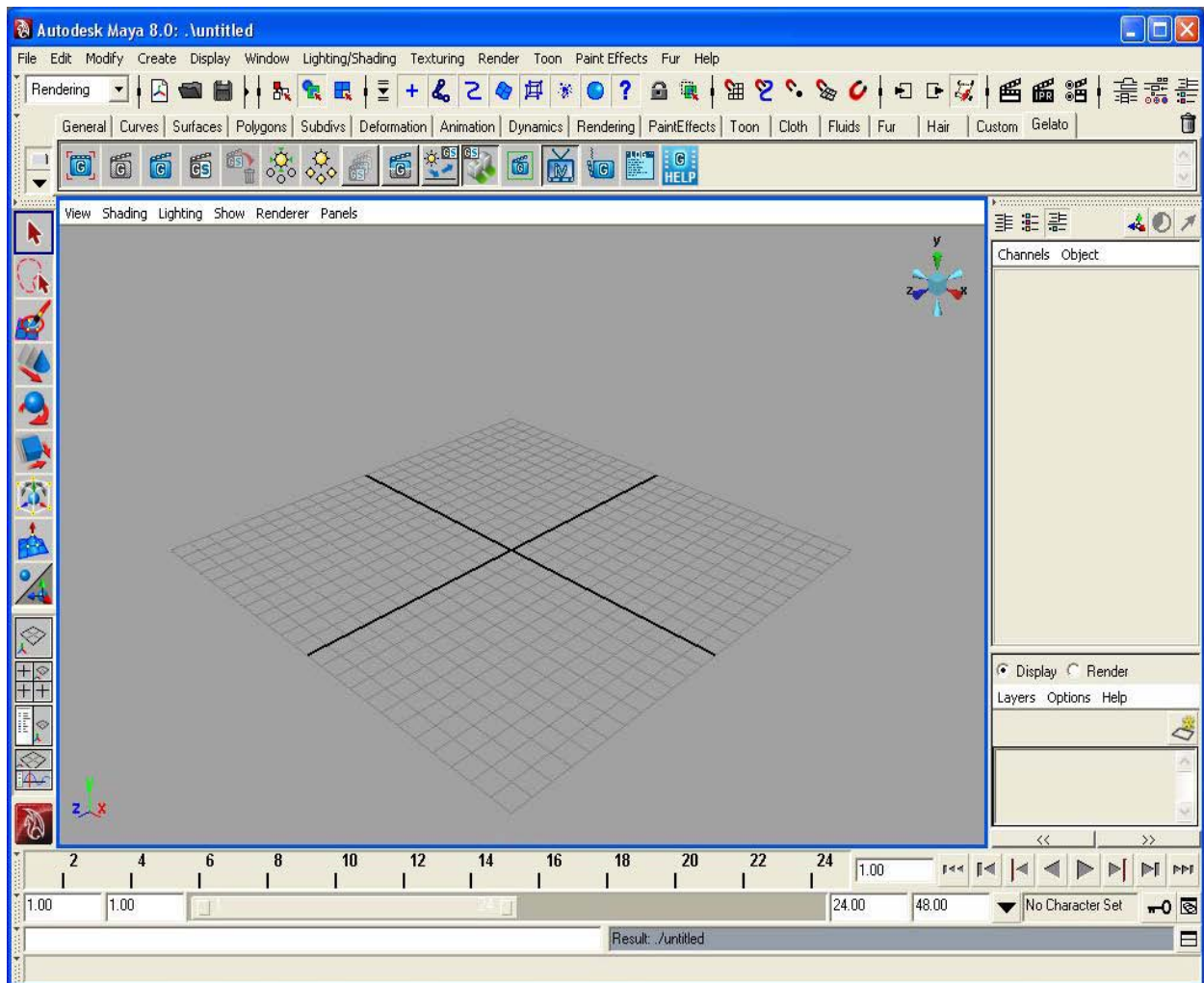


INSTALLING GELATO IN MANGO FOR MAYA

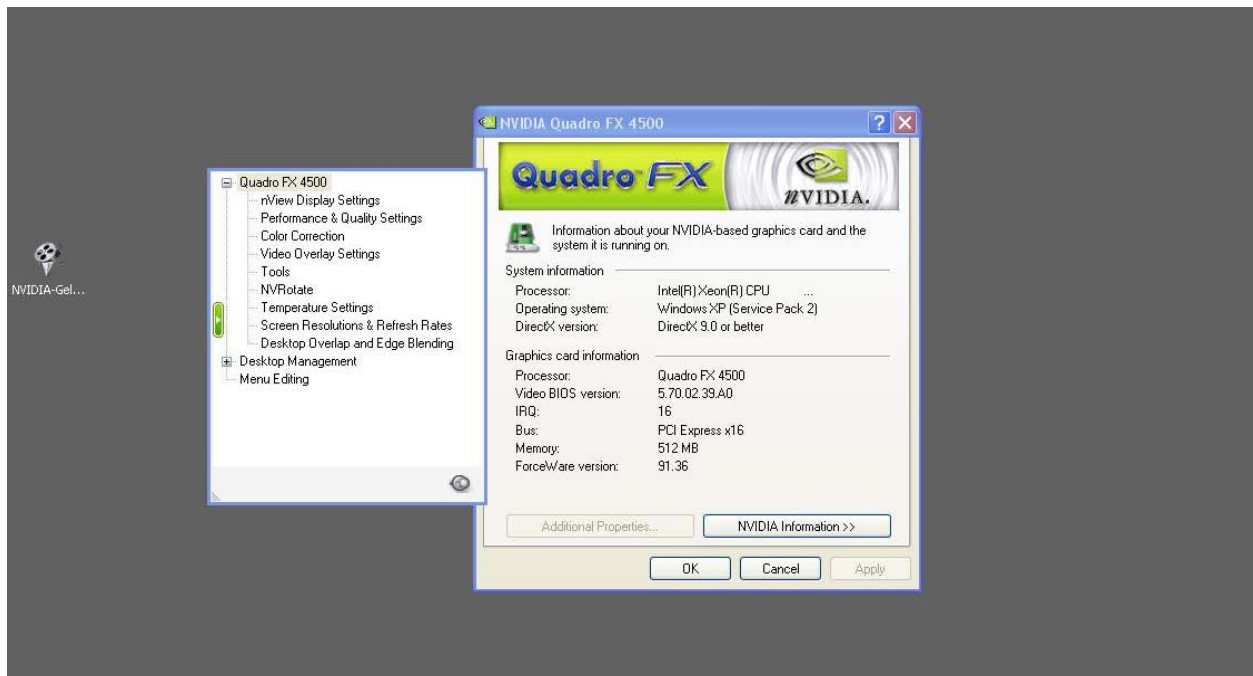


NVIDIA® Gelato® is 3D rendering software that uses the NVIDIA GPU to accelerate the rendering process. A hardware-accelerated, non-real-time renderer, Gelato was originally designed for the creation of 3D visual effects and animation in feature films, but has proven useful for any number of industries, including film & broadcast, CAD, architecture, and print. Gelato's ability to leverage the NVIDIA GPU as a floating point math processor allows Gelato to render images faster than comparable renderers, but without the quality limitations traditionally associated with real-time graphics processing on the GPU.

In this first tutorial, we will take you through the installation of Gelato. The second set of tutorials will look at the basic operation of Gelato; the third set will look at more advanced features; and the fourth set of tutorials will take a close look at NVIDIA® Sorbetto™, NVIDIA's interactive relighting technology.

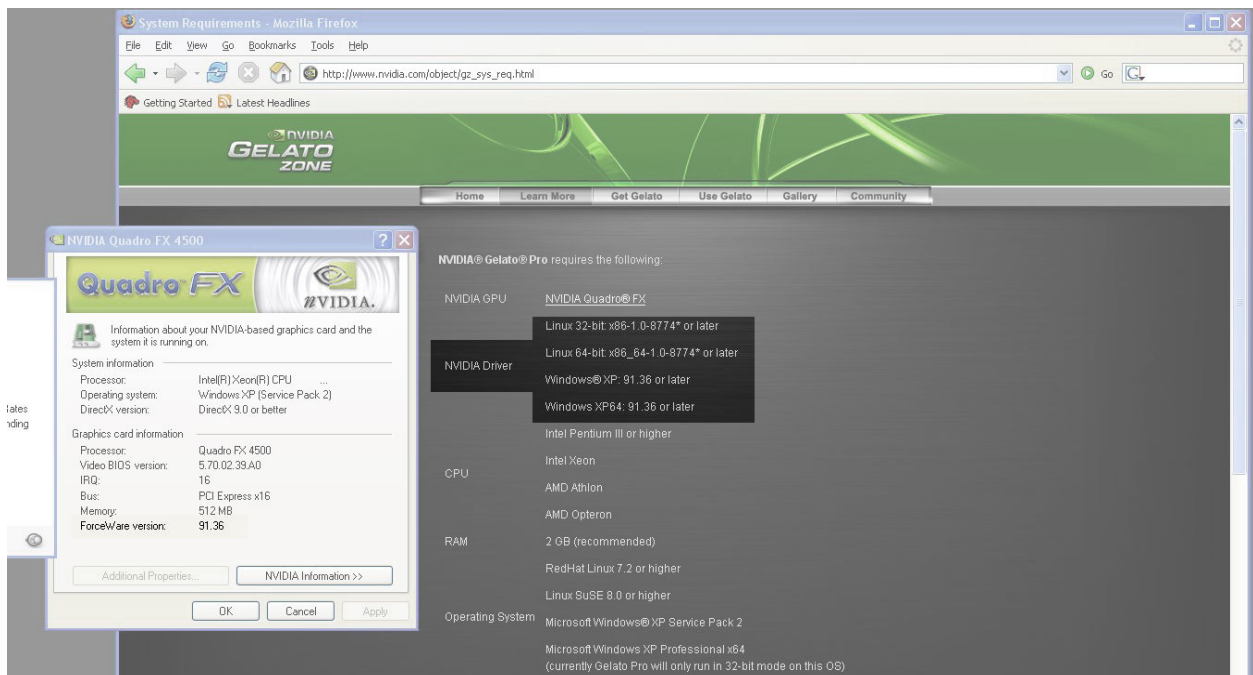
We will begin here by ensuring that our system is ready to handle Gelato, then we will install Gelato and will confirm that it is running within Maya. Finally, in case any installation woes are encountered, we will also discuss several trouble-shooting steps. The most important trouble-shooting, however, is performed at the beginning, when we check to see that our system is running everything needed by Gelato, so let's go take a look...

- **[R+CLK]** on the desktop, go to NVIDIA Display and choose the monitor (which, in the above example, happens to be a Cinema HD).

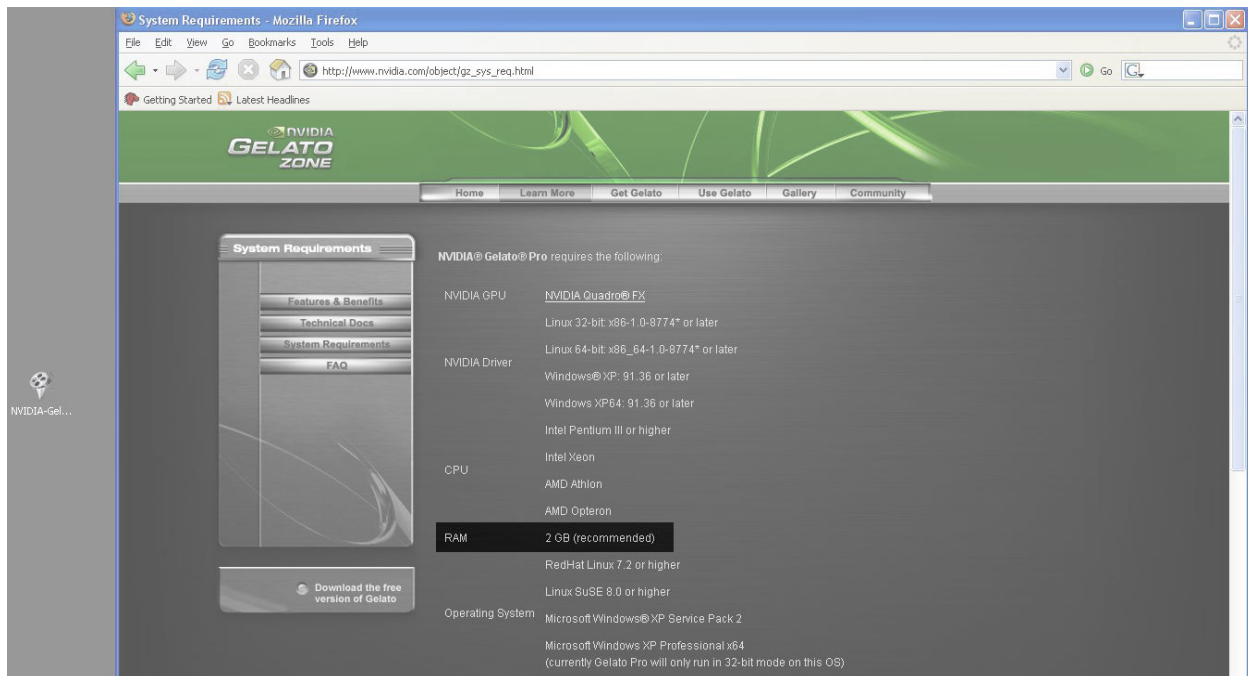


*This should bring up the NVIDIA Quadro control panel.

In this example, the control panel verifies that an NVIDIA Quadro FX 4500 is being used. It also verifies other information about the board, such as the driver being used.

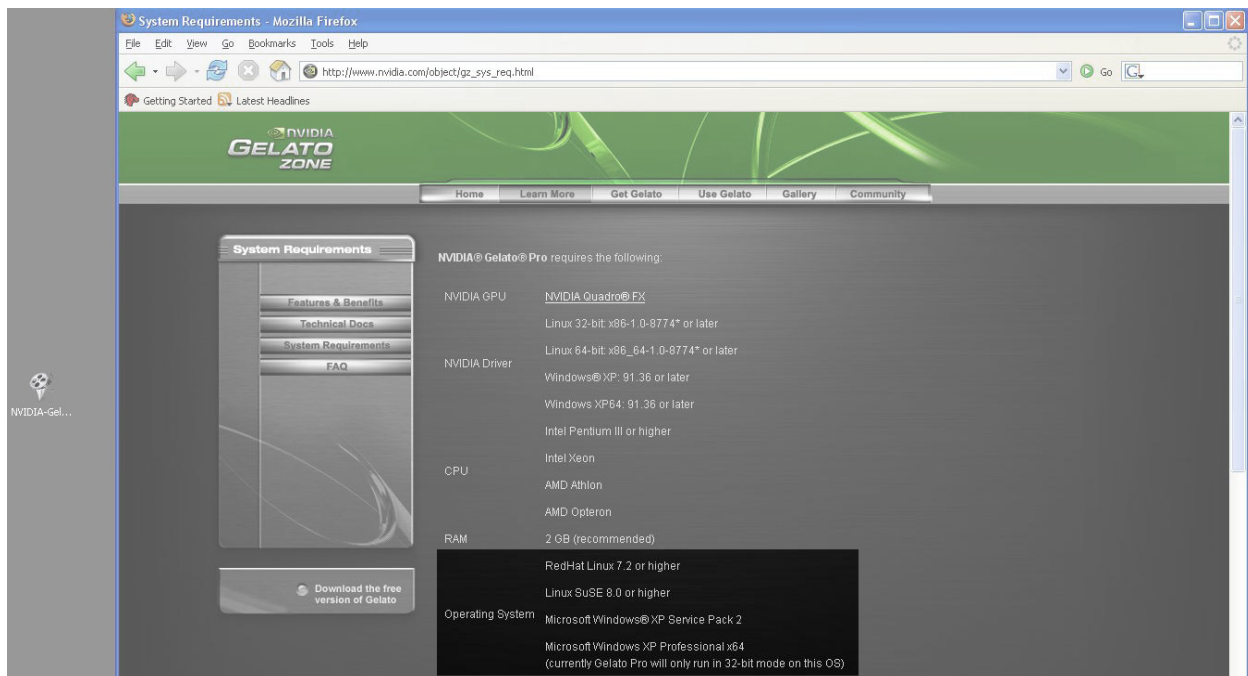


- Going back to the web page, note the version of Linux or Windows required.
- Verify that this is what you see as the ForceWare version shown in the NVIDIA control panel.



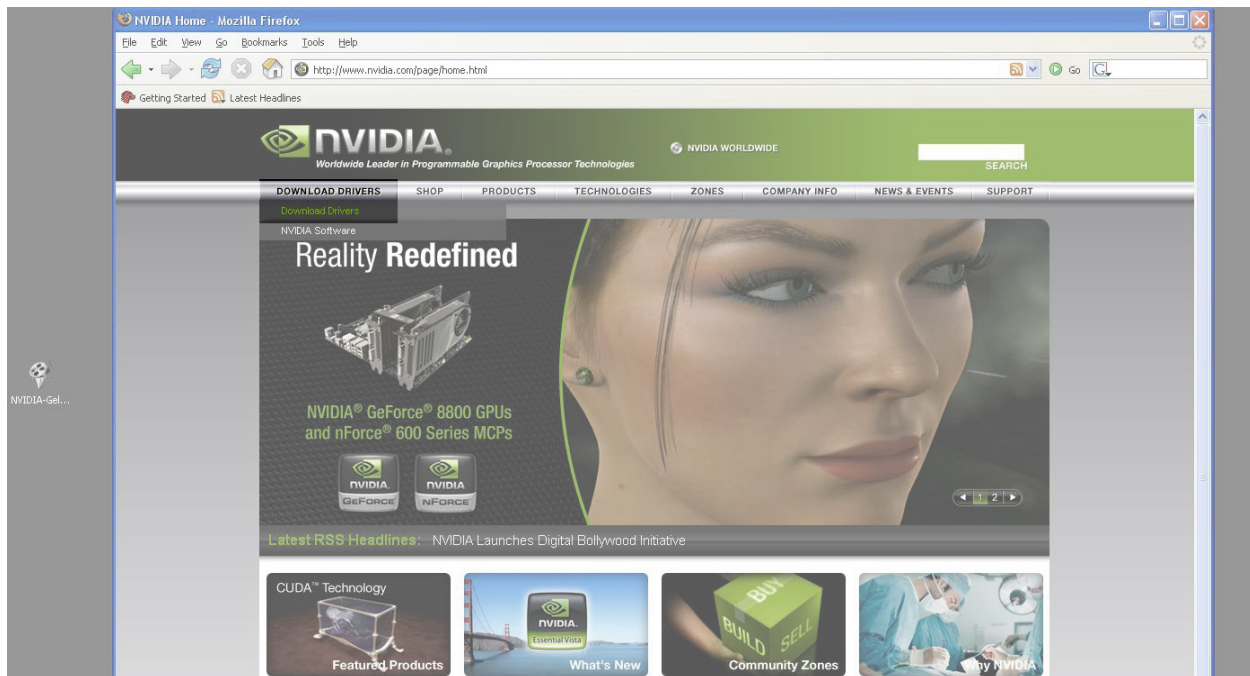
- Note that 2GB RAM is recommended for NVIDIA® Gelato® Pro; 1GB for NVIDIA® Gelato®.

While Gelato does not have a minimum memory requirement and will run on almost any amount of memory, performance may be diminished with less than 1 GB. The 2 GB recommended for Gelato Pro accounts for the fact that Sorbetto uses more memory.



- Whether using Gelato or Gelato Pro, please take a few moments to look through the rest of the requirements listed on this web page to verify that your system is meeting the given parameters.

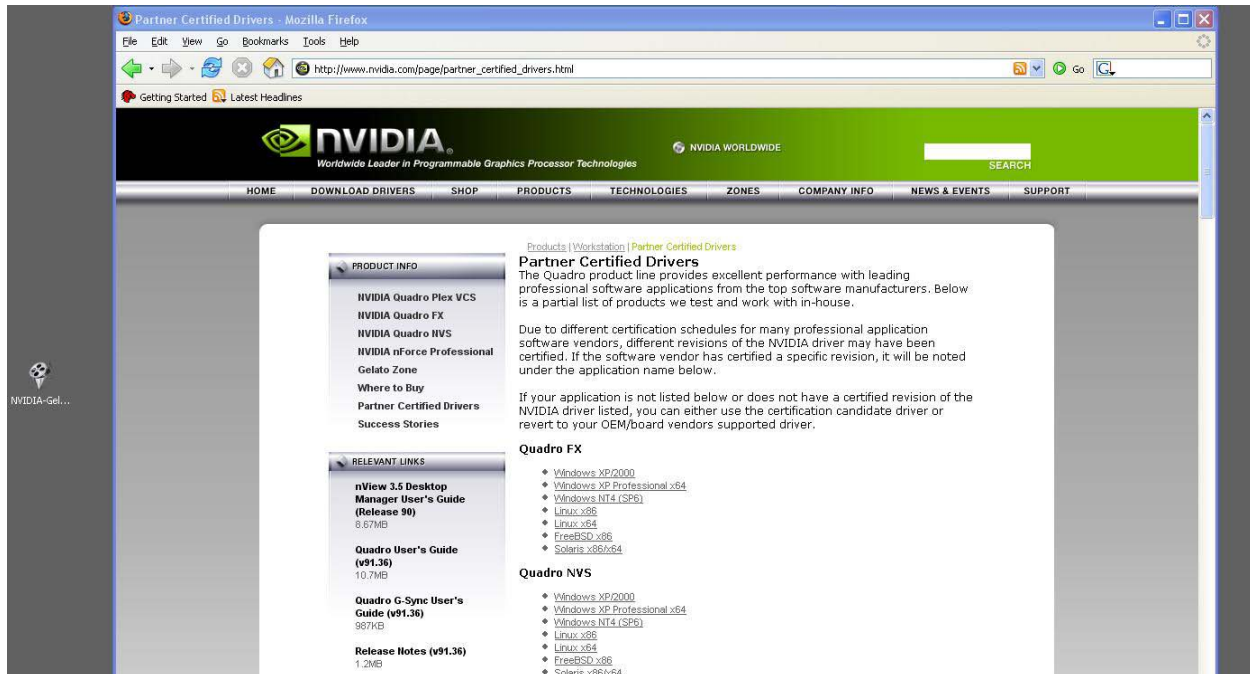
As for XP or XP64, both will work, but Gelato is currently running only 32-bit mode in Maya. Check back with this web site for updates on this.



If you need to download the NVIDIA drivers, you'll find the link to them on the NVIDIA homepage:
www.nvidia.com > **DOWNLOAD DRIVERS** > Download Drivers



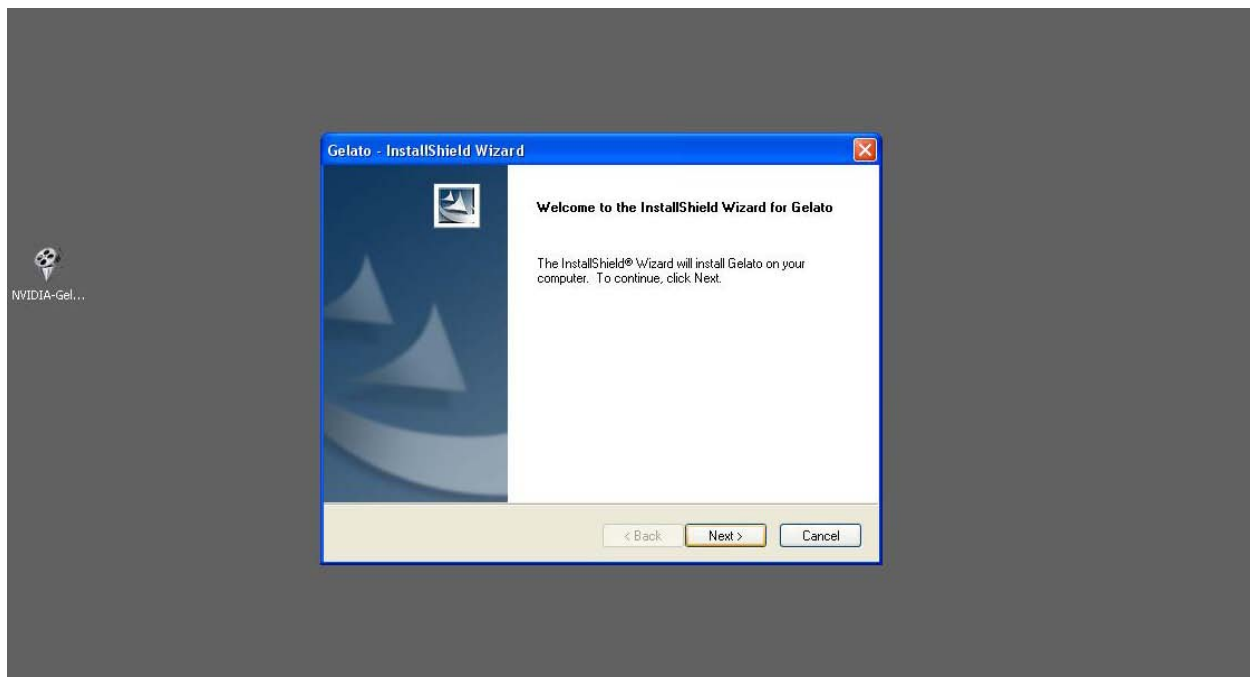
- Go to Graphics Driver > Quadro > then choose your operating system.
- **[CLK]** "Go!"



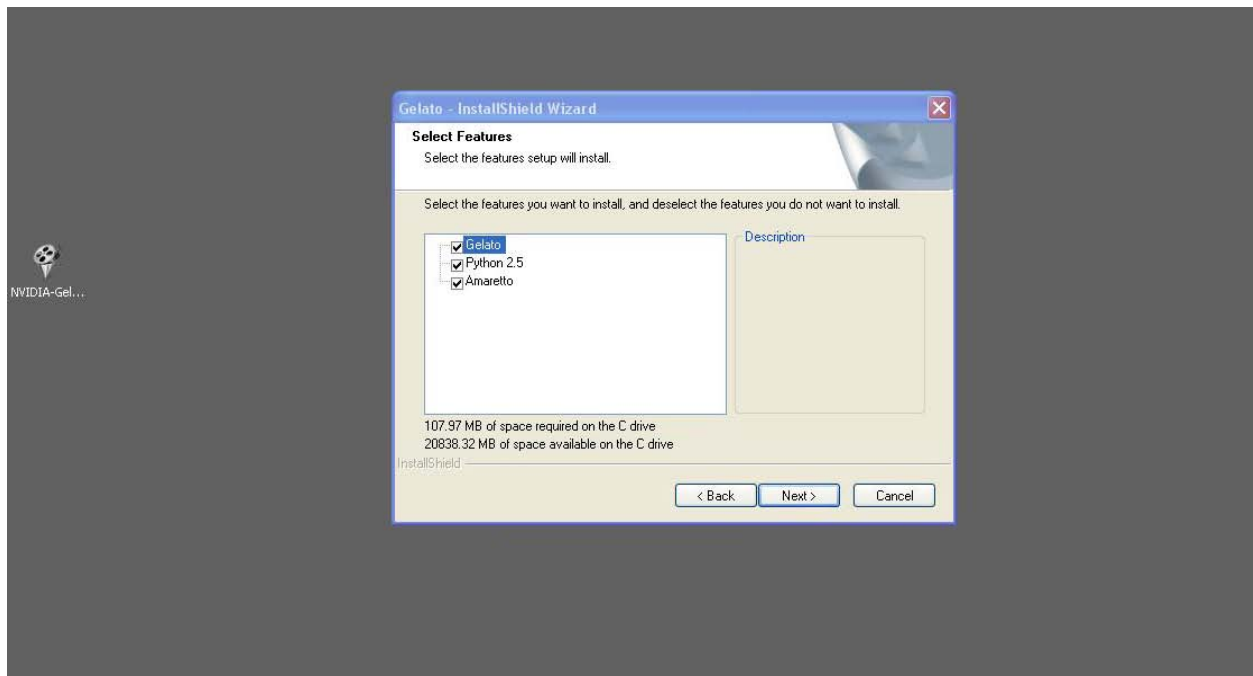
* You may then download the current driver.

* If you're installing a new graphics driver, you may have to reboot your computer.

It's important that you have this all set up before installing Gelato. When everything's running in an approved fashion, it's time to install...

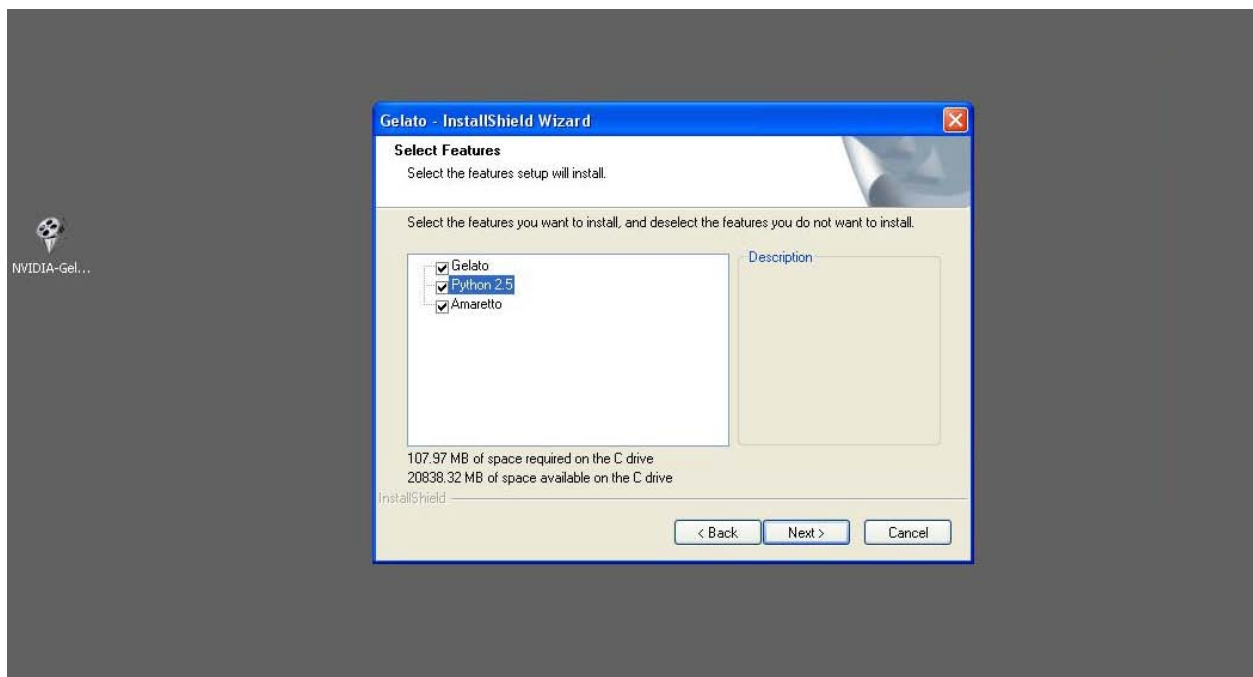


- **[DBL+CLK]** on the NVIDIA-Gelato Installer to launch the executable.
- Agree to and **[CLK]** past the agreement.



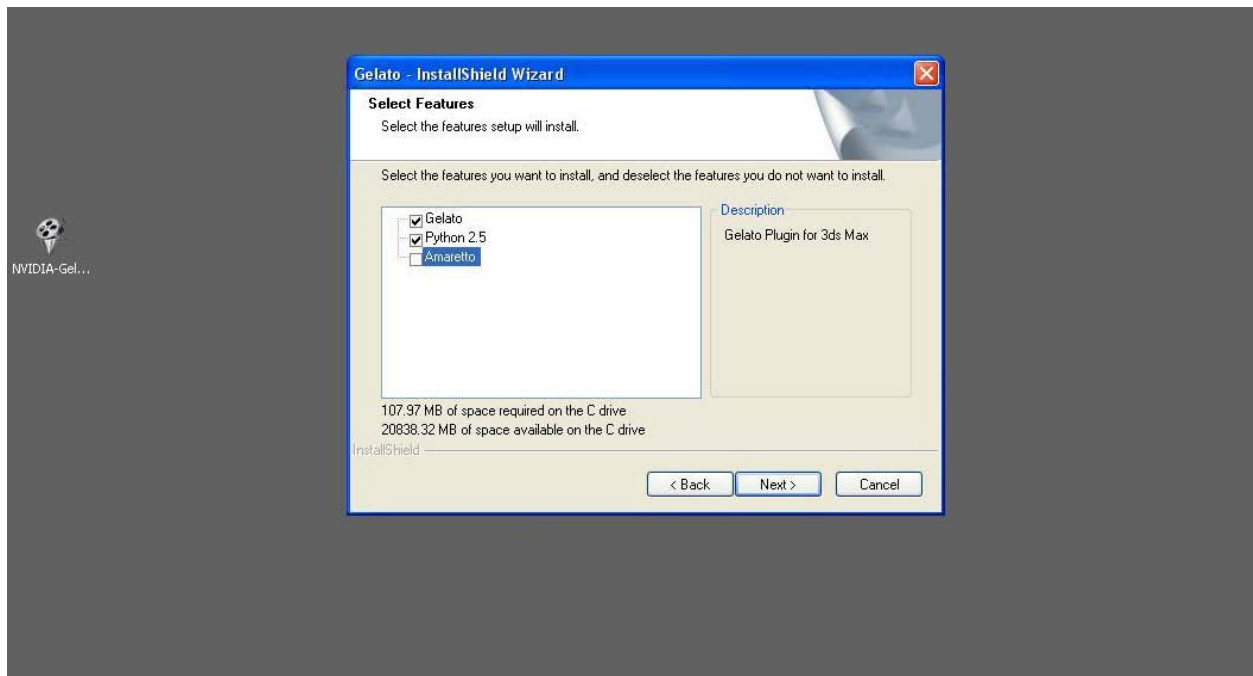
* The feature setup will then appear with 3 items listed above. The Mango™ plug-in, which reads scenes and objects created in Maya, is part of the Gelato installation and is not separated out as a separate choice as is Amaretto, a plug-in for 3ds vMax.

- Gelato is the NVIDIA software, so we want this to be checked.

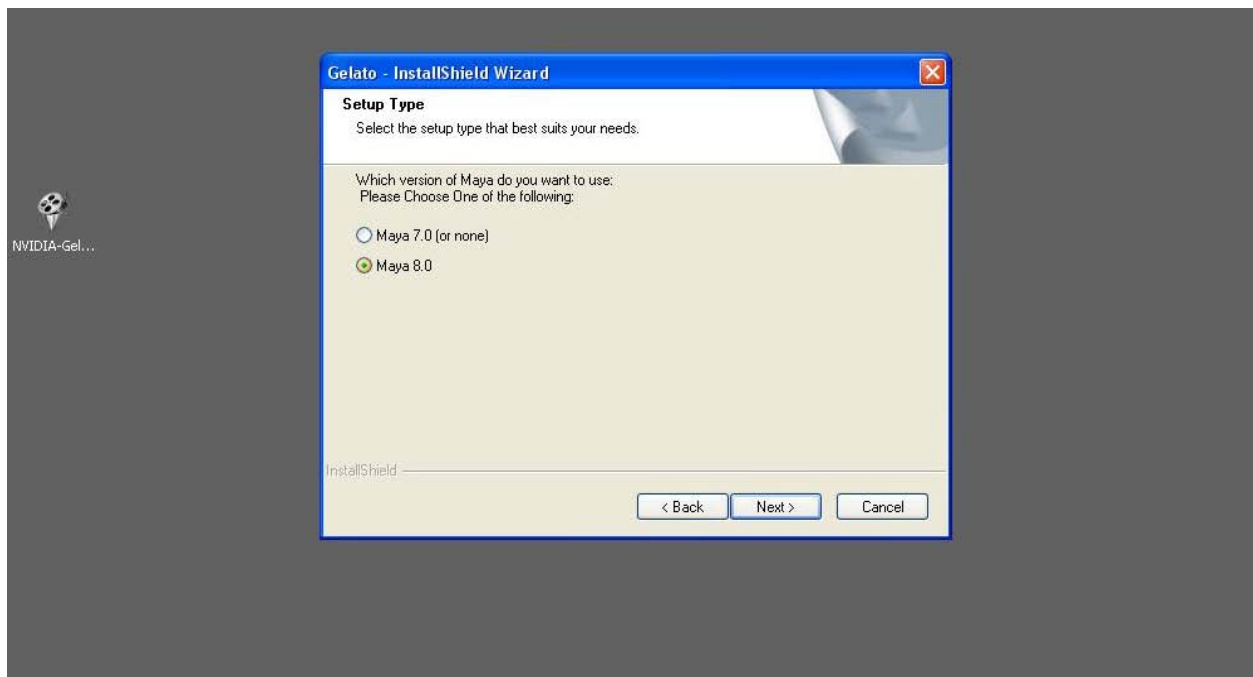


- Python is required for the proper use of Mango, so we will leave this checked.

PYG, the scene file format that ships with Gelato and is used by Mango is based on Python. You can create and use other scene file formats for use with Gelato if you wish; for instance, a 3rd party RIB plug-in is available.



- Amaretto is a plug-in for 3ds Max. Disable this since we will be dealing with Maya in this tutorial series and currently have no need of it.



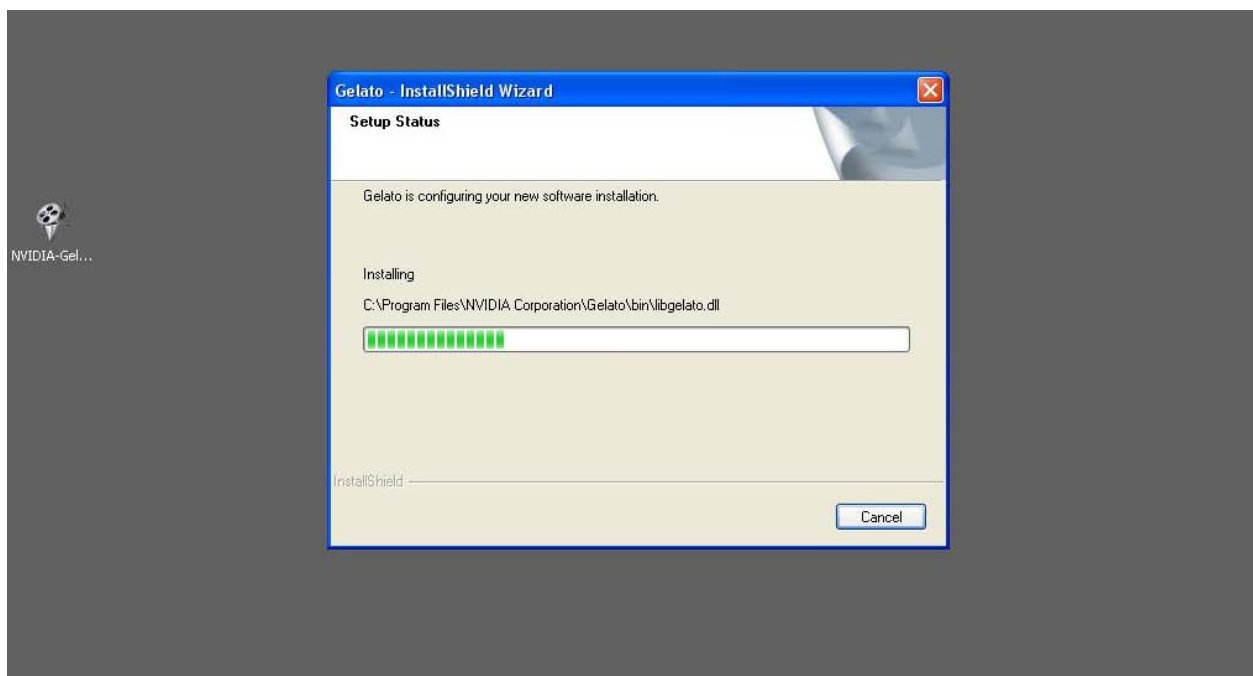
- **[CLK]** “Next” twice. This will bring you to the screen shown above.
- Choose the version of Maya which you are running.
- **[CLK]** “Next.”

Note: It is easy to switch the version of Maya after installation - we'll see this shortly.



- Now we'll be prompted to set OpenGL. Choose "Yes."

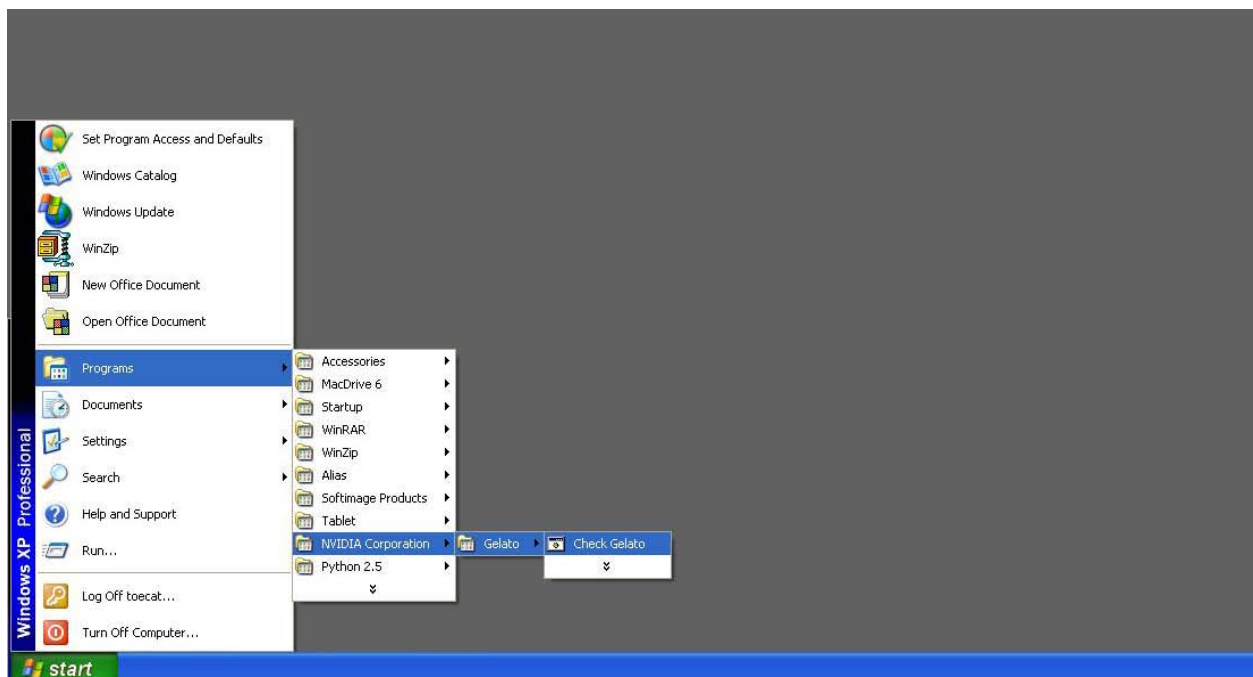
Note: Selecting "No" in this step will significantly impair Gelato's performance.



* Gelato installs.



- Next, Python presents itself for installation... so install it.



We've gone through the installation, now we will verify that everything is working as it should...

- PC Start Menu > Programs > NVIDIA Corporation > Gelato > Check Gelato

```
Check Gelato
GELATOHOME is set to:
"C:\Program Files\NVIDIA Corporation\Gelato"

Launching from directory:
"C:\Documents and Settings\toecat"

Gelato(R) 2.1 Beta 5 winnt (Nov 10 2006 12:43:47)
(c) Copyright 2003-2006 NVIDIA Corporation. All Rights Reserved.
INFO: Loaded shader "C:\Program Files\NVIDIA Corporation\Gelato\shaders\defaults
urface.gso"
INFO: Camera matrix: (1. 0. 0. 0. 0. 1. 0. 0. 0. 0. 1. 0. 0. 0. 1. 1)
INFO: Camera inverse matrix: (1. 0. 0. 0. 0. 1. 0. 0. 0. 0. 1. 0. 0. 0. -1
. 1)
INFO: Using local FLEXlm license.
INFO: License path searched was:
INFO: * c:\flexlm\stampeen-20061109.lic
INFO: C:\Program Files\NVIDIA Corporation\Gelato\etc*.lic
INFO: NVIDIA Gelato 2.1 Beta 5 running in Pro mode.
INFO: Image writer using passed in imageio 0x12fc78
Elapsed: 0.0004s Done: 0% !*
!INFO: Loaded
shader "C:\Program Files\NVIDIA Corporation\Gelato\shaders\showuv.gso"
INFO: No GPU affinity support found.
INFO: No GPU affinity support found.
INFO: Driver version : 9136
INFO: FSAA value (not number of samples): 0
INFO: NU Displays : 1
INFO: Logical GPUs : 1
INFO: Physical GPUs : 1
INFO: Display 1 [\\.\DISPLAY1 - NVIDIA Quadro FX 4500]
INFO: Display Rectangle : [1 DAI (0,0)-(1920,1200)
INFO: GPU : Quadro FX 4500
INFO: GPU Arch : 0 64 7
INFO: GPU type : Quadro
INFO: No GPU affinity support found.
Elapsed: 0.4075s Done: 100% !*****!

Gelato checking succeeded...
Press any key to continue . . . _
```

*This is a little executable that runs a script to check Gelato. At the end, hopefully, it will say "Gelato checking succeeded."

Gelato Check will also list whether basic or Pro mode is running, making it useful to verify that the license file is properly installed if the Pro version is being used. As well, it will list the driver and type of graphics hardware installed, allowing another check of your system setup.

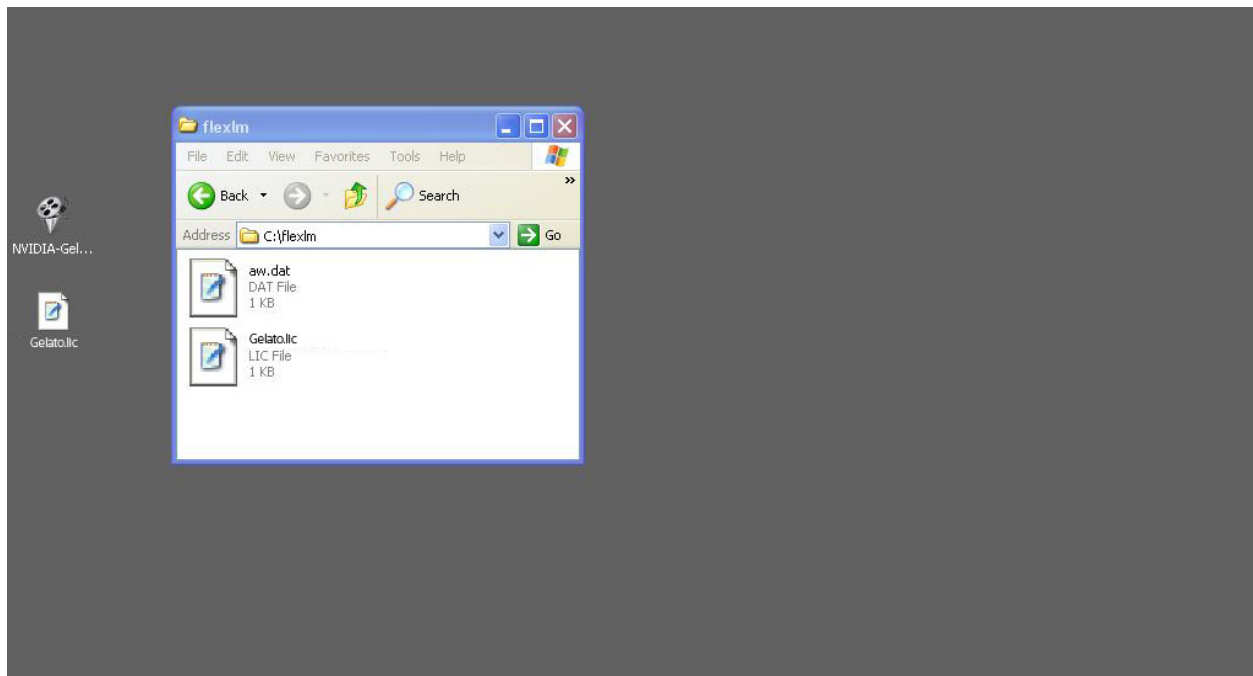
```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\toecat>gelato -check
Gelato(R) 2.1 Beta 5 winnt (Nov 10 2006 12:43:47)
(c) Copyright 2003-2006 NVIDIA Corporation. All Rights Reserved.
Elapsed: 0.3040s Done: 100% !*****!

Gelato checking succeeded...

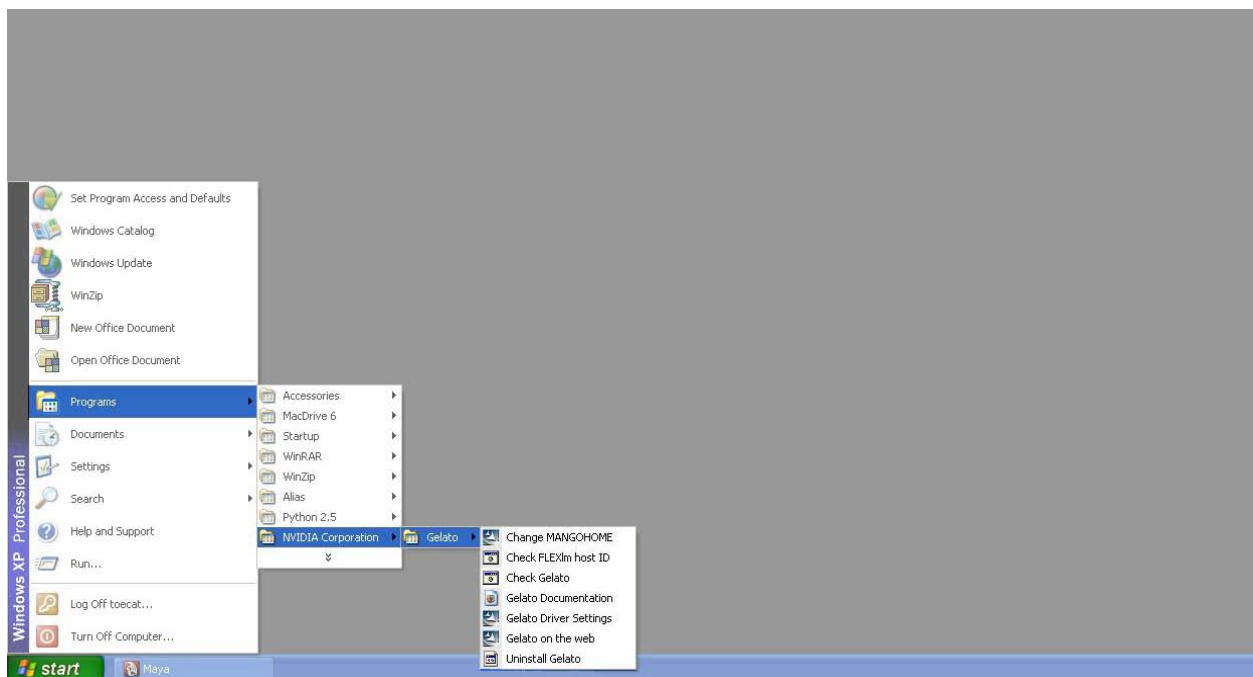
C:\Documents and Settings\toecat>_
```

You can also use the command line to check that gelato has installed successfully by typing in "gelato-check."



If you are using the Pro version, you will have received a license from NVIDIA.

- Put the .lic document in the “flexlm” directory on the C drive – the same place your Maya license resides.



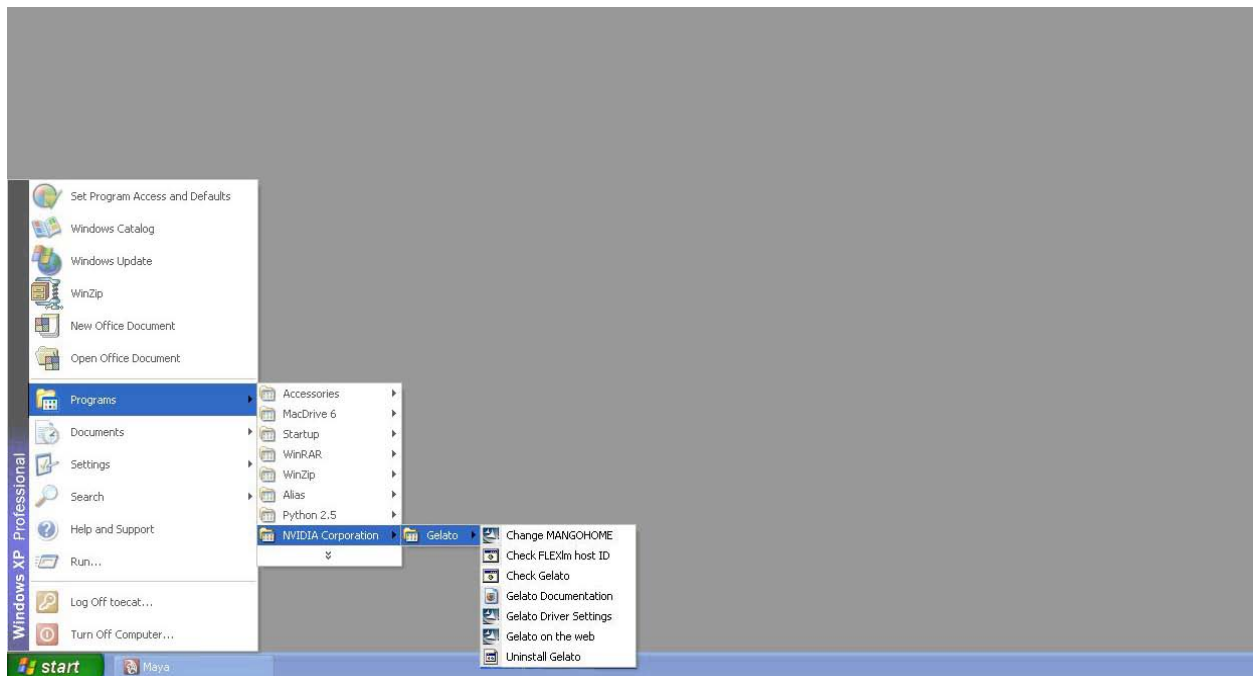
Now that everything is installed, let's take a look at the Start menu...

Change MANGOHOME allows for the easy switch between versions of Maya.

Check FLEXlm host ID presents the machine's mac address, which is helpful if requesting a Gelato Pro license.

Check Gelato we saw in action on pages 11 and 12 of this document.

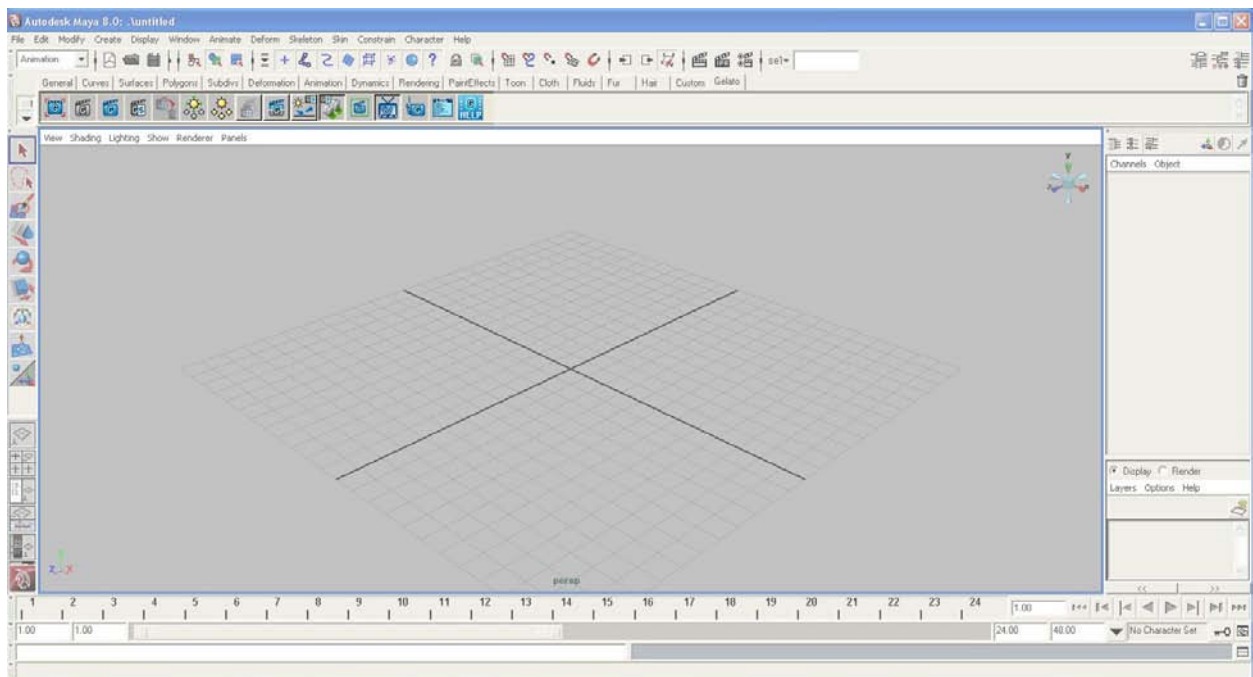
Gelato Documentation opens up the documentation.



Gelato Driver Settings allows the OpenGL Yield Behaviour to be changed to something other than that set upon installation.

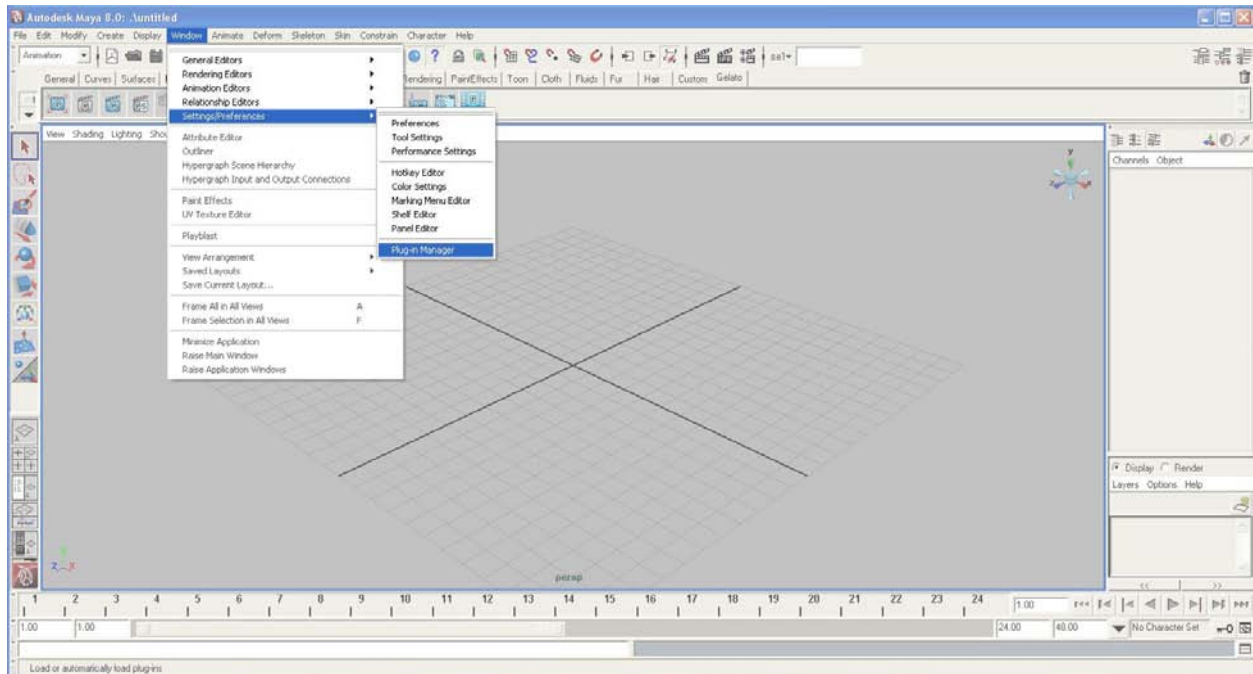
Gelato on the web links to the Gelato Zone web site.

Uninstall Gelato, well, uninstalls should you need to do this.



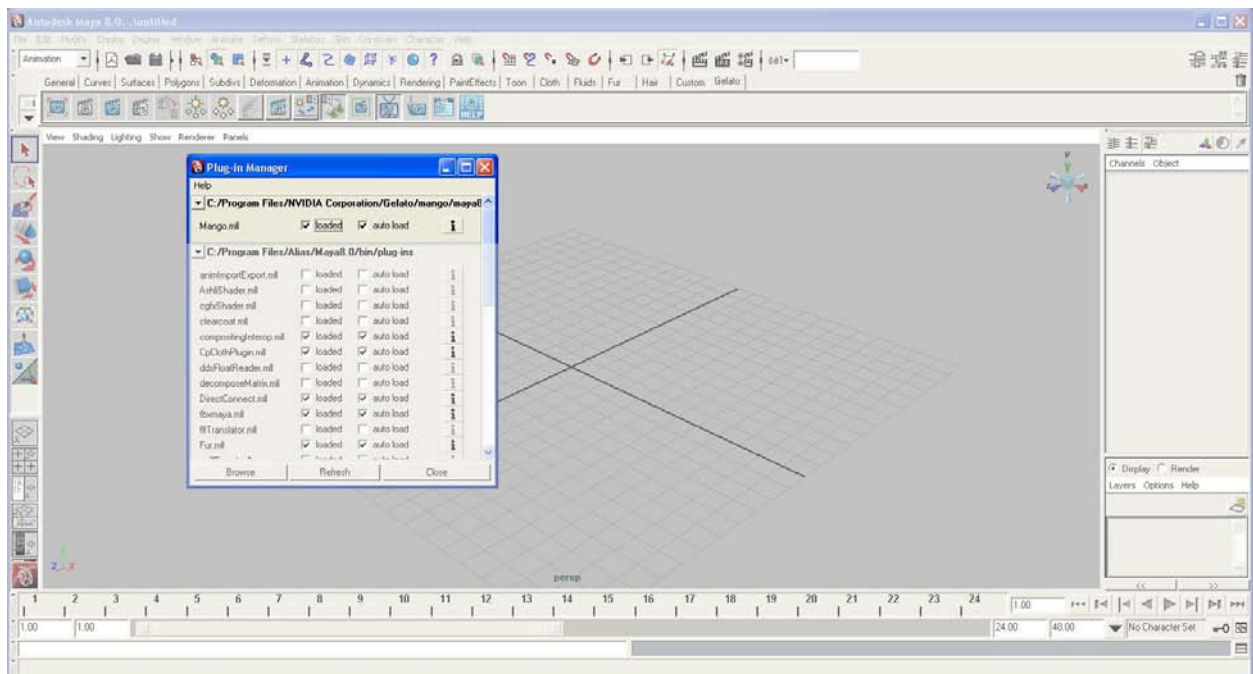
Now that Gelato is installed, we are ready to look at Maya...

- Open Maya.
- Notice the presence of a Gelato Shelf.

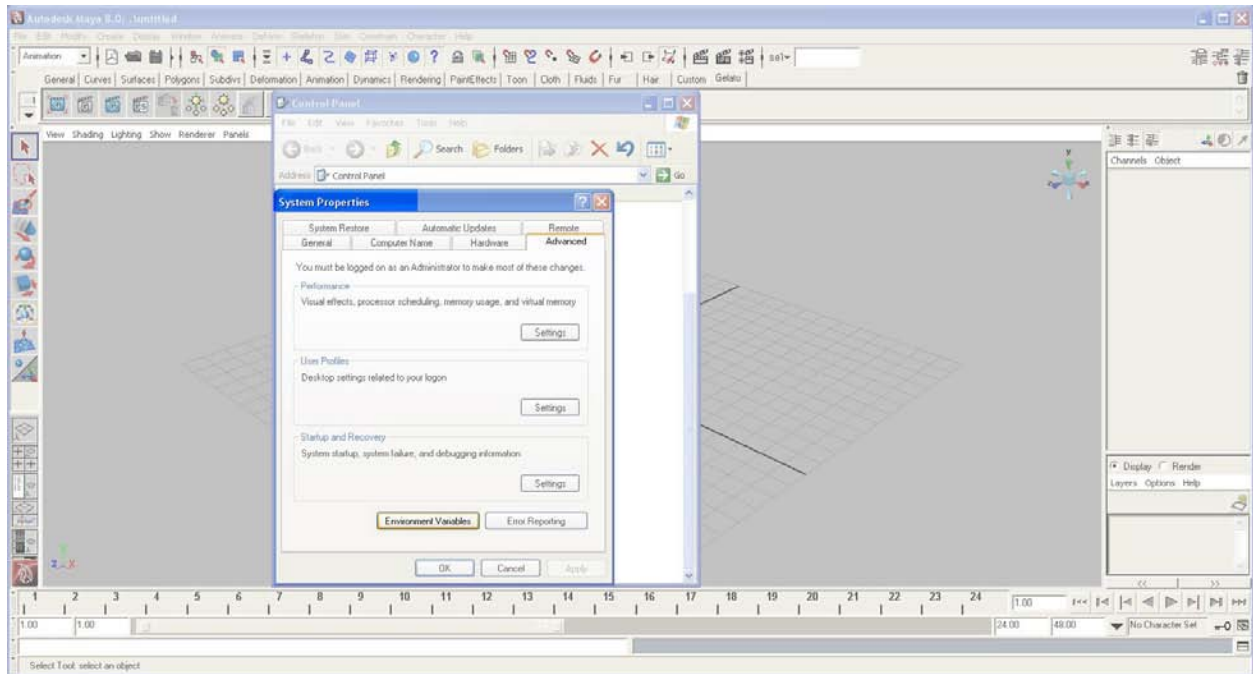


When Gelato installed, the Mango plug-in should also have been installed. If you don't see the Gelato Shelf...

- Open the Plug-in Manager.

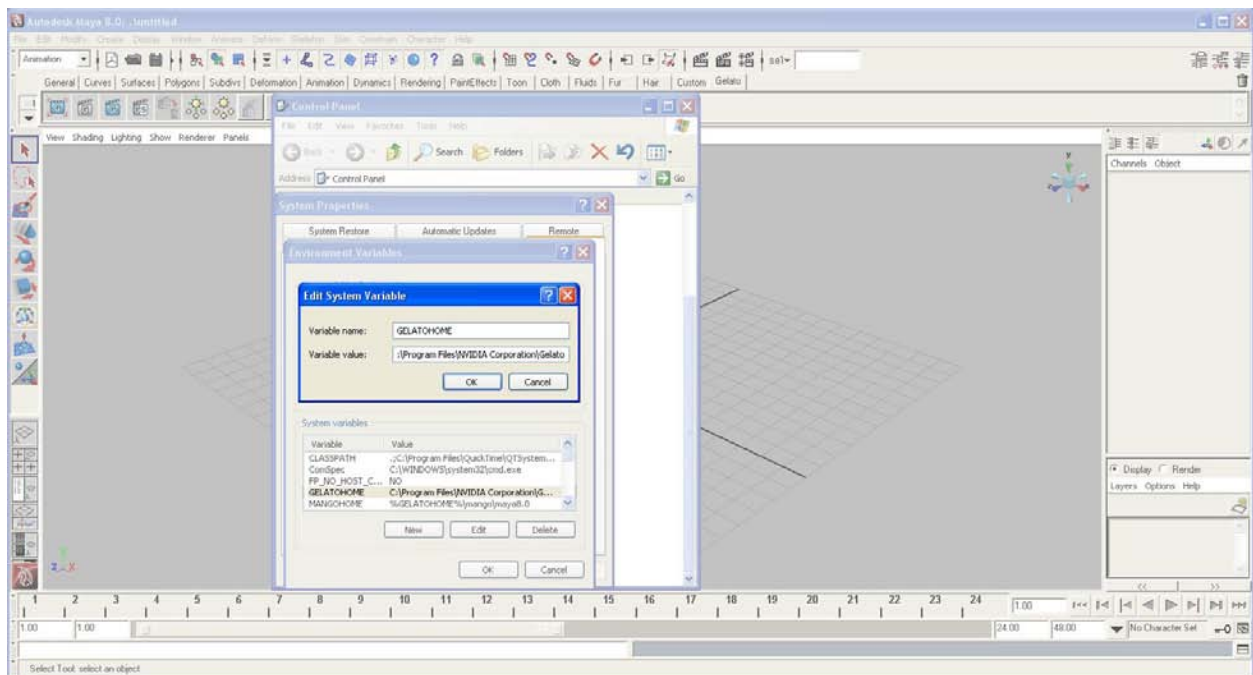


- Check to see that Mango is loaded. If it isn't, try to load it.

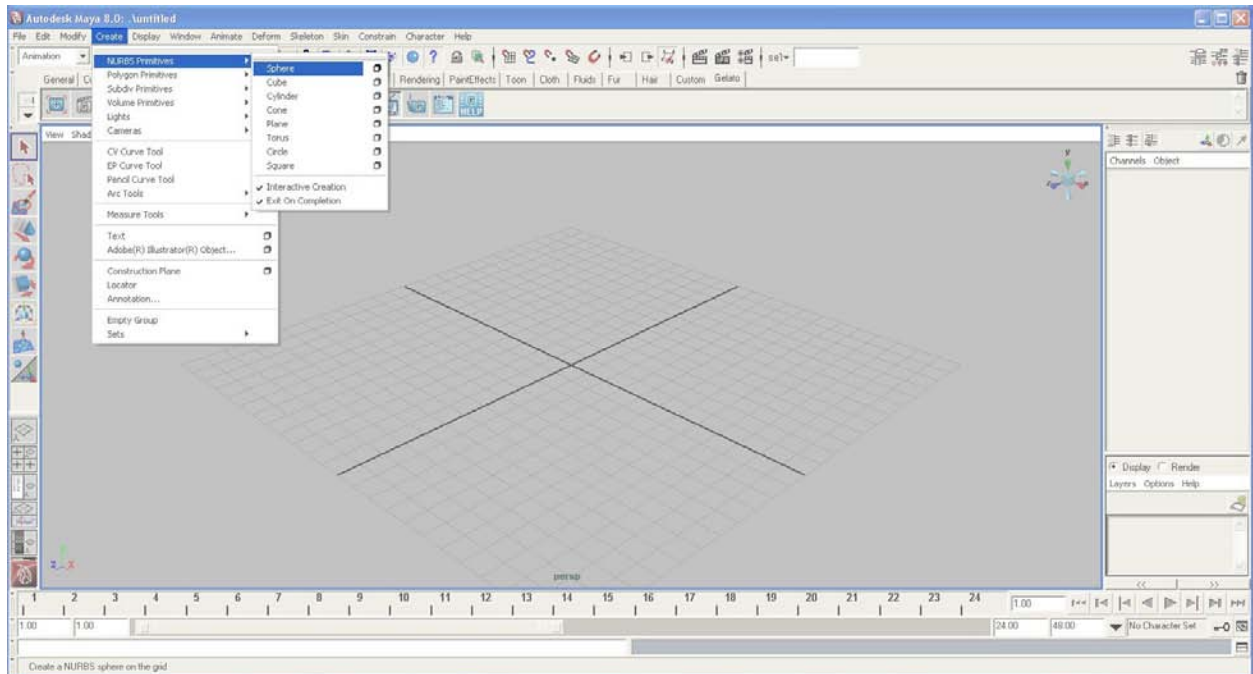


Occasionally, you'll find that the Shelf doesn't load because there's a problem with the Environment Variables...

- Go to the Control Panel > System > Advanced > Environment Variables.

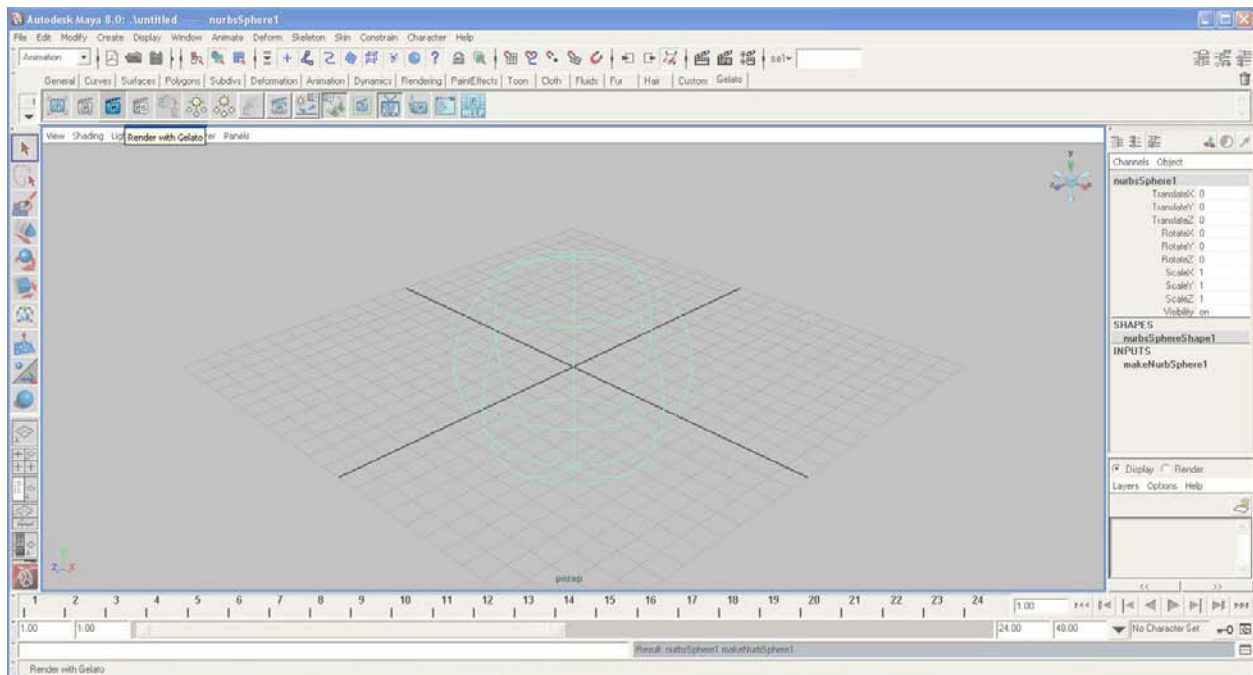


* There you will find a bunch of Gelato-specific paths to certain files. You can check the documentation to find out what these Environment Variables should say.

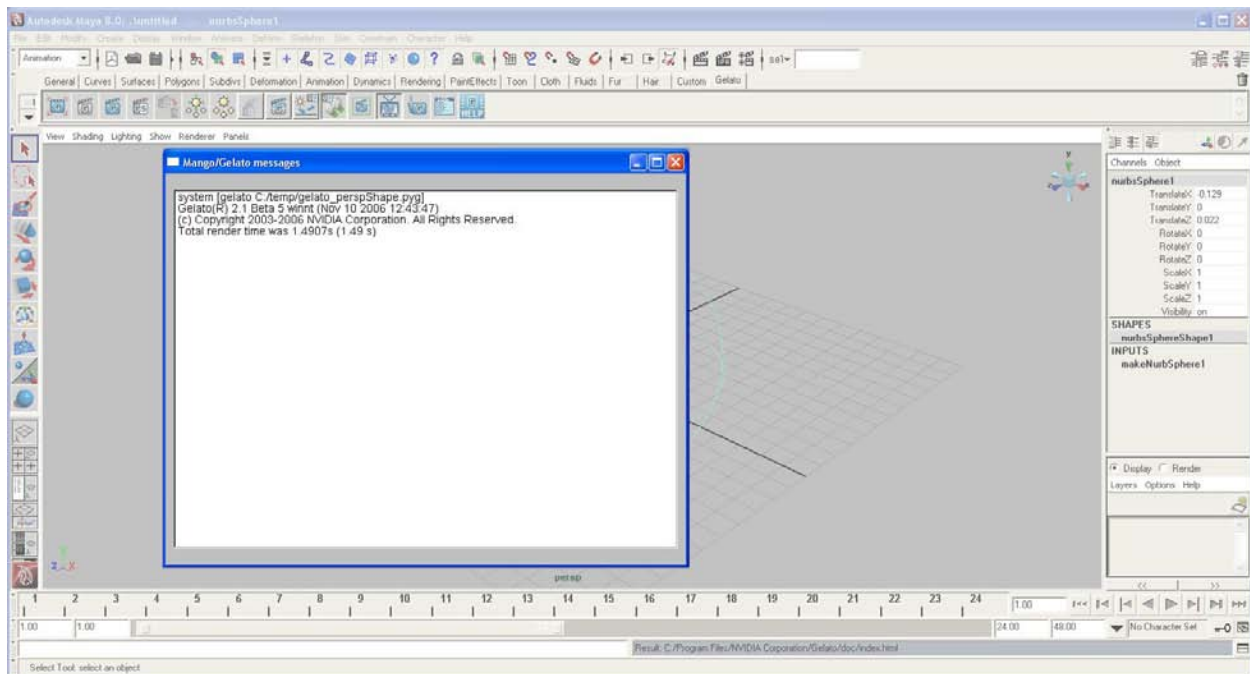


Another Gelato check is to simply run the Gelato Renderer...

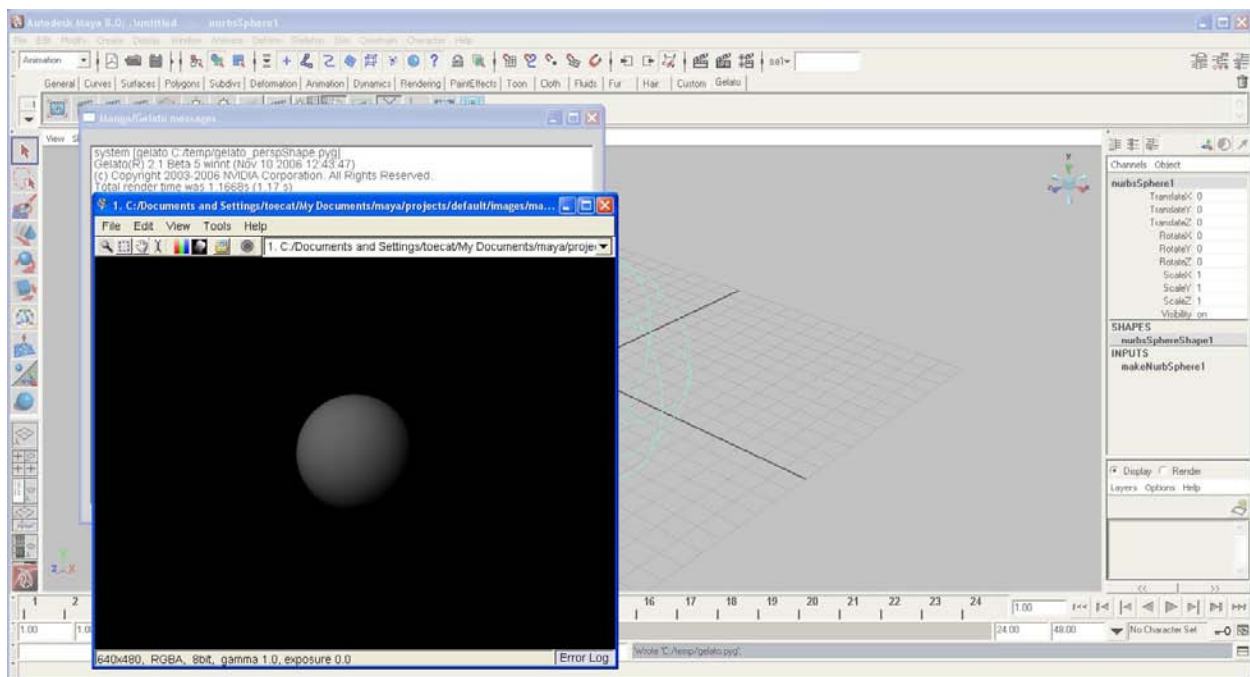
- Add a sphere to the scene.



- Gelato Render – hit the third button from the left in the Gelato Shelf.



If there were any problems, the Mango/Gelato messages dialog would show it. If the correct driver isn't installed, or if there's an OpenGL problem, a message would be recorded here.



* And... the sphere rendered okay, so all is well with this particular system.

Once you are sure that everything on your end is working fine, you're prepared to move on to seeing Gelato in action. In the second set of tutorials, we will be introduced to Gelato basics, so when you're ready...