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## **Radu Bogdan Rusu**

Apr 1 2009

### **Change your desktop wallpaper**

I got bored of my desktop wallpaper a few days ago, and wanted something different for a change. Here's what I did:



My Desktop Wallpaper

If you like what you see 😊 keep on reading.

The above is generated using [Xplanet](#). However, to get everything to work perfectly you need to tweak a few things. If you wanna duplicate this, here's what you need to do:

- download and install xplanet from <http://xplanet.sourceforge.net> or use *apt-get install xplanet* on Debian/Ubuntu systems;
- get the script from <http://xplanet.sourceforge.net/FAQ.php#gnome2> (or use my modified copy [here](#)) if you have Gnome like I do. There's also a KDE version available there if you still use *\_that\_* (rolleyes). My changes account for a different projection type and some other small changes. Use their instructions to add it to your list of startup programs (Gnome2 menu -> System -> Preferences -> Sessions);

- get the script from [http://xplanet.sourceforge.net/Extras/download\\_clouds.py](http://xplanet.sourceforge.net/Extras/download_clouds.py) (or use my modified copy [here](#)). My changes account for higher quality cloud maps (4096 instead of 2048);
- create a directory called `.xplanet` in your home directory;
- go to the [NASA Blue Marble collection](#) and download the monthly pictures from January - December and save them into `$HOME/.xplanet/world/` (or change my modifications from the [gnome2 script](#)). You have two options there: 1) download the simpler maps showing only the topography of the continents (page 2 and 3) with the oceans in a single color; or 2) download the maps which show both the topography of the continents together with the bathymetry of the oceans. My choice was 2). Downsample and rename the maps as you wish to best fit your screen. I saved my copies as `world.topo.bathy.2004{01-12}.1050.jpg`. You need to save yours under the same name or change the [gnome2 script](#);
- from the same page, download the BMNG Raw Topography [picture](#) and the BMNG Raw Bathymetry [picture](#). You need to edit the second one to make it binary (black and white) with all continents black and all oceans (or other water spots) white. This can be easily done if you open it up in GIMP, do a select color on the continents, then invert selection, and cut. Save them under `$HOME/.xplanet/bump.jpg` and `$HOME/.xplanet/specular.jpg` respectively;
- get a night shot Earth scene from [flatplanet](#) (my favorite is `night-electric.jpg`) and save it under `$HOME/.xplanet/night.jpg`
- finally download my configuration script from [here](#) and place it into `$HOME/.xplanet/config`.

Let's revise. You now should have the following files in your `$HOME/.xplanet/` directory: `bump.jpg`, `config`, `night.jpg`, and `specular.jpg`. You should also have a subdirectory `$HOME/.xplanet/world/`, containing 12 files: from `world.topo.bathy.200401.1050.jpg` to `world.topo.bathy.200412.1050.jpg`.

Now, you need to do one more thing, and you're done: cloud maps. By default, the `xplanet-download_clouds.py` will download a high quality (4096) cloud map which you can use. However, I didn't like the default too much because the clouds towards the poles are just mirrored from the data below them, due to the fact that there is no satellite data for the clouds around the poles. This mirroring artifact looked too weird for me, so I decided to crop the map instead (and then resize it). This results in a minor stretching artifact, but in my opinion it definitely provides a better visual aspect.

Final thoughts. The `xplanet-gnome2.sh` script will start Xplanet whenever you start your Gnome2 session, and will use all the images together with the current system time above to generate a new screenshot every 2 minutes for your desktop. I consider this an *\_extremely minor\_* penalty performance. If you don't want your changes that often on the desktop, simply change the sleep

time in the script to something else.

The cloud maps are a bit trickier if you want to use `_real satellite_` data. The Xplanet folks recommend using the `xplanet-download_clouds.py` script every 3 hours, because that's the frequency they generate the new cloud maps with. So, together with my cropping/resizing changes, I made the following script (let's call it `xplanet_clouds.sh` — note: my xplanet scripts are in `$HOME/bin`):

```
#!/bin/bash
$HOME/bin/xplanet-download_clouds.py /tmp/clouds_4096.jpg
/usr/bin/convert -crop 4096x1700+0+174 /tmp/clouds_4096.jpg
/tmp/clouds_custom.jpg
/usr/bin/convert -resize 1680 /tmp/clouds_custom.jpg $HOME/.xplanet
/clouds.jpg
rm -f /tmp/clouds_4096.jpg /tmp/clouds_custom.jpg
```

and then used `crontab -e` to add the following entry:

```
0 */3 * * * path-to-your-xplanet_clouds.sh-script
```

Have fun.

[no comments](#) | tags: [desktop](#), [gnome](#), [linux](#) | posted in [linux](#)

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Mar 2 2009

## [Firefox multiple tabs rows](#)

If you need more than one row of tabs in Firefox and are tired of scrolling left/right in your list, check out [Tab Mix Plus](#). To add more than one row, go to "Tools->Tab Mix Plus Options->Display->Tab Bar->When tabs don't fit width:" and set to Multi-row.

[no comments](#) | tags: [linux](#) | posted in [The Web](#)

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Feb 20 2009

## [Replanning/Perception demo](#)

During my [Willow Garage](#) internship, [Ioan](#) and I worked on a few things with the PR2 mobile robot. Here's [one of them](#). 😊 You can also [try here](#) if the above link doesn't take you directly there.



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Jan 7 2009

## [Atlas/Lapack issue](#)

Just a quick note if you run into an error like the one below...

```
$ ./bla
./bla: symbol lookup error: /usr/lib/sse2/atlas/liblapack.so.3gf: undefined
symbol: _gfortran_pow_r8_i4
# dpkg -l | grep atlas | awk {'print $2'} | xargs apt-get remove -purge -y
...
$ ./bla
Hello world!
```

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