Clean Sci Fi: Modular Corridors and Rooms

Introduction

The aim of this environment pack is to provide a good starting point for those wishing to build a futuristic space-themed environment. As the title suggests, the assets are designed and built to be modules that snap together, allowing large areas to be fleshed out with minimal extra work for the end user.

It should be stressed that this pack is designed to provide a good basis, or starting point, if you will, for a space station/ship interior. It is by no means fully featured or complete. Dressing with decals and other props will be required to produce a game-ready immersive environment. It is planned (and hoped - demand allowing) that more asset packs will be available from Made with Mice in the future that will complement and add to the assets found in this pack. Currently, the always useful duo of space barrel and space crate are provided in this pack. More may follow in future revisions.

It is designed and tested with a first person camera in mind but could be adapted to accommodate other viewpoints.

Aesthetic

Short version

I've gone for a clean look rather than the usual dirty grey metal grunge.

Long Version

As a life-long gamer and video game artist I am very familiar with what I would call the 'standard' industrial-style sci fi game artwork. Generally-speaking this consists of grey and bare metal grungy industrial-themed corridors and rooms. It is seen over and over in science fiction video games and I have no problem with it: it looks fantastic when done well. In fact, production design for Science Fiction (in any media) can be categorised very generally as falling into two camps: dirty or clean. It was my decision to provide for customers at Unity's Asset Store a set of assets that fell into the 'clean' camp, since most packs available seemed to provide for the 'dirty' look.

I have taken my inspiration from a number of sources, which I will not list here. Perhaps you will have fun guessing?

Quality and Pedigree

Short version

I'm an experienced professional game artist who also teaches game art production.

Standard texture page size is authored in 2k.

Long Version

This initial pack has taken me a very long time to complete. This is for a number of reasons. I'd like to claim the very high quality of the artwork as the number one reason. That certainly is one reason, but I must confess that it isn't the prime one. I am a very proud father of two lovely children. I began this project in my spare time some months after the birth of our daughter and now I am releasing it several months after the birth of our son. In between, and while working on this, I have been surviving on fractured sleep and ever-decreasing free time to spend. There is more to that story but I won't burden you with it here. Check out my blog for some more clues, if you are interested.

Aside from the long gestation period for this pack I can point to my long career in computer and video game art production as a solid claim for the quality of these assets. I have experience in abundance. Again, please see my web blog for details. In summary, these days I am teaching part-time at Solent University on their Computer Games BSc degree course as well as working on my own indie titles and work for clients.

Most texture pages are authored in 2k but set to 1k in the Demo supplied.

Optimisation and usability

Short version

These assets are not optimised for mobile. They are not especially optimised at all since they are intended as a start for customising. By its nature, optimisation is a last stage process. That would inhibit end users being able to customise the assets.

Long Version

At the risk of hurting my sales I should point out that these assets are not completely optimal. This is actually intentional. What do I mean by that?

Well, as I have previously stated, this pack is intended as a starting point. I would imagine that some purchasers would wish to customise these assets in some way. To that end I have left some polygons in meshes which would otherwise be culled, and likewise some textures which could be mirrored I have left full width/height. So if end users wished to modify those textures then the UVs and texture sheets would accommodate that.

That all being said I have not made a pack of unusable assets. The art provided here runs perfectly well on a PC. If you have Pro (or Unity 5) then occlusion culling will help performance further.

Future Support

Short version

Future updates to the current pack could include: more variants on the corridors and rooms; damage; optimisation, if requested; support for Substance. Unity 5 PBR-ready textures and

material definitions. More, complementary, assets pack could be produced including props, furniture and even characters.

Long Version

Because of the long time it has taken to deliver this pack I am, quite naturally, going to enjoy a short break from working on it. However, looking to the future (provided interest is sufficient) then I would like to both expand this existing pack (rewarding early adopters) and publish complementary asset packs. This could include more corridor and room variants, props, furniture, exteriors and even characters. It all depends upon how this initial offering is received. Feedback and requests are most welcome.

Now Unity 5 is released a set of PBR-ready textures and material definitions might be desirable.

Optimisation is a potential path for the future. If users have limited or no desire to do their own customisation then that would free me to give this current set an optimisation pass. That could include optimizations for mobile too. I would need to consider whether to make that a separate 'mobile' pack version or simply update the current version. Again, it depends upon feedback.

Whilst authoring these assets I discovered and used Allegorithmic's excellent Substance Designer. It does a fantastic job of creating environment textures with a repeatable 'look'. However I have not harnessed the full power of using Substances and so it would be logical to provide such support in future versions.

The Assets

Meshes

The bulk of this pack contains sections for a space corridor and links to interior rooms. There are also elevators (two types) and two simple props (a crate and a barrel). Hopefully enough variations on these corridor and room meshes are provided to enable users to create sprawling space stations and ship interiors.
Currently this pack provides 47 unique visible meshes.

Prefabs

The meshes are combined with lights and scripts to make Unity prefabs, an excellent way to contrive many environment variations with a non-destructive workflow. Currently this pack provides over 50 prefabs, with potential for many more to be made from the assets included.

Collision

Each prefab is provided with appropriate optimal, simple, custom collision meshes. In the asset library these meshes are suffixed with _COLL for easy location and filtering.

Texturing

Texture pages are provided in high resolution (up to 2k) in lossless PNG format. Some textures (the elevator doors) are provided as layered PSD files to facilitate customisation.

Shaders

I have provided many custom surface shaders. Initially I started writing my own shaders because the standard set in Unity didn't provide for emission in combination with other shader attributes. That ambition grew into making a set of shaders that shows of this asset pack to its best. They might not be the most optimal set of shaders (I haven't done exhaustive testing - they might be okay) but I hope you'll agree that they show off the assets well.

Now that the PBR game engine revolution is upon us some of you might want to use these assets in Unity 5. Watch this space as I might look into providing PBR compliant versions of the textures with Unity 5 standard shader material definitions in a future update, or version.

Scripts

There is a kind of 'bonus' aspect to this pack of environment assets. I felt that I couldn't do justice to a space station/ship interior without working elevators. To facilitate this I have provided several scripts that work in combination (and already partially wired up in prefabs) to produce working elevators. The amount of floors, speed, sound effects etc. is all customisable.
As this isn't the primary focus of this asset pack (I am an artist and not a coder) then these scripts should be accepted at face value, a bonus if you like. I'm sure that there are more fully featured, better elevator packages out there with which you could use these graphic assets, but I provide my simple scripts to show off my assets and provide the minimal you need to get things running.

My scripts require the user to 'wire' them up to assets (game camera, player character etc.) but the amount of setup is as minimal as I could manage. I have provided a manual to help this process.

One or two other scripts are also provided. Some are picked from the amazing Unity forums and other sources. Credits are provided in the appropriate folder 'read me' files.

Audio

To bring life to my demo level I have included some audio. Credits are available in the audio folder.

Demo

I have provided a demo level to show the assets as they are intended, with light maps baked.

I have aimed for a decent look using settings available with Unity 4.x non-pro version. This effectively means no Global Illumination. So the demo is also shown with Gamma colour space and Forward rendering.

See below for more details on the lighting.

Lighting

Ready to light!

I have attached simple point lights to the prefabs in appropriate places. This should make tweaking light levels across prefabs very simple. This has also made light map baking with the non-pro version of Unity (pre ver. 5) quite straightforward. In effect the assets are ready for light map baking as soon as you are finished placing the modules. The light levels are about right for baking without GI (non-pro). If GI is added you should expect the overall 'exposure' to go up; in effect the lights become brighter. Likewise, if you switch colour space to linear then you will need to tweak the light levels a touch. I've also found that linear colour space dims the emission values considerably (although I haven't tested Unity 5 yet) so they will need a boost.

My work-around for no Global Illumination (in this demo) is a simple one. Before baking I turn the ambient light value up to a value that sort of mimics bounced GI lighting (in a very crude way). For me that has been just under full brightness with a blue tint. After the bake I turn it down to black, otherwise non-static items appear over-bright.

Version support and Unity 5

To provide maximum compatibility for potential users I have published this pack using non-pro Unity 4.3. For much of development I have been using my own pro license, and I did need to re-evaluate my approach to lighting because of this. I will provide some promotional materials using Unity 4.x pro-only features (and perhaps some Unity 5 shots too) but the intention is that this pack work well out of the box with features available to non-pro Unity 4.3 + license holders.

Unity 5 has only just landed with us and I'm not sure how we asset authors will be affected. Expect some Unity 5 features (PBR, GI etc) to be supported at some point soon.

Feedback and Support

Please tell me what you think and what you'd like to see from me in future. I'll do my best to provide support where needed. Thank you!