SGU Shuttle

The SGU shuttle is a small cargo ship inspired by the Destiny shuttle as seen on the TV series Star Gate Universe. This representation is really only approximate as I didn't have very good reference materials to work from. It features both FTL and Warp drive but I prefer the Warp drive as it is easier to manage in my opinion.

Compatibility:
It was compiled against the **2010 (100606)** release version of Orbiter. Although I did test it in the 2006 version and it did seem to work but you are on your own if you decide to use it in the 2006 version.

Dan's UMMU and UCGO are required installs in order to have that functionality although it should work without them. It should go without saying that you will have no cargo or EVA without Dan's add-on. The cargo capacity is 2 of the standard 1.3x1.3x1.3 meter cargo containers used by Dan's UCGO add-on. In addition to the UCGO compatibility it has minimal UMMU support in that it can carry 4 UMMU astronauts. Dan's site for download of UCGO: http://orbiter.dansteph.com

Installation:
You do this at your own risk. I am a computer support professional and there is nothing that I can see that would harm or disrupt your computer. That said; it is expected that you have a certain level of ability in the install and removal of software and especially in Orbiter add-ons. Don't go blaming me or my add-on if you frack up your system. If you are unsure about installation then JUST DON"T INSTALL IT. It is that simple.

Installation pretty simple really. I keep the folder structure intact so all you have to do is decompress into your Orbiter folder and over write files when asked.
Removal is a little trickier because I use common folders for docs, textures and scenarios. If this is the only add-on of mine you have then remove the following folders and files.
Folders:
In the Doc folder remove the Rag Tag Fleet folder.
In the Scenarios folder remove the Rag Tag Fleet folder.
In the Textures2 folder remove the JTM folder.

Files:
In Meshes remove the QJSGU1.msh
In Modules remove the QJSGU1.DLL
IN Config\Vessels remove the QJSGU1.cfg

If you have other add-ons of mine and only want to remove this one then remove the files above. DO NOT remove any folders but do remove the relevant QJSGU1 files from the Rag Tag Fleet Scenario folder and Rag Tag Fleet Docs folder. Do not remove anything from the Textures2/JTM folder.

Using the add-on.
I've included two basic scenario files. One has the shuttle on the ground and the other docked to the ISS. Both have cargo and UMMU crew if you have those add-ons installed. I'm still working on which suits and sex goes with which UMMU people meshes so the current assignments are functional but off as far as the sex assigned to the names I used.

The door must be open to add and remove cargo or enter and exit UMMU astronauts.

Flight characteristics leave a bit to be desired. While watching the TV show I have seen that the RCS is still being used in atmosphere so I modeled it without aerodynamic control surfaces. This means that it relies completely on RCS and pure power to fly. That said, it does handle quite nicely but just be aware that you are not going to glide her in or fly level without using hover thrust.

Standard key commands.
F8 will turn the cockpit graphics on and off. When off and in Warp you will have a star burst type display similar to the original Trek one.
K will open and shut the door.
G will cycle the landing gear.
5 will switch between cockpit and docking hatch view.
J will launch the ship if you are attached to another RFT ship like the Battlestar or Flattop.
Ctrl J will attach the ship to the Flattop if you are close enough to attach to the deck.
Ctrl F8 will disable or enable Warp/FTL keys and HUD display if it interferes with other add-on functions.

All standard Orbiter keys are supported.
UMMU keys are supported.
UCGO keys are supported.

WARNING
Nothing stops you from doing an EVA while traveling in Warp drive. The problem is that you will leave behind your crew member because he or she is no longer within the ship and thus in normal space. Of course a big challenge is to eject someone at warp and then turn around to rescue them. I've never been able to rescue them. Can You?

Warp and FTL drive.
On the left side of the main screen is the Warp/FTL HUD information. The display is default on and in FTL mode. The display is as follows.
For FTL drive
Line 1: FTL STATUS
Line 2: OFF-LINE, ON-LINE, SPOOLING DWN: or SPOOLING UP:
Line 3: FTL FACTOR: (1 through 10 and adjusted via the **3** and **4** keys)
Line 4: JD: (Jump distance and adjusted via the **Ctrl 1&2** or **Shift 1&2** keys)
Line 5: TD: (Total distance which is the Jump distance with the FTL FACTOR calculated in)

Line 6: Current status message which will display JUMPING when you do the FTL jump.

For Warp drive
Line 1: WARP STATUS
Line 2: OFF-LINE, ON-LINE, OFF-LINE IN: or ON-LINE IN:
Line 3: WARP FACTOR: (1 through 10 and adjusted via the 3 and 4 keys)
Line 4: WARP DRIVE: ENGAGED or DISENGAGED

FTL Navigation

The FTL drive will jump you from one place to another.

"Flying though hyper space isn't like dusting crops"

Well in this case it kind of is. My FTL drive is much more of a gross jump that will get you into the general area of your objective rather than precisely to your objective. The direction of the jump is where you are pointed so target alignment is subject to your skills. Why so sloppy? Because it would be far less of a challenge or fun if you could make precise jumps.

I wanted to allow really small jumps to moons and other close bodies so the max jump distance is set to one tenth of an AU or 14959787069.1 meters. The total distance of the jump is determined by two factors, the "Jump Factor" and "Jump Distance" and the way they interact
is very simple. The "Jump Factor" range is from 0 to 10, the "Jump distance" or JD: range is from 0 to MAX jump distance in increments of 1000000 and 5000000 meters depending on which keys are used.

The Total distanced jumped is the JD * the JF which if both are maxed gives you a jump of 1 AU.

Simple right?

Keyboard commands for FLT jumping:
Set your jump distance. (**Ctrl 1&2 or Shift 1&2 and 3&4 keys**)
Spool up the FTL drive. (**Ctrl F11**)
Point your ship in the direction you wish to jump.
Jump using **Ctrl F12**

FTL Key recap
Ctrl 3   Toggle between Warp and FTL drive.
Ctrl F11   Spool drive up and down.
3   Decrease FTL FACTOR.
4   Increase FTL FACTOR.
Ctrl 1   Decrease Jump Distance (JD:) in increments of 1000000 meters.
Ctrl 2   Increase Jump Distance (JD:) in increments of 1000000 meters.

Shift 1   Decrease Jump Distance (JD:) in increments of 5000000 meters.
Shift 2   Increase Jump Distance (JD:) in increments of 5000000 meters.
Ctrl F12   Jump.

You can leave the FTL drive spooled up but it does use fuel so keeping it always spooled is not a good idea Ctrl F11 toggles between spooling up and down.

Warp Navigation

Warp drive; distance traveled and time taken.

At Warp 1 you travel 100000 meters every Orbiter time cycle. This doesn't sound like a lot but it does get you from the Earth to the Moon in about 1 minute. For the other Warp values I multiply by a number I just picked as reasonable to get you around the solar system. Warp 10 is insane and will get you to Jupiter in minutes. These Warp speeds are nothing like the ones on the TV show because on the show they traveled between solar systems and for us I have to keep us confined to ours. If at some point in the future Orbiter supports travel between multiple star systems I will adjust my Warp drive accordingly.

Warp Table

Warp	Distance traveled in meters
1	100000
2	100000 * 3
3	100000 * 5
4	100000 * 10
5	100000 * 15
6	100000 * 20
7	100000 * 100
8	100000 * 250
9	100000 * 500
10	100000 * 10000 (Jupiter in minuets)

Warp navigation is quite simple and only approximate. I wanted to offer at least some challenge so basically you point and engage the drive. If you are in Earth orbit and want to go to Mars all you do is spool up the drive by pressing Ctrl F11, set the Warp value using the **3 & 4** keys, point yourself at Mars and press **Ctrl F12**. You will then eventually get into the general Mars area where you will press **Ctrl F12** again to get out of Warp Getting into a stable orbit is your problem from that point on. All of your velocities at the point of Warp entry are intact so you may have a challenge to get into Orbit. You can leave the Warp drive ON-LINE but it does use fuel so keeping it always ON-LINE is not a good idea **Ctrl F11** toggles between ON-LINE and OFF-LINE.

Warp Key recap

Ctrl 3   Toggle between Warp and FTL drive.
Ctrl F11   Put ON-LINE or OFF-LINE.
3   Decrease Warp value.

4   Increases Warp value.
Ctrl F12 Engage or Disengage the Warp drive.

Credits etc.....
I wish to thank the following for their programs and inspiration.
Dr. Schweiger for letting us play with his toy.
All the people that are continuing his work and that have worked on this latest version.
All the people involved with Star Gate Universe for their TV show.
Dennis Krenz for his Anim8or to mesh script.
R. Steven Glanville for Anim8or.
The members of the Rag Tag Fleet that tested this prior to release.

Disclaimer
This is a work of fiction intended to compliment SGU. No infringement on copyrights, ideas or products is intentional on my part. All models other than the ones in Orbiter and Dan's add-ons were created by me based on information and pictures found on the Internet or derived from watching the TV shows. All textures were created by me from scratch or derived from freely available images on the internet. If you are a copyright holder and feel that I have infringed on your rights then feel free to contact me so that we can rectify any issues.

Everything in this add-on is a copyright by Jon Marcure 2010 and cannot ever be sold for any reason. Models and textures can be used with my permission although I'm pretty easy on that and only would like credit for them if you do use them.

You can contact me via jtmarcure@gmail.com

Have fun with this add-on and remember to keep the blue side up. Wait.... There is no blue side in space. Heck, there isn't even up in space......

Jon Marcure.

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