# Face-tracking based lenticular effect

Weihao Qiu

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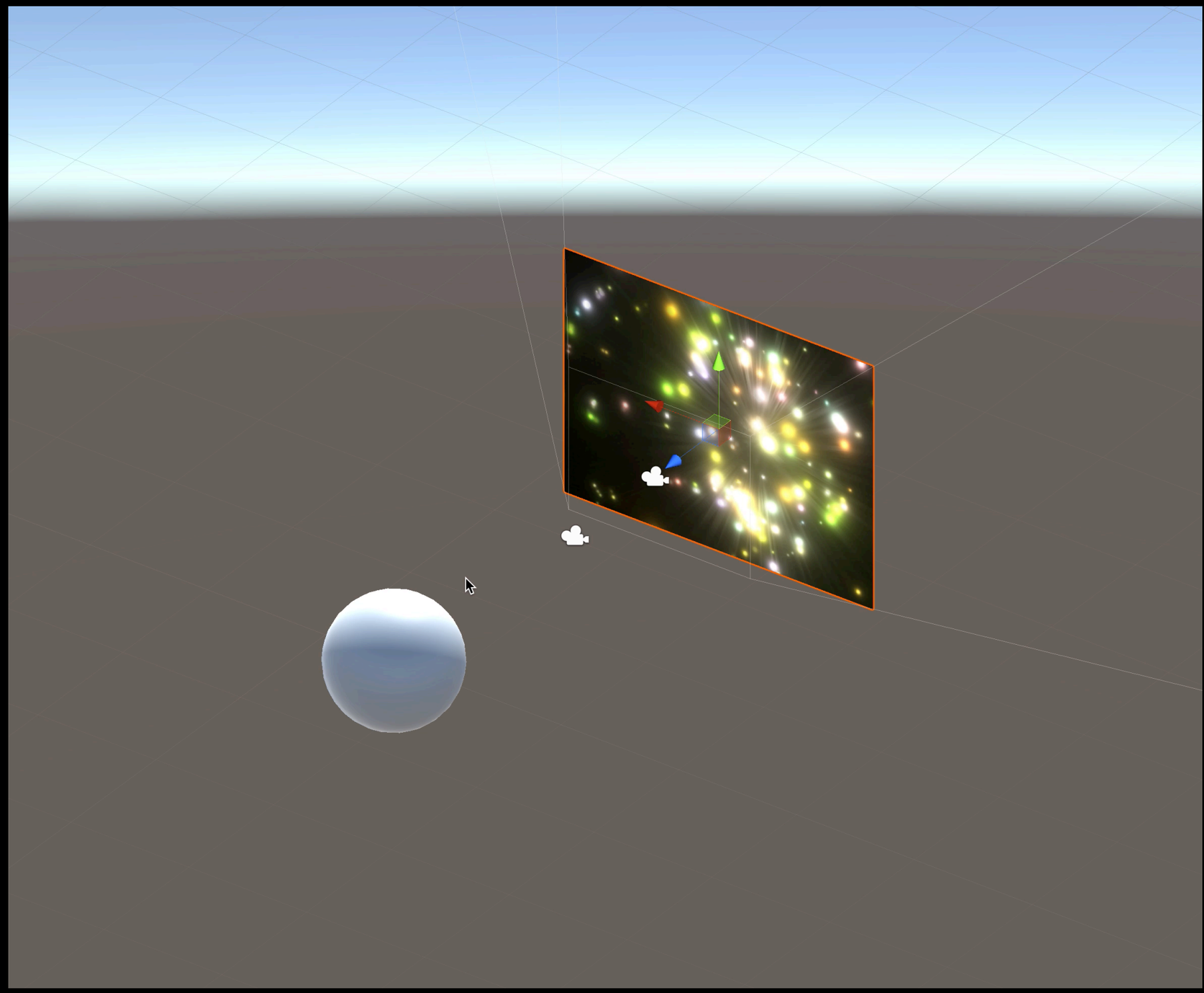
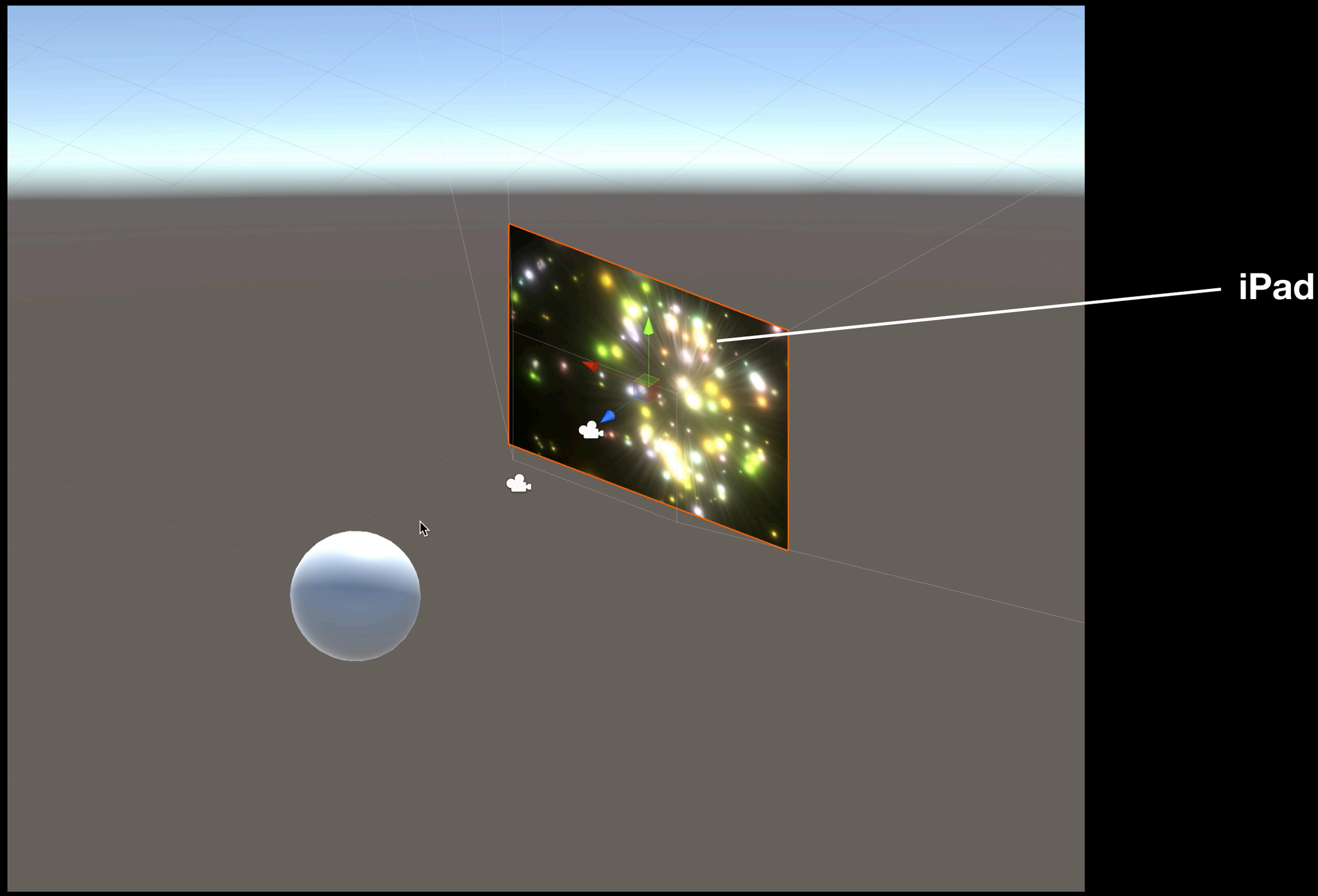
# App Demo

# Development Highlight



# Development Highlight



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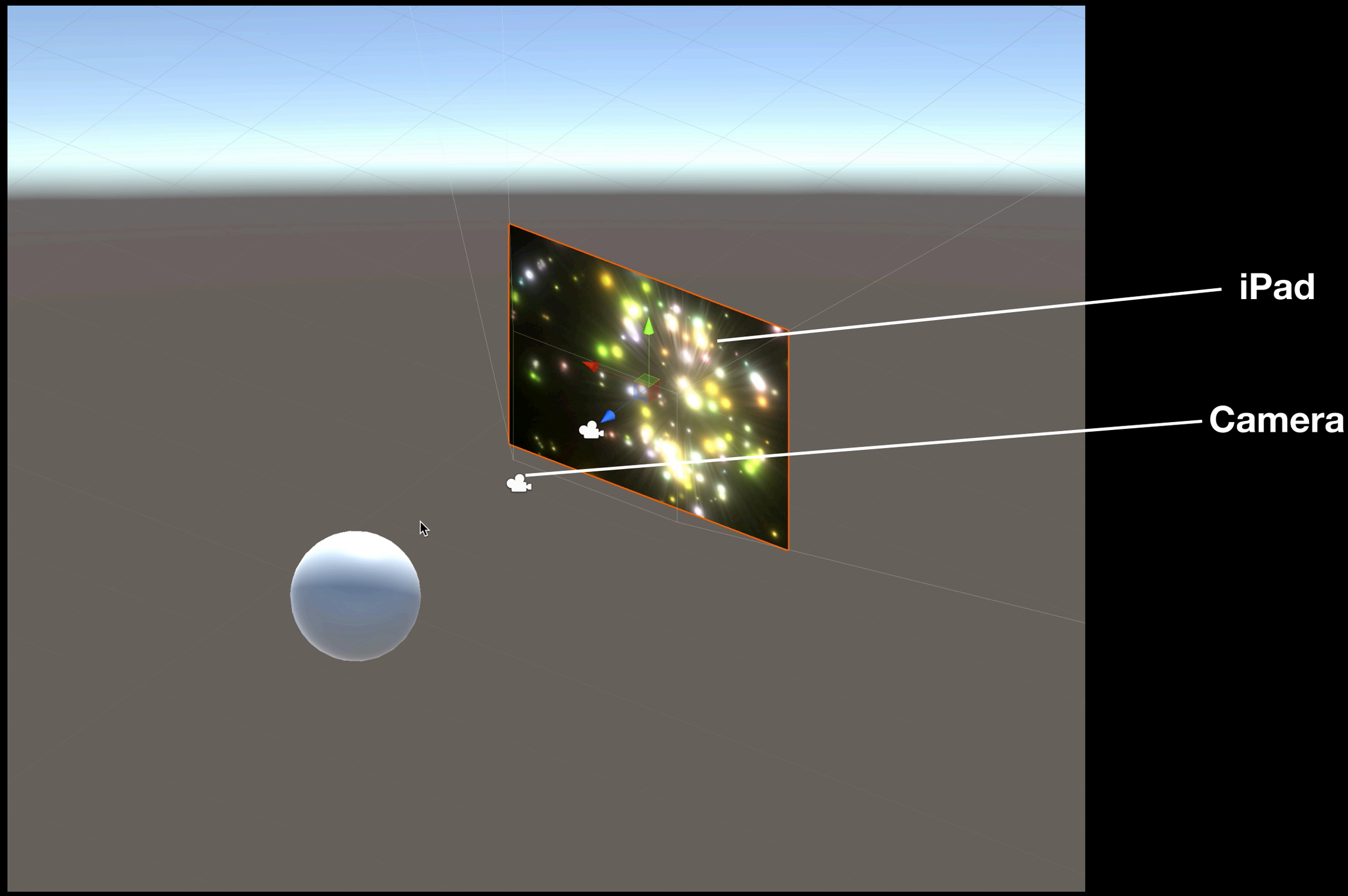

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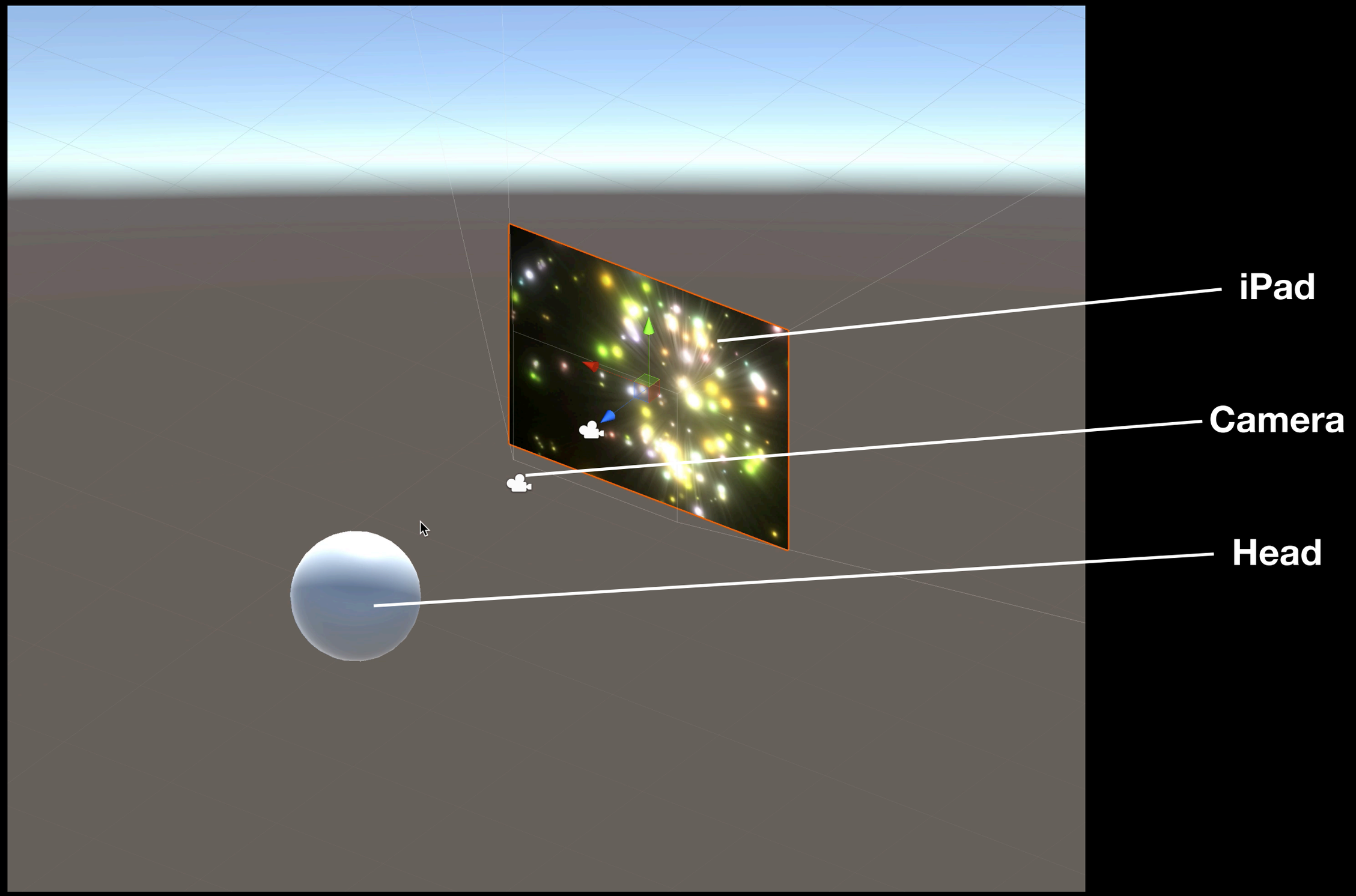

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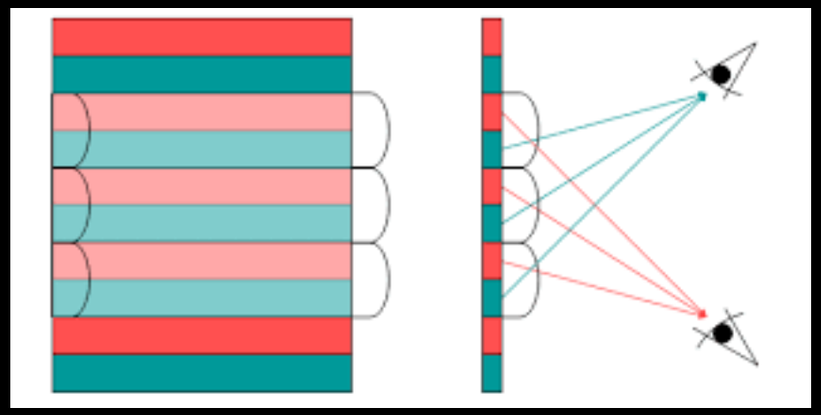
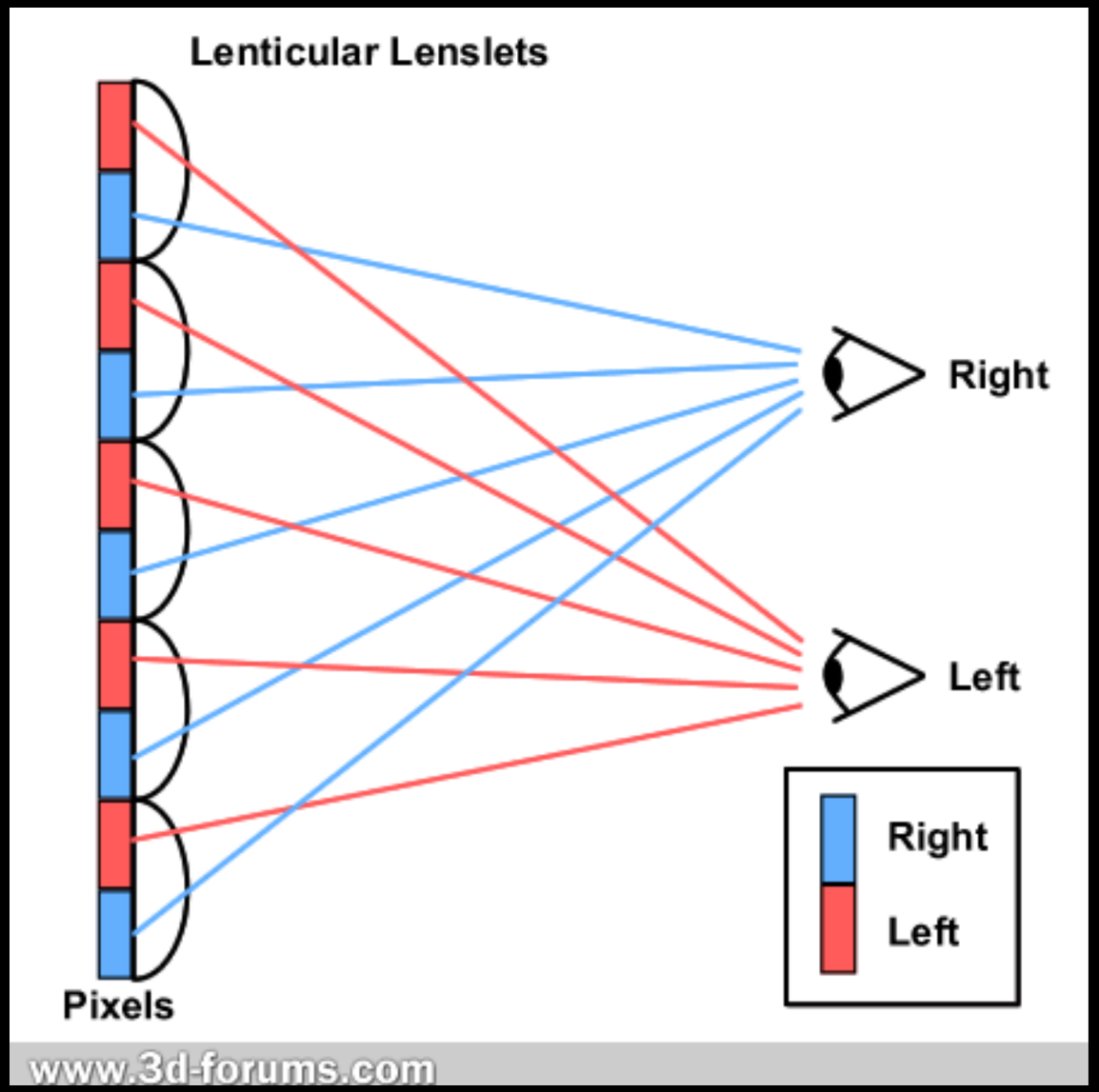


Animation




3D Effect

# Development Highlight


```
float3 viewDir = normalize(_FacePos.xyz - i.worldPos);

float angle =  acos(DotClamped(
    normalize(float3(i.normal.x, 0.0, i.normal.z)),
    normalize(float3(viewDir.x , 0.0, viewDir.z ))
));

float slotAngle = (2 * idx + 1) * radians(VisRange)/textureNum/2.0 - radians(VisRange/2.0);

float angleDiff = abs(angle - slotAngle);

visbility[idx] = 1.0 - angleDiff/radians(VisRange)*textureNum;


fixed4 col =
      tex2D(_PhotoTex1, i.uv.xy) * visbility[0]
    + tex2D(_PhotoTex2, i.uv.xy) * visbility[1]
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    + tex2D(_PhotoTex13, i.uv.xy) * visbility[12]
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;
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# Future Work

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Different Textures

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Different Textures

Glass-free Stereo display

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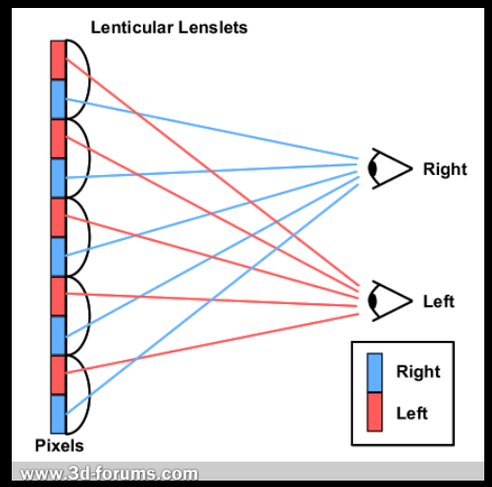
Different Textures

Glass-free Stereo display



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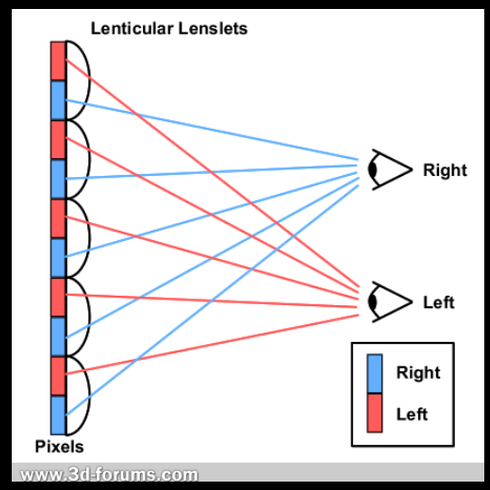
Glass-free Stereo display





2012

# Future Work

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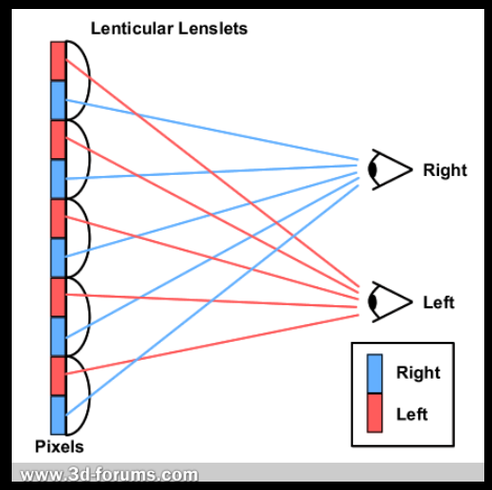
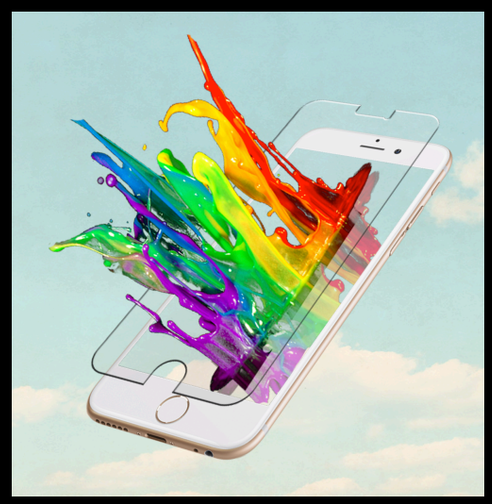




2012



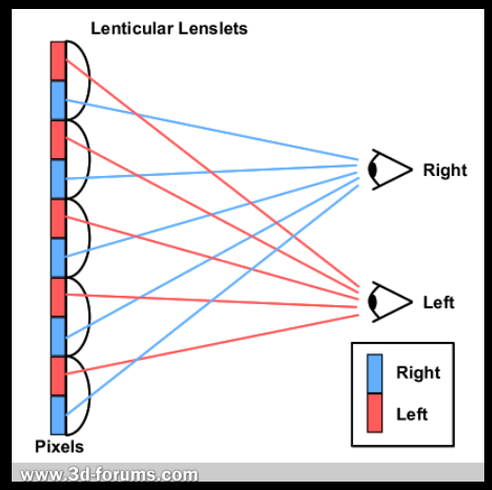
2014

# Future Work

Different Textures

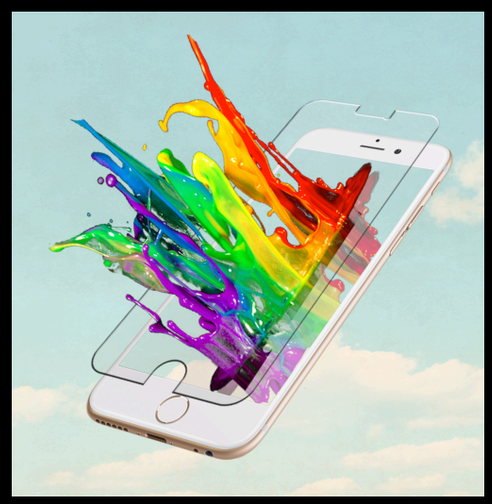
Glass-free Stereo display

Computational display





2012



2014

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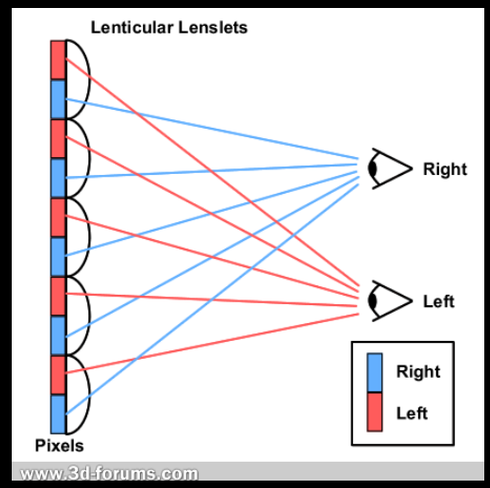


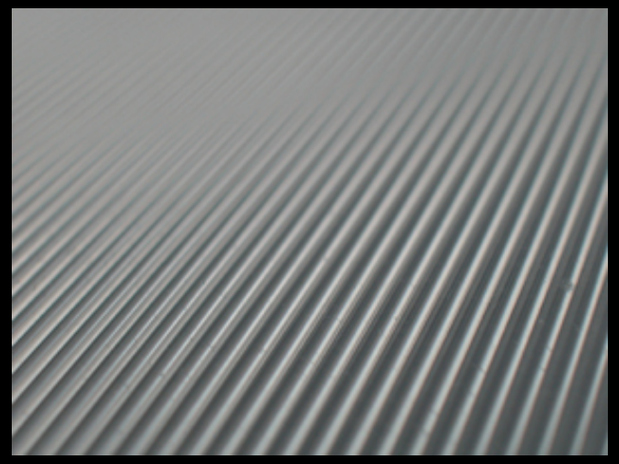

**Lenticular, 2D**


**2012**

**2014**

# Future Work

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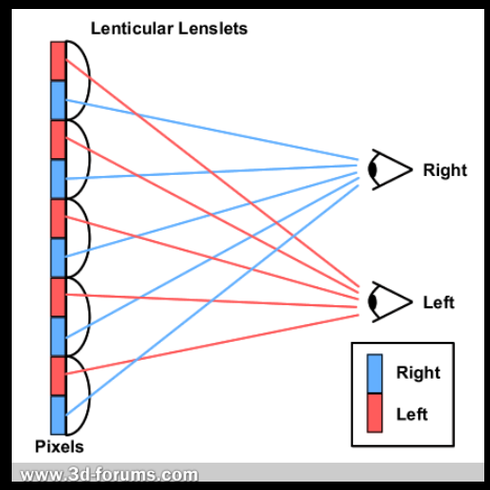


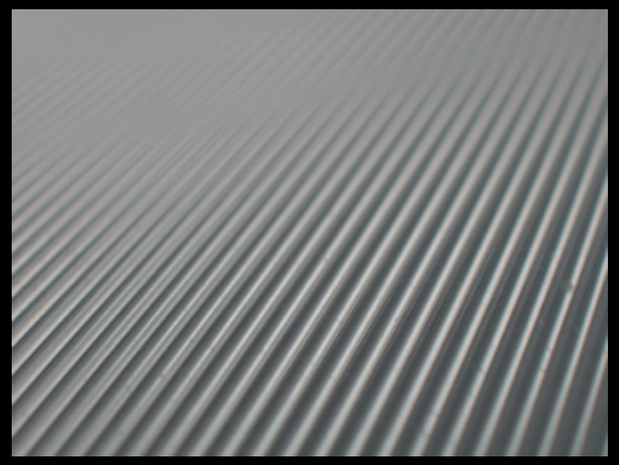

**Lenticular, 2D**


**2012**

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# Future Work

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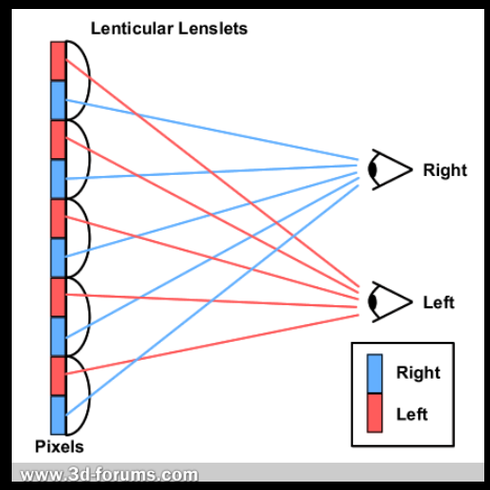
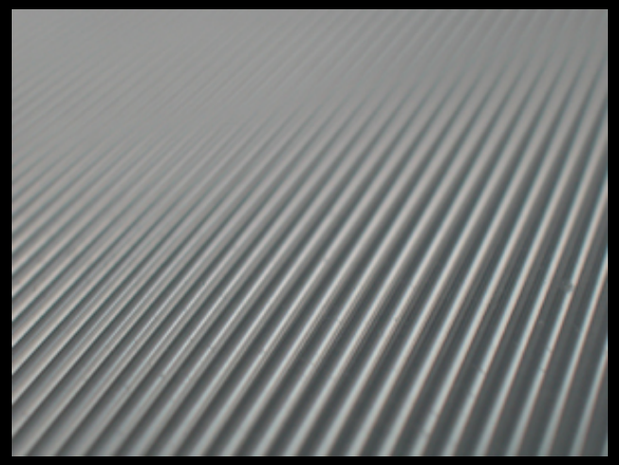




2012

2014



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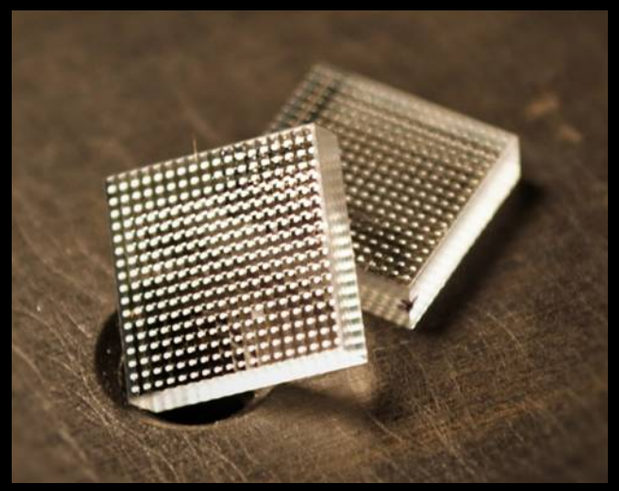

Microlens Array, 3D

# Thank you!

Q&A

## Image Sources:

https://www.apollooptical.com/microlens-arrays/
https://www.eyefly3d.com
https://www.nintendo.com/3ds/features/compare
https://en.wikipedia.org/wiki/Lenticular_lens