

Title	Tutorial: Basic 3d Text (Generative Content)		 Defining The Future www.avolitesmedia.com
Product	Ai		
Date/Author	31/07/13	Marc Evans	
Level	Medium/Hard		
Estimated Time	20 minutes		

Background:
 This tutorial will show you how to create a basic 3d text patch using Salvation. It will also show how to get this to display within Ai.

As well as being a powerful media server, Ai can be used to create your own generative content using the Salvation Engine. In the following tutorials, we will describe ways you can achieve your very own patches that can be used to create various different types of media, such as text logos, moving animations, etc.

To create your own patches, we recommend you load up Ai, and then close all the visible windows, e.g. main UI and Stage Patch. This helps to prevent any of your patching from interrupting the main Ai interface. It is also worth opening an *Inspector* module – this can be useful for tracing signal flow while you are patching. This can be found from the View menu at the top of the screen.

It is also worth mentioning the different colour ports and cables used within Salvation, as they allow us to carry different types of data around our patch.

Control Value / Vector Port



Routes control data between modules using 64-bit floating point values.

A control value port is commonly used to route a single numerical value from one module to another (such as rotation angles, brightness and contrast)

GL Render Port



Routes rendering streams from one module to another.

The drawing commands represented by a graphics stream are not executed unless the stream is connected to an on-screen window.

GL Texture Port



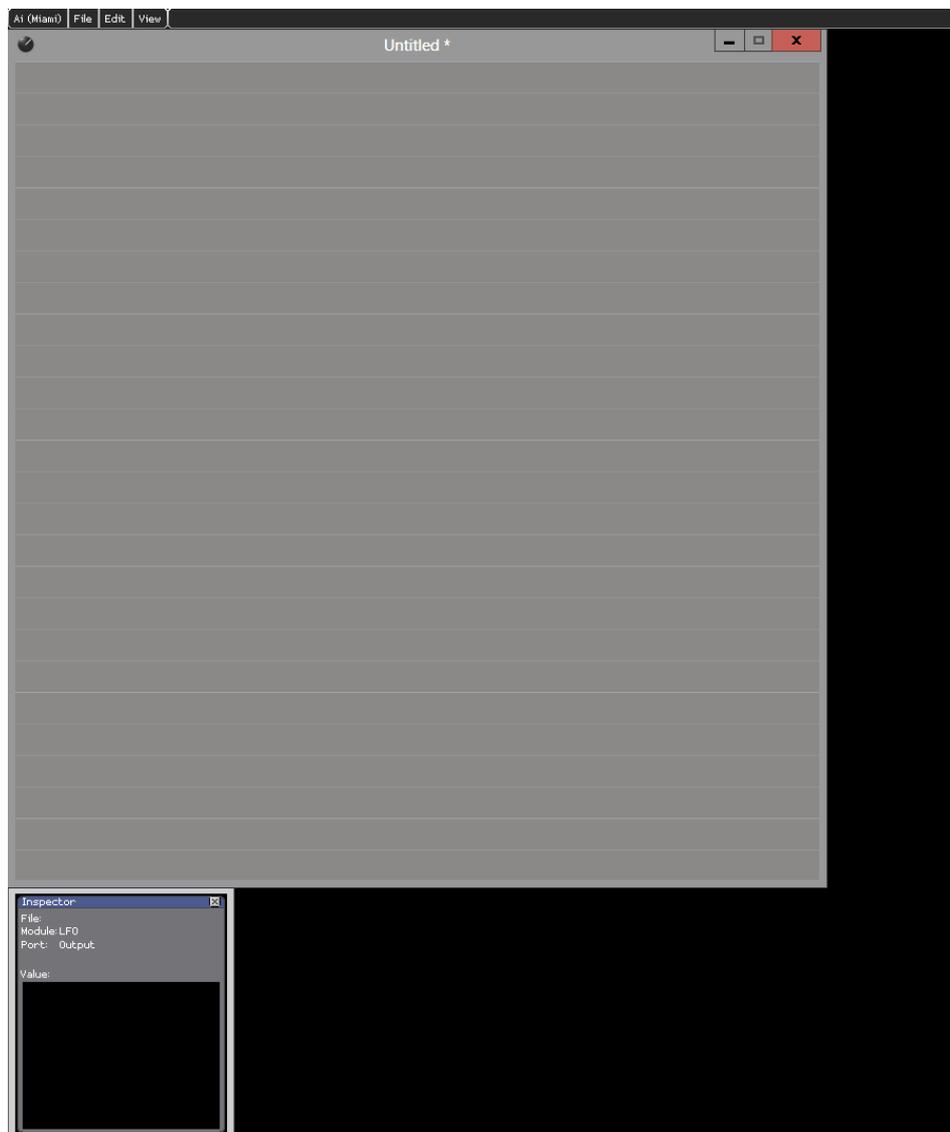
Shares image data stored as OpenGL textures between modules.

Typically a 2 dimensional image file (.jpg, .tga, .png, etc) or a video file (.mov)

Basic 3d Text Generator



Select *New* from the file menu and you will be greeted with a blank Salvation patching area.



If you right-click in a blank area of the patch window, you will bring up a menu that will allow us to add modules to create a patch. The first module we should bring in is a GL Window – this will allow us to see the graphics that are output by our final patch. The GL Window is found by right-clicking and choosing *Insert Module/GL/Window*. Place this module near the bottom of your empty patch and click on the Window button to bring up a preview window.



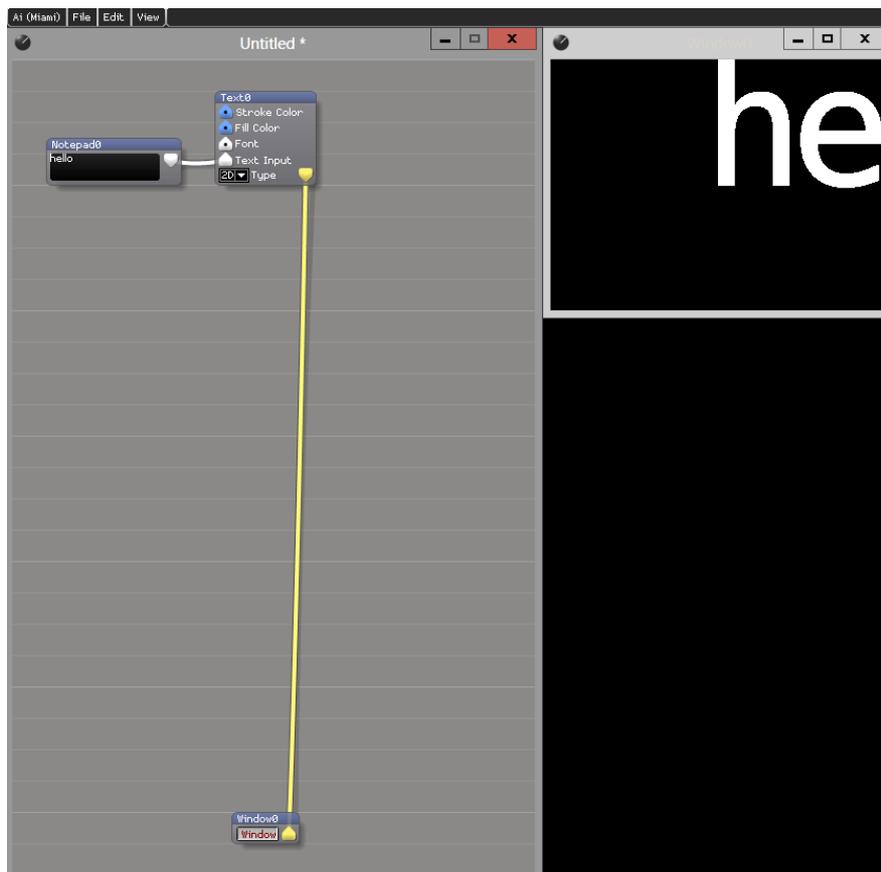
GL Window

Next we shall bring in a module that will actually generate our 3d text. Right-click in a blank area of the window and choose *Insert Module/Generator/Text* and place this near the top of the window.



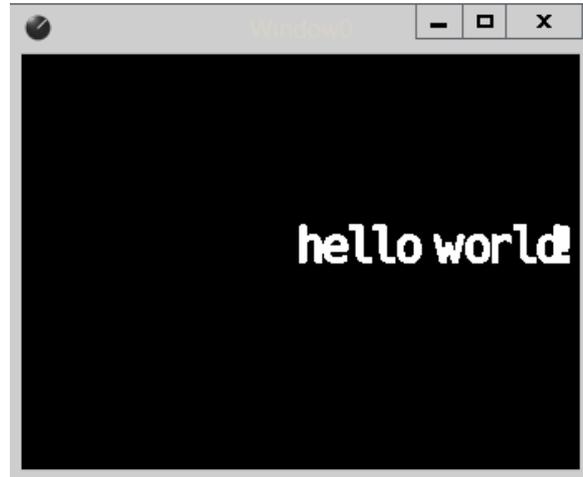
Text Generator

Before this module will output any text, we need to tell the module what text we would like to display. To do this, we need to add another module; right-click and choose *Insert Module/Text/Notepad* and add this to the left of your Text module. Drag and hold from the white output from the Notepad and connect to the Text Input on the Text module. Also, connect the yellow output from the Text module to the GL Window we added earlier. Now if you click within the Notepad module, you can type some text that you would like to be displayed. When you hit return, you should see some text appear in your preview window, like below.



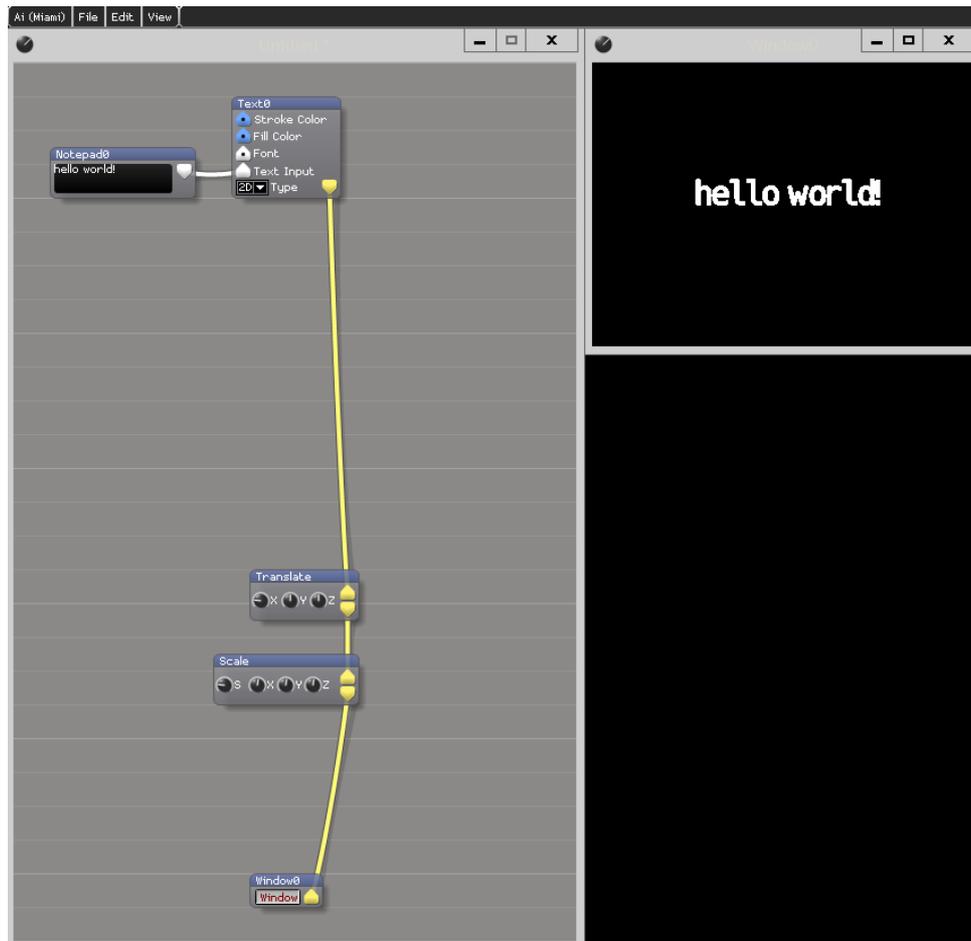
Basic text

As you will be able to see, our text is far too big, so we need to rescale it. To achieve this, right-click and choose *Insert Module/GL/Scale* to bring in a Scale module. Connect this between the Text module and the GL Window. With this in place, you can use the knob marked “S” to change the scale of the text. Set this knob to a value of around 0.30.



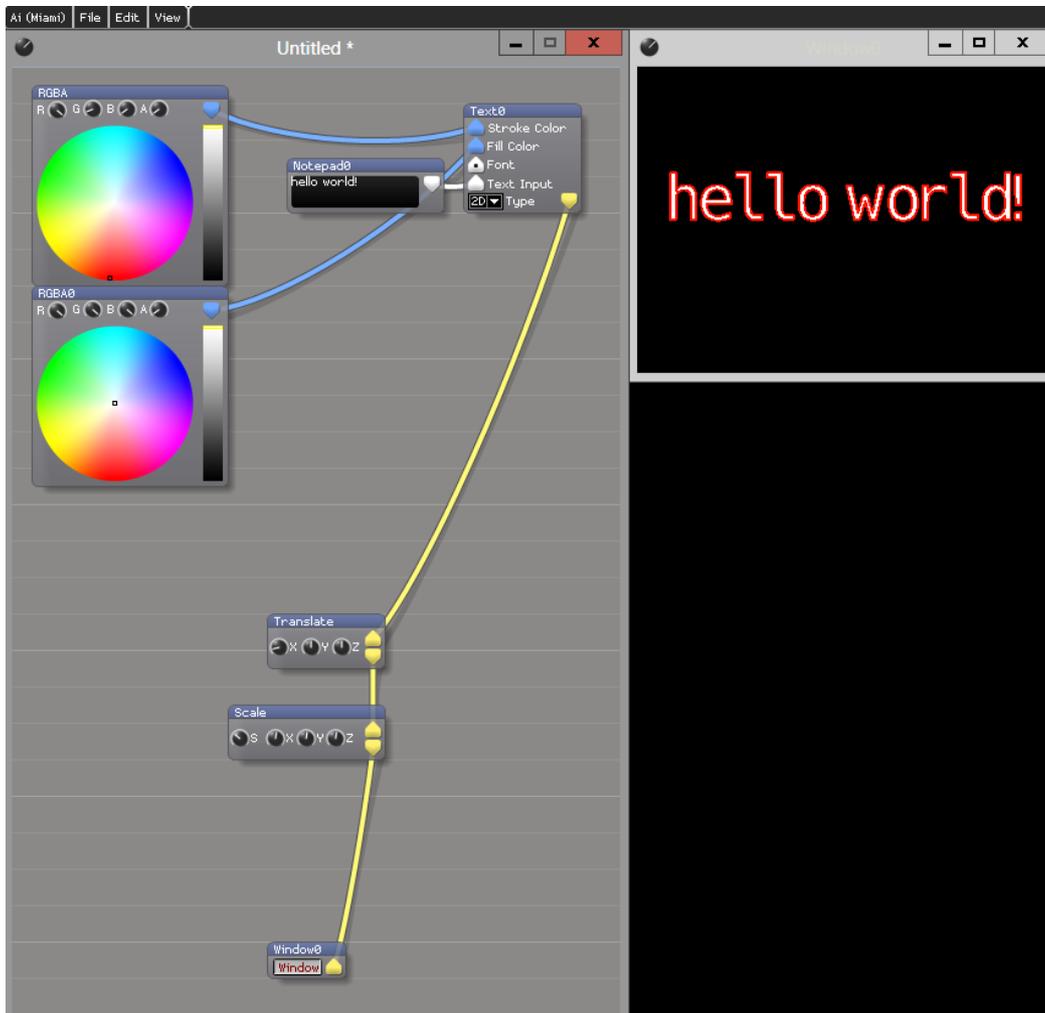
Scaled Text

You will notice that it scales at the 0,0 point of the text, meaning our text is slightly off to the right. We can bring this more to the centre by using another module – right click and choose *Insert Module/GL/Translate* and patch this in so it is in between the Text module and the Scale module. With the connections made, move the knob marked “X” to the left to start bringing the text into a more central position – a value of around -3.65 should be sufficient.



Centred Text & Patch So Far

So we have our text nice and centralised, but it's looking a bit dull and flat still so let's add some colour and make the text three-dimensional. Right-click and choose *Insert Module/Color/RGBA* and connect this to the Stroke Color input on the Text module. Bring the long slider on the Colour module up and select a colour – you should see your text's outline start to change colour. Bring in another Colour module (or highlight the original one, and use CTRL + C to copy and CTRL + V to paste) and connect this to the Fill Colour input on the Text module. Again, bring the slider up and choose a colour and you should see your text change in realtime in the preview window.



Text With Colour

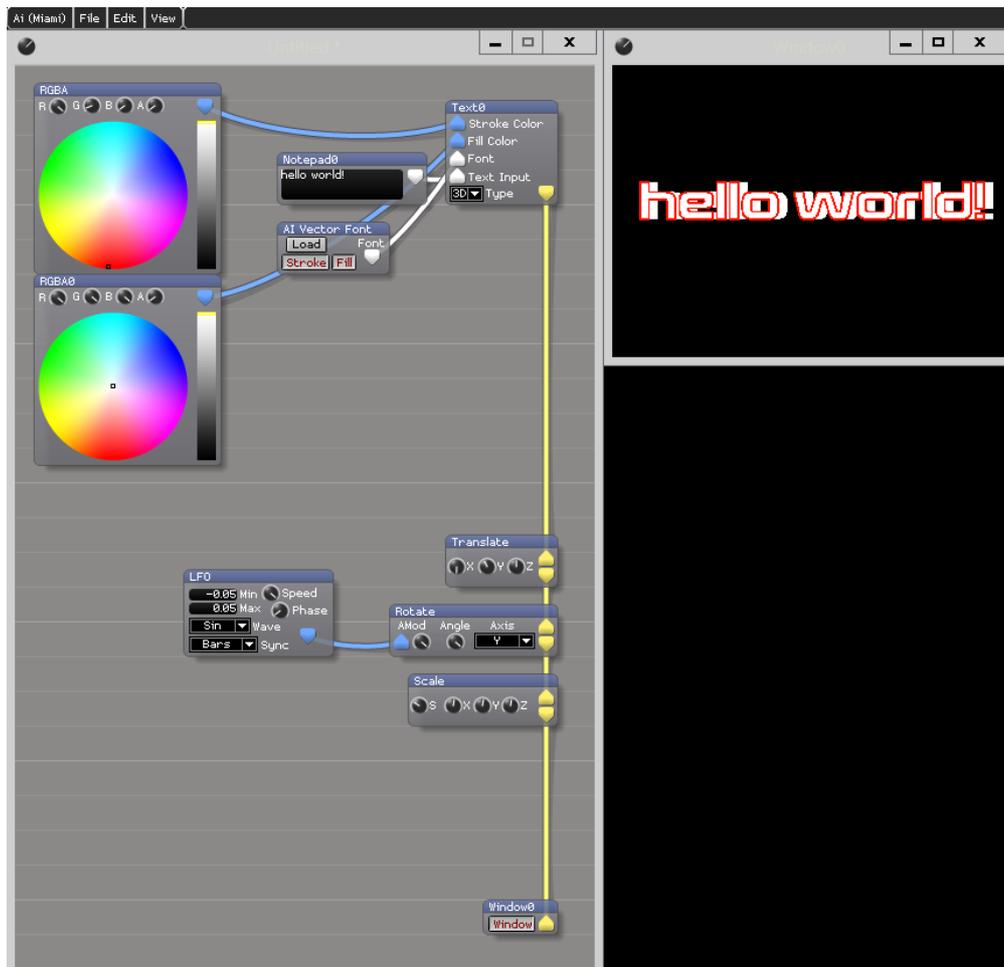
At the moment, our text is looking better but is still flat and two-dimensional, so let's make it three-dimensional. In the drop down menu on the Text module change from 2D to 3D. With this done, it appears nothing has changed because we are looking at the text face-on, so let's add a Rotation module so we can see the three-dimensions. Right-click and choose *Insert Module/GL/Rotate* and place this between the Translate module and the Scale module. From the drop down menu choose the Y Axis and move the Angle knob and you will then be able to see that the text is now three-dimensional.



3d Text

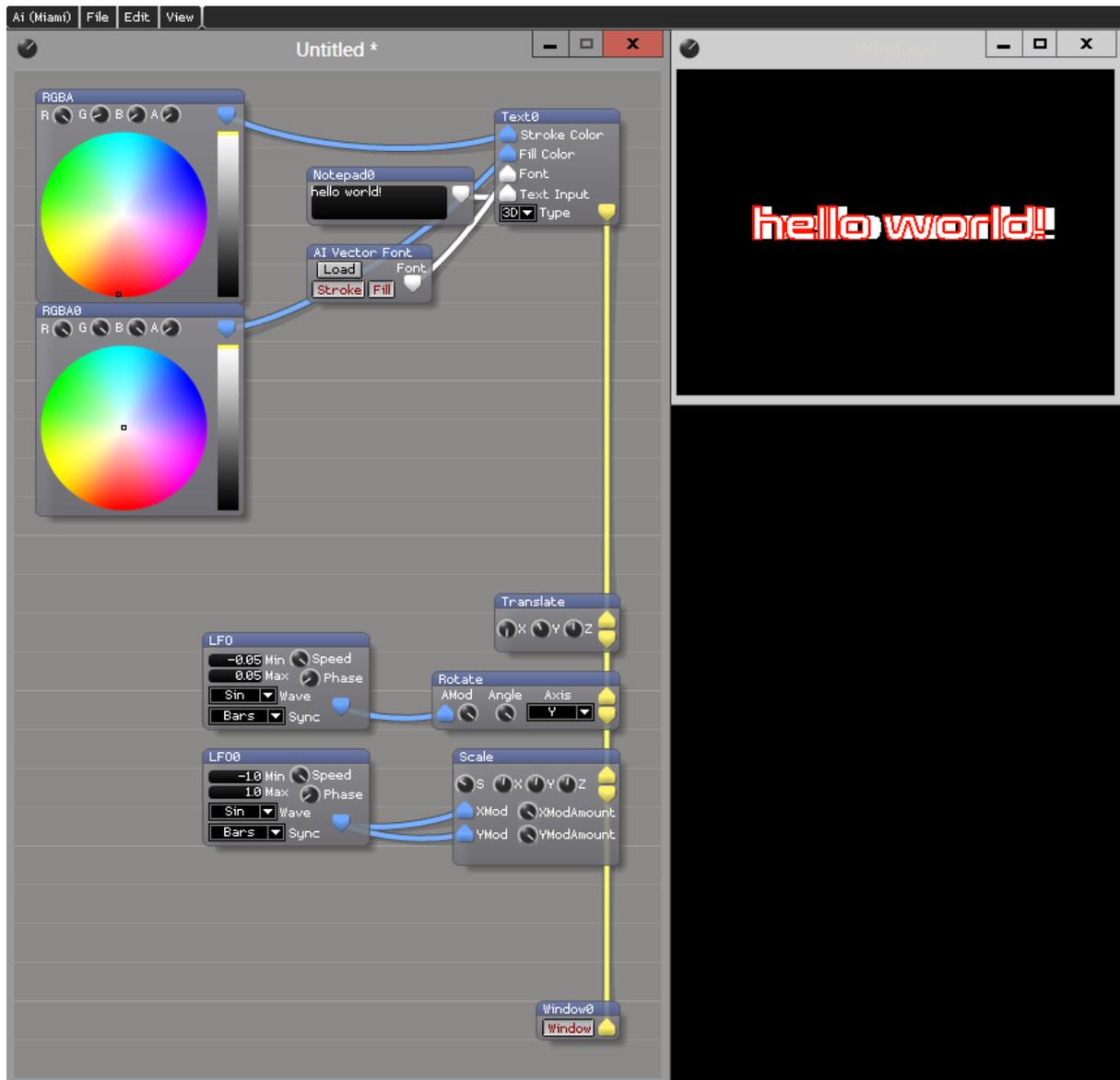
It's looking more three dimensional now, but the default font could look better, so let's load up a different font. We need another module here - right-click and choose *Insert Module/Import/AI Vector Font* and connect this module to the Font input on the Text module. Once connected, it will remove the text from the preview window because it is now waiting for a new font to be selected, so click on the Load button on the Font module. It will then open a window within the Ai Distrib folder. We need to navigate to *Distrib/System/fonts* to find the fonts we can use with this module – I chose “korataki.ai”, but you can choose whichever you like best. Depending on the size of the font selected you may need to use the Translate and Scale modules to get the font central again.

We can also add some modules that will move the text around in the 3d space to make it look a little more interesting. First, right-click in a blank area and choose *Insert Module/Controller/LFO* and add this to the left of the Rotate module. You will see on the Rotate module there is a blue input port – this is where we connect the output of the LFO module to. If you then turn up the knob marked “AMod” on the Rotate module all the way up, you will see your text spinning like a wild thing! We can rein this in a bit by changing the Min and Max numbers on the LFO module. Set the Min to -0.05 and the Max to 0.05. Also change the Angle knob on the Rotate module to 1.0. This should give us something a little more controlled.



Text patch with rotation

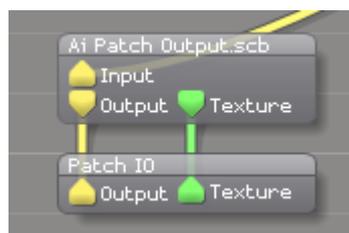
Finally, let's add another LFO to control the size of the text over time – place this next to the Scale module. You will notice that there are no input ports on the Scale module at the moment, so we need to add them. Hover your mouse over the bottom edge of the Scale module until your cursor turns into an up/down arrow – now you can drag down to resize the module, giving you more space. Then in a blank area of the Scale module, right-click and choose *Show Port/XMod*, then do the same and choose *Show Port/YMod*. You should now see two new blue input ports. Connect your new LFO to both of these blue input ports. Initially nothing seems to have happened – this is because we need to expose two more parameters on the Scale module. So again in a blank area of the Scale module, right-click and choose *Show Parameter/XModAmount* and also *Show Parameter/YModAmount*. This will bring in two new knobs that we need to set to 1.0 to see any movement of our text. We should now see our text zooming in and out of view.



Text patch with rotation and zooming

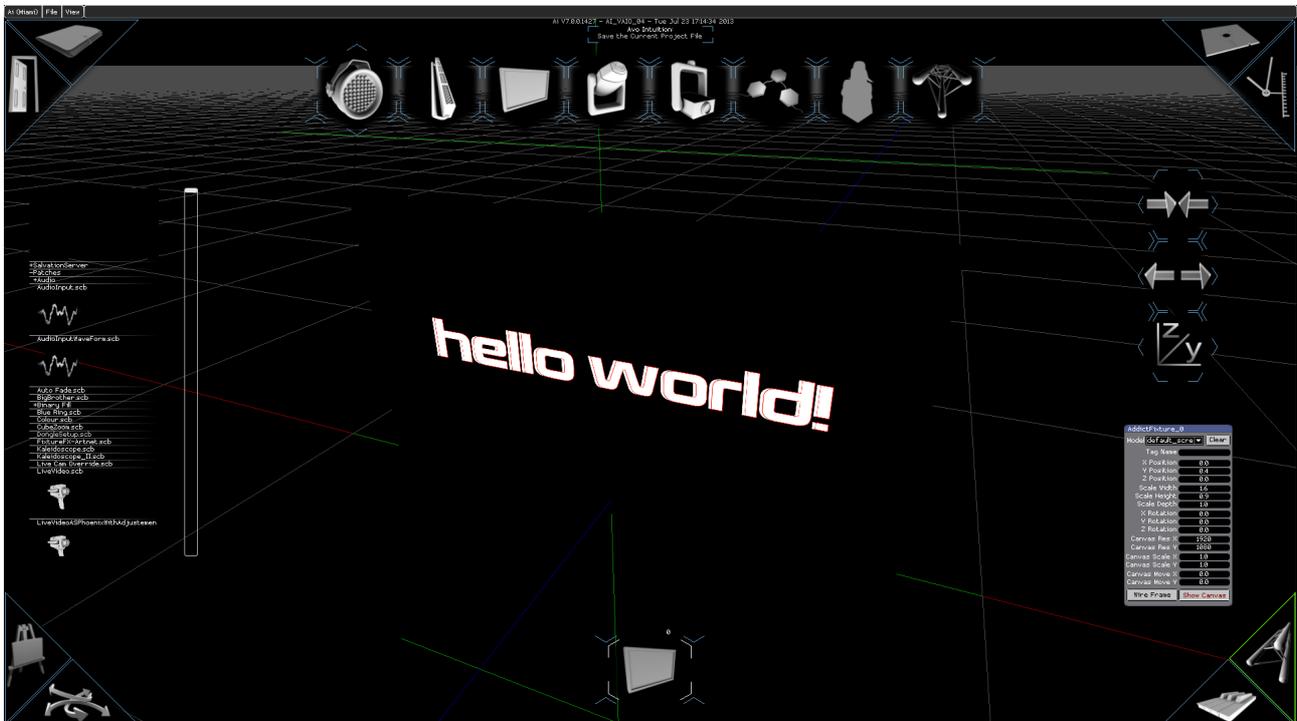
As before, we can change the speed of the LFO so the zoom is not so fast, as well as changing the type of zoom. With the LFO's Wave set to Sin, we see the zoom moves in and out. However, if we set the Wave to Saw, the text zooms right in before resetting to small again.

So, we have our final patch ready to go, but you want to see it displayed in Ai on the Roller Cue as a regular piece of media. To achieve this we need to add two final modules. Right-click and choose *Insert System Patch/Ai Patch Output.scb*. Also, right-click and select *Patch IO* and place this underneath the Ai Patch Output. Take the yellow Output of the Ai Patch Output and drag to a blank area of the Patch IO – you should see a new connection is made between the two modules. Repeat for the green Texture output of the Ai Patch Output. Now, simply connect the yellow output on the Scale module (that is currently going to our Window module) to the Input on the Ai Patch Output.



In our final patch, left click in a blank area and make sure a title is at the top of the window (it will probably say Untitled* at the moment) – then go to the Ai File menu and select Save As. Give your patch a name and save it to your hard drive. Our patch is now ready for use within Ai as a regular piece of content!

Now, close all your windows, go to the File menu and choose Open – navigate to the Ai Distrib folder and in the Projects folder choose Blank Project. Once Ai has loaded, go to the Performance Page and then open a Windows Browser where you saved your text patch to. Then you can simply drag and drop onto the Roller Cue. Please make sure you set your layer's blend mode to Additive, else the patch will not display correctly.



Our Text Patch within Ai.