

Developer Notes: Planning

"Planning is one of the most important parts (if not the most important part) of the 3D world. Building things in 3D and animating them is a time intensive process. This is especially so when it comes to rendering. With proper planning you should be able to build a model in the most effective manner, and avoid wasting a lot of time. Here are some important notes when it comes to planning.

1. **Concept art:** This is important so that you have a good feeling of what you are building. Changes to the way your final character or model looks can be done a lot faster in pencil than once the model is already made. This will help you design your model and figure out the easiest way to construct it.
2. **Reference Material:** With the proper reference material even the most complex models can become easy to build. Not only that, but your final model will most likely be more detailed and look a lot better. A good example of this is the construction of something such as a plane. If you buy a small model kit, or get the blue prints to a plane you can construct it in a much more accurate and faster manner than messing with all of the guess-work. Also, you would have decals and such that could very easily be turned into materials for the final model. Reference material includes pictures, measurements, or anything else that would help you get a feel for the item you are creating. Reference pictures can also have the added bonus of being used to create materials for the model.
3. **Storyboards:** This is a little more useful for full-on animations; however, it can also define how much modeling you need to do. When constructing the parking lot scene I made for an animation, I first figured out all of the camera angles I'd be using. That allowed me to decide what buildings I actually needed to construct, and what buildings could be a matte painting (picture) that would be laid in the background. This would be true of any scene you make. Also, by laying a story out in storyboards you can better decide if it'd even make a good animation before starting on the construction process.
4. **Naming objects/conventions:** An alternate reason to use this is when you are working in a group, or plan on passing your work off to someone else. This allows everyone to be familiar with the scene, and find/select its components easily. Sometimes I'd work with a Boston design team that did the original construction of a unit (store). They would send the file to me for touch up and final texturing. Since they did not name their objects I spent most of my time trying to identify all of the elements in the scene. Also, if parts were named I would have had an easier time applying textures. I would know to apply a steel texture to an object called "steel frame" much more easily than an object called "cylinder 01"
5. **Knowing the programs to use:** Sometimes you may need to send a file through a couple different programs to get the desired final project. Plan this process so that you can do this easily. An example here is, if you need to quickly add fog or some sort of fire effect to your scene. This is possible in 3ds max, however it can be faster and easier, with a better

outcome in another program like Combustion. Combustion is also a Discreet product and works well with 3DS Max. However you may still need to do things like choose a G-buffer object channel for each object in the scene. It is a lot easier to do this while you are creating the scene than it is to go back and do it once the whole scene is constructed. Another example of how to use the G-buffer with Combustion is as simple as being able to change the color of a car in a scene. So if you animate an accident for a court case and at the last minute find out the car was not green, but actually blue, you can make the change very quickly instead of having to re-render the scene (which can sometimes take days)."