

Hardware & Software Components

WEEK05

Before that... a quick review...

WEEK04's Formative Quiz on Development Tools

Hardware & Software Components

- describe common hardware components in XR devices
- explain the image formation process in typical XR HMDs
- describe common software components in immersive applications
- describe the architecture of a typical WebXR application

Remember our learning approach...

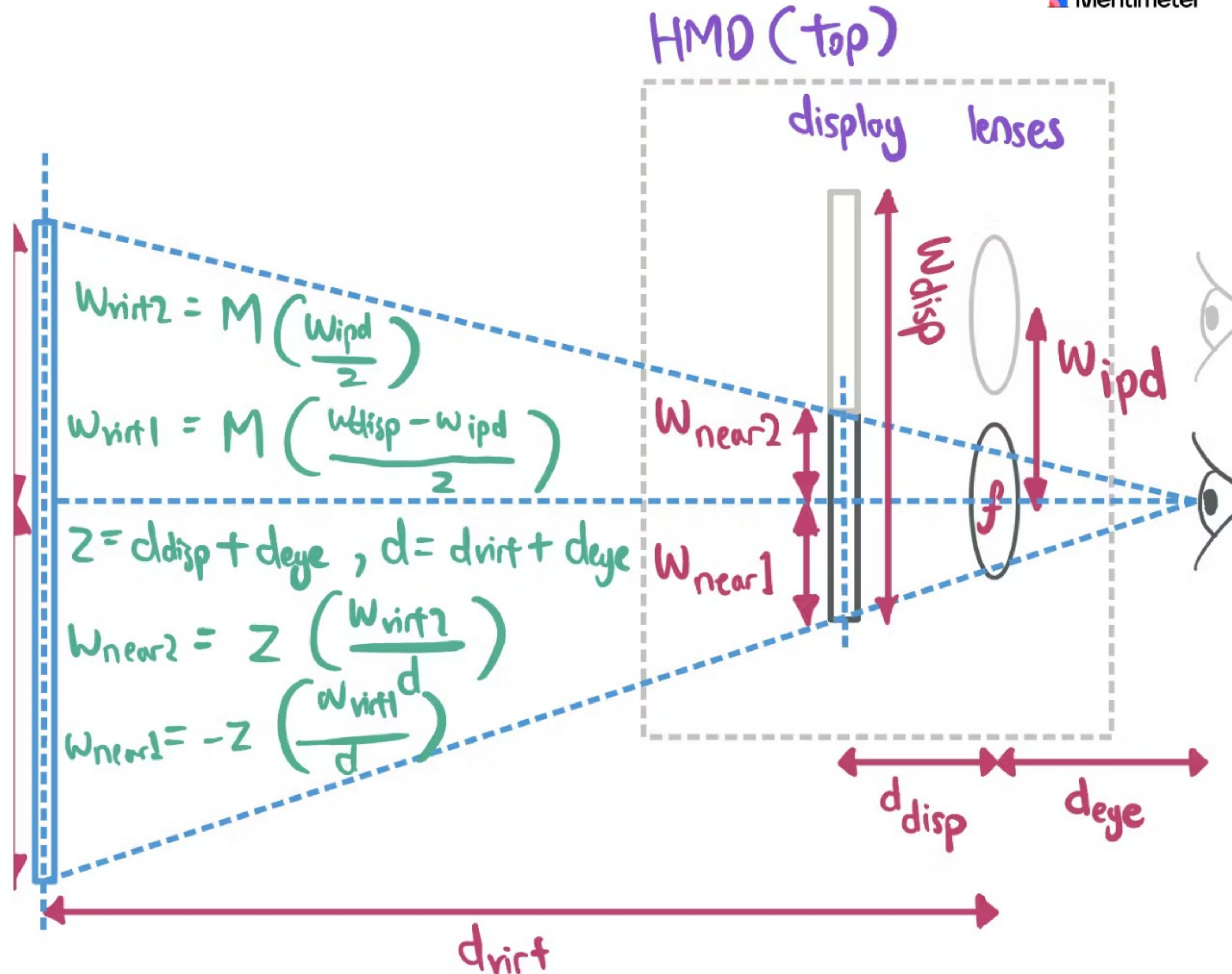
- chosen content is a **primer**
- representative but not exhaustive



describe
common
hardware
components
in XR devices

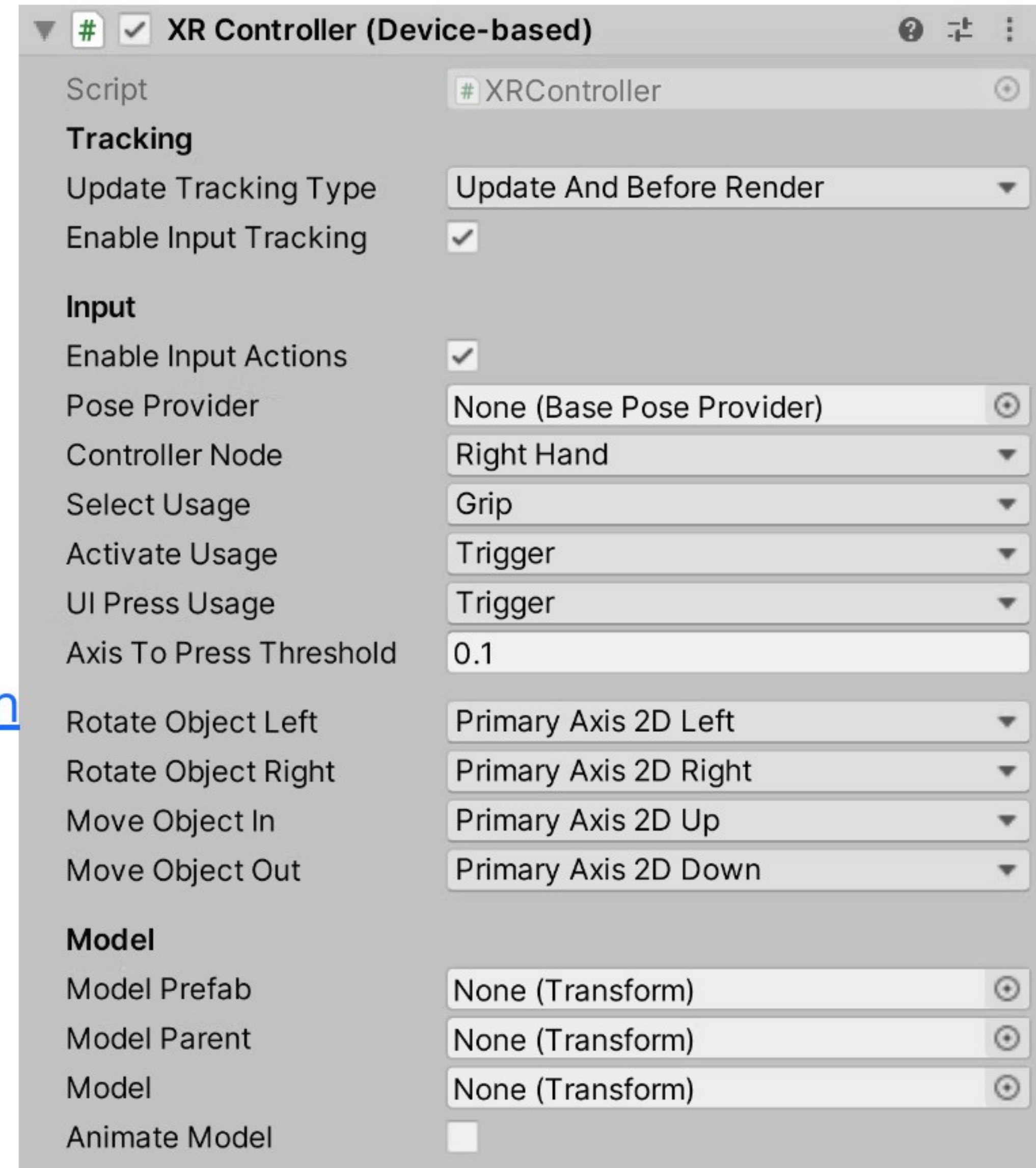
→ <https://www.gamespot.com/articles/razer-reveals-open-source-vr-headset-the-osvr/1100-6424485/>

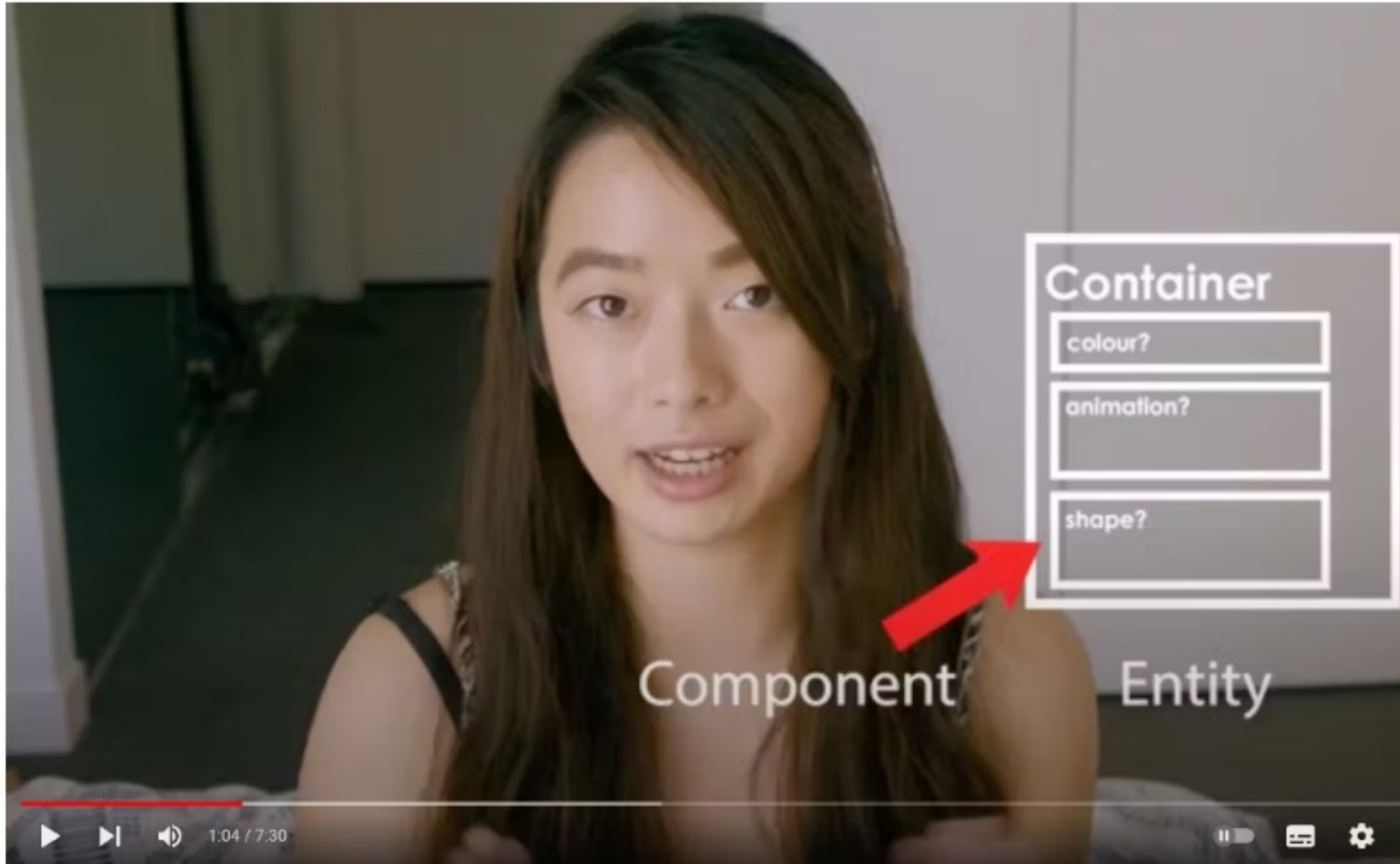
explain the
image
formation
process in
typical XR
HMDs



describe common software components in immersive applications

→ <https://docs.unity3d.com/Packages/com.unity.xr.interaction.toolkit@2.3/manual/xr-controller-device-based.html>





describe the architecture
of a typical WebXR
application

→ https://youtu.be/qB8Ejh_QdpE

Aframe Webvr - VR Development Tutorial Series

Aframe Webvr - VR Development Part 3 - ECS Architecture

Quiz time...

Go to

www.menti.com

Enter the code

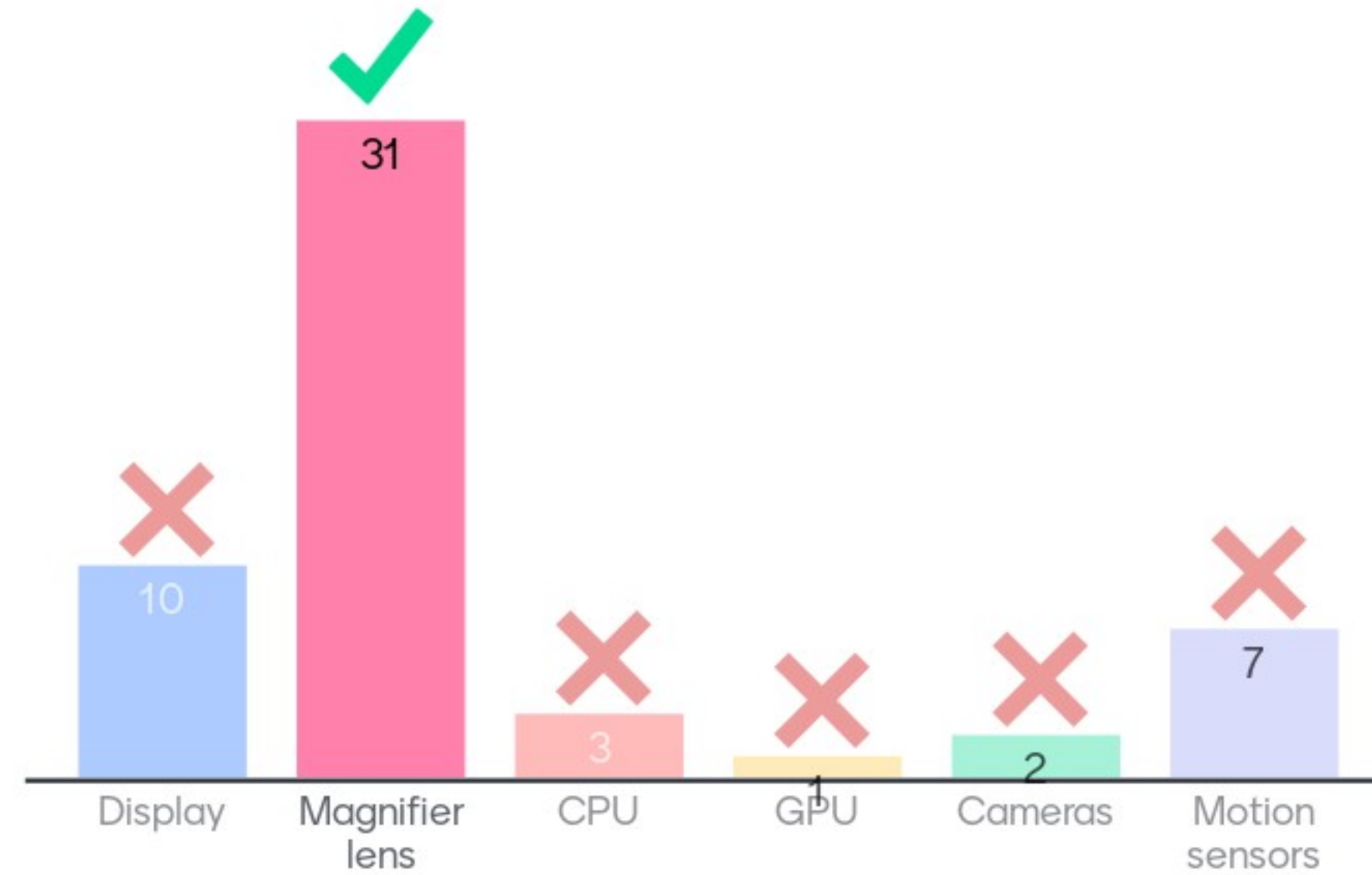
2378 6019



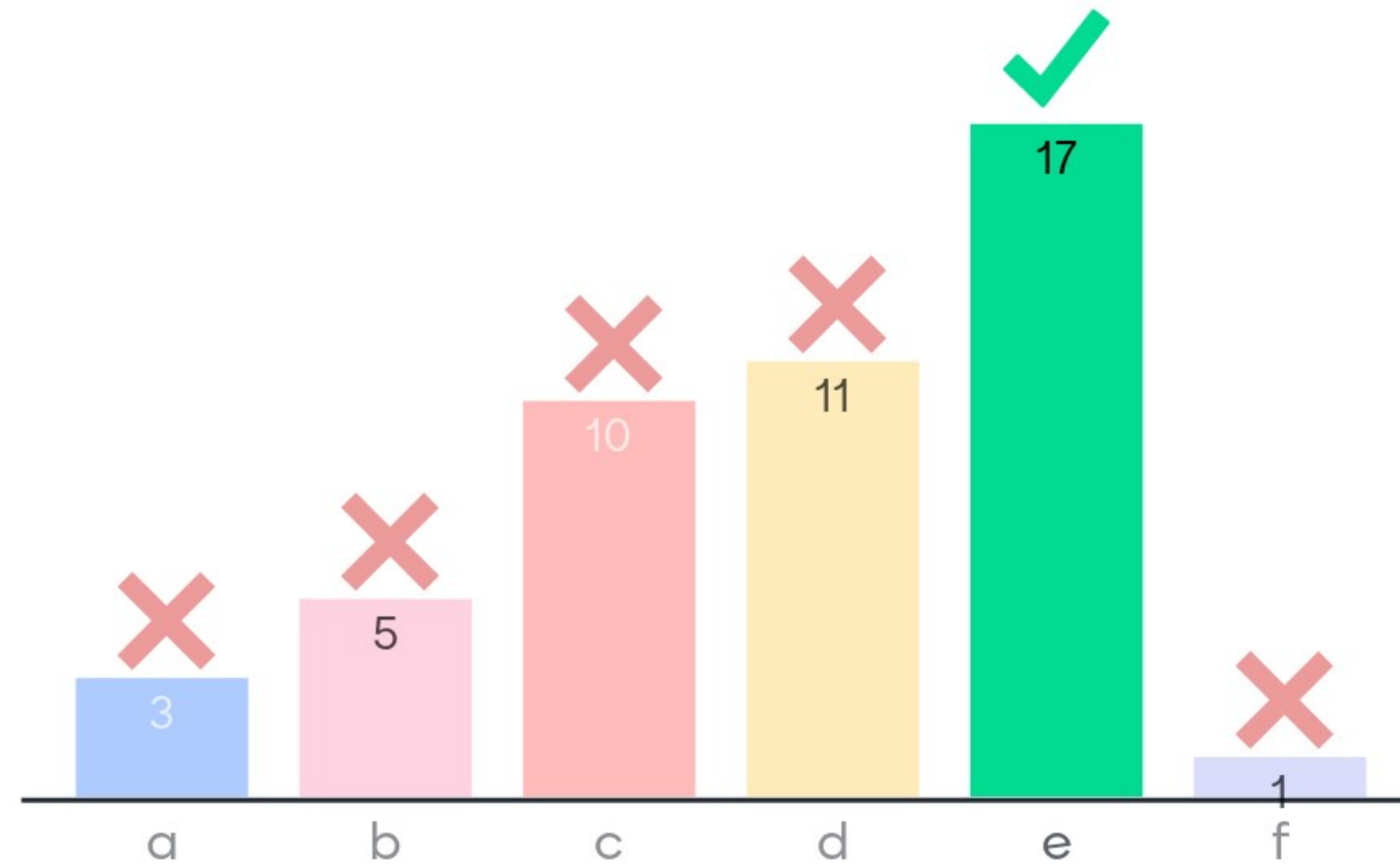
Or use QR code



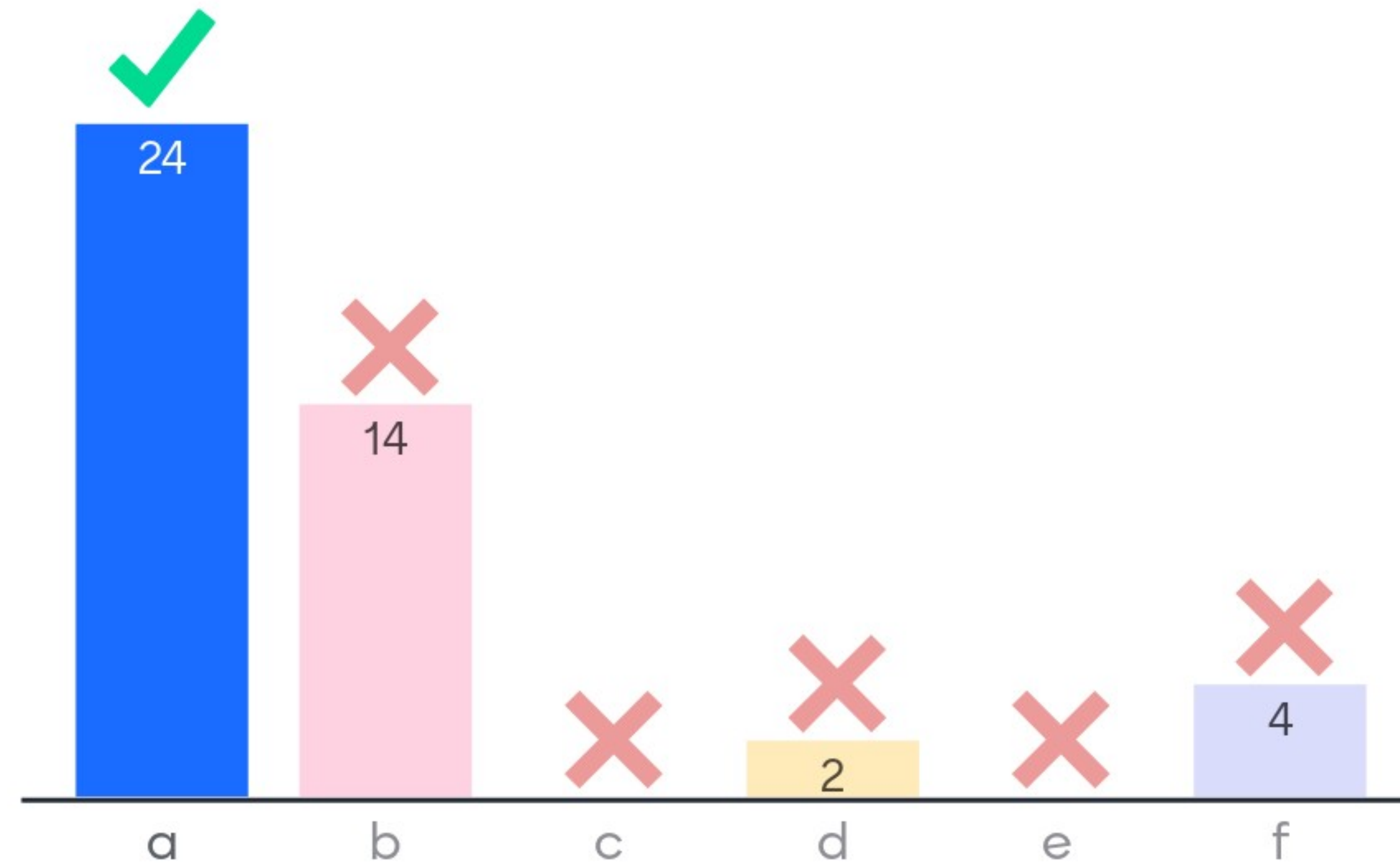
What is the main difference between the hardware in a modern smartphone and a HMD?



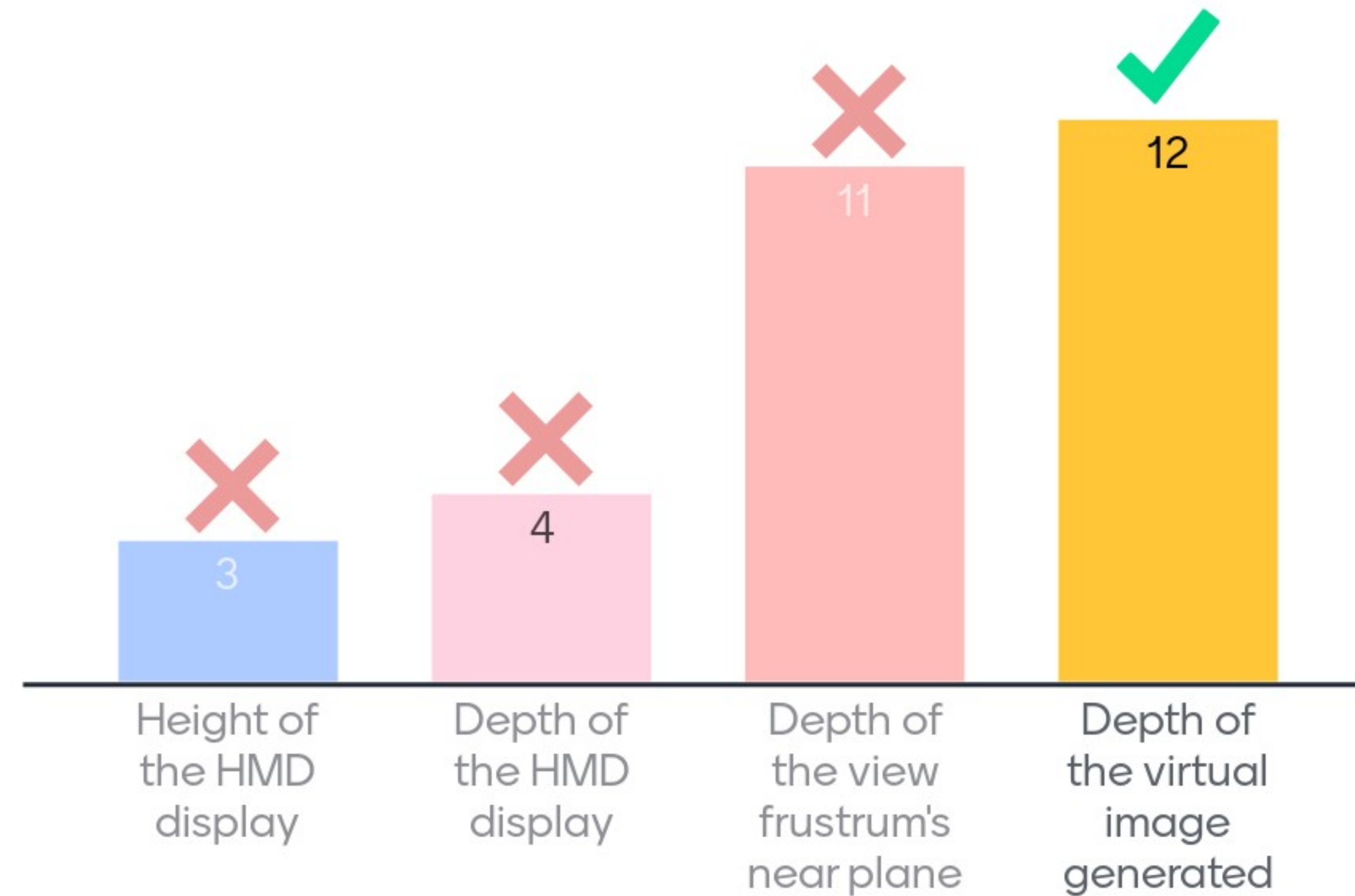
In the schematic HMD diagram, where is the "eye relief"?



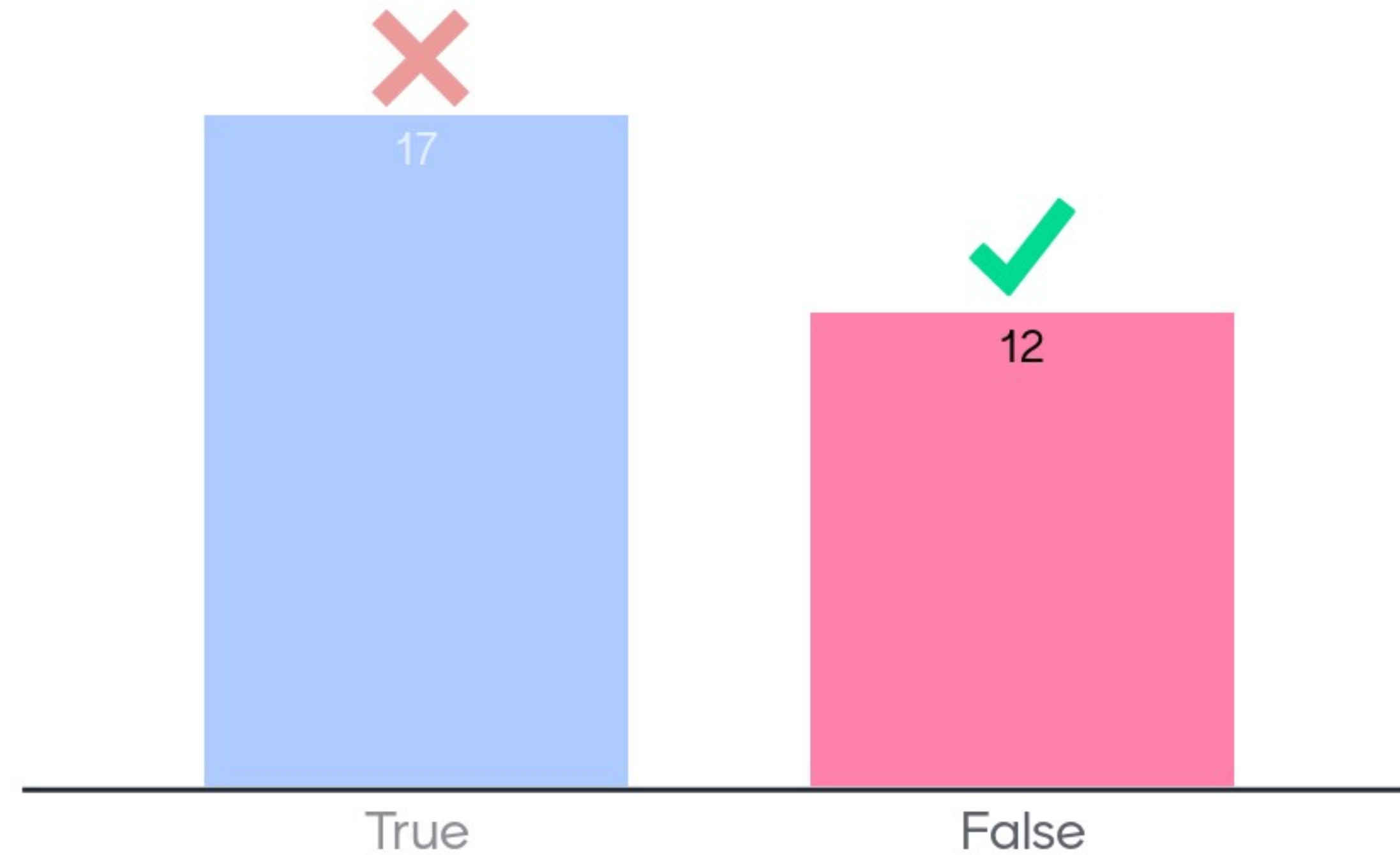
In the schematic HMD diagram, where is the width of the virtual image?



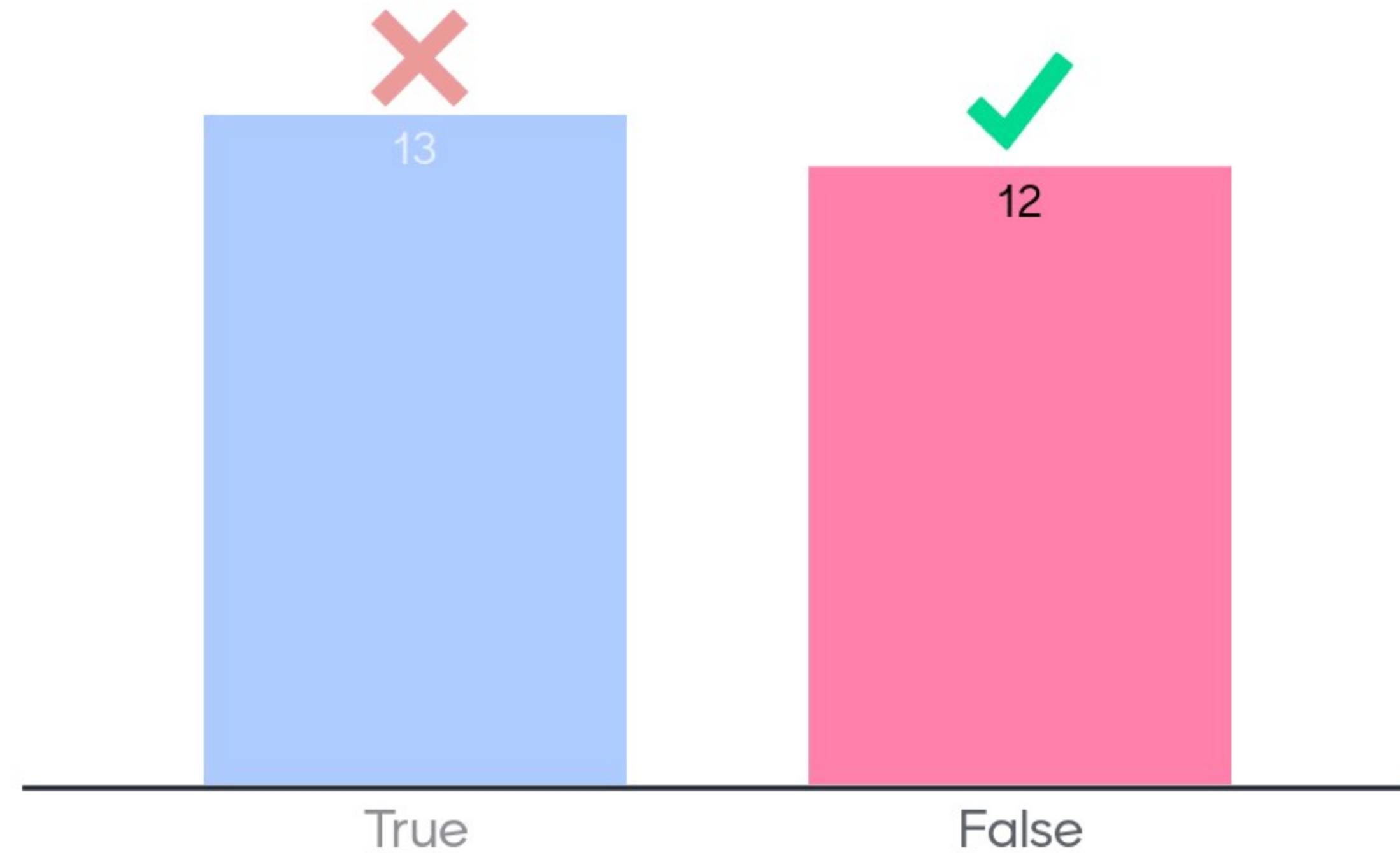
In HMDs, what effect will changing the focal length of the lens have?



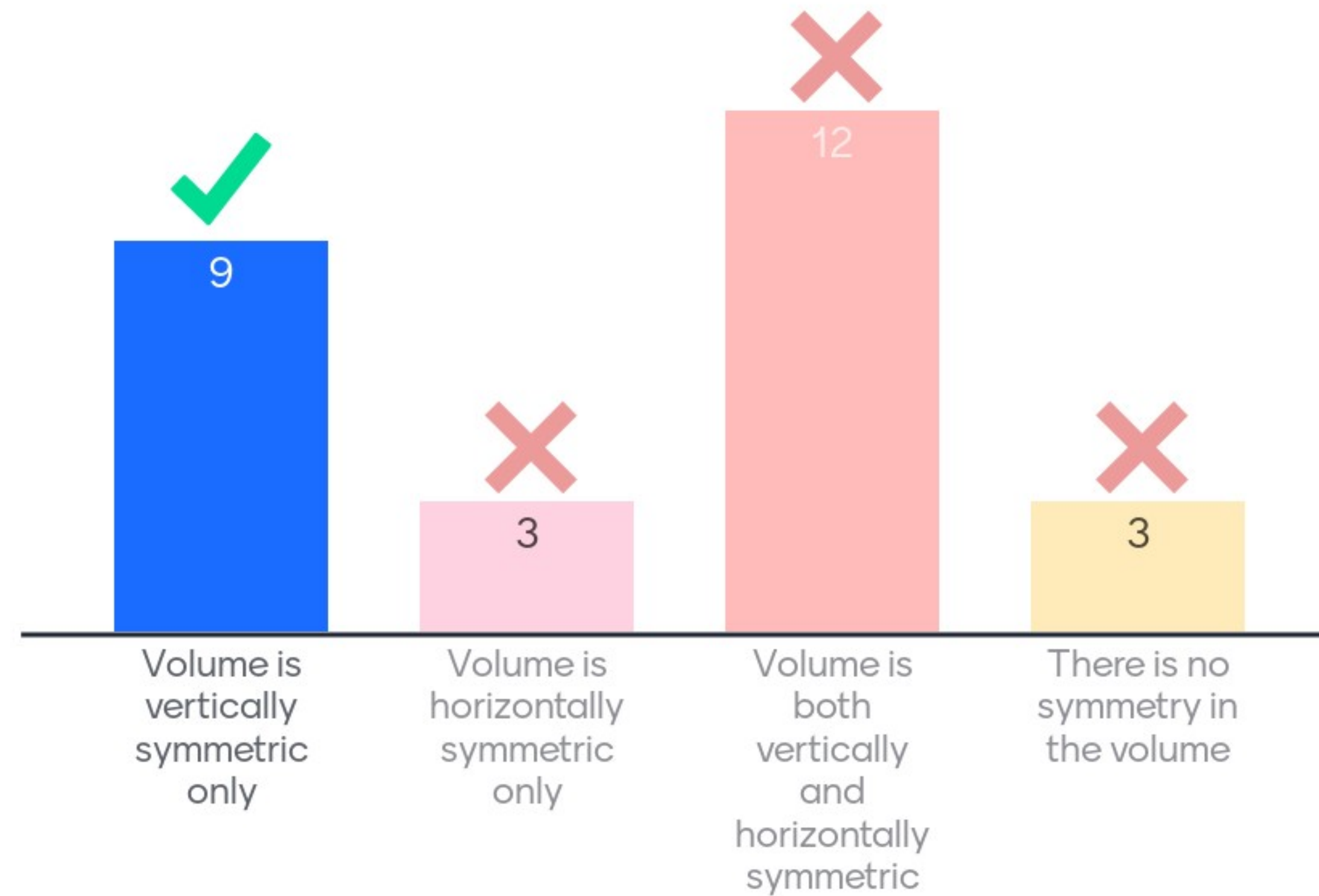
The perspective matrix for rendering in HMDs is the same for both eyes.



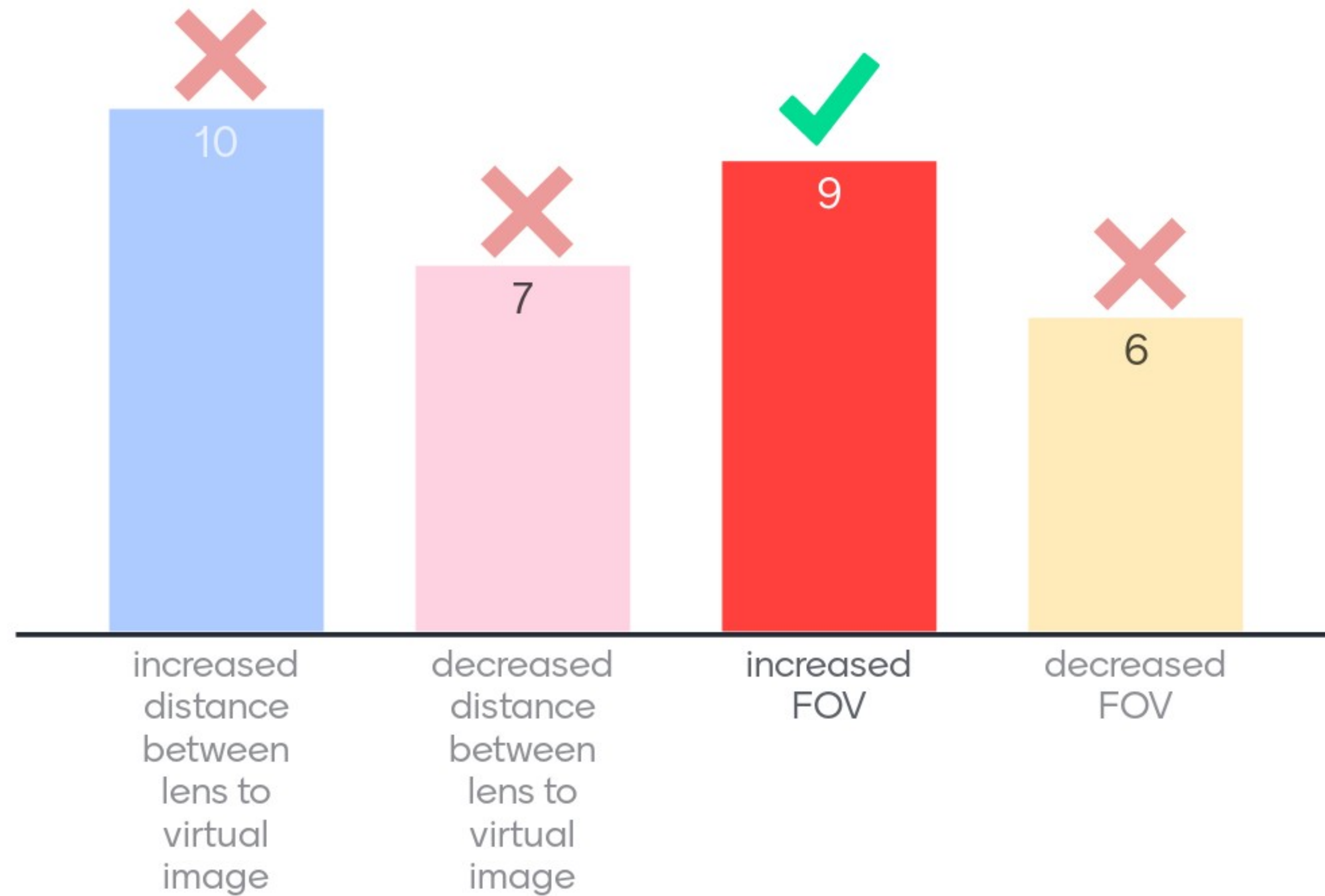
The view matrix for rendering in HMDs is the same for both eyes.



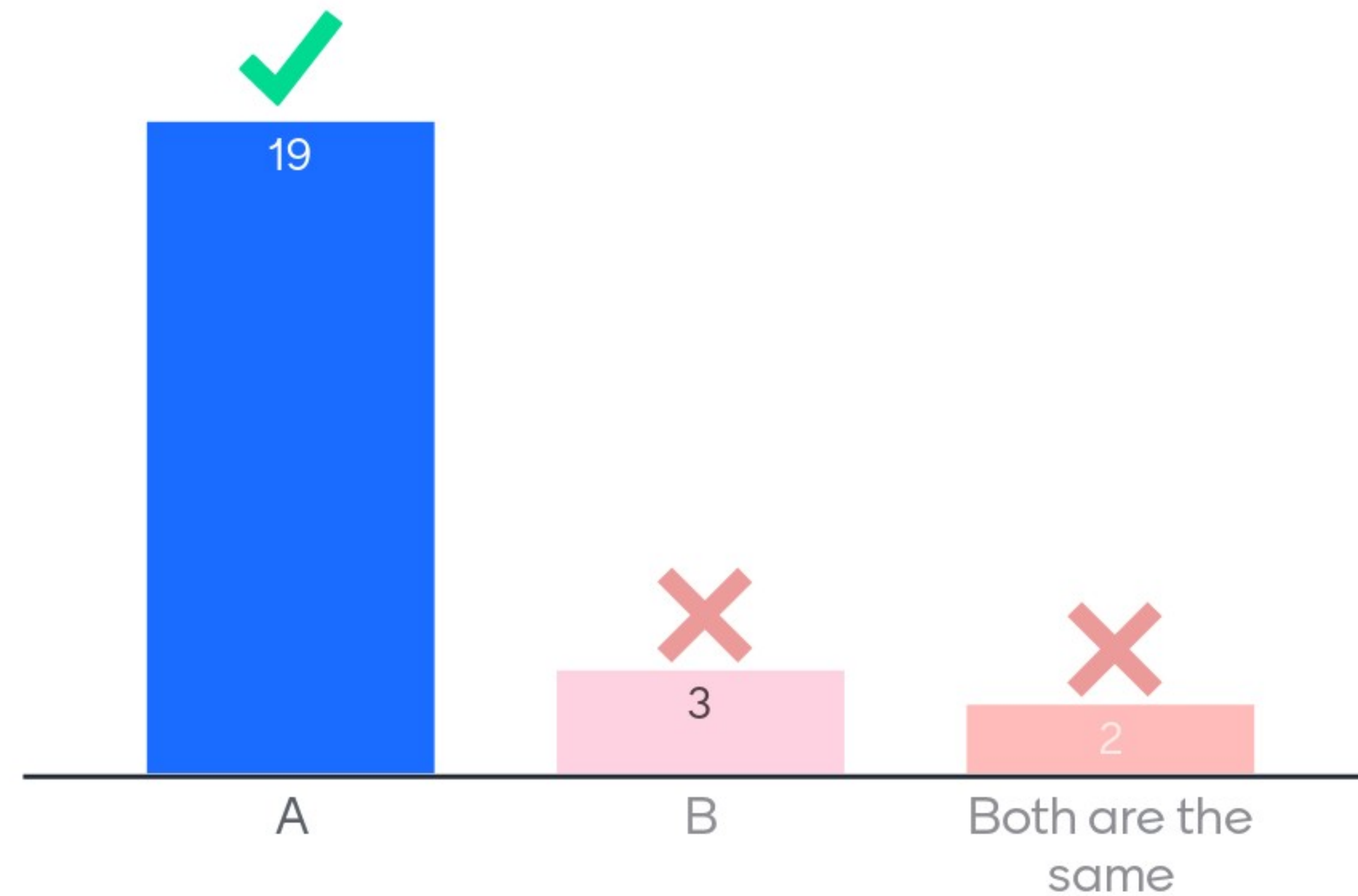
What is a valid property of the view frustum generated by typical HMDs?



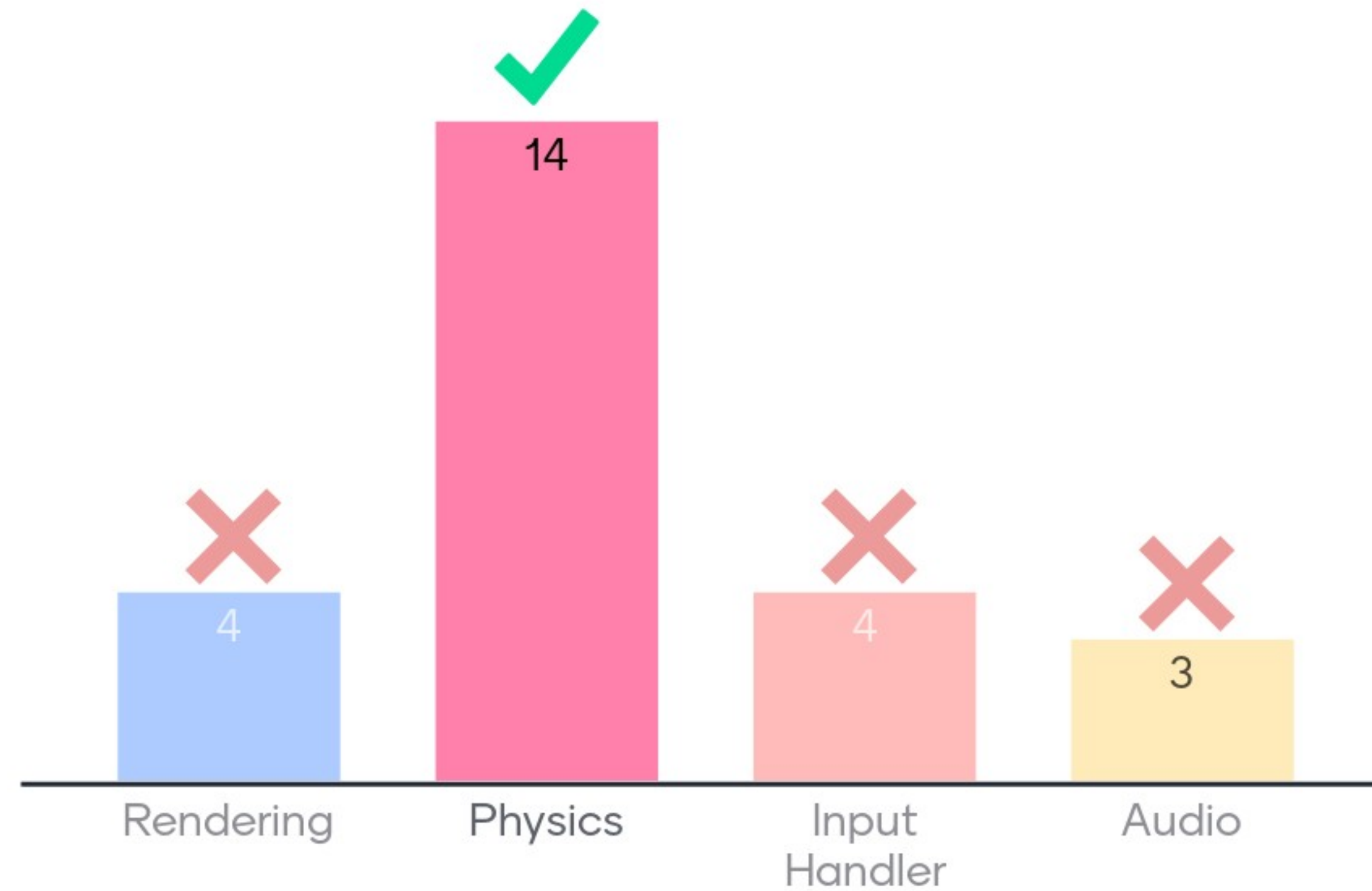
What is a result of reducing the eye relief?



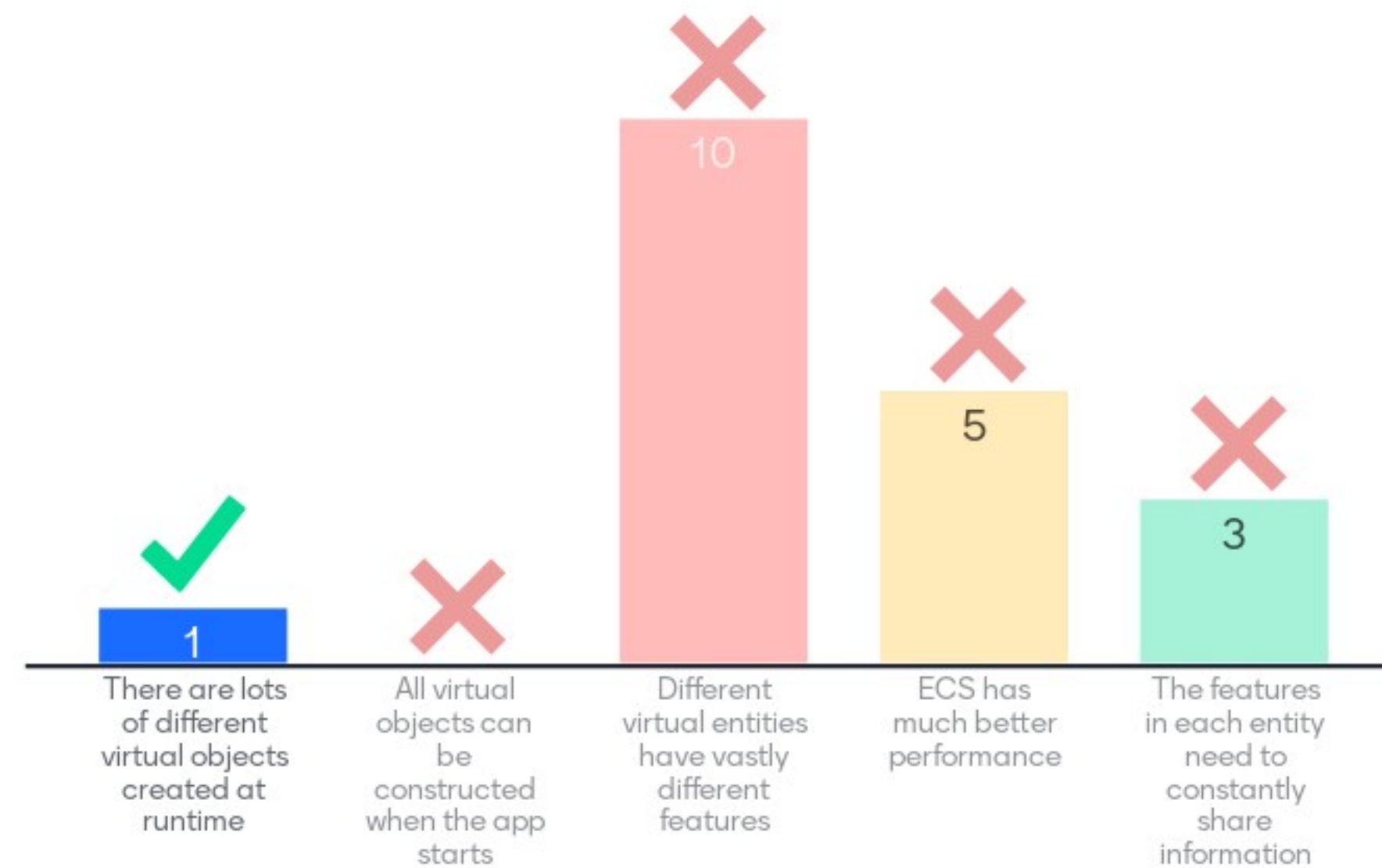
Which object is easier for the user to reach out and grab with his/her hands?



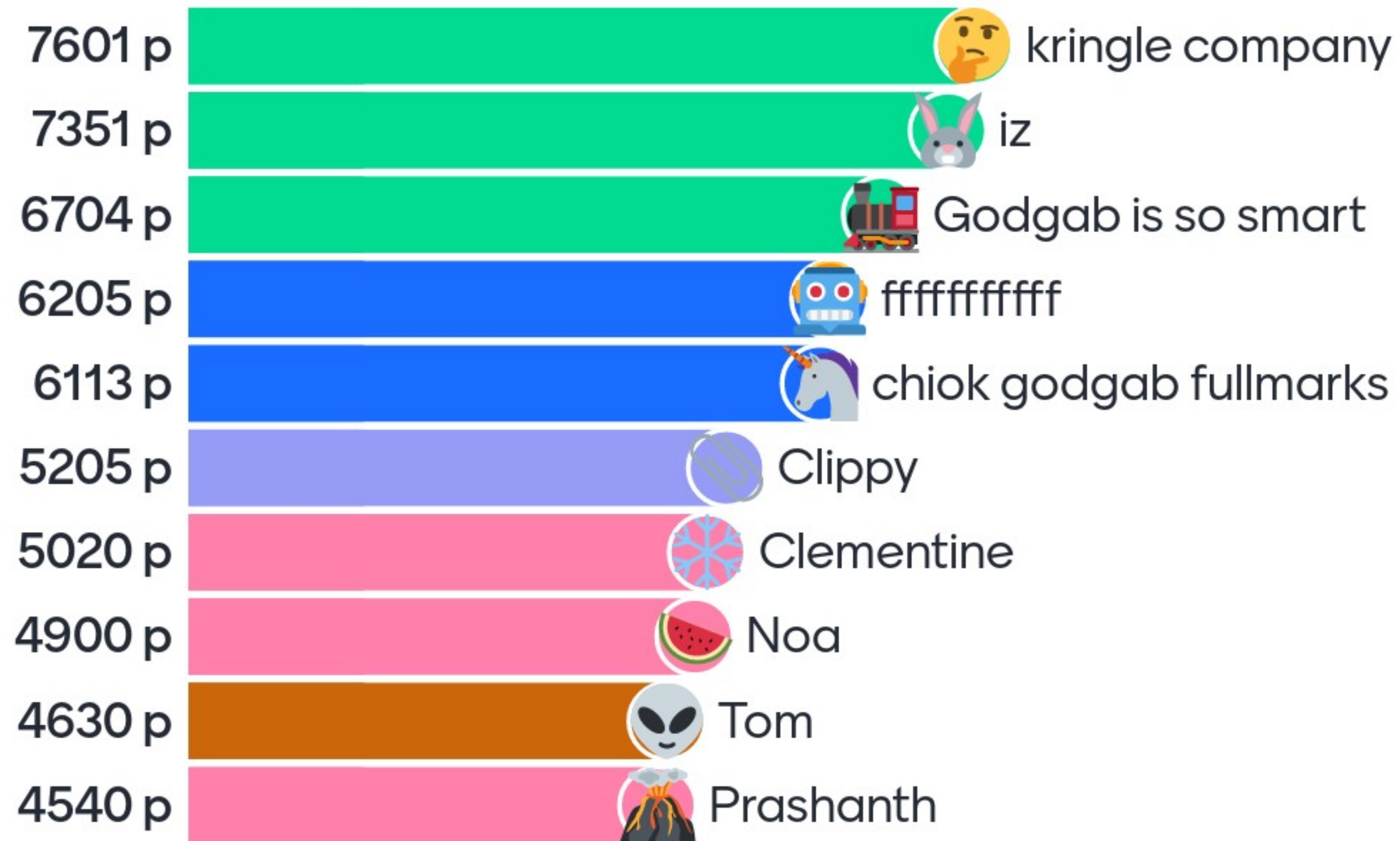
Which software component is the least important in the XR application described?



What is the top reason for using ECS over straightforward OOP in your app architecture.



Leaderboard



Ask me anything

4 questions
4 upvotes



Questions/issues from last week

- 2FA login to GitHub during quiz
- how many questions in quiz?
- is the quiz in a physical lab?
- when will recordings be available?
- webpack vs vite
- IPA in WebXR/babylon.js
- project deadlines and scoring "less strict"?
- livestreams go off-track
- pace of topics
- thanks for all the great comments :)
- quiz assessed on auxiliary links