3D - No Plugins

A 3D viewer that needs no browser plugins

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What exactly is 3DNP?

3DNP is a JavaScript, that preloads a series of images into memory and simulates a 3D view by analysing the user's mouse movement and quickly swapping the images. I also made a simple Python script for Blender to produce images that fit into 3DNP – however you can also use other applications to render your images or simply take photographs and use them in 3DNP.

Which image formats are supported?

This depends on the web browser that is used to view your 3DNP – currently JPG, GIF and PNG are supported by most browsers.

Which web browsers are supported?

I successfully tested 3DNP on the following web browsers:

- Mozilla Firefox
- Microsoft Internet Explorer 6
- Safari
- Opera
- Konqueror

Is 3DNP free?

Yes, I licensed 3DNP under GNU General Public License (GPL), it is absolutely free and you can even modify it or change the loading screen etc.

Anyway, I would appreciate if you would use the 3DNP logo in your customised loading screen, you will find a lossless version with transparency in the 3DNP archive ('3DNP_logo.png').

I'm also very interested in seeing your results or getting some feedback.

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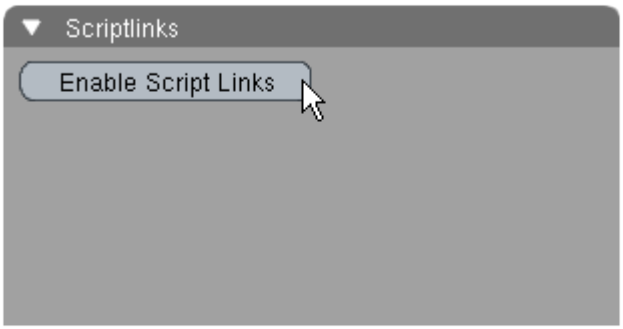
How do I use the Blender Python script?

Note: If this method looks too difficult, you can use a more comfortable script to render your images. It is called BGC (Blender Goes Cubic) by Stefano <S68> Selleri and macouno.
More: http://www.elysiun.com/forum/viewtopic.php?t=38760. If you should decide to use BGC, please don't forget to set the filemode to 'RowShot' in 3DNP_config.js.

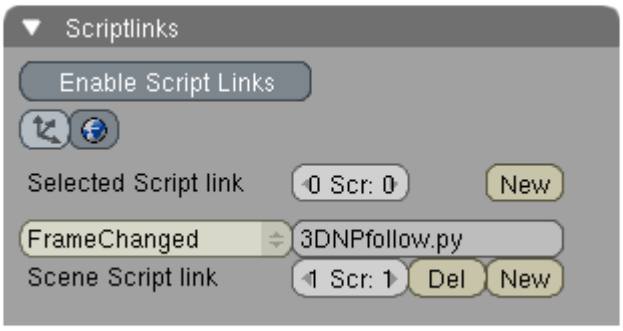
Just load the Blender file ./Blender/3DNP.blend into Blender and enable Script Links:



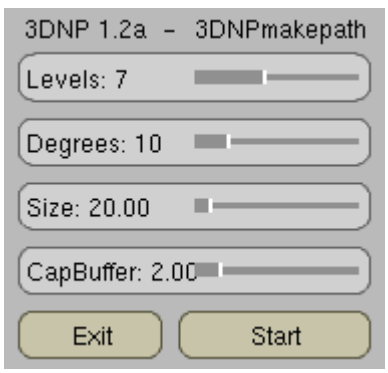
If you cycle through the frames using the cursor keys you will see that the camera is following the vertices of a spherical object called 'CameraBoss'.

The camera has a TrackTo constraint to an Empty at the center of the scene – that's why the camera will always point to the center of the scene. You can change the Camera target by moving the empty called 'CameraTarget'.

The scene has a scriptlink to a Python script called '3DNPfollow.py'. This script moves the object 'Camera' every time the frame changes:



The sperical object called 'CameraBoss' that controls the camera is made by a Python script located in the text editor to the right. Just enter the text window with your mouse and press [ALT] + [P] to start the Python script and you will get this Interface:



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Just enter the desired settings and press Start button to create/change the CameraBoss object. The *Levels* define the number of height levels your 3DNP will use, *Degrees* are the degrees each step will make, for example if you set degrees to 10, each Level will have 36 images (360° / 10° = 36). The *Size* defines the overall size of the CameraBoss object and the *CapBuffer* setting lets you set a Buffer at the caps.

Remember that you can always manipulate the resulting CameraBoss object to get special effects (for example scale it on one axis). It is also possible to change the 3DNPfollow.py script to move the CameraTarget instead of the Camera to simulate a panorama.

The easiest way to get your object(s) into this scene is to append your object(s) to this blend file by using [SHIFT] + [F1], another way is to load your scene and append the 3DNP_makepath.py, 3DNP_follow.py, create the script link described above and create a new CameraBoss object by starting 3DNP_makepath.py.

After finding good settings for your CameraBoss object, you can render your images.

Configuring 3DNP

The configuration file is called '3DNP_config.js'. Edit this file to match the settings of your scene:

- *total* - the total amount of images to load.
- *levels* - the amount of levels you are using.
- *startlevel* - the starting level that's displayed after loading all images.
- *filemode* – there are 2 modes: 'NameNumber' is the standard mode if you render your images in Blender using my script to generate the CameraBoss object (your files are named for example 'frame0001.jpg' to 'frame0252.jpg' - 'RowShots' is the mode to import images rendered in a file format that names your images for example 'Row01Shot01.jpg' to 'Row05Shot20.jpg' – BGC (Blender Goes Cubic) is using this filemode.
- *filename* – this is the part of your image filename that's in front of the image counter, if the image's name is 'frame0001.jpg', set the filename parameter to 'frame', 3DNP will take the settings from *total* and *suffix* to build the complete name, the path is always 'images/' due to some browser bugs I found when using underscores in pathnames – the images were not cached making 3DNP flicker.
- *suffix* – the suffix describes the image type, use for example '.jpg', '.png' or '.gif'.
- *barLength* – if you are using the loading bar, you can change the bar length here.
- *viewmode* – standard setting is 'object', if you change this to 'camera', the mouse movements are inverted.
- *friction* – you can set this from 0 to 1 - default value is 0.5 – it defines the friction of your object's rotation.
- *rotomatic* – you can autorotate your object by setting this value – if you don't like it to rotate automatically, just set this to 0.
- *rotoresume* – this setting restarts the rotomatic after an amount of seconds defined here, use 0 if you don't want your object to get back to rotomatic.

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- *keycodes* – 3DNP can also be controlled by keyboard – this array defines the keys for up/right/down/left. I recommed to disable rotomatic to work with keycodes.

Integrating 3DNP in your website

A very comfortable way to get 3DNP on your website is to use an IFrame. An IFrame lets you define an area on your page that is filled with a certain HTML document. You can setup and test the 3DNP settings on your computer, then rename the path 'HTML' to 'myrobot' (for example :-), upload the complete path to your webserver and include your 3DNP using an IFrame.

This is an example that puts a 3DNP into a 300x300px IFrame on an existing HTML page:

```
<iframe src="myrobot/3DNP_click.html" name="myrobot" width="300" height="300"
scrolling="auto" marginheight="0" marginwidth="0" frameborder="0">
  <p>Your Browser is not able to display IFrames - please <a
href="myrobot/3DNP_click.html">use this link</a>.</p>
</iframe>
```

Startup modes

3DNP offers 3 different startup modes:

1. *Click to start* - tell your website visitor about the animation and the amount of data that will be loaded ;-). A loading bar is displayed after clicking. Use '3DNP_click.html' to start this mode.

2. *Autostart displaying a loading screen* - the images are preloaded automatically and a loading bar is displayed. Use '3DNP_loader.html' to start this mode.

3. *Pure 3DNP* - no click, no loading screen, the images are loaded and 3DNP starts - this mode is made for intranets and CD-ROM presentations. Use '3DNP.html' to start this mode.

By the way, you can also integrate 3DNP in your PowerPoint presentations by using a tool named LiveWeb (http://skp.mvps.org/liveweb.htm).

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