

Taking Good Texture Photos

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Whenever I start working on a new 3D project I usually head out with my camera and take lots of reference photos as well as texture photos. Nothing is better than texture photos you have taken yourself. Not only can you snap some shots of great things to model, but it puts you in front of the real thing where you start notice small details that you would never have seen unless you got out and took some texture photos yourself. Attention to detail is key.

A few weeks back I decided to do just that. I grabbed my camera and set aside a good four hours of my day and headed to downtown San Diego. Below you will find some good tips and best practices on taking texture photos and how to use them in your projects.

Time of day is crucial

Something to think about is the time of day. Obviously taking photos at night isn't an option – and that's not what I'm talking about. But things like sunshine can be just as bad. High noon can produce some horrible shadows and glare much like on the building to the right. These are things you don't want to waste your time photoshopp'n out later. Of the best times of day to take texture photos is on cloudy, overcast days. It's almost as if you have some nice global illumination. You will get even light, little or no shadows and accurate color. This all ensures better textures in the end that aren't blown out.



Angles are key (no math required)

An important thing to keep in mind is the angle of the shot. Again this comes down to limiting the amount of processing you'll need to do later. If you are shooting a picture of a window from below the perspective will be distorted. However, a straight on shot will require much less post work and ensure a solid texture. This is true for walls, objects and just about anything you can think of. It's also much easier to model straight on rather than from a three-quarter view.

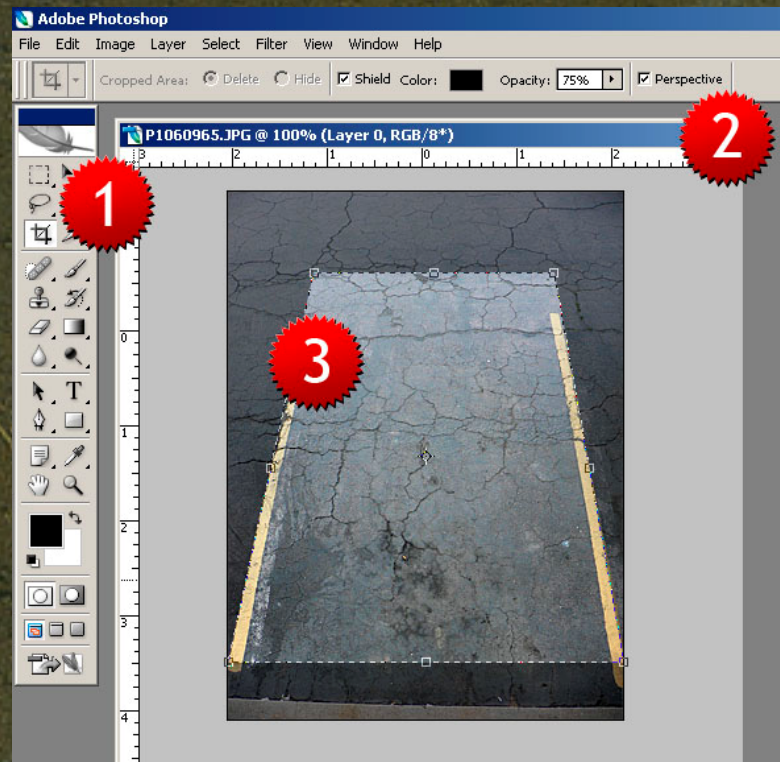
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There are times however when this isn't always possible. Should you abandon that great texture? Of course not - Below is just one example. I took the stairs two flights up so that I could lean over the balcony and get a shot of dirty and cracked parking space. Cigarettes, oil, gum, the works. With a little help of Photoshop CS2 we'll have a nice usable texture.

After loading our image, the first thing we want to do is select the **Crop Tool (1)**. With that done we want to ensure our **Perspective (2)** option is checked. This is what will allow us to move our crop handles around and then upon completion fix the perspective distortion. Our image is a perfect candidate in that we have two parking lines running off to our vanishing point. We simply pull in our top most handles on the Crop Tool (holding down shift while doing so makes things easier) to **follow those lines off into the vanishing point (3)**. When we are satisfied we press 'ENTER' and the magic happens. You can see our final texture after a little sharpening and clone tool action.

What makes a good texture photo

After you take a few hundred photos you start to learn which ones you should have taken and which ones you shouldn't have bothered with. In general, it's the base or generics that you will often use the most. Slabs of concrete, brick walls, paint chips, wood planks, metal doors, scratches, signs, writing, graffiti, etc. Next are the shots of windows, doors, pipes, and generally



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speaking, flat surfaces. A good rule of thumb is that if the objects would change the models silhouette, model them. Minor things can be textured and these should be the types of photos you're taking. For a window on a city building you could probably get away with texturing the window and its frame all from a single photograph. However, you may want to model the lip under the window to give it some dimension. With today's technologies (normal mapping, parallax mapping, etc) you can fake more and more using simple textures.

Start out big – you can't fake that in the end

I can't tell you how many times I have taken texture photos and then gotten home only realize the resolution just wasn't going to cut it. Most digital cameras these days are at least 5 mega pixels. Use them and shoot at 2048 pixels or larger. You can always reduce later. Also keep in mind that optical zoom will produce clearer images than digital zoom. If you have to get close, that's fine. Lastly, don't let poor focus ruin the picture. I usually take 2-3 pictures of the same texture to ensure it's properly focused (producing a sharp image). It also gives me a few to choose from later.

Further Reading

<http://www.onona3d.com/pdf/texturing.pdf>

An excellent PDF on texturing and uv-mapping