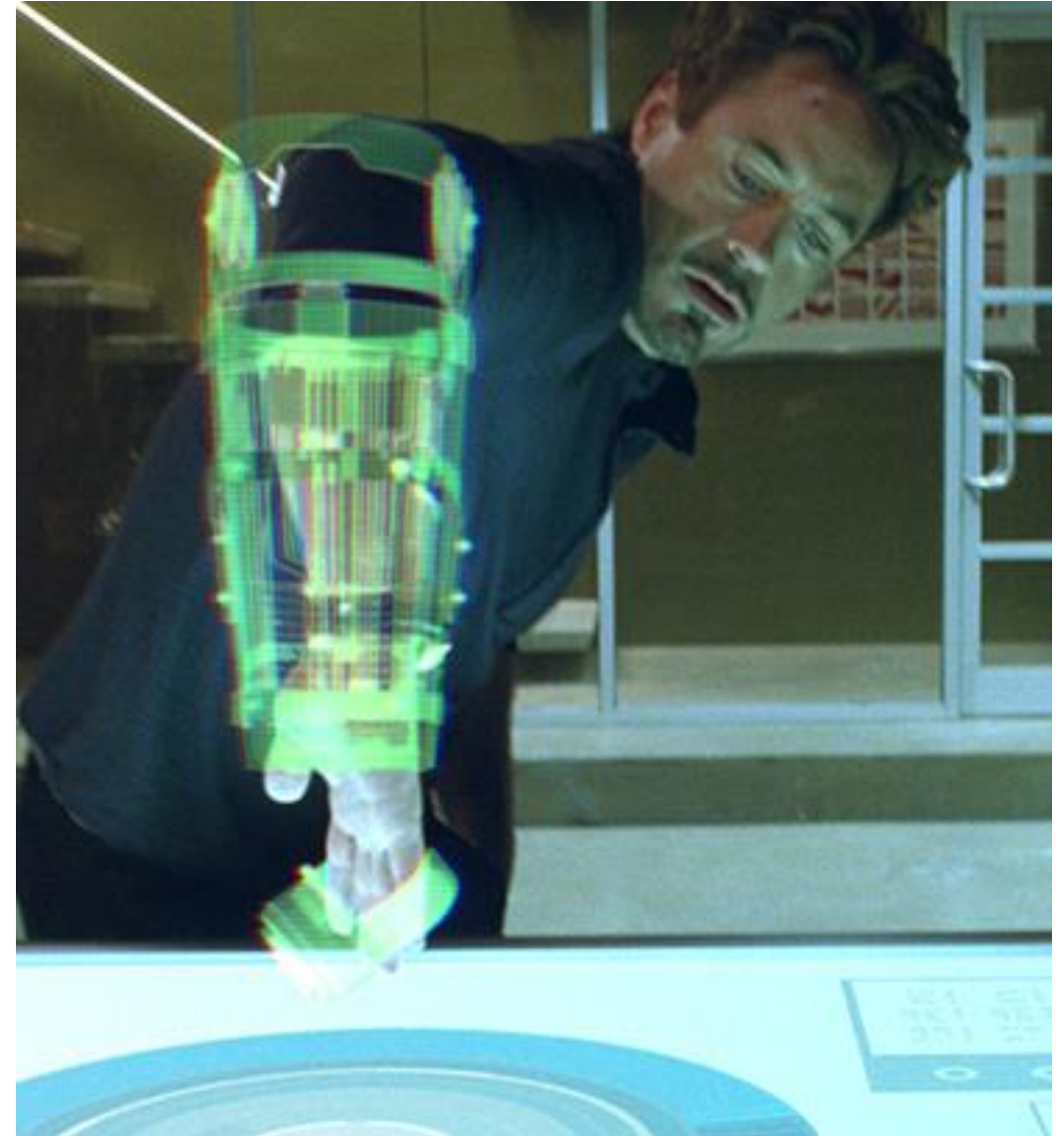






# Takeaway messages

- The main distinction seems to be on the two-way interaction between reality and virtual or augmented overlays
- Very expensive and generally inaccessible to the public at present, but will be more in the future
- Basically Tony Stark.







# Opportunities

1. Presentation of data / reports in a way that can incorporate mixed media, can be interactive and view / user driven
2. Training – users can be shown examples and engage in ‘choose-your-own-adventure’ style paths (for example)
3. Collaboration – teams can meet virtually, share media
4. Ability to ‘connect’ people with places by taking them ‘there’ – can reduce costs of travel but maintain higher levels of immersivity

# Considerations

1. These are tools that can be used to strengthen practice / projects – but still tools
2. Require an investment (time and \$), and a fair degree of technical nous
3. High 'gimmick' potential - needs to be 'worth it' (see points 1 and 2)
4. Everyone should try out a VR experience!

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