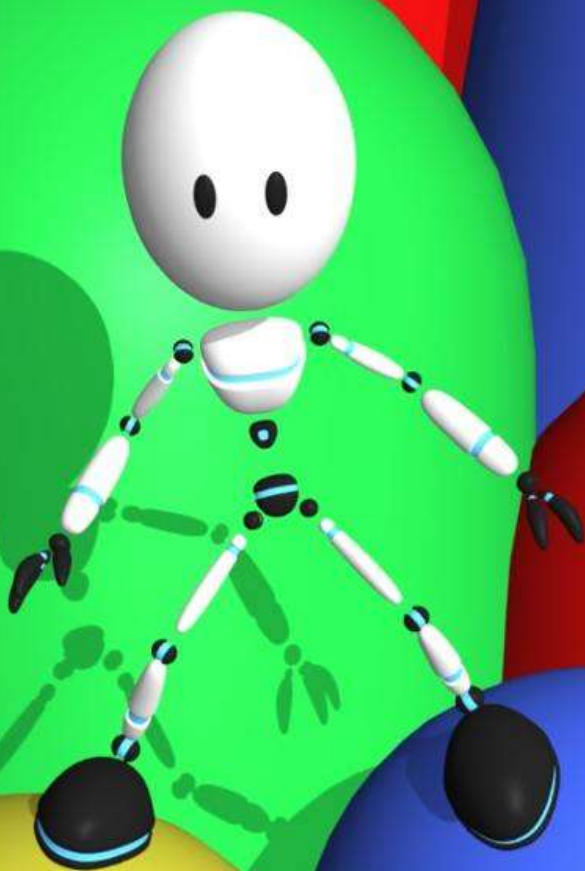


*MTI\_White\_Nelb*  
*Character rig for blender 2.49*  
*made by freakydude*



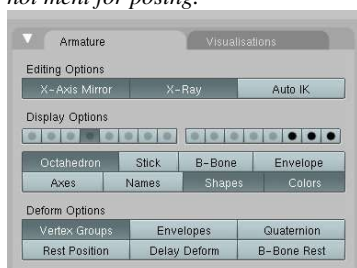
[blender.org](http://blender.org)  
[tieleman.m.@gmail.com](mailto:tieleman.m.@gmail.com)  
[thelowlander.wordpress.com](http://thelowlander.wordpress.com)

Thank you for downloading the MTI\_White\_Nelb rig.  
 This rig is a remake of derkunstler's "blendie" rig (ernestomendez.wordpress.com).  
 This manual will explain the basics on how to use the rig.  
 MTI\_White\_Nelb is licensed under creative commons, Attribution-Share Alike 3.0 Unported.  
 See the license that is included in the .blend and as a .txt file.

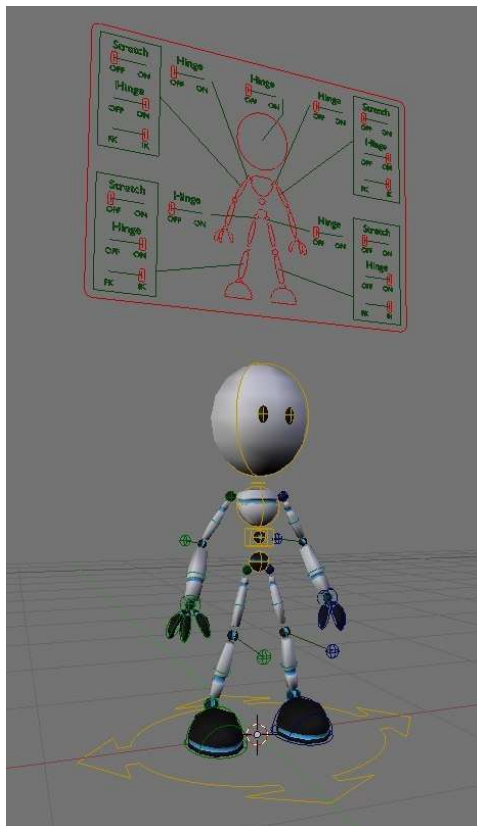
This image shows the rig with all controls visible.  
 These controls are spread over 2 bone layers:

1. main (IK) controls (layer 1)
4. FK controls (layer 2)

You can find the bone layers under:  
 Buttons Window>Editing panel (F9),  
 in the "Armature" tab.  
 The layers with the black dots on them  
 are locked for linking.  
 They contain additional bones that are  
 not ment for posing.



Bones have the following colours:  
 green for right side  
 blue for left side  
 yellow for center  
 red for the sliders



You should be familiar with terms like IK/FK, and hinge. A short explanation:  
 FK (forward kinematics) means that in a set hierarchy, the children move/rotate/scale  
 along with their parent bone. Example: the upperarm moves, and the forearm moves  
 along, which moves the hand along, to the last finger.

IK (inverse kinematics) sometimes however, you'll want a hand to stay fixed in a certain  
 location. Example: doing pull-ups on a bar, the hand must stay fixed to the bar while the  
 body moves. The parent follows the child, hence the name INVERSE kinematics.

Hinge means that when using FK, a child bone will not rotate along with it's parent.  
 Example: usefull when finetuning the position of the shoulders and arms.

*For those new to Blender:*

*One of the first things you need to know about blender is how to navigate the 3D window.*

- *MMB rotates the screen by default in trackball mode (can be changed to “pan view”, and/or turntable mode)*

- *SHIFT+MMB pans the screen by default (can be changed to rotate view)*

- *CTRL+MMB or scrolling the mousewheel zooms the view in and out.*

*Change the 3D view in the “User preferences” window. (“I” icon, top left, pull the window down) By default the “View & Controls” tab is active.*

*When you want to save your default settings, press CTRL+U.*



*Some people like manipulators to move stuff around, I don't but I'll cover them here.*

*In the MTI\_White\_Nelb rig file, the manipulator is off by default.*

*To bring them up, go to the 3D window's header and choose your manipulator*

*CTRL+SPACE)(CTRL+ALT+G/R/S) of choice. You can press shift to combine manipulators.*

*By default, the manipulator works in “world orientation”. You can change this to various other modes, by going to the header, and choosing your orientation (ALT+SPACE).*

*Posing the rig with these manipulators, or gizmo's as I like to call them is straightforward enough, You can move/rotate/scale by grabbing the icon on the desired axis.*

*You can exclude an axis by selecting it with shift while doing the transformation.*

*For example: pressing SHIFT+Z in grab mode makes your object move along the XY axis.*

*I like to use hotkeys and gestures though...*

*Selecting and hotkeys:*

- *Lasso select something with CTRL+drag LMB, press G+X to move along the X axis.*

- *Select something with RMB or SHIFT+RMB to add another object/bone to the selection, press R+Y+Y+(-45) to rotate -45° around the LOCAL Y axis. Enter or LMB to confirm.*

- *Select something with RMB, press R+R to rotate in turntable mode.*

- *Select something with RMB, press S+10 to scale up with a factor of 10.*

*Gestures:*

- *Drag a line with LMB to activate the gesture “grab”*

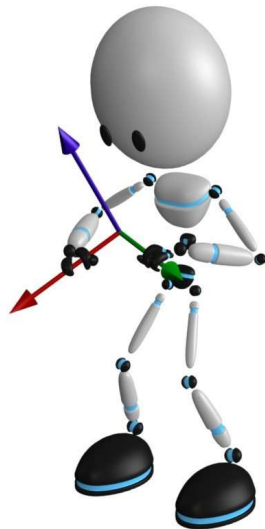
*(same as pressing G) +20X moves the object*

*20 Blender units (BU) along the X axis.*

- *Drag a circle with LMB to activate the gesture “rotate”*

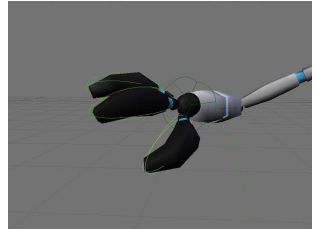
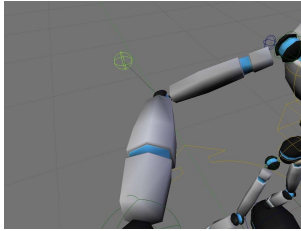
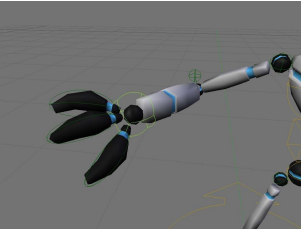
- *Drag a “V” with LMB to activate the gesture “scale”*

*That's about it. Use those shortcuts! They're fast!*

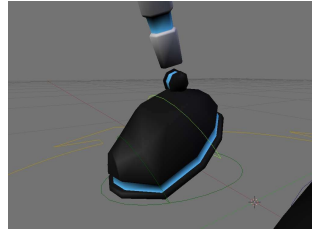
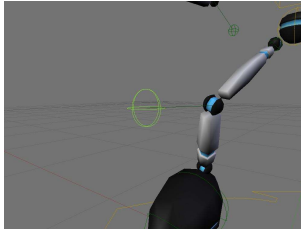
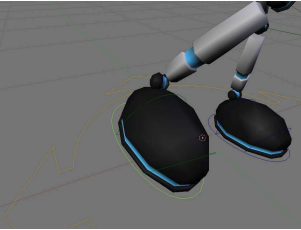


*On the first bone layer are the main controls.*

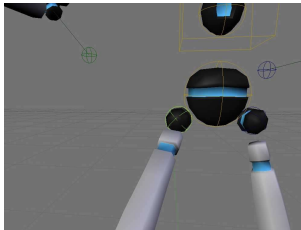
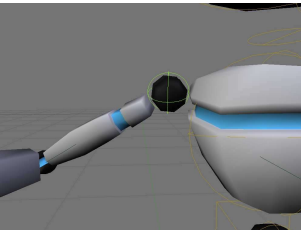
*You can grab and pull the sphere at the “wrist” to move the arm, and the corresponding sphere with a black line running to the elbow to point, guess what, the elbow. You can scale (S) the fingers to make them curl, you can also rotate them to get funky robot claws. (RR, or R+YY/XX/ZZ)*



*You can grab the flat feetbones to move the feet. The sphere with a black line going to the knee is used to point the knee. There is also a bone to roll the foot near the heel. And a bone to rotate the toe, at the toes (R).*

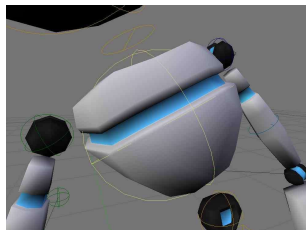
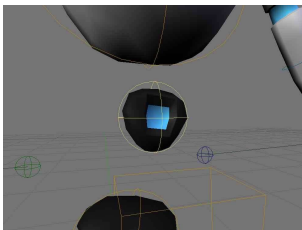
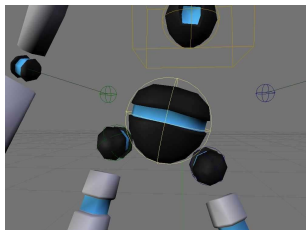


*You can grab the spheres at the hips and shoulders to rotate the hips and the shoulders. Press R+Y+Y to “roll” them. This hotkey combination will rotate the bone around it’s local Y axis. Very usefull for the shoulders.*



*The oval at the waist rotates the waist.*

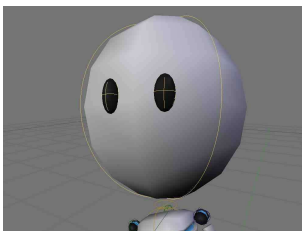
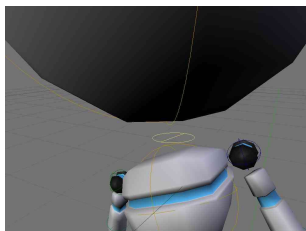
*The sphere in the center of the spine moves the center of the spine, and the waist and chest follow along with it. The oval at the chest rotates the chest around.*



*The small circle is used to rotate the neck*

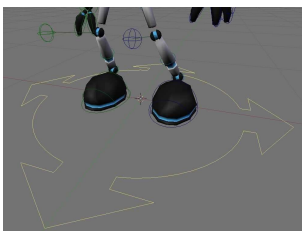
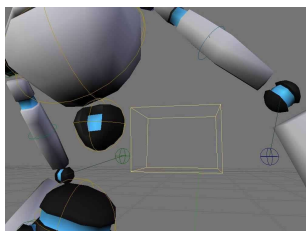
*The big oval above it is obviously the head. The 2 ovals in it are the eyes. By default, you just move them.*

*But you can also scale (S) them and rotate (R) them, to create various expressions like angry, sad, surprised, etc.*



*The cube around the center moves the entire upperbody around.*

*The big circle with arrows sticking out is the master bone. It moves the entire character rig around.*

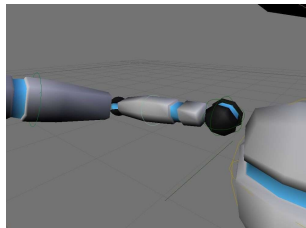
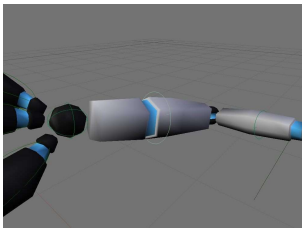
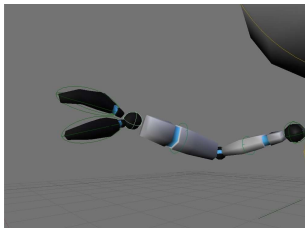


*On the second bone layer are the bones for FK.*

*Bones that make sense to be for both IK and FK appear on this bone layer as well.*

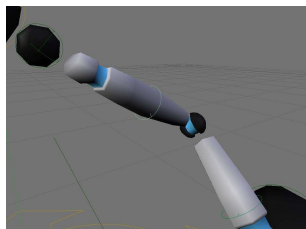
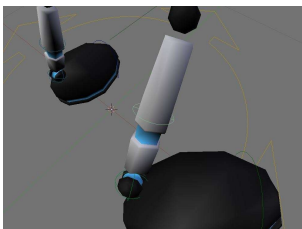
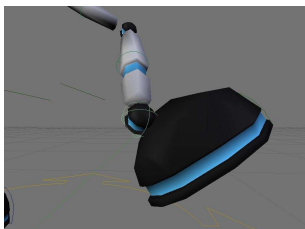
*The sphere around the hand is the FK control for the hand. rotate it ( $R+XX$ ,  $RR$ ,  $R+YY$ , etc) to position the hand.*

*The circles around the forearm rotates the forearm, and the circle around the upperarm rotates the upperarm.*

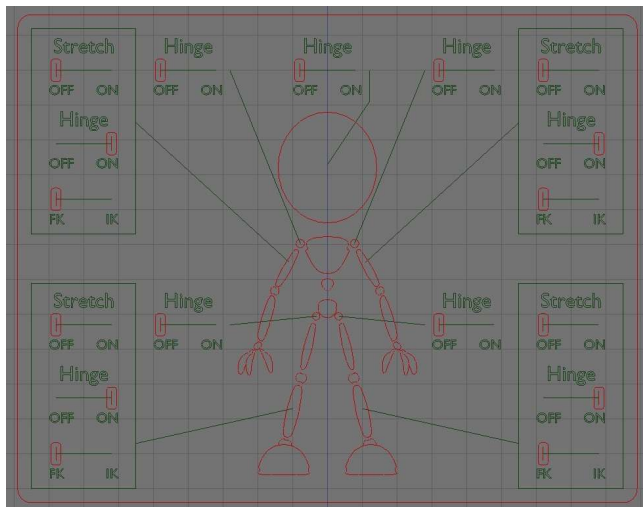


*Same idea with the legs. The sphere around the ankle rotates the foot,*

*the circle around the lowerleg rotates the lowerleg and the circle around the upperleg rotates the upperleg*



*Animators may want more control or change the type of control during the course of an animation. That's why we have these nifty sliders:*



*The sliderframe has a lot of options. You'll use this when you need to switch from IK to FK (1st bone layer to 2nd bone layer) or if you need the shoulders/hips and/or arms/legs to hinge.*

***HINGE IS NOT RELEVANT WHEN WORKING IN IK MODE!** Because the arms/legs/tail follow the IK controls (the spheres), they automatically hinge. The hinge sliders are usefull when you're working with FK.*

*You'll also use this when you want to enable stretch for the arms and legs. When enabled, the elbow/knees stretch to the elbow/kneepoles, and the hand/feet stretch to the hand/feet IK controls.*

*By default, the sliders are set to IK, no hinge for the shoulders, hinge for the arms and no stretch. These will probably be the prefered settings for most users.*

*Materials:*

*The materials for White Nelb are pretty boring.*

*They use a slightly altered default material with a different colour.*

*That's all, happy blending!*

