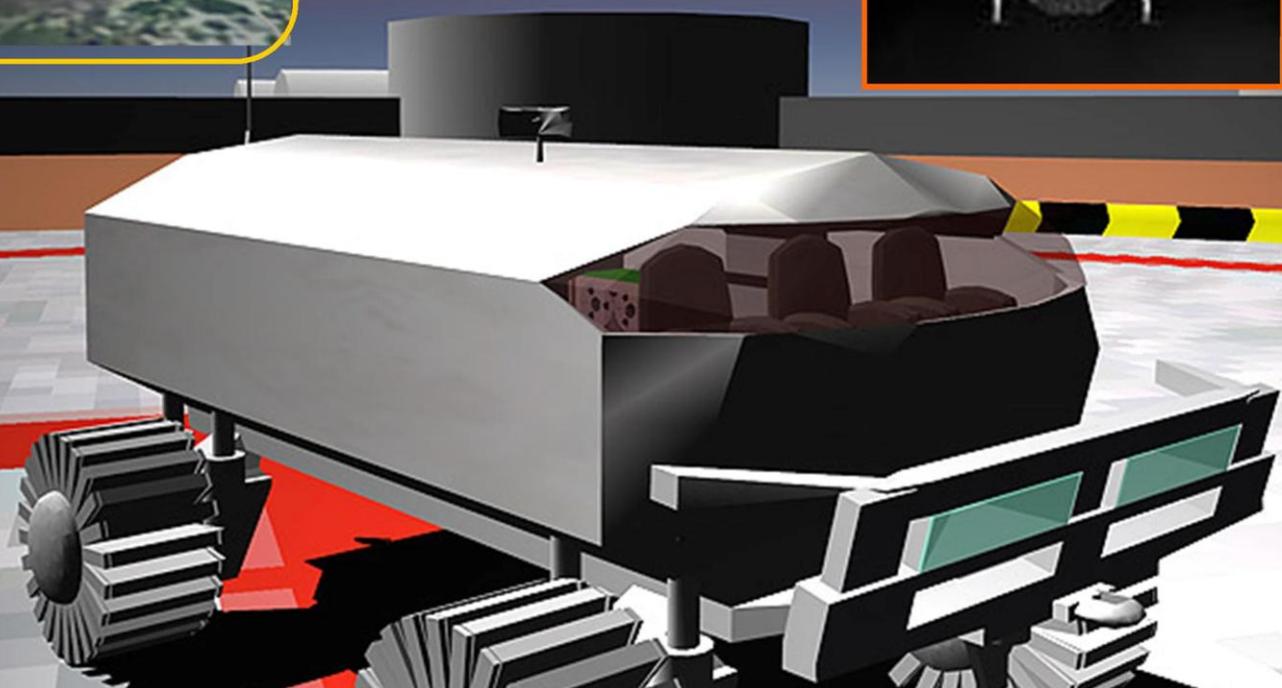
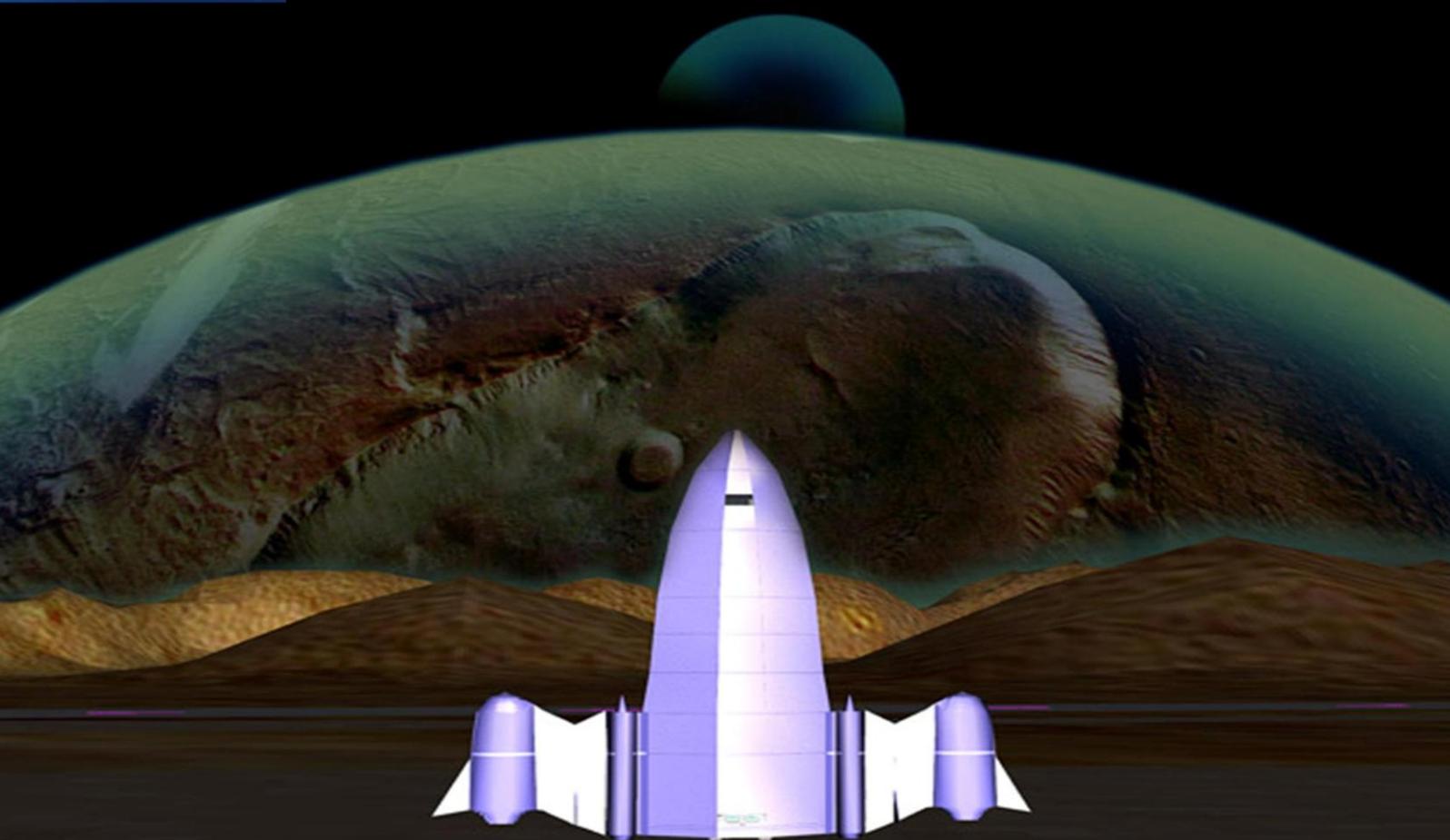




# DeltaV

An Orbiter Magazine



Welcome to Delta V.

Before we get under way I would like to first off thank Tex for the graphical design, inspiration and most of all Orbiter-Forums. Next I must thank the entire crew over at Dan Steph's forums. The original idea of a stems from there. Third, to all those who have and will contribute to this project. And finally to Martin himself for the wonderful program that we call Orbiter.

Well, its finally done. After a few weeks (months really) of organising, compiling and editing, I hereby present the very first issue of Delta V. Its been a long hard road for some of us (only because I have been real lazy). Staying up late, trying to meet deadlines and commenting on work. I have been lucky enough to be on holidays and with my unique time zone a lot of work has been done a a short amount of time. (Ok I wrote this about 3 months ago, so it was valid back then)

I was first introduced to Orbiter on a PC magazine CD. I think it was the 03 version. I had no idea what it was about and only a few months later I had found Orbiter 06 (really). I was instantly hooked. When I discovered Orbiter Hanger and the forums my love of Orbiter grew. And so we come to the beginning of November, and a few days after the weekly forum shut down, Tex released his new forum. I joined instantly and within a matter of days I realised that this is what our forums should be like. Tracking the members over the last few weeks, one of the mods from the main forum said that it was refreshing to come to Orbiter-Forums. I think that is one of the top compliments that a person can give.

And on that note I dedicate this issue to the wonderful and friendly people at Orbiter-Forums and to Tex himself.

## **TL8**

'80% of all PC problems a PICNICS'  
Tristan Lostroh

## **A New World**

**Editors Note- The following transcript is an interview of Art Eaton - a little known Orbiter Developer by a contributing editor known to us only as "Uncle Martin". The submission was dropped into this editors front yard via parachute, so it's validity has not been ascertained.**

Dec 4, 2007 14:30 Local (Galactic Year 20.129345121), Latitude 24N, Straits of Florida, Earth.

*Today I am interviewing a citizen of Earth, Art Eaton at the telepathic request of Tristan, Editor-at-large, about his recent Orbiter add-on projects. I encountered him as he was piloting his craft along the surface of some free-standing liquid water.*

**Hello Art, how are you today?**

Oh fine Uncle Martin. Nice of you to...uh...drop in on me...today.

**Sorry about that, I had a lot of delta V to burn off so I might have come in a little hot...**

Oh that's OK, just a bit of a surprise under any circumstances.

**Frankly I am pleased that you handled that so well and have granted me this interview.**

Oh, certainly, anything for a visitor.

**Let's see, first question I have for you today: When did you first discover Orbiter?**

I would say sometime about mid 2002. I was overseas in a hotel trying to work on some fiction after hours and I decided to look on the web for some background material. I recall I searched "free spaceflight simulator". One program that allowed you to zoom between stars at superluminal velocity showed up, and there at the bottom of the page was Dr. Martin Schweigers.....hey....you arn't....

**No...No relation!**

...Oh, well as I was saying, Like "poof" there it was. Exactly what I wanted. I couldn't believe it. I was on dial-up in a Bahrain hotel, and it cost a fortune in airtime, but I downloaded it right then and there. I was afraid the Fun Police might shut down the site first if I didn't get it right then and there. I have probably paid less for some commercial software, but just taking one look told me that I had stumbled upon something I had wished for for years. Hadn't even been around long either.

## **Did you begin developing for Orbiter at that point?**

Naw, I am a pretty recent API dabbler. I just enjoyed Orbiter for years, never taking part in the forum or digging into it at all. I didn't even know there WERE add-ons for it. I was pretty busy.

## **When did you start developing?**

After my last Navy Activation (Reserves) I was sort of at a low point. I came back to the States to a dead business, no contracts, and a very short contact list. Since I was still in physical therapy, well, I kind of had free time and a great excuse to goof off you know? That was about November 2005.

## **Tell me how you got started.**

Well, I didn't start out really expecting to develop for Orbiter. I didn't have AutoCad anymore, but I wanted to produce some 3d models of science fiction ships for a new edition of Star Frontiers®, a 1980's RPG and tabletop space combat game. I just wanted to make renderings for illustrations more than anything. I found references to Anim8or on the Orbiter Forum. Well, next thing you know, I decide to put my first ship, a Star Frontiers Assault Scout, into Orbiter. To do that I had to use the Spacecraft.dll module. Instantly, I discovered that if I wanted to have a tail lander that used Hover thrusters that ran parallel to the main engines, or anything else that was not very much like the Delta Glider, I needed to learn to program. I got help from Trevor Johns to set up a free compiler, and I dug into the mysteries of the Shuttle PB. Without any knowledge of C++, I managed to start whittling together modules.

## **What was your first Published add-on?**

Hmmm. Understand that I never intended to make public add-ons, just stuff for me and mine. In the process of learning, I ran across a post by "anemazoso" stating "looking for a few good minds". Thinking I could flim-flam my way in anyway, I responded. Turns out that since Chad (anemazoso) didn't have any developer skills other than making planetary systems, he decided to get help doing a project. Well, I joined up. His job was planets, and mine was meshes and modules. He chose the Rho1 (55Cancri) star system to start with, as it had just been confirmed to contain multiple planets. I sort of started turning the thing into a Star Frontiers themed add-on. We had a storyline of a human colony ship entering the system and finding a society already existing there. I created a series of scenarios all running with the storyline, which I had not seen in orbiter before. Anyway, as we went along, I got better at what I did, and Chad learned how to model. We made huge base mesh models and the like and had great fun. We started in March or April, and published in November. Something like a 750mb Add-on! The "Mother of all add-ons" was mostly planetary textures and the like, as the system was huge, and we were both SUCH noobs. WE had some very interesting elements in the add-on nonetheless, and it is still far and away my favorite system to play in

for real navigation challenges. Anywho, that covers my first add-on.

**That was FRONTIER: 55CANCRI right? Tell me about some more recent work.**

Well, first off, let me state that 55Cancri represented a lot of work by a lot of people, as the credits show, but going from there, I would have to say that the .cpp tutorial was my next published item. "FrankenPiler Tutorial" or officially "Shipdllwriter" was named in honor of the pieced together 2003VS compiler that Trevor Johns investigated and got people hooked up with before the VC2005 C++ compiler was released. It is essentially a basic ShuttlePB based module source that has been published in a color-coded HTML format with a guide of sorts helping someone to write and compile their first orbiter module. I never got a lot of feedback on it, other than a forum comment or two, but between OrbiterHangar and StarFrontiers.org, it has been downloaded some 1800 times with no evil comments. That gives me the idea that someone out there might have gotten some use out of it. I later added to the tutorial to give it a basic and intermediate version. I am sure I will get around to publishing a version that includes animations. I have gotten quite a lot of dev questions directly by e-mail, and I am sure some of those are related to me including my address in the tutorials.

**I see you have released a couple of aerospacecraft and the like since Cancri. You describe them as being pre-releases. What is that about?**

Ah, the Osprey and the Research Scout  
Well, I/we have another large project that has already been months in the making. It started with me wondering if I could actually use orbiter as a basis for tuning in the vector-motion table top space combat system "Knight Hawks Vector Rules" for the Star Frontiers game, a set of rules and a motion system that I devised into a 3d simulation. I started with a surface naval ship I made for the Cancri system. Originally that ship, a catamaran-like SWATH hull, was used in a diplomatic mission scenario to take ambassadors to an underwater city offshore. I converted them a bit, and added a couple of missiles to them and equipped them with lasers. I gave the ships damage code, and animated them to sink. Lots of fun. With the help of Computerex, I learned to write data to an .ini, dynamic vessel creation, and some other useful bits. Turned out to be quite fun, especially in the original setting on the planet Mare Infinitus. I published this as OCS Testbed, or Orbiter Combat System. It is pure poo of course... anyway with the addition of some real programmers, the Knight Hawks Vector Combat Simulator project in looking really nice. I am mostly cranking out meshes and vessel concepts for it, as well as working with some other folks getting a ship design spreadsheet refined for use as a development companion to the system. For any of your readers that are interested, the development thread for the Frontier Development Team is:  
[http://starfrontiers.org/forum/forum.asp?FORUM\\_ID=58](http://starfrontiers.org/forum/forum.asp?FORUM_ID=58)

## **What is the status of the project?**

Well, it could move faster, but we really don't have as much help as we would like. It is a "central vision" project that is already outlined and very much organized. Most folks don't want to just join a going thing, they would like to do their own thing or forever start new stuff that nothing ever really comes of. We have some pretty workman like ideas here. Admittedly, some enthusiasm waned when we figured out that Face's multiplayer module might not hit the streets for a long time. In the meantime however, it really seems like some pretty simple AI and carefully written scenarios could make for some exciting game play. Our system contains a set of standards, and those standards can have a lot of applications.

**OK, now the question dearest to my heart. Another one of your Frontier Development Team "Pre-Releases" is a rover vehicle and a walking, jumping, waving, turning, animated human figure that runs off a module called "Martian" which *naturally* attracts my interest. What's up with this?**

Well, after Cancri, my old partner anemazoso wanted to do a "Mission to Mars" add-on. I pitched in and produced an explorer rover vehicle for it. At that point, I discovered that that I could not bear to do a Mars mission and not be able to walk around and explore on foot. To hell with those damn rover bots, I wanna real MANNED mission. So I learned how to model a human figure...sort of. I made animations for all the movements, but I lacked confidence to try to tie all the animations into code, 'cause I wasn't a "real programmer". Well, Lassombra tried to get the walk animation going, but didn't quite make it. It got shelved for a while as I was getting a website and forum going and learning all about that stuff as well as working on KHV. Well, recently, I dusted it off, looked at it, and 20 minutes later had the thing working and prancing around. I have improved it quite a bit since then. I even have a version that drives the rover, then opens the airlock and climbs down the ladder so you can walk away. Unfortunately, limitations of Orbiters rendering engine make it so that dynamically created vessels cannot be seen through transparencies, so you can't see much of this happening. I am taking measures to work around this by deleting and dynamically creating the transparent parts in a manner that works around this issue. There is no other animated walking figure in orbiter, so I can, at least, claim this "first" I believe.

**Art, thank-you for your time. I believe that answers most folks questions about your somewhat eclectic collection of add-ons. I am afraid I must rush off to make my launch window...**

Oh, you are indeed quite welcome Sir! What is it about this time of the year, a 1/2 AU drive back?

**Yeah, there and abouts, of course I have to drop off this article first, and it's always the local traffic that takes the most time. Thanks once again!**

## MFD in a Day

Computerex is 15 years old and lives in Saint Augustine Florida. He is in OMP and Frontier Cancri beta testing teams. He has produced more than 30 modules that enhance Orbiter both visually and physically. This month we strap him the the DG Thrust Cone.

Delta V

**And welcome today to Computerex who is our subject in the thrust cone. Computerex how are you**

Computerex

Hello. I am doing just fine Thank you.

Delta V

**Well, the first thing that will surprise most people is your age.**

Computerex

Why do you say that?

Delta V

**Your talent and abilities in orbiter are rather unlike any other teenager.**

Computerex

Thank you, you flatter me

Delta V

**So how did you come about Orbiter?**

Computerex

Well, I have always been interested in Space flight. One day I was simply searching on google for a free space flight simulator, and I found Orbiter. I have been hooked since then

Delta V

**Alot of people have done that. Has orbiter given you anything that helps you in school or even life?**

Computerex

Of course! I like to do a lot of orbiter development. I have learnt maths far above my grade level. And the knowledge of orbital mechanics that I have gained is priceless.

Delta V

**On to orbiter development. What addon if any made you start?**

Computerex

Hmm. The first add-on I made was a simple spacecraft, made using a simple cfg file demonstrating relativistic flight within Orbiter. Unfortunately, that add-on didn't get many reviews, and I eventually took it off of public servers.

Delta V

**Did that put you off or spur you on to start making modules?**

Computerex

Well, that certainly helped me realize that I have no artistic talent, and that modelling was not my "thing". Since I already had experience with computer programming, I started learning C++ specifically to develop add-ons for Orbiter.

Delta V

**And when did you start?**

Computerex

I started orbiter development about 1 year ago. I had some 32 add-ons at <http://orbithangar.com>, with more than 35000 thousand downloads.

Unfortunately, due to an unknown incident, all my previous work has been lost. Since just a few weeks ago, I have started a fresh. The first add-on I released after that particular incident was the Fly By View MFD, which was requested quite frequently.

Delta V

**Yes, Yes sibilings can be a pain. So how long would a normal module take from idea stage to release?**

Computerex

It depends on the complexity of the module. Sorry for the lack of modesty, but I have been called "speedy" when it comes to orbiter add-on development. It usually takes me 1 day or less to implement an idea. That is if I don't get stuck on a mathematical problem.

Delta V

**That is rather fast. So what else could be in the works for you?**

Computerex

I like to make what is requested. I don't like programming vessel modules. I like to enhance the overall experience of orbiter. I often peruse the add-on request forum on M6 to see add-on requests. I think my next add-on will do metric to imperial conversions, because that's a request I have seen made multiple times.

I am just about to release an add-on that implements the visual and auditory effects of breaking the sound barrier.

Delta V

**Cool. Well that's it from me. It looks like the pilot is satisfied with your answers so you won't get roasted. Thank You for your time and Good Luck for your future Ideas.**

Computerex

No problem...

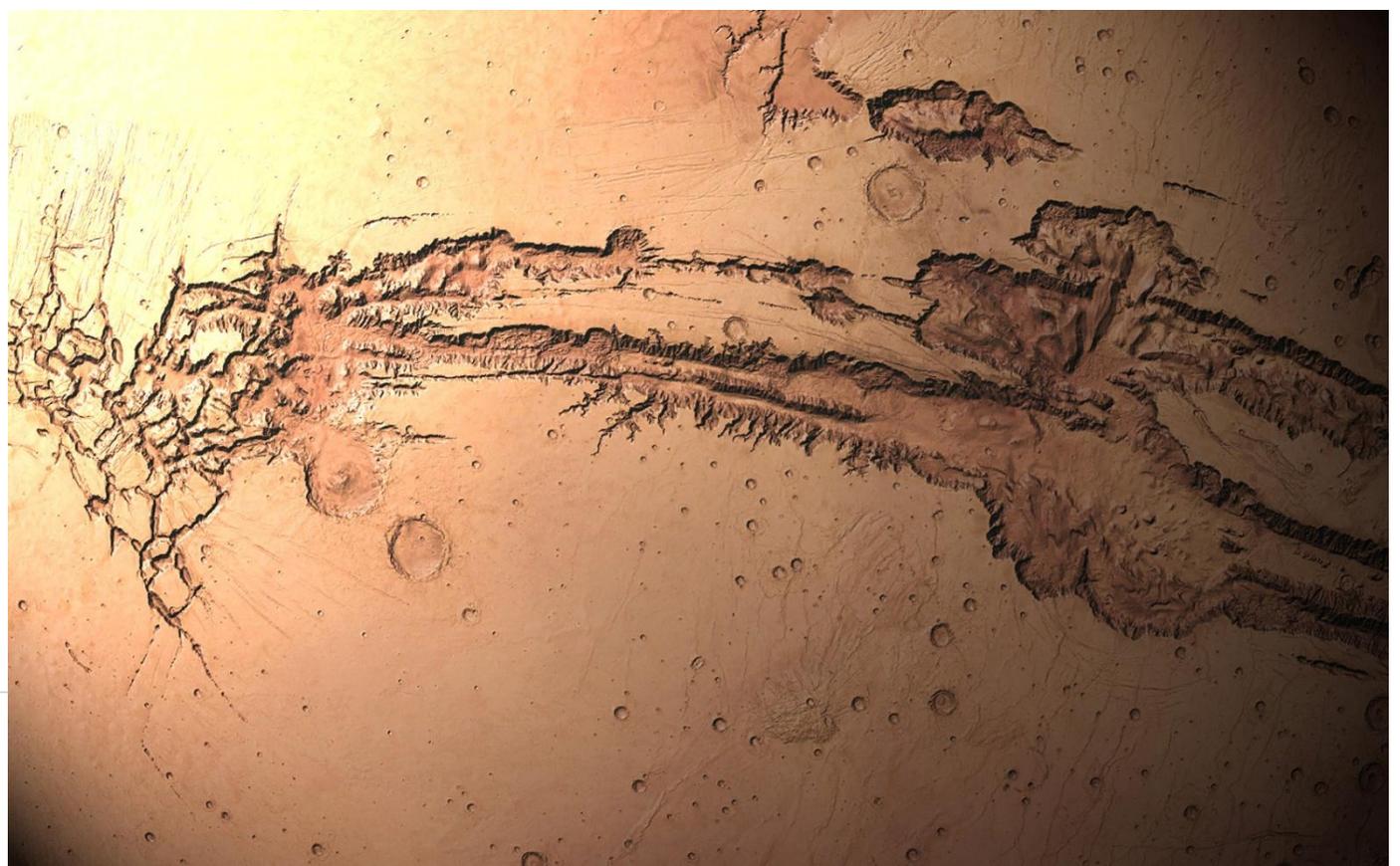
Addons, [Link to post](#)

Tex:

*L10 earth by overridden*

[Mars textures from orbitersim](#)

<http://orbiter-forum.com/showpost.php?p=625&postcount=23>

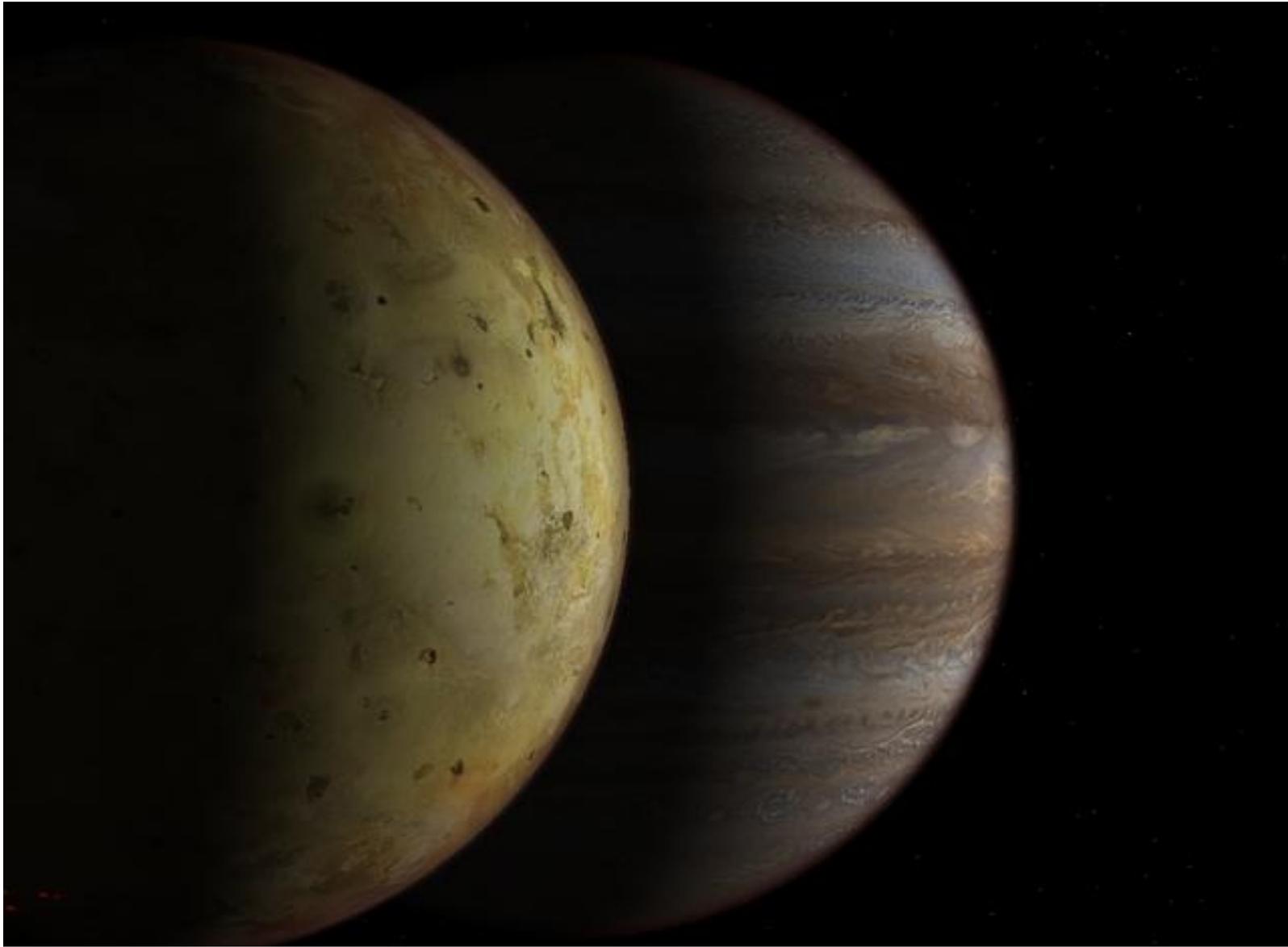


Shuttle Fleet 3.9.4

<http://orbiter-forum.com/showpost.php?p=1604&postcount=33>



Nuke ET  
*Level 8 Io*  
<http://orbiter-forum.com/showpost.php?p=700&postcount=30>



Willy88:

*DGIV*

<http://orbiter-forum.com/showpost.php?p=1634&postcount=36>



Computerex:

*DGIV, orb Hover dust, Contrail textures from McWogs, AutoHover MFD*

<http://orbiter-forum.com/showpost.php?p=1844&postcount=39>



Jordaxe12:

<http://orbiter-forum.com/showpost.php?p=113&postcount=10>



## The art of Kludge Texturing: shoestring realism in freewareland

Or - Simple tricks to successfully texturing your 3d model to use in Orbiter

By Sean M. Kilpatrick (AKA – n0mad23 & n0madick1)

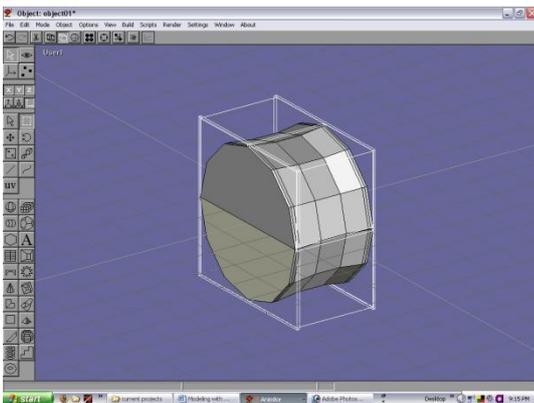
For this mini-tutorial, I'll show how I textured the cable spool/flywheels for my current tether-sling transport system project. (Note: this tutorial requires a good working knowledge of Anim8or.)

In order to give your models the textures that serves them, you'll really need Photoshop or Gimp. I really recommend a graphics editor that is capable of dealing in multiple layers. I use Photoshop 4.0; it's seriously outdated and no longer supported, which should give you the idea that for this work you really don't have to be cutting edge.

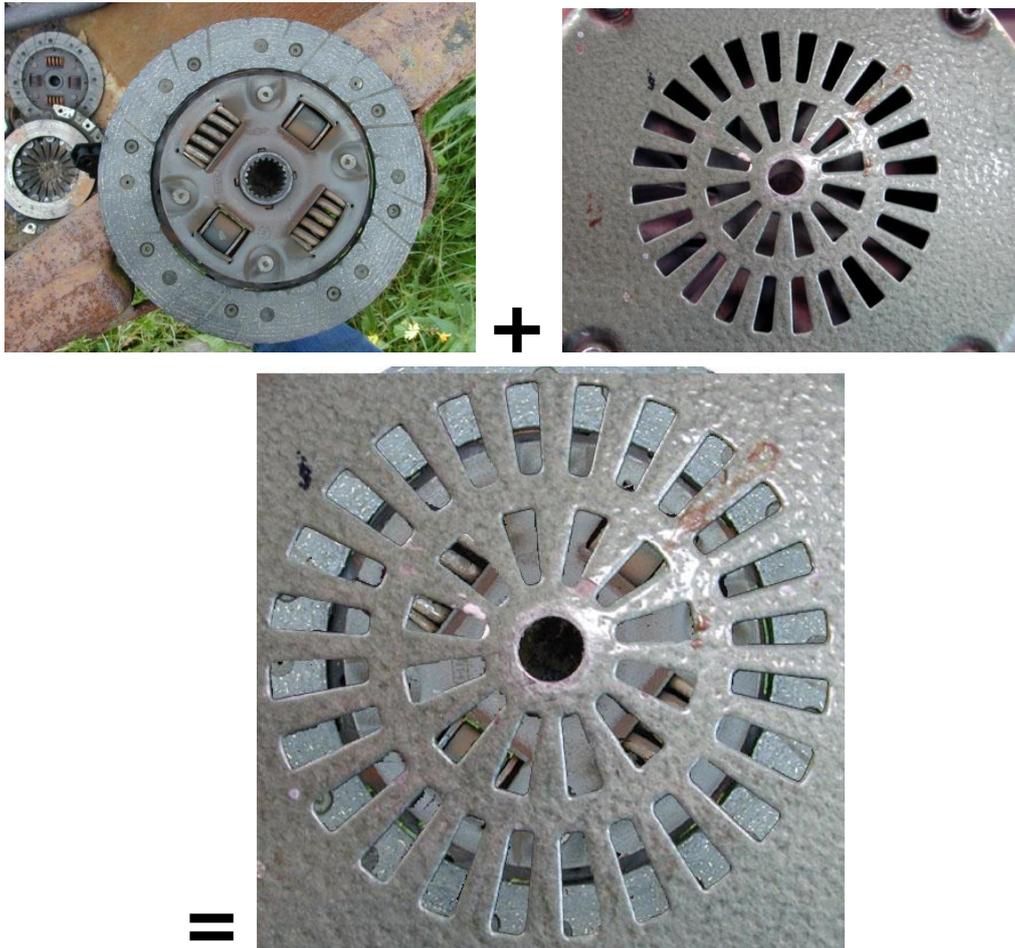
Spend some time browsing the internet for restriction free textures. Really, with a bit of patience you'll be amazed at what's available for the cost of your time. (See the end of this article for some links of image dumps/repositories I've found useful for this project.)

Don't expect to find exactly what you're looking for, either. Instead, keep in mind the forms you're working with, and try to find textures that 'work' with what your objective is.

The spool here is a simple cylinder that has been tweaked using Object/Point Edit and Scale. Still in Object/Point Edit use the Cut Faces to cut away the side and then Edit/Loop Cut the selection. Do this also to the other side. Then, cut the cylinder across the width, also using Edit/Loop Cut. Change views and do this again so now the cylinder is in six total sections:



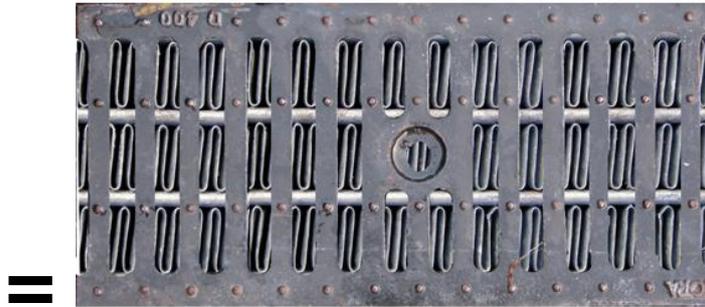
Next we throw together our textures from the texture repositories. Remember to save everything as .BMP's as this is what DxTex.exe will use to convert to .DDS. Here we'll put each image into its own layer, and cut away the negative space to allow the lower texture to be seen through the upper one.



This will be the base of our sides.

For the cylinder we'll use these:



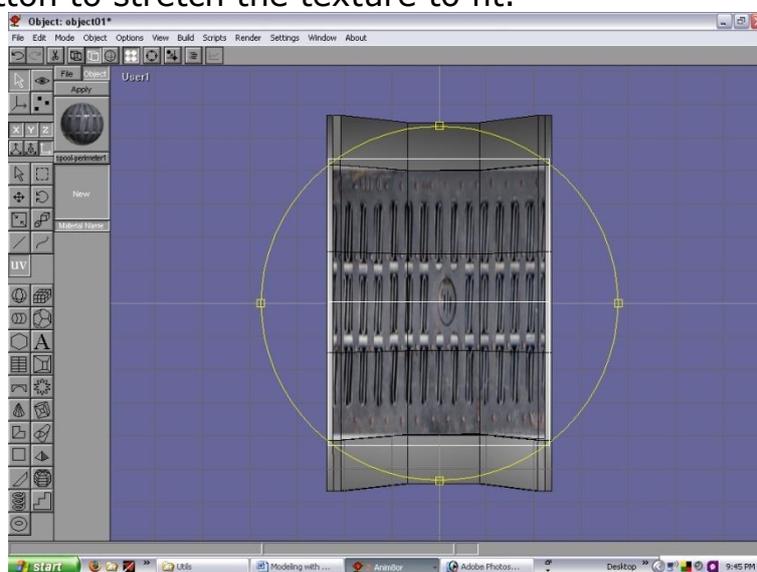


First, in order to apply textures to your object, you've got to use the "Arc Rotate" feature, also accessible with Ctrl-R. The Arc Rotate icon is located on the upper bar, just below the menu items, "Options," and "View."

Start in View/Forward. We'll select one of the 4 equal cylinder sections, and then select Arc Rotate. Rotate the cylinder downward until the white lines of the box surrounding our selection synchronize. Next, select Materials and create new.

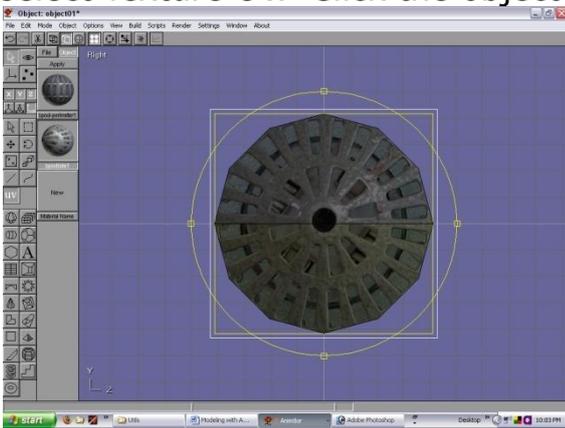
In the Material Editor you'll see an icon resembling a 't' beside Diffuse. Click the icon to bring up the Texture Selector. Select Load Texture and find the texture you've made. Be sure to name your texture in Material Editor, and do so without spaces. In the conversion to .MSH, texture names must be without spaces between words! This also applies to the .BMPs you make. For example, the first texture we'll use, I've named "spool-perimeter.bmp". Its Material name is "spool-perimeter".

Back on the main screen, select UV, and then click the selected object. In the Mesh Editor that pops up, pull up your texture in the Material field. Use Alt + Right Mouse Button to stretch the texture to fit.

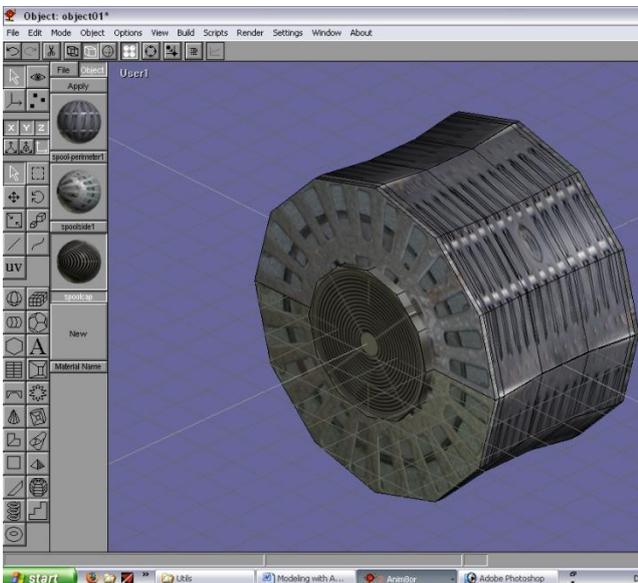


Using Arc Rotate, repeat for the other three sections. When all the 4 sections are textured, use the Drag Select to choose these sections (be careful not to

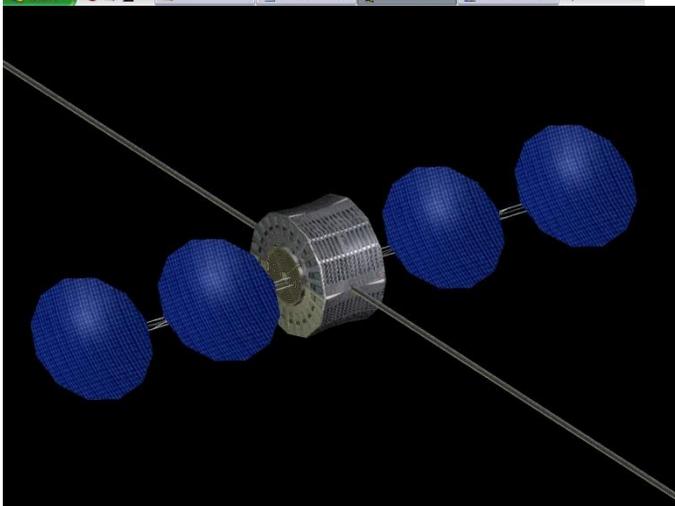
select the sides). In the Build Menu, choose Join Solids. Now these 4 sections are one, but will export and retain this texturing when converted to a .MSH file. Select either Left or Right View. Make a new Material and select the texture for the sides. Be sure the side you're working on is selected, and then select Texture UV. Click the object and select your texture in the Mesh Editor.



It's not really enough, so we'll make a smaller cylinder and cut it in half and put these on the sides. We'll use one more texture in our collection to make this:



A few additions: an axis, circular solar sails, and connecting cables results in this:



What's important to keep in mind for texturing your model with found textures is the intended effect. Don't think that the images you find can't be

reinterpreted and re-contextualized into something even better!

Some selected links for textures:

<http://textures.forrest.cz/>

<http://forums.cgsociety.org/showthread.php?t=77484>

## ADDONS 'R' US

by BJ

### New Cloud Microtextures v3

When I first looked at the picture for this texture, I seriously couldn't tell the difference between the original Clouds and this one. So, I can honestly say that I wouldn't have downloaded this otherwise, but when I first started Orbiter... It had an entirely new edge to them. The clouds actually had a more realistic touch to them. You can see so by the picture included. Although the differences of the texture is astonishing, what's more is that it did not feel like it effected my computers performance at all. I still had my normal 10-20 FPS, and I am only running an Intel celeron processor rated at 2 gigahertz with no graphics card or physics accelerator of any kind. This Add-on, not only improves orbiter visually, but takes very little added CPU power to do it. A 5 star add-on if you ask me.

### Sonic Boom

This add-on is unlike any other add-on that I have installed. Sonic Boom does nothing more or less than simulate breaking the sound barrier. Some might think, who cares? Well anyone who wants to simulate realistic environments will. Sonic Boom, like in real life aerodynamics does not affect the flight plan directly, but adds a little realism to their simulation, and I am all about realism. ☺ Sonic Boom also doesn't feel like it added load time and it certainly did not effect performance. So, once again, adding realism without effecting performance. Another 5 star add-on.

### Orbiter Dust kick off

This add-on (obviously) simulates Dust kick off. So (again obviously) it is another add-on that adds realism and realistic effects to Orbiter. What's great about this one, is that you can modify the structure to your own desire! Excellent. Perfect. The only drawback, on my computer at least, kills FPS. That is only if I set the settings really high. Otherwise it's a great add-on. Virtually no added load time, and somewhat changes performance (depending on your computer) but that's countered by the ability to change to your own needs and/or desires. A good solid 5 star rating from me.

### Another Sun Texture v2

As the name implies, its just another Sun texture. But I cannot tell you enough about how much getting another Sun texture adds to your Orbiter experience. To me it feels like absolutely no change in FPS or performance at all. Yet it

adds a bit of realism to Orbiter. A sun texture is a must have. Especially this one. It adds a bigger sense of realism because of the yellow tint that you get on Earth. Installation is simple. For something that adds a lot of realism to Orbiter, its extremely easy, both to install, and easy on the FPS. This gets a 5 out of me.

## Reentry Effects

As it says, it changes the reentry effects. Its extremely great because it adds several levels of detail to reentry. Now it has many added and changeable options to your reentry effects. What's great about it is it adds a little more flexibility to your reentry visual effects. But once again, at least on my computer, it Kills FPS. Only if you set the settings up on the higher end. But don't worry, I consider my computer to be a little more on the lower end side of the spectrum. But besides that this is a great add-on. Like everything else, it gets 5 stars.