

How to create good Screenshots

Why do other games look realistic?

The maps are designed in a way that forces you to look at the spots that actually look good. All objects are positioned carefully so they cast nice shadows, have clearly visible reflections, etc... This way you can't miss the good graphics. The entire map/scene is designed to look good.

In **Minecraft**, none of these things are done for you. You need to design your own scenes - which is awesome! The new Path/Raytraced Shaders add so many amazing new features but most people will not get to see them. Don't take screenshots of landscapes, clouds or sunsets. This is old stuff. These "PTGI Rendering" textures are all about showing how amazing Path-Traced Shaders like PTGI can be!

Does Real-Life always look realistic? Mostly yes. But does it look good all the time? Certainly not.

A photographer picks the best spots and tries to set up the perfect lighting, camera angle, etc. - Even with the most expensive camera setup, your photos would still look terrible if you don't know what you are doing.

We need to become "Minecraft Architects" and "Minecraft Photographers" to create good looking builds and take awesome screenshots! This Guide applies to any visual art: Photography/film, Drawing, 3D Rendering/Modeling, Graphic Design, Architecture, and so much more.

Screenshot Breakdown

Here are two builds/scenes from the videos. We have to apply a completely new way of building in Minecraft. It is very similar to creating images in 3D Rendering Software. But we don't need to create 3D Models or wait for images to render. We just need to place blocks and we can walk around in our environments while we design them. Super simple and fun. But not everyone likes doing that and that's fine.



Both of these scenes use the same basic lighting concept. These screenshots are from R16 and R15. (Check out the map!)

Building:

Extremely simple and small. Don't build huge castles or cities. Every block should be placed for a reason.

Start with the simplest scene you can think of. Just build a tiny box and then slowly expand it - Only add things that look good.

If you over-do something it will ruin/break the realism. If something doesn't look realistic - remove it. Less is better. Place a few blocks - pause and see if it looks better - build - pause again....

Also: Use a fixed sun-angle! `"/gamerule doDaylightCycle false"`

Lighting:

Both of the screenshots have the exact same lighting setup: A bright, white light-source in the center of the image.

But what is this lightsource? It's not from a lamp and it's not direct sun-light. It's indirect sun-light.

At the end of the hallway, outside there is a wall made from white_concrete. It is illuminated by the sun directly.

The sunlight bounces off the wall and illuminates the hallway. **The wall becomes a lightsource.**

It is very large which means it gives off very soft light which also casts soft and complex shadows.

This is called Global-Illumination and only Ray/Path-Traced Shaders can do that properly.

Make use of the complex light-behavior in PTGI. Let light bounce off walls into darker rooms and then let this indirect light cast shadows!

Reflections:

After creating this light-source, a few objects were placed in the hallway - for two extremely important reasons: Soft Shadows and Reflections. In both screenshots there is one single block in the hallway. It casts beautiful soft shadows. The light-source is also creating reflections on the walls, the ceiling and the floor. This is why building such hallways is awesome. Reflections everywhere!

Use different materials for different types of reflection: There is matte concrete. There is rough concrete. There is polished concrete. There are metallic surfaces. There are dirty surfaces, clean ones, bumpy ones, smooth ones,... beveled or flat.... A lot for you to choose from! These "PTGI Rendering" textures need to be used in a very specific way. Combine different materials that reflect light in different ways! For example: In the first screenshot, the walls are rough/matte. The white doors are a bit more smooth. In the second screenshot, the concrete floor is very rough/dirty while the metal plates are shiny, smooth and metallic. The ladder is reflecting light. The ventilation-ducts are reflecting light.... Everything is reflecting light.... but in a slightly different way.

Build towards a light-source! Show Reflections! Place different types of materials! Place them where you can actually see reflections!

Taking good Screenshots:

Let's say you built a nice scene and you want to share it. You take a few screenshots... but they don't look as good as in-game. Why is that? You need a few basic photography skills. You can take good photos of almost anything - by finding interesting camera angles. Look at the two Screenshots below. Exact same map, same scene, same shader, same settings, etc.... but why does the one on the left look better? Everything is identical except for one thing: The "Camera". (Camera Angle, Camera Position, Field of View, etc...)

Even a simple white boring room can look interesting.



Exact same scene - but different camera angle/position/FOV

How to find a good Camera Angle/Position?

First of all: Set your Field of View (FOV) to something like 50. Lower FOV values look a lot more "professional" or "cinematic". There aren't really any strict "rules" because most of it comes down to "feeling it". Don't make it too complex or it takes away the fun. This means that you don't need to know exactly why it looks better. Just take a few screenshots from different angles. Change the FOV, move around, just take a lot of screenshots from different angles/positions. Then look at the screenshots folder and simply compare them. Try to look at them from a distance. Maybe try squinting your eyes a bit. Try looking out the window and then back on the screen. Or tilt your head or rotate the image - All that so you can look at them more objectively. Over time you will "feel" if a screenshot looks more "professional" or "cooler" or whatever your goal is.

Look at a lot of Architecture photography! It will automatically improve your skills. (e.g. on Pinterest)

Browse through them and try to find out why you like some photos more than others.

A few ideas:

- There should be only one primary point-of-interest on the screenshot. (For example the reflections in the hallway, as described above) Don't place this spot in the center of the image! Don't look straight at the object when taking a screenshot. Find interesting camera angles! Avoid trying to make every spot in the image super detailed and contrasty etc. It will be distracting!
- Avoid symmetry! Avoid anything too perfectly aligned/straight. A bit of variation looks more natural and interesting.
- Again: Less is Better. Super simple white rooms with nice lighting can look amazing! Remove anything that breaks the realism.
- Take Screenshots from a slight angle so all 3 block-faces are clearly visible. In general: The more 3-dimensional information given, the better the geometry of the scene is represented. And the shadows and reflections contribute to that as well.
- Depending on the scene, tilt your camera a bit up/down to avoid too many vertical lines. (Obviously there are exceptions)
- Blue-ish daylight combined with warm interior light looks nice. hard sunlight + soft indirect light. Hard shadows + soft shadows...
- Again: Show reflections!!! Don't take screenshots when the sun or the main light-source is behind you! This will only result in flat boring images. Take screenshots while looking towards light-sources, so reflections are visible.