Making your artwork look good

Cheap tricks for instant profit

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Lighting for your game

$$Y_0^0(\theta,\varphi) = \frac{1}{2}\sqrt{\frac{1}{\pi}}$$

$$Y_1^{-1}(\theta,\varphi) = \frac{1}{2}\sqrt{\frac{3}{2\pi}}\sin\theta\, e^{-i\varphi}$$

$$Y_1^0(\theta,\varphi) = \frac{1}{2}\sqrt{\frac{3}{\pi}}\cos\theta$$

$$Y_1^1(\theta,\varphi) = \frac{-1}{2}\sqrt{\frac{3}{2\pi}}\sin\theta\, e^{i\varphi}$$

$$Y_2^{-2}(\theta,\varphi) = \frac{1}{4}\sqrt{\frac{15}{2\pi}}\sin^2\theta\, e^{-2i\varphi}$$

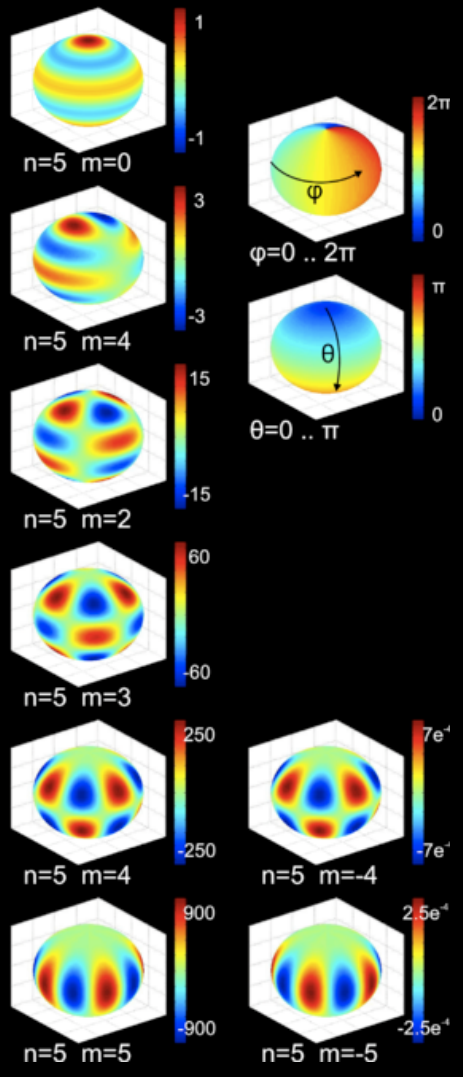
$$Y_2^{-1}(\theta,\varphi) = \frac{1}{2}\sqrt{\frac{15}{2\pi}}\sin\theta\,\cos\theta\, e^{-i\varphi}$$

$$Y_2^0(\theta,\varphi) = \frac{1}{4}\sqrt{\frac{5}{\pi}}(3\cos^2\theta - 1)$$

$$Y_2^1(\theta,\varphi) = \frac{-1}{2}\sqrt{\frac{15}{2\pi}}\sin\theta\,\cos\theta\, e^{i\varphi}$$

$$Y_2^2(\theta,\varphi) = \frac{1}{4}\sqrt{\frac{15}{2\pi}}\sin^2\theta\, e^{2i\varphi}$$

$$Y_3^0(\theta,\varphi) = \frac{1}{4}\sqrt{\frac{7}{\pi}}(5\cos^3\theta - 3\cos\theta)$$



Don’t bother

Simple stuff

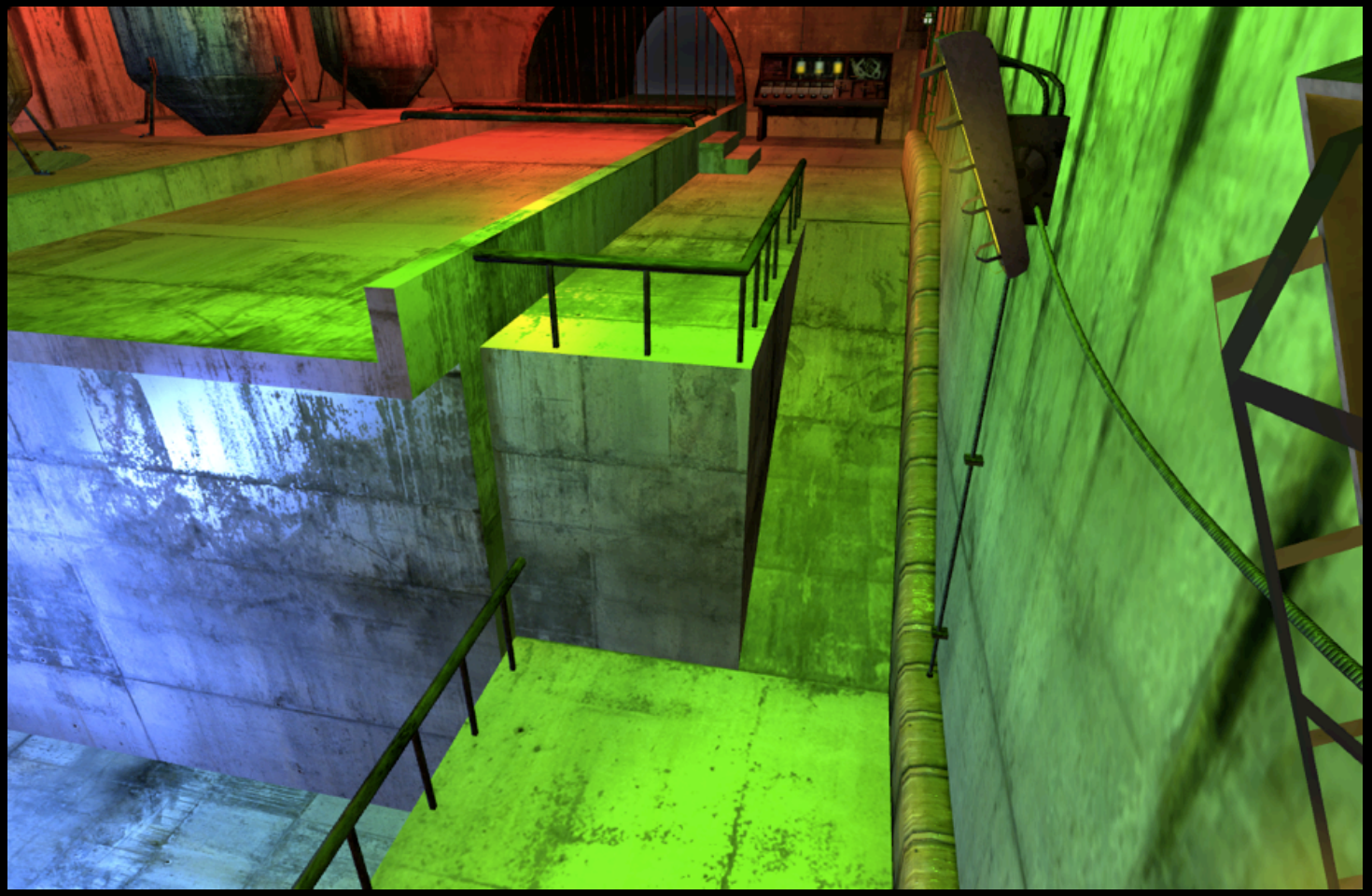
Light

Texture

Color

Lighting

- No saturated colors, mkay?

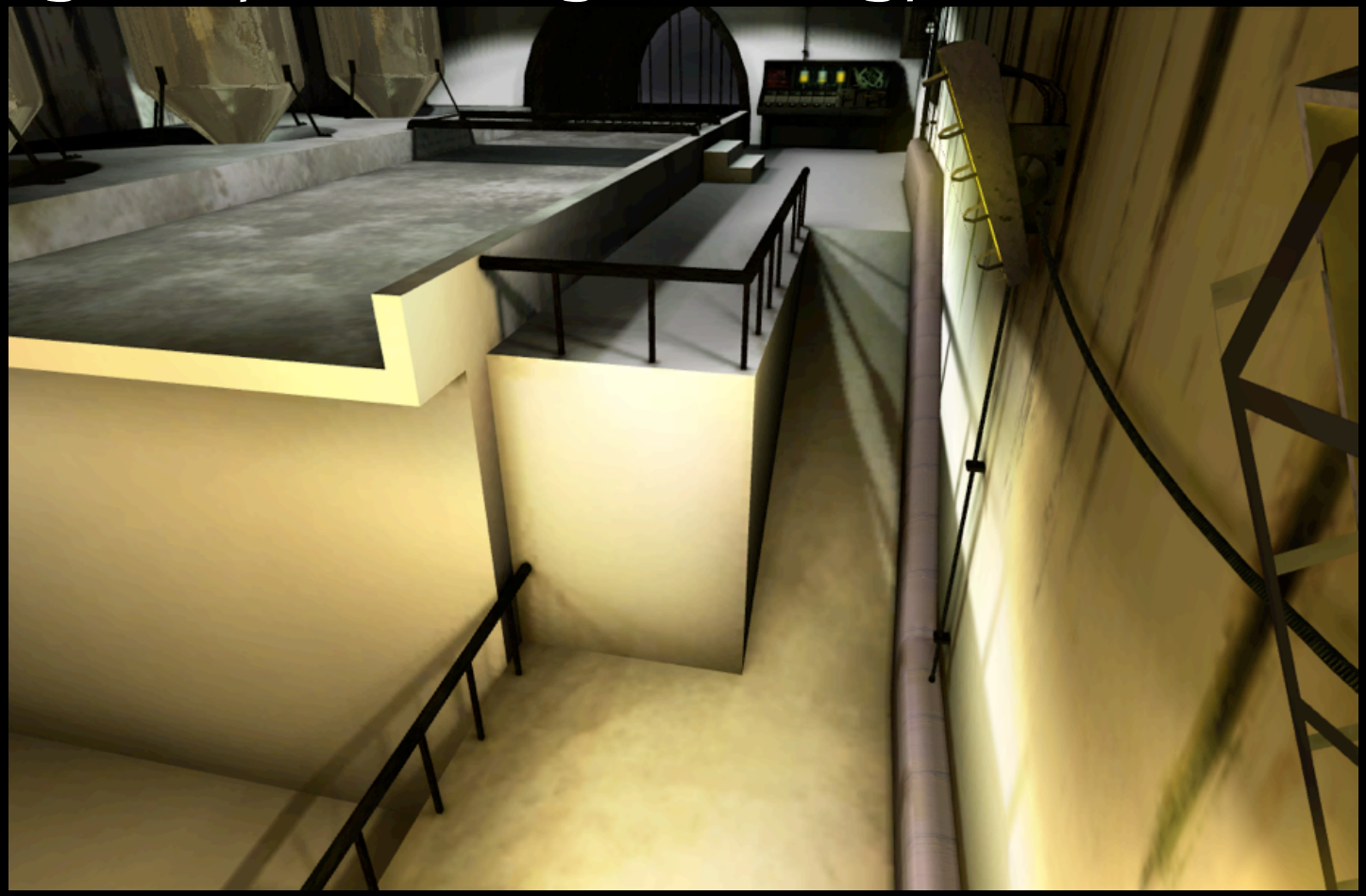


Level lighting

- I wonder what's missing

Level lighting

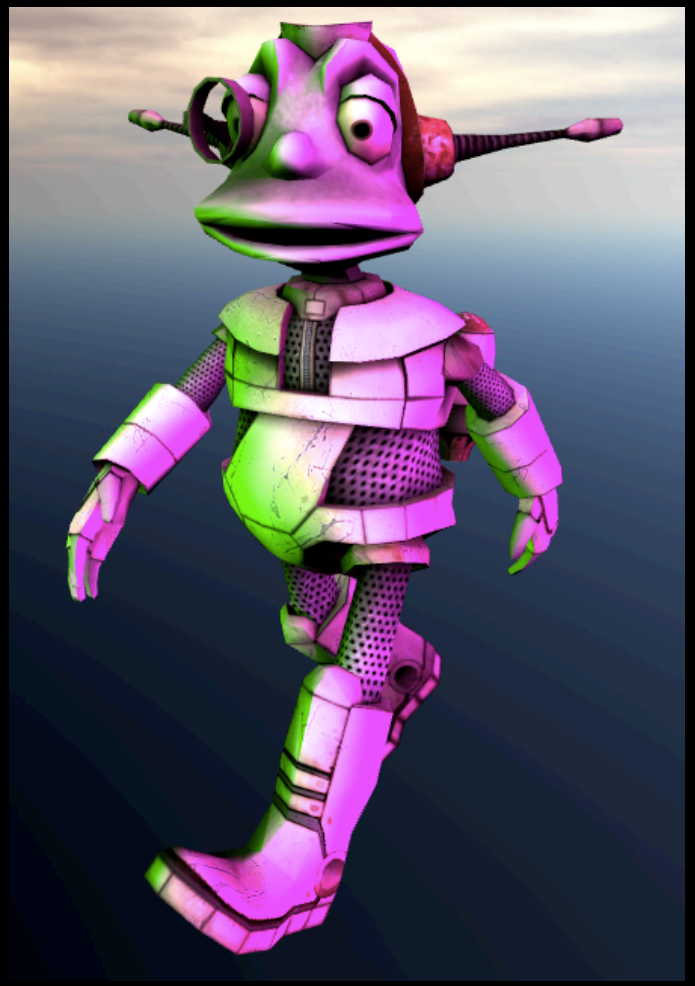
- Lightmaps. Amazing technology since 1996



Level lighting

Character lighting

- Just don't



Character lighting

- Keep it simple

What do you want to say?

Simon says

- Fit character into environment
- Or make it stand out
- Attract the eye
- Define moo(d)

How movie people do it?

- Key light
- Fill light
- Rim light

- ... no random lights, please!

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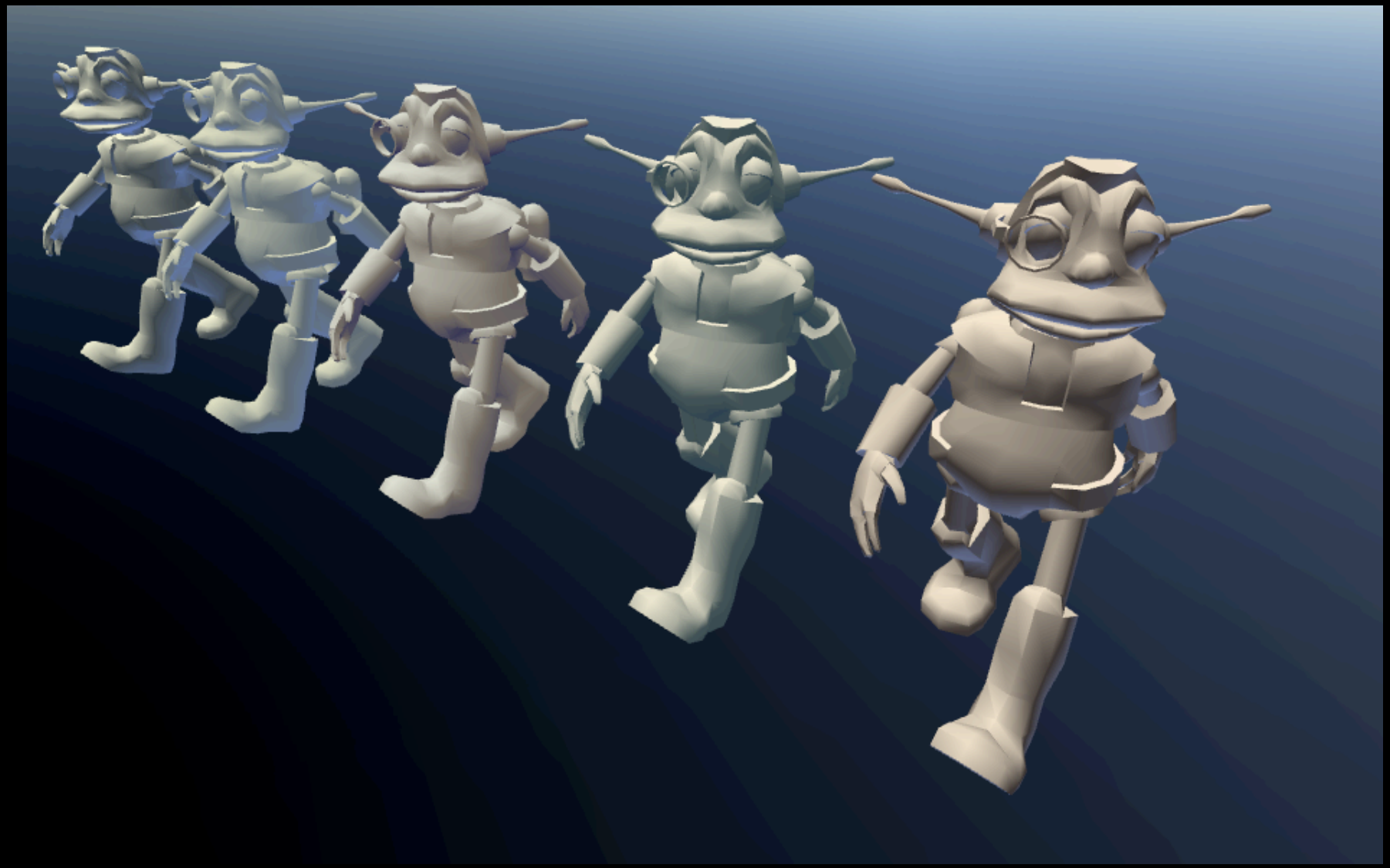
Trilight!



Demo time

Outdoors

- Sun
- Sky
- Sky bouncing off the ground
- Sun bouncing

Indoors

- Jedi one light must use
- Think!

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Rim light

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Bake Ambient Occlusion

Textures

Texture too large

- *Not* too bad for performance
- But your game is larger
- Load time is slower
- Uses more video memory
- Wii, iPhone etc. sensitive to this

Texture too small

- Will see blurred out pixels
- The only downside :)

Texture size

- *What* size should I use?

Texture size

- *What* size should I use?
- What if Unity could show this?

Texture size

- *What* size should I use?
- What if Unity could show this?
- Well... it can!

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Demo time

Colors

Colors

- Washed out

Colors

- Too dark

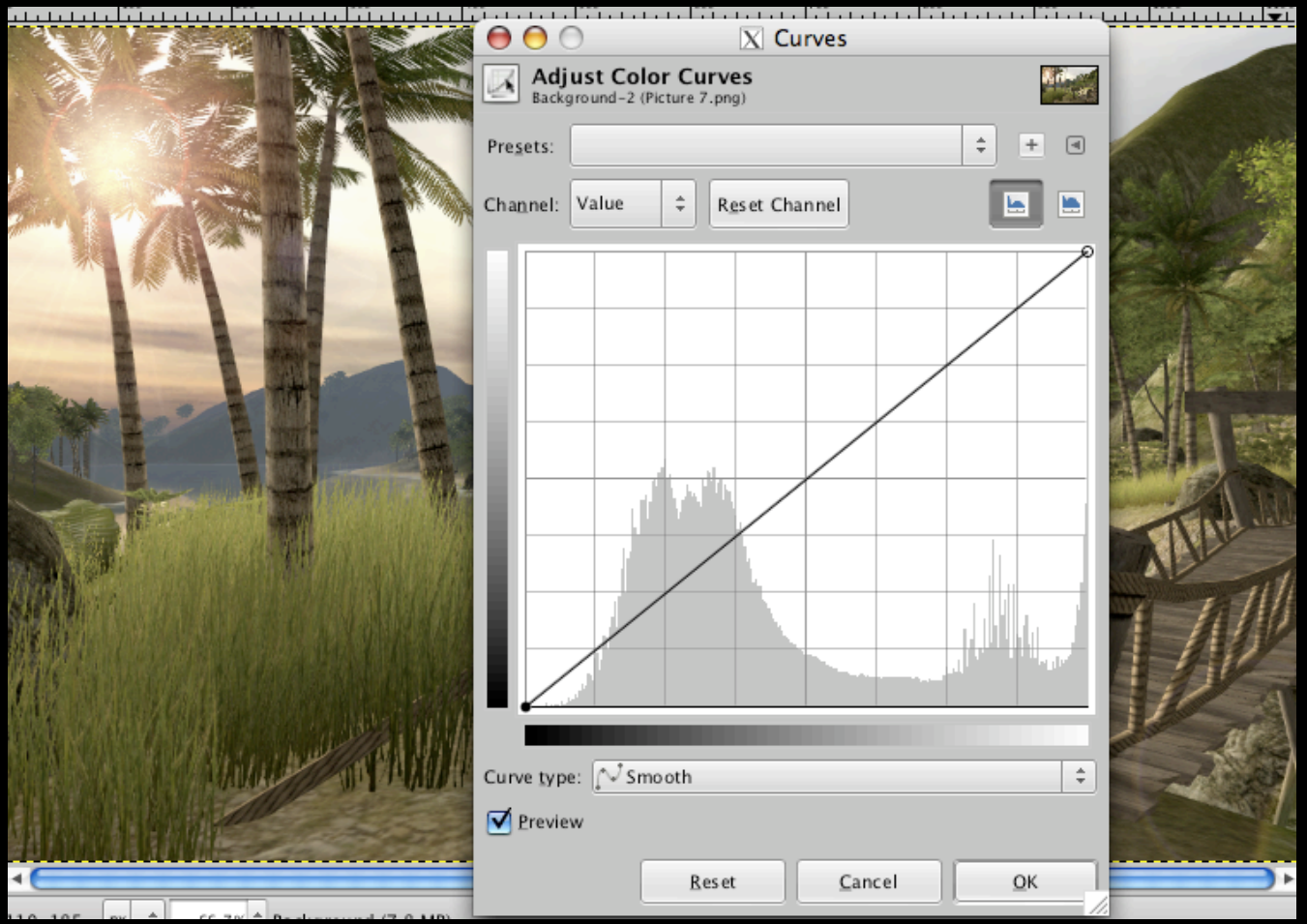
Color histogram

- Take screenshot
- See histogram
- Color correct

Color correction

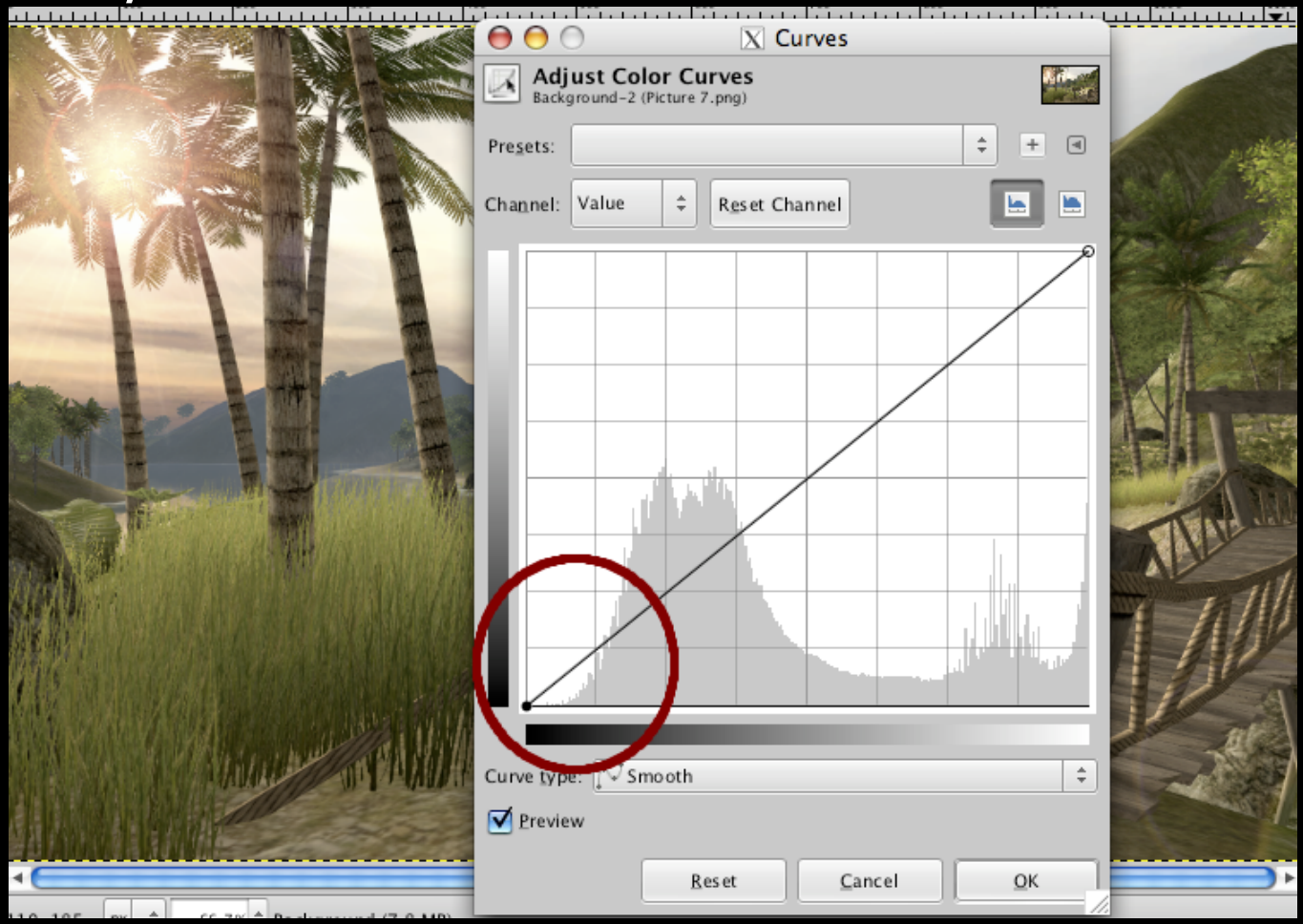
Color histogram

- Histogram



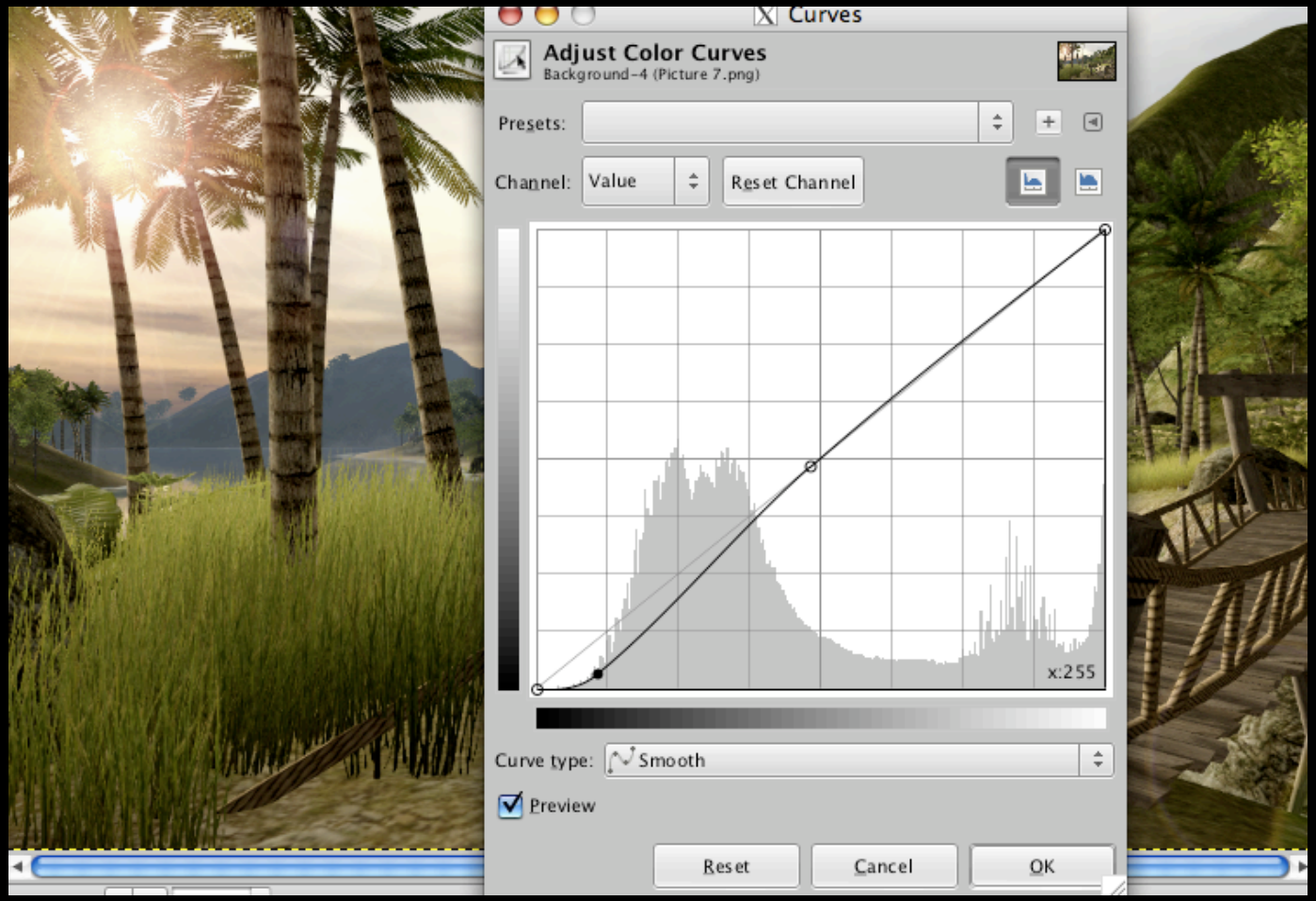
Color histogram

- Clearly lacks in the dark colors



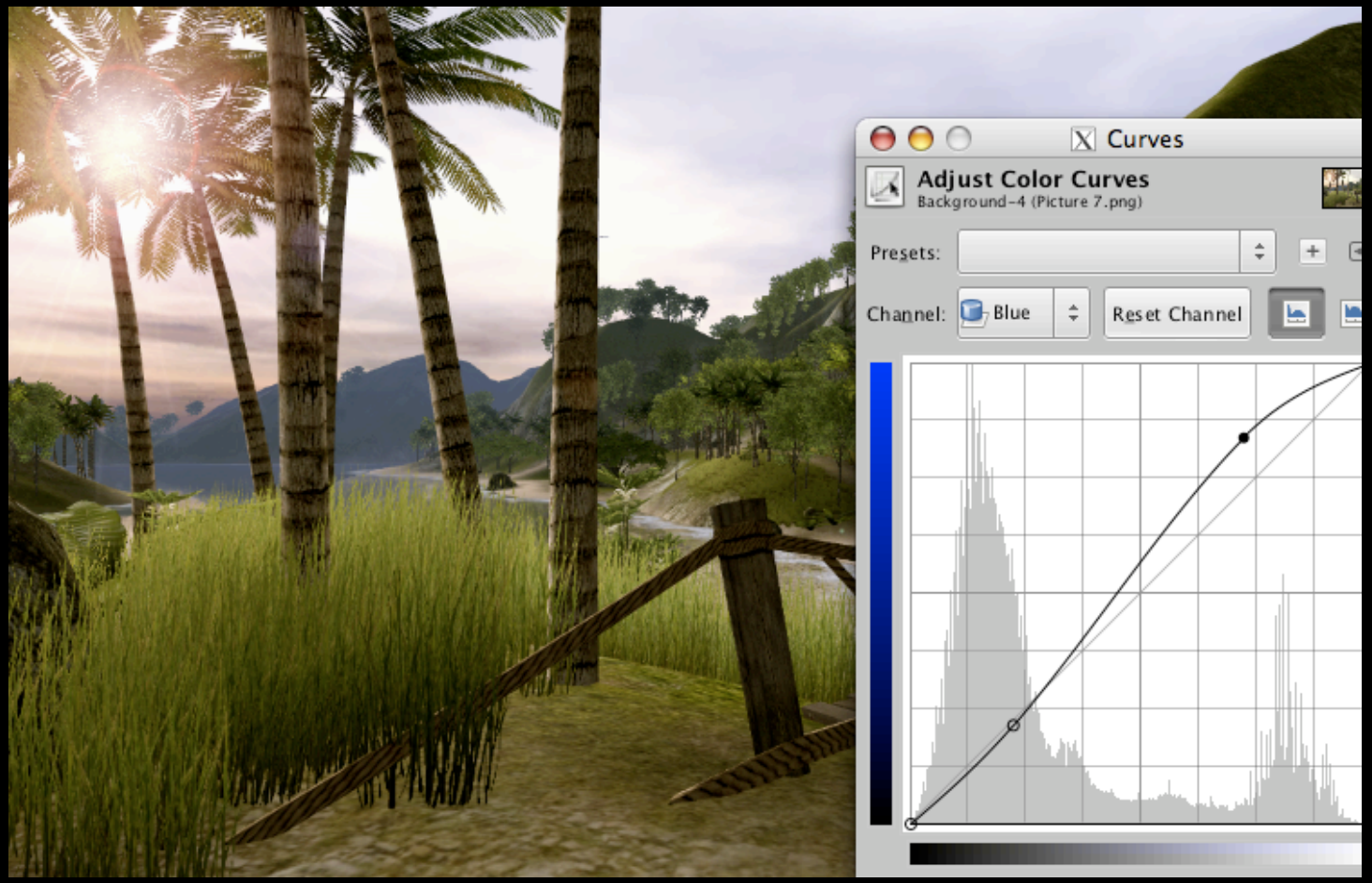
Color histogram

- Adjust to improve contrast



Color histogram

- Can tweak single color channels as well



Color correction

- Apply the same color curves to grayscale ramp
- Color Correction image effect in Unity
- ...
- Profit!

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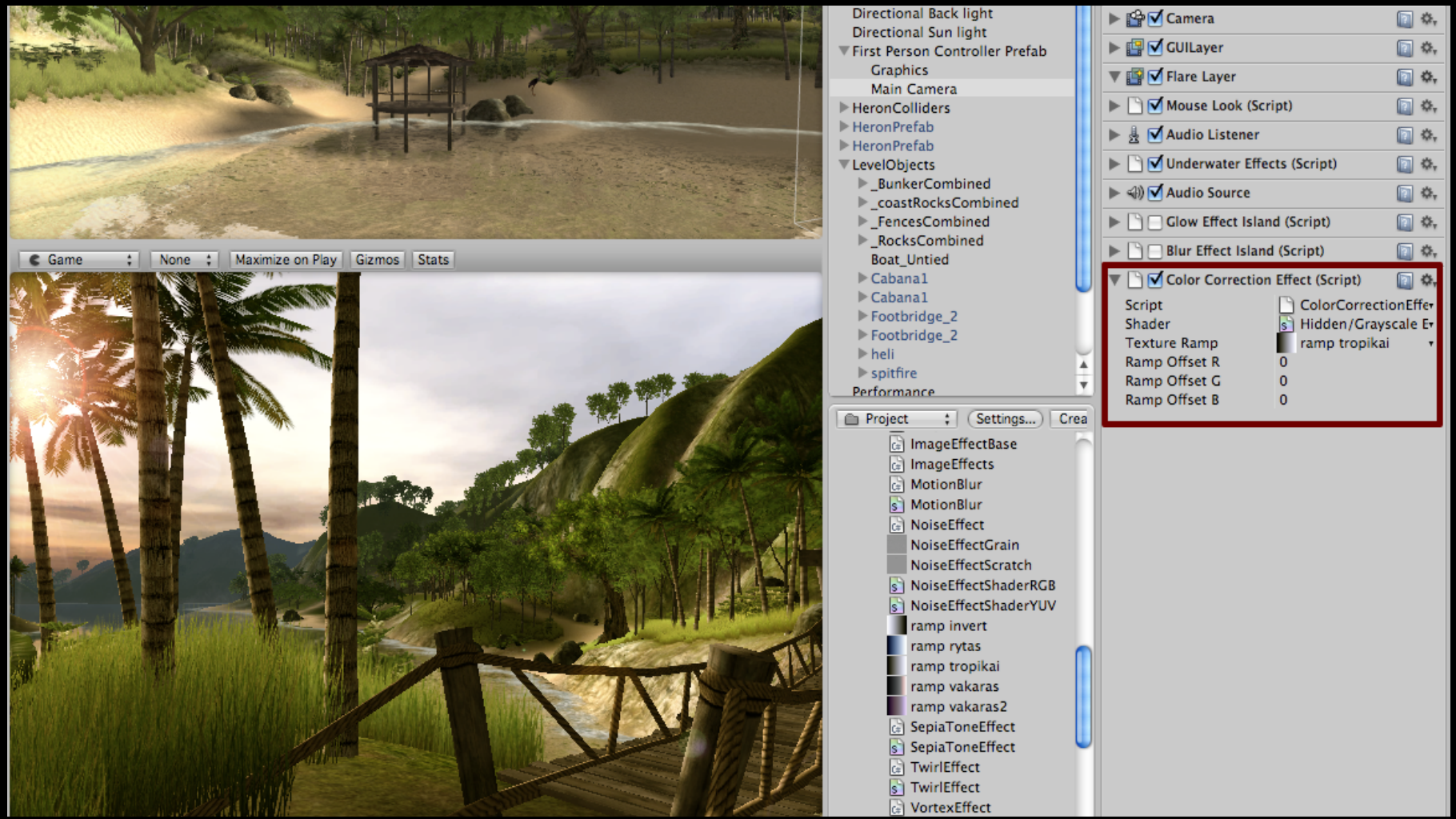
Demo time



Questions?

- Answers!