Case Study:
Cinematic VR

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Cinematic VR

- 3D Video
- 360 Video
Cinematic VR

- 3D Video
  - What depth to use?
  - Close-up vs. “Close-up”

- 360 Video
  - Where is the crew?
  - Where should the viewer look?
Cinematic VR Displays

- Theatrical
  - Analglyph
  - Polarized

- Home
  - Autostereoscopic
  - Active Shutter
  - Head-Mounted Displays
    - Cardboard
Analglyph

- Red/Cyan lenses
  - Or Blue/Yellow, etc.

- Reduces color perception

- Cheap

https://en.wikipedia.org/wiki/Anaglyph_3D
Light Combinations

White = (R)ed + (G)reen + (B)lue

(C)yan = G + B

(M)agenta = R + B

(Y)ellow = R + G
Analglyph

Red Lens

White → R
R → R
G → Black
B → Black
Black → Black
Analglyph

Red Lens

White $\rightarrow$ R
R $\rightarrow$ R
G $\rightarrow$ Black
B $\rightarrow$ Black
Black $\rightarrow$ Black

Cyan Lens

White $\rightarrow$ G + B
R $\rightarrow$ Black
G $\rightarrow$ G
B $\rightarrow$ B
Black $\rightarrow$ Black
Polarized

- Differently polarized lenses
  - Horizontal/Vertical, Left/Right Handed

- Full color perception
  - Reduces brightness

- Relatively cheap
Polarized

Linear Polarization

https://en.wikipedia.org/wiki/Polarized_3D_system/
Polarized

Circular Polarization

Head-Mounted Displays

- Cinema software available
  - Rift, Gear VR, Cardboard, etc.

- Virtual screen can reduce simulator sickness
Cardboard (Mobile)

- Cheap
- Portable

But...

- No Tracking
- 3D less portable
- Low resolution

https://store.google.com/product/google_cardboard