Join the Discord!

DevLUp FSU GBM #7

Lighting in Unity

26 February, 2026.

Upcoming jams: ours (comedy game jam yippee !!!!!!!!!!)

Our Meeting Schedule:

Date	GBM	GBM Title	Secondary Event	Presenter
9 Jan		(No Meeting)	(Involvement fair?)	
15 Jan	1	Intros, Icebreakers, and Retrospectives		Everyone
21 Jan	2	Unity 201 (what new things?)	In the Co-Lab	Jake
29 Jan	3	2D Art -- Pixel and ...not pixel?	In the Pitch Room ↓	Calvin & Ares
5 Feb	4	2D Animation -- Frames and Tweening	(May have to move)	Calvin & Ares
12 Feb	5	Making Music for Non-Musicians		Marsh
19 Feb	6	Blender 201 -- Tidbits		Hailie
26 Feb	7	Unity 202 -- Lighting		Jake & Marsh
5 Mar	8	Prototyping Levels		Marsh
12 Mar	9	1 HOUR LEVEL DESIGN JAM		David
19 Mar		Spring Break		🐦
26 Mar	10	Sound Design and the Art of Foley	(May have to move)	Yusong
2 Apr	11	Unity 203 -- A*, Agents and Navmesh		Jake & Marsh
9 Apr	12	Online Portfolios (HTML Basics) -WICS collab		Hailie
16 Apr	13	Writing For Games	(May have to move)	Screenwriting Club
23 Apr	14	Year's Out Celebration!		Everyone

DEVLUP @ FSU X UF X FIT X USF X UCF

Make the funniest game in Florida.

Florida Comedy Game Jam

For programmers, artists, designers, musicians, and all sorts of comedians.

February 27th 6:00 PM - March 1st 6:00PM
at the Garnet Gaming Lounge

GARNET GAMING LOUNGE
HOME OF FSU ESPORTS

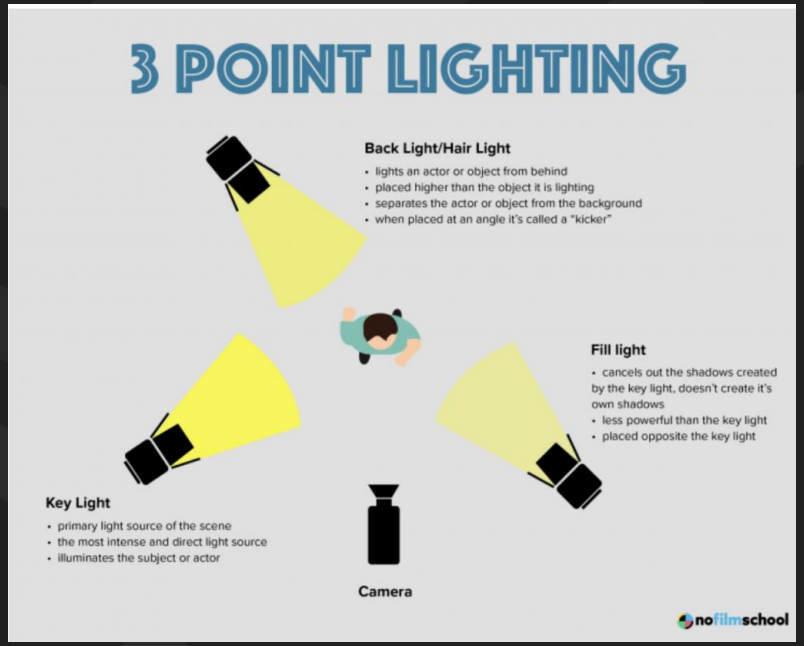
Join the Discord for news & updates


#showoff

3 Point Lighting

The **key light (B)** is your primary light source that lights most of the object, the **fill light (C)** helps brighten up the dark parts so we can read the surface better, and the **back light (D**) is more like a rim light to accent the back edge of the silhouette and distinguish it from the background.

Credit: https://www.blog.radiator.debacle.us/2015/05/lighting-theory-for-3d-games-part-3.html



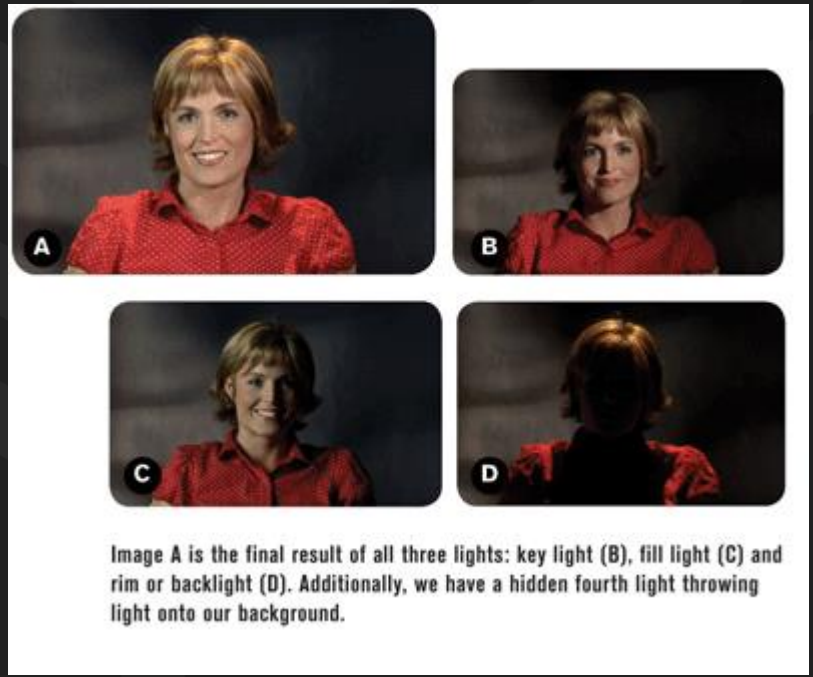
3 Point Lighting

- Standard for film, images, and videography
- Good if you want something to feel high production, standard, or focused on
- Not as good if you want something moody, scary, or specific
- Can have limitations in navigable 3D spaces

Image A is the final result of all three lights: key light (B), fill light (C) and rim or backlight (D). Additionally, we have a hidden fourth light throwing light onto our background.

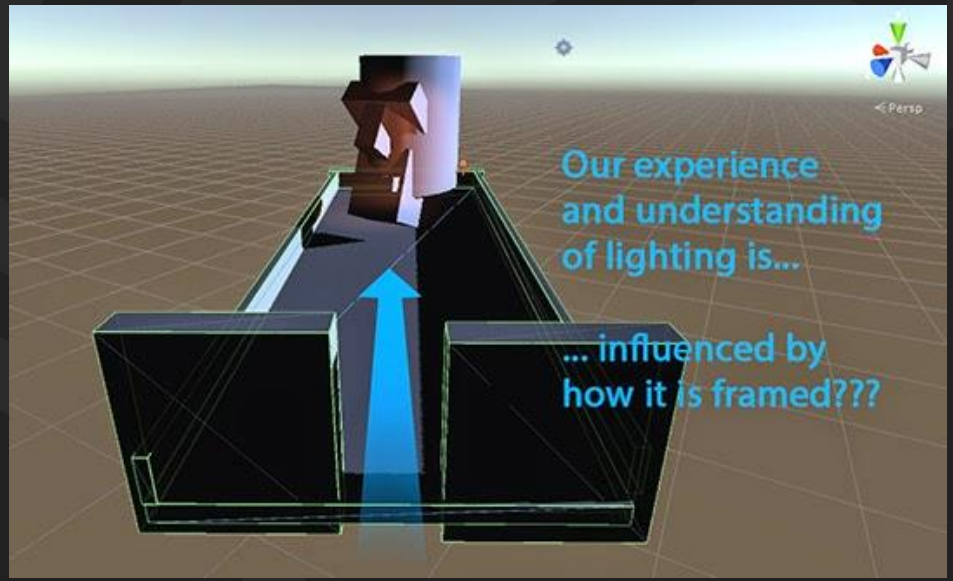
3 Point Lighting

- Can look really good from the correct angle, but if the player walks behind the object, suddenly the backlight becomes the key light and everything is thrown off
- key / fill / back lights are relative to the viewer's perspective, but many 3D games involve a freely moving and rotating camera perspective.



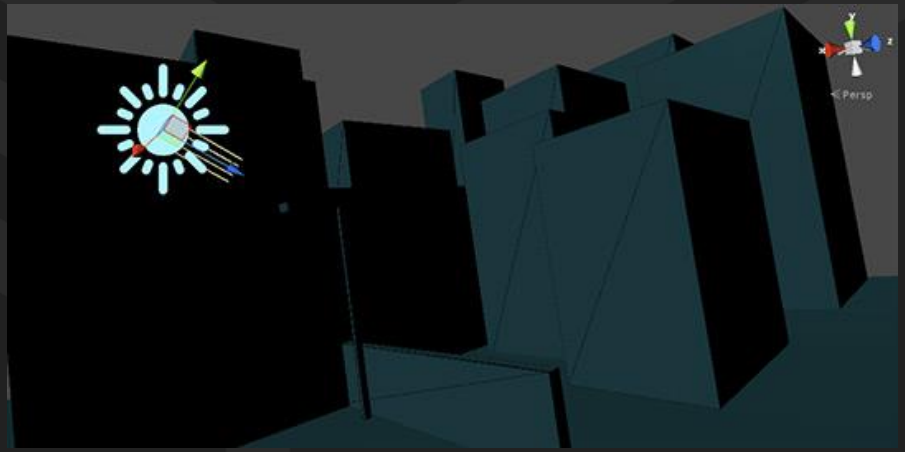
3 Point Lighting

- To use 3 point lighting effectively in games we must think about how we can control or influence the players perspective
- This can be done by composing your scene in such a way that the player will be seeing the subject from the intended viewing angle, at least most of the time



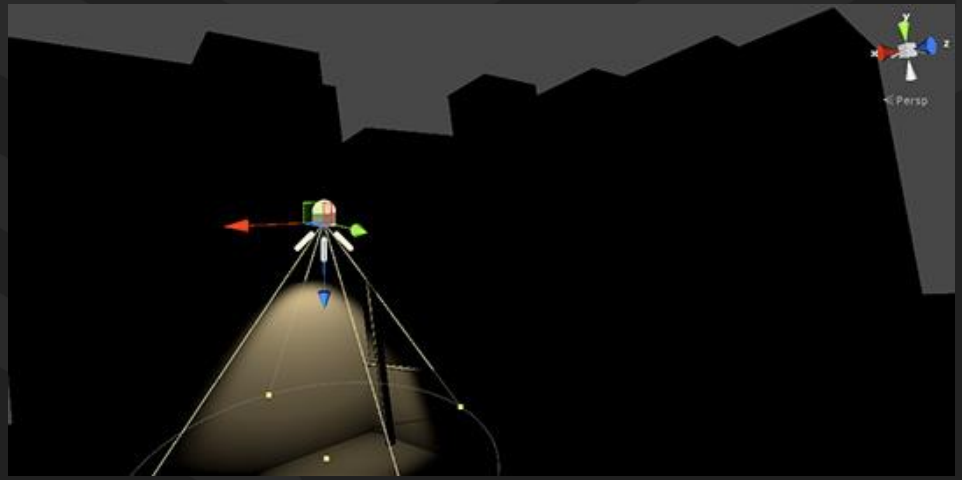
Directional Lights

- Directional lights are like sunlight. Light comes into your scene equally on everything from a certain angle
- Thinking of three point lighting, your directional light can be like your keylight for your environment



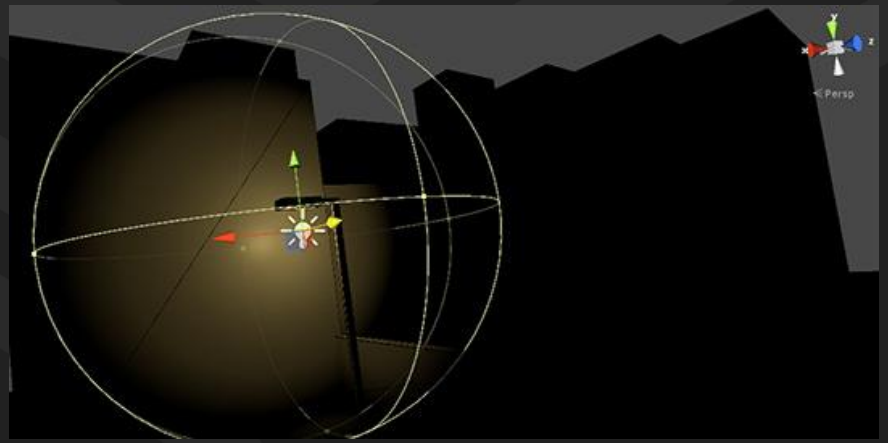
Spot Light

- Spot lights project in a cone shape outward.
- They would be used for any environment that includes street lights or indoor recessed lighting. Basically, they take highlights away from the ceiling and point them towards the ground instead.



Point Light

- Point light is a ball of light that projects in all directions
- Think of a candle, table lamp, or chandelier
- They specifically draw attention to the light source itself



Recap

3D LIGHT TYPES:	Global, affects everything	Local, affects nearby things
Shines in one direction	**Directional light**	**Spotlight**
Shines in all directions	**Ambient light**	**Point light**

Possible Workflow:

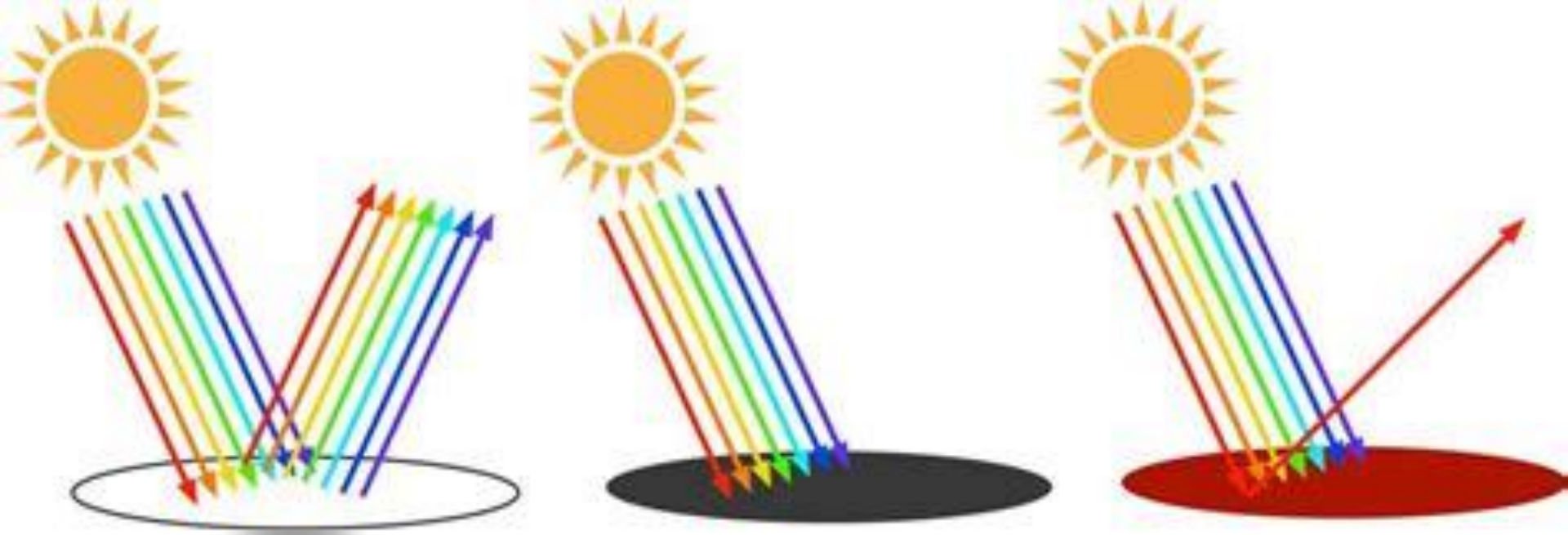
1. Choose **environment** (indoor/outdoor), **time of day** (morning/evening/noon), and **mood** (uplifting/suspense/dismal)
2. Place **ambient** light. Can tint this as a color to match the mood and setting, and place at a relatively low intensity.
3. Place **directional** lights. This will be your sun or moon- you main light source. Consider tinting this as well.
4. Place environmental lights using **spot** lights and **point** lights. These are lights that are visible to the player (lamps/candles)

pools of light

1162

COLOR THEORY

REFRACTION



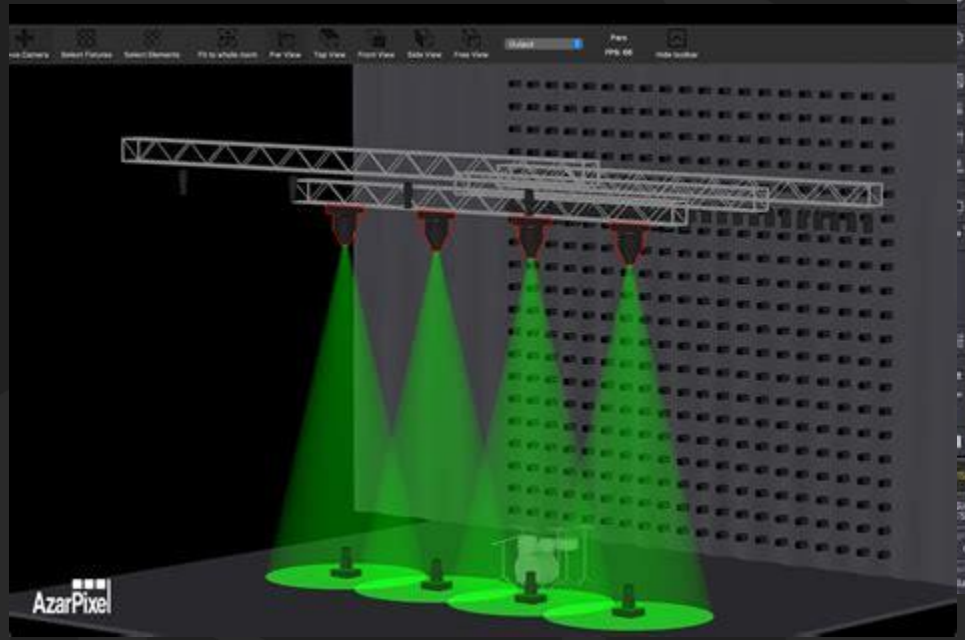

OAS

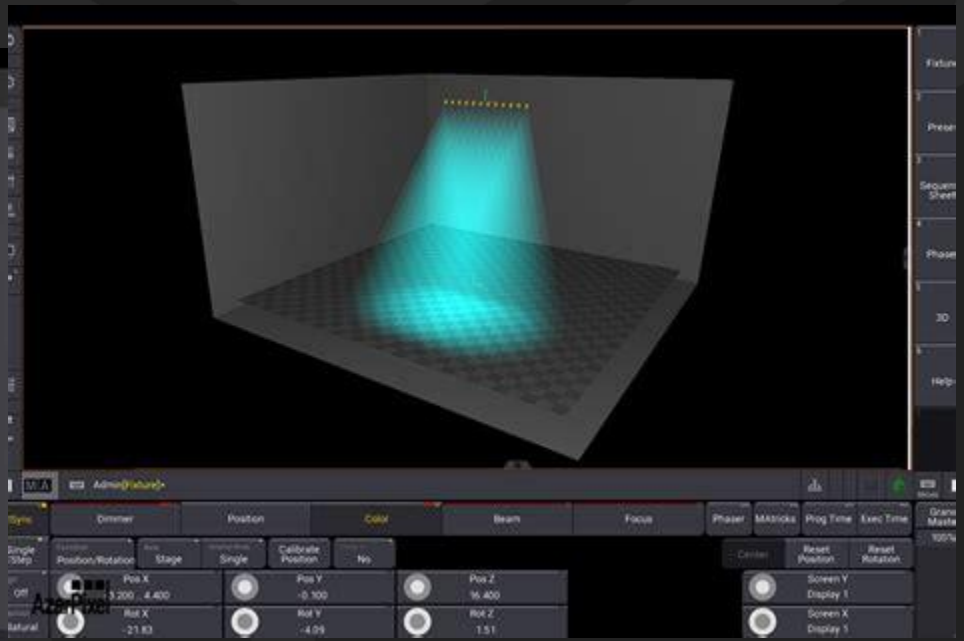
Warm White
2700K-3300K
Ideal for Homes

Daylight White
4200K-4500K
Ideal for Kitchen & Workspaces

Cool White
5500K-7000K
Ideal for Display Areas & Task Lighting

Motivated/unmotivated lighting





Fog!

¡Change!

- Fade in/fade out (intensity)
- Changing color (...color)
- Changing position (transform)

All of these functionalities can be programmed in, like, 4 to 5 lines of code

Prompts:
Hovering over an object
Highlight moving object in spotlight
Indicate change in mood

Using references for lights

(analyze light sources)

(try your computer in grayscale)

filmgrab.com - https://film-grab.com/2024/02/20/dick-tracy/

pureref

Scarrrrrry lights

Dramatic lights

Funky lights