



MAPMAKING FOR NEWBIES TUTORIAL

The goal of this tutorial is to allow you to make a playable map for Myth II Soulblighter starting from scratch. By “scratch” I do not mean a total conversion where you create your own units, scenery and sounds, but rather I will walk you through the process of making a color map, reflection map, overhead map, and netgame preview before launching into Fear and Loathing. Other tutorials tend to skip these steps by simply providing the above items for you. This tutorial assumes you have not made a map before and will attempt to lead you through the most basic steps. I’ll try and focus on the common areas that are often overlooked in the various “instructions” that are out there (they just assume you would know something so simple). I’ll also try and lead you through solutions to many of the common problems that are asked about frequently in the various forums. The end product will be quite basic, but should give you a start into the world of mapmaking.

In no way is this simple tutorial meant to replace some of the more detailed and extensive efforts that are available elsewhere. By far the most notable of these is the Myth II Handbook (<http://www.myth2handbook.com>) by J. Charles Holt. If you decide you like mapmaking, this is the book for you. The extensive tutorials in mapmaking, scripting, and unit modification will help you get a much better understanding of Fear and Loathing. Even if you don’t like mapmaking, the book is well worth its cost for its sections with strategies and easter eggs, as well as inside information on Bungie. Other than being born in the same town (many, many years earlier), I have no association with Mr. Holt: this is an honest plug from an unbiased consumer.

BEFORE YOU BEGIN:

This tutorial map was made on a G3 Mac using Photoshop 5.0, Fear and Loathing, and Amber v2.0b5. If you have a Mac, you will need a copy of Amber for the reasons described below. You can download Amber from <http://vista.theresistance.net/amber/>. Photoshop is the most common image editing program used to make color maps. It is

now available in a LE version for just \$99. If you don't have Photoshop, I've included a completed color map (or you can download it from our site <http://killermac.com/hpd>). You can also try your own image editing program. I plan to have tutorials using other programs such as Bryce 4 out soon.

The files included with the tutorial include 2 patterns, a graphic of archers, the completed colormap, water map, overhead map, and netgame preview. I've also included the final map as a plugin so that you can check your work.

You will need the latest versions of Fear and Loathing in order to use this tutorial. You can get the "Myth II Tools Updater v1.2" from the Bungie website or our "downloads" page. The original Fear and Loathing are located on your Myth II disk and need to be installed via a "custom" install before you can update them. Be sure to install them into your Myth II folder or they won't work.

General Tips for Fear and Loathing:

Your Myth II CD includes instructions for these programs (under "Tools Documents"). Although foreboding, try and at least read through them. I'm assuming for this tutorial that you have read them and are as confused as I was. I also recommend, if you use a Mac, dedicating more memory to each program using "Get Info". Try and not have other programs open when you have either Fear or Loathing open. Save often! – they can be quite unstable.

The way I think about these programs is analogous to the theatre. Loathing allows you to edit the stage and position characters, while Fear allows you to edit the characters themselves along with other items. The stage is called a "mesh". Units, good or bad, and wildlife are all called "monsters". Scenery is either an "object", or a "model". Water in Myth II is referred to as "media". Remember that, "media"=water. However, the media(water) is sometimes referred to as "reflection" – just for fun :-)

LET'S BEGIN!

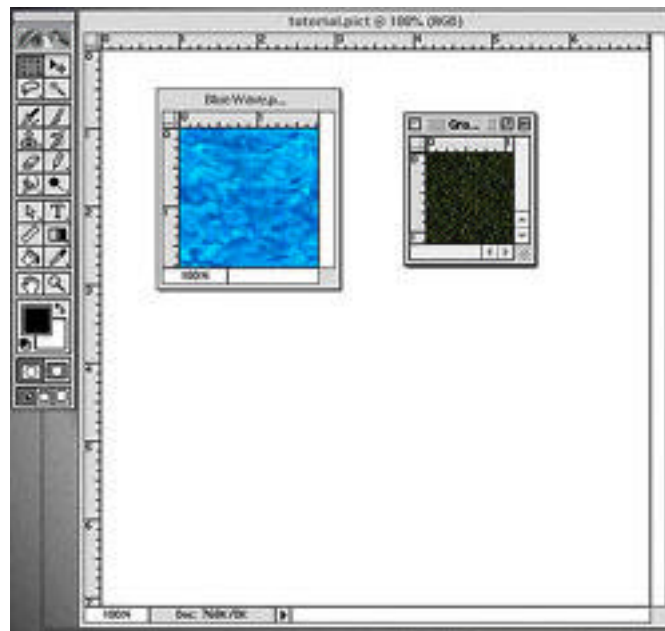
If you've made maps for other games such as Marathon or Quake, you may remember being able to create an environment out of polygons (the mesh), and then using a pop up menu to apply surfaces (textures) to walls, the ground, etc. The tools for Myth use the same concept, with one exception – there are no "stock" textures that you can pop in from a menu. In fact, there aren't any textures at all! These have to be created *by you before* you open Loathing to create the mesh. You then import them into the program. To make things even more difficult, in Loathing you don't get to import a variety of textures and then start pasting away to make the grass green and the rivers blue. Nooo! - that all has to be put together in your own image editing program and then imported as one "color map" – a top down two dimensional image of your entire environment.

For this reason, our journey begins in Photoshop. I am certainly not the artist of the group, but, if I can do this - you can. The goal of the following is to create a simple color

map from basic items you can find around the house. More complex color maps will follow. Our artist, King Adrock, will be publishing much more detailed tips and tutorials for Photoshop soon.

You can download or obtain textures and patterns from a variety of sources. Many sites have libraries you can download for free. Most graphic and design programs such as those from Adobe, Macromedia, Metacreation, etc. have folders of textures and patterns as well as extra ones you can install from the CD. For this tutorial I used “blue wave” and “grass tiny” patterns. They are included with this package, or can be downloaded from our tutorial site.

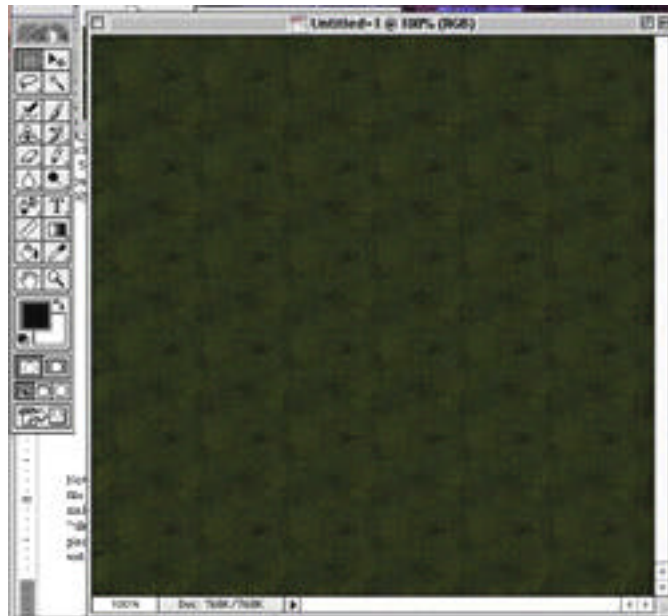
Open Photoshop and use the File menu to open the “blue wave” and “grass tiny” patterns. Now open the File menu and create a new file. Don’t click “OK” just yet. Here is the first quirk of color maps – their size has to be a multiple of 256 pixels. In the dialog box that pops up when you create a new file, change the “inches” to “pixels” for the “width” and “height” parameters (if necessary). Now enter numbers that are multiples of 256 for each. The average network maps in Myth II are 1024 X 1024. For this tutorial, enter 512 X 512 (Interestingly, a 256 X 256 map will crash when you try to import it into Loathing). Change the resolution to “72” and make the “mode” RGB color (Myth can only use “indexed color”, but, we will change it to that later). Click “OK”.



Now let’s make some grass. If you simply pasted the “tiny grass” pattern into the new file it would be too small. If you enlarged it, you would just see huge pixels. You can make it a repeating pattern, however. The files I’ve chosen were picked because they “tile” seamlessly. What this means is if you make many copies of the image and then place them all next to each other in rows and columns, you can’t see where one begins and the other ends. Many desktop images or “wallpaper” work the same way.

Use the “Window” menu to bring the “grass tiny” image to the forefront. In the “Select” menu choose “All”. Now look under the “Edit” menu and select “define pattern” – this makes the image a pattern that can be “filled” into a selected area in another image. Now click on the blank new image or use the “Window” menu to bring it to the foreground. Under the “Edit” menu choose “Fill...”(since the image is blank you don’t have to select anything, it will fill the entire canvas). In the dialog box that pops up where it says “use” choose “pattern”. Leave the blending at 100% opacity and “normal” mode. Click “OK” You have grass!

The grass you have is too detailed and would look “surreal” if you were to use it in Myth, however. Textures in Myth need to be a little more “Crayola” looking, or pastel. No problem. That’s what is fun about Photoshop – a filter for every need! I’ll use some basic ones here. Again, I’m not the artist. I encourage you to experiment with each of the filters to see what they do. If you hit on something you like, write down the path that you took to get there and use it for your own maps.

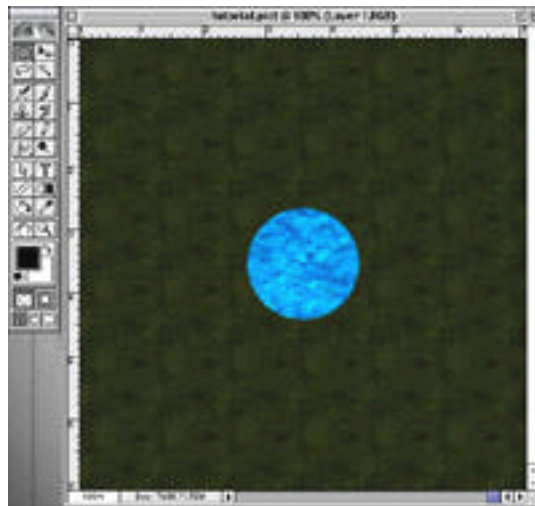


With the new image still in the forefront, go under the “Filter” menu and select “Blur→Blur more”. This blurs the image - duh. Now go under the Filter menu again and select “Artistic→Palette Knife”. The dialog box that pops up should be set to 25 for stroke size, 3 for detail, and 0 for softness. How did I come up with those numbers? – trial and error! Click “OK”. Now the grass looks more along the lines of those seen in the color maps from Myth. The repeating pattern is more obvious, but for now that’s OK. As you will see in the next section you can paste patterns into shapes you’ve selected or you can even paint them over a specific area of the canvas. We won’t do a lot more for the sake of this tutorial, but hopefully you can see how creating a beautiful color map with icy rivers and rocks jutting out of the snow can be done with a lot of time, patience, and the ability to “see” what your 2D image will look like in 3D.

Let's add a pond to the center of the image. Water in Myth ("media", remember?) is defined by both the color map, as well as the "reflection map". The color map determines what you see on the surface of the water. The reflection map tells loathing what part of the color map *is* water and therefore should have the water "properties" as defined by the "media" tags. We are going to make both of these maps in Photoshop now, and will use Layers to make them line up correctly.

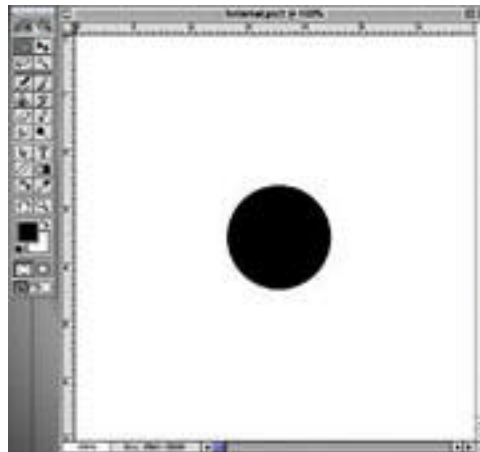
With the new image still in the foreground, make sure the "Layers" palette is open. If not, go under the "Window" menu and select "Show Layers". Click the triangle on the top right of the Layers palette to open a pop up menu and select "new layer"(you can do this from the "Layer" menu at the top of the screen as well, but the palette should still be open as it makes switching between layers easier once they are created). Be sure the opacity is 100% and the "mode" is normal. Click OK. In the Layers palette you should now see 2 layers, one called "background", the other "layer 1"(unless you named it something else in the previous dialog box). Clicking on the name selects what layer you are working in. Be sure layer 1 is selected.

Use the Window menu to bring the "blue wave" image to the forefront. Go under the Select menu and select all. Go under the Edit menu and choose Define Pattern. Now go to the Window menu and bring the new image to the foreground. Make sure you still have layer 1 selected, then choose the marquee tool from the toolbox - the dotted square in the top left corner. Click and hold on the square to bring up the other marquee tool options. Select the circle. Now click and drag near the center of the image to make a circle that covers about 4 of the repeating tiles of the grass pattern. Try and center the marquee in the entire image by moving it using the cursor keys.



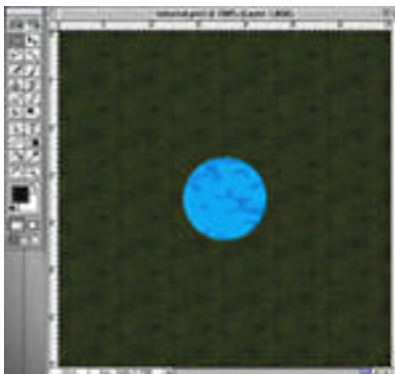
Once your happy with the area selected, go to the Edit menu and select Fill. It should still be set to "Pattern". When you click OK, the circle is filled with blue waves. Don't click anything else! Without deselecting the circle, go to the File menu and save the file. Call it "Template". Keep the circle selected and go back to the Layers palette. Click on the "background" layer to select it. Click on the trash can at the lower right of the Layers palette to delete the background layer. This should leave you with only the circle filled

with the blue wave pattern and it should still be selected. Go to the Edit menu and select Fill. Change the “use” option from “pattern” to “black” and click OK. You should now have a black circle where the blue waves were. What you’ve created is the “reflection map” that tells Myth where the water is. Reflection maps can have only 2 colors, black or white. The white areas are interpreted as ground, the black water. By using layers and not deselecting the circle, you now have a Reflection map that tells Myth what area should be water and it matches perfectly with the color map.



Go to the “Image” menu and select “mode→indexed color”. You should see a dialog box that has “Exact” for the “palette” and “2” for the number of colors. Click OK. Now go to the File menu and select “Save As” (not Save!). Name the file “water.pict” and use the pop up menu to change the file type to “PICT file” (not “PICT resource”). Windows users should make the file name “water.bmp” and the file type BMP.

Close the water map and open the “template” image you previously saved. Your grass and blue pond are back. The blue wave pattern needs to be smoothed out, however. Select Layer 1 in the Layers palette by clicking its name. Go to the Filter menu and choose “Artistic→Cutout”. In the dialog box that pops up set the number of levels to 4, the edge simplicity to 4, and the edge fidelity to 2. Click “OK” to make the pond. The dark and light blue you see now looks familiar to the water in the Gimble in the Wabe, heh? You can work with the eyedropper, paintbrush, rubber stamp, etc to make the darker areas more natural looking and better arranged if you like.



Now its time to make our color map. Save the file using the File menu in order to keep an image with the layers still intact. We will make another copy that conforms to the needs of Myth. Go to the "Image" menu and select "Mode→indexed color". You will receive an alert asking if you want to flatten the layers, select Yes. Now you get the dialog box for the indexed color settings. For the palette, select "adaptive". For the number of colors select 240. Some say you can get away with 256 although the Fear and Loathing documentation says no. If you leave it at 256 colors, be sure to select "8bits per pixel" for the "color depth". Select "none" for dither and "best" for color matching. Click OK. Now go to the File menu and select "Save As". Name the file "hpctutorial.pict" and choose "PICT file" (not "PICT resource") for the file type (BMP if you have Windows). Your color map is ready!

Lets make the overhead map and netgame preview while we are here. For the overhead and preview maps you will be introduced to one of the most frustrating problems encountered while working with images in Myth. A brief explanation: "Indexed Color" means that the colors used by the computer to make an image are put in a table (palette) and then numbered according to their position in the table. When the computer creates the image it maps each pixel to the number that corresponds to the position in the table, not the color that is there. If you move or change a color in the table, the number which corresponds to that position won't change, but the color will. Every pixel in the image that is mapped to that number (position) will now become a new color. This can be used for neat effects, but most of the time just makes your "color off". Volumes have been written about color tables and working with them, I won't delve any deeper here.

The only reason you need to know this for Myth is because when you import an image into Fear, it changes the colors in your palette. For the preview maps it makes the first color black. For the overhead map it makes the second color transparent. As described above, if a pixel in your image was mapped to position 1 and was not black, loading your image into Fear will change all those pixels to black. When you finally see your preview in the options screen on bungie.net, it has black spots all over it! For the overhead map, any pixels mapped to the color in the second position will be transparent, making your overhead map look like somebody shot it full of holes!

The workaround sounds simple. Make sure the first color in your palette is black. For the overhead map, make sure no pixel in the image uses the second color in the palette. Well... I wish I could say it was that easy. Suffice it to say we have tried and are still interested in a solution if anyone has a step by step way to do it on a Mac with Pshop 5 they would like to send us - thanks.

We can't have holes in our images, however, so we will use Amber to fix them. Amber is a wonderful utility created by Vodi which will fix the problem on a Mac. If you are using Windows, Amber is not an option but also may not be necessary. I have no experience with the similar utility named Tahoe, but it can be downloaded at the same site as Amber. We will do this later in the tutorial. For now, let's create the images.

If you haven't just fallen asleep you should still have the "hpcutorial.pict" image open. Go to the "Image" menu and select "Image Size". In the dialog box that opens make sure that "constrain proportions" is checked at the bottom and change the width to 128 pixels. The height changes automatically to the same. Click OK. 128 X 128 is a good size for your overhead map. Smaller or larger sizes will have the irritating effect of not going to the proper area of the map when you click on the overhead image. For odd shaped maps or large ones, a scroll feature can be used, but that's for another day.

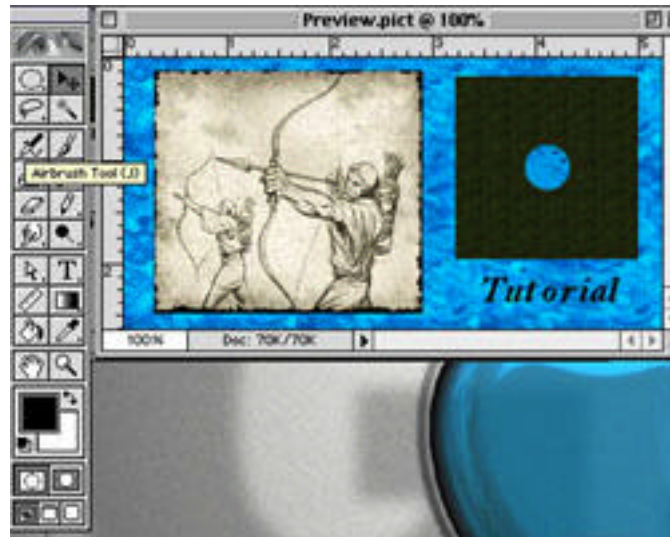
If you're using a Mac, you must save 2 versions of each the overhead map and netgame preview in order to do our workaround in Amber. You need a .pict and a .bmp of each. If you are using Windows, simply save them once as .bmp. The reason for using both on the Mac will be described later. Go to the File menu and select "Save As". If you're on a Mac, name the file "overhead.pict" and save it as a "PICT file". Now select "Save As" again and name the file "overhead.bmp". Change the file type to BMP before saving. When you click "save" you will get a dialog box asking if you want to save it as "Windows" or "OS2", select Windows. Click OK.

Now use the Image menu and change the image size again. This time make it 90 X 90. Don't save the image at this size as we don't want to overwrite the overhead map. We will just use it here at this size to be pasted into the netgame preview.

Now open a new file using the File menu. Make this file 377 X 190 pixels – the size needed for netgame previews. Make it RGB mode again. What you put in your netgame preview is up to you. Look at some on Bungie.net to see where the text covers the image and what others have done. Try and line things up so that they can be seen when the text is over it.

For our tutorial map let's just make a simple preview with what we have. I've included the file "arc.jpg" that can be put in the preview if you like. It is a screenshot from the game. In the final image included, I positioned it to demonstrate how you can make the text present in the pregame hard to read because a light colored image is underneath it. Open the arc.jpg file using the File menu. Bring the "blue wave" image to the front and use the Select menu to Select All of it. Use the Edit menu to define it as a pattern. Now bring the new netgame preview image to the front and use the Edit menu to Fill with the pattern. Bring the "hpcoverhead.bmp" image to the forefront and Select all of it. Use the Edit menu to Copy it and then bring the new netgame preview to the forefront. Use the Edit menu to Paste the overhead image into the new netgame preview. Note that when you paste it in, a new layer is created automatically. With the layer selected, you can use the pointer tool (top right of the toolbox) to drag the overhead image to wherever you want it without effecting the blue wave pattern. Put it in the upper right corner. Copy and paste the arc.jpg image the same way and put it near the left edge of the netgame preview. Finally, click on the Text tool in Photoshop (the letter "A" in the toolbox) and then click near the lower right of the netgame preview image. A dialog box comes up with options for your text. Make the Font "New York", the size 24, and the color black. Then type in the word "tutorial". Click OK. You can use the pointer tool to separately move any of the pasted images or text around simply by choosing their layer in the layers

palette. For netgame previews, the top right is the largest area to be free from text. The next largest is the bottom right near the bottom edge. Move your text there. When you are happy with your preview, go to the Image menu and change the mode to Indexed Color. Click yes to flatten the layers. Again choose the Adaptive palette with 240 colors and best color matching. Now save the file as both a .pict and .bmp file as described above for the overhead map. Name the saved files “preview.pict” and “preview.bmp”.



You are done in Photoshop. Quit the application. If it asks you to save the other files, select “Don’t save” – otherwise you may overwrite your overhead map with the smaller one you just pasted into the preview.

FEAR AND LOATHING

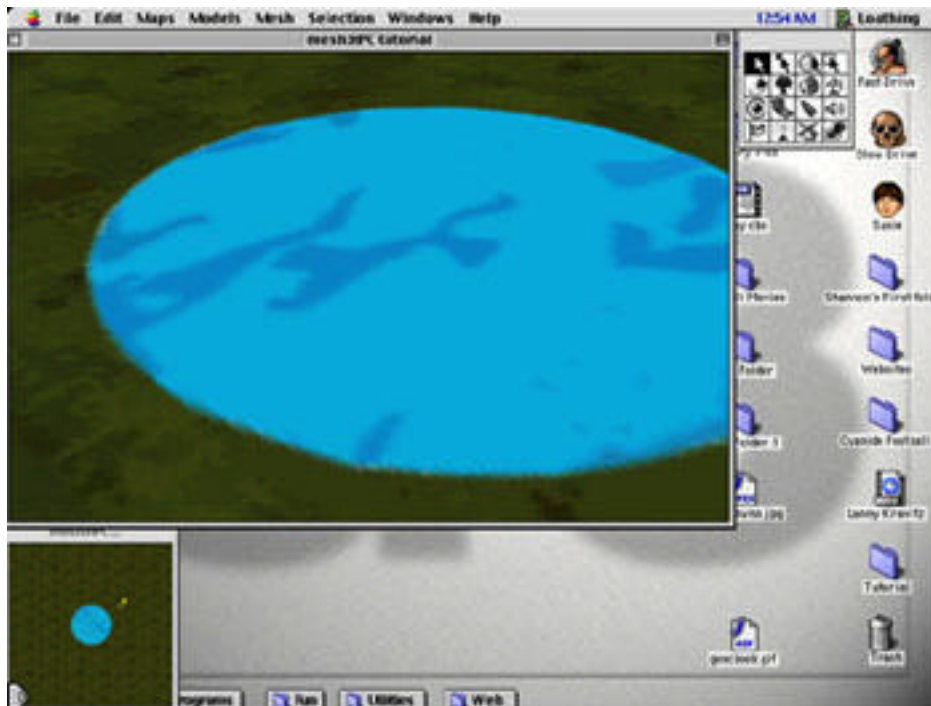
It’s time to see how our colormap will look in Myth. If you’ve skipped the Photoshop section or want to compare what you’ve created with those I did, look in the “completed images” folder that was included with the tutorial.

Fear and Loathing were included by Bungie with Myth II to allow players to modify the existing maps or to create new ones. Any work you do in Fear or Loathing does not modify the original tags from Myth II. Instead, the modification is placed into your “local” folder in the Myth II directory. When Myth is played, tags in the local folder override the ones that came with the game if they correspond to the same item, unit, etc. Because the original game is not altered, simply removing the local folder should restore things back to normal. This can be a lifesaver if your mapmaking efforts suddenly result in a crash every time you try to open Myth. Fair warning – sometimes it doesn’t. You should make a backup of any saved games and recordings before you start mucking around with either of these programs.

The local folder can also be moved to a directory outside of Myth II to provide a backup of any mapmaking in progress. As you will soon find out, Loathing can be quite unstable and has very little in the way of “undo”. For this reason, I make copies of the local folder

frequently into another set of folders, one for each “stage” of my work. If something goes awry and I can’t figure out why, I just replace the local folder in the Myth II directory with the one from the most recent “stage” that I knew worked. Sure beats starting over.

If you’ve dabbled in Fear and Loathing already, go to the Myth II folder and either trash the “local” folder or move it to another directory. Now open Loathing. When you open Loathing you get a menu bar. Excitement. Go to the File menu and select “New”. You will get a dialog box that asks you to name the mesh. Notice that, unlike other “save” dialog boxes, you can’t maneuver around your hard drive with this one – you can only save the mesh in the Myth II folder. Name the mesh “HPC tutorial”. Now you get a dialog box asking what “media” type you want. Remember that “media”=water, so even though one of the options is “water”, they are *all* water! Confused? So am I. Select “water” and click OK. Now you are presented with a dialog box that allows you to maneuver around your hard drive in order to pick which color map to use. Maneuver to the “hpctutorial.pict” and click OK.



You should now have 3 windows open. The large window shows how the color map will look while playing Myth. Not bad, huh? The smaller window acts like an overhead map – click on it and you go to that position in the main window. This small window also shows the directional arrow for your location and will show the position of units, objects, etc. as we add them. The 3rd window is the toolbox window.

Move around in the main window using the same controls that you use in Myth. Pretty neat! You should notice 2 things: 1) The world is completely flat, and 2) When you go to the edge the picture looks strange. Let’s fix the second problem first. The option

Loathing provides to fix this is to raise the edges so that they are at a 90 degree angle to the floor. Go to the “Mesh” menu and select “raise mesh edges”. This raises them about 20 units. A “unit” is one triangle in the polygon mesh, which we will see later. You can edit how far the edges are raised via the “Edit mesh edge raise amount” under the Mesh menu. Leave them at the default for now.



We also don't want units walking or flying off of the edge of the map. Myth controls where units can go by defining “passability” for each polygon in the mesh. We will do more with this later. For now, go to the Mesh menu and highlight “Make mesh edges impassable”. See how easy this is?

Now lets work on the first problem and add some shape to our terrain. Loathing provides a number of tools for doing this. You could import a “displacement map” using the “Map” menu, but we don't have one (A tutorial using Bryce 4 to create both a color map and the corresponding displacement map at the same time will be out soon). For this tutorial we will have to use the displacement tools, which are the three arrows pointing to objects in the top row of the toolbox. Click on the arrow pointing to the solid square box. Notice that the main window now shows the polygons that make up your mesh. You can edit how the mesh is viewed and how it looks when you select it by going under the Edit menu and choosing “View preferences”. Leave all at the default for now. Click on a vertex in the mesh. It will change color to indicate you've selected it. Now click and hold the mouse button while dragging the vertex up or down. Cool! You can move the mesh up or down to make hills or valleys. To select more than one vertex, click in

between the grid and then drag. Then release the mouse and click-drag directly on one of the selected vertices to move them all at once. You can also use the multiple selection tool – the arrow pointing to the unfilled box. The vertices selected by this tool follow a rectangular shape.

The neatest tool is the one that looks like an arrow pointing to a volleyball, the displacement brush. Click on this and the mesh polygons disappear from the main menu. To see them while you use this tool go to the Edit menu, select “view preferences” and change the option to “wireframe” (You can also just use the key combination “Command/Windows + 2”). The cursor in the main window for this tool is two large circles that move around the map like a vacuum cleaner as you move the mouse. Don’t click yet! This tool has a number of options which can be set under the Edit menu by selecting “Tool Preferences”, or by using key commands. In the “Tool Preferences” dialog box, the “brush type” can be changed between a circle or square (F8 toggles). The tool options are “raise”, “flatten” and “filter”. The Filter options are “elevation adjustment”, “absolute elevation”, “smooth” and “noise”. F7 toggles between the tool options. F1-F4 selects the filter options. The inner circle (or square) of the brush displaces polygons in the mesh when you click the mouse according to what option you have the brush set to. You can decrease or increase the diameter of this circle using the F9 or F10 keys, respectively. You can also change the diameter in the Tool Preferences menu. The outer circle is the “Feather” area. Polygons between this circle and the inner circle are displaced in a tapered fashion to create a transition in elevation between the two areas. The diameter of the feathered area determines whether you have a broad, gradual change, or a thin, abrupt change. You vary the diameter of the outer circle using the F11 and F12 keys. or the Tool Preferences menu.

The displacement brush is fun, but can get you in trouble quickly. If you have a fat index finger with a slow reaction time, you will have a very bizarre looking mesh within a few seconds. Fortunately, the displacement brush is one of the few tools in Loathing for which the “Undo” feature works. If you’ve made a big mess using more than one step, you can also use the “Flatten” feature to start over or fix the bad areas. More on that in a second.

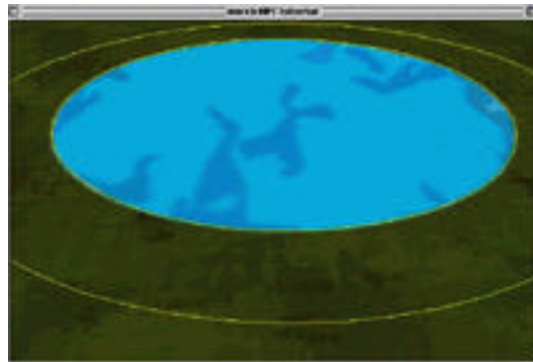
Move the displacement brush to an area of the map near a corner. Use the F8 key to toggle through the options until “raise” is selected. Click the mouse and watch a bump form. Now hold it still and click again. The bump gets larger. Try sweeping around while holding the mouse down and see what happens. You can adjust how far the mesh is displaced with each click by using the “+” and “-“ keys. You can make the mesh displace downwards instead of upwards by holding down the “shift” key as you click the mouse.

The Raise option will continue to raise and lower the mesh until you release the mouse. It also displaces things “dynamically”: When you move it around from side to side, new polygons are raised the defined increment, while previously raised polygons continue to be raised even further by the defined increment (so long as they are still under the brush). With a little practice, you can create a multilevel displacement in the mesh such as you

would find in a rocky cliff or hillside. I made small hills in each corner of the map with the brush diameter roughly half that of our pond and the feather diameter roughly 2/3 the size of the pond. The displacement increment was set to 0.5.

The Flatten option is a nice way to clean up any mess. Use the F8 key to toggle the option to Flatten. Now click and drag the Brush tool around any area you've displaced and don't like the result. Each polygon returns to the "0" level – where they were when we started. Play around with the Raise and Flatten options until you are satisfied with the terrain. Don't worry about the pond or the area around it.

Water usually settles into low lying areas, so let's put ours in a uniform depression with smooth sides. We could use the raise tool with the Shift key, but my hands are too shaky for that (they don't shake in the operating room – I promise!). The "Absolute Elevation" Filter works much better. Open the "Tool Preferences" dialog box via the "Edit" menu and for Tool select "Filter". A Filter menu pops up – select "Absolute Elevation". Now enter "-1" for the Absolute Elevation amount (not the Filter Effect Rate). Click OK.



Scroll around in the main window until you have the entire pond within view. Use the "v" key to zoom out if necessary. Now move the displacement brush over the pond and use the F9 and F10 keys to adjust the brush's inner circle diameter until it fits exactly the diameter of the pond. Don't click yet! Use the F11 and F12 keys to adjust the diameter of the outer circle until it is nearly half again the size of the inner circle (Make the distance between the 2 circles equal to about half the diameter of the pond - don't send me e-mails trying to correct my feeble grasp of geometric formulas, please). Now, with the inner circle exactly over the pond, click once. Cool! We have a bowl! If you click the mouse again it won't do anything (unless you've moved the mouse) because the mesh is already set to the "absolute" height. The Absolute Elevation Filter is nice for making ravines or ledges of the same height. Simply set your elevation and sweep the tool across the mesh.

The other options for the displacement brush are "Elevation Adjustment", "Smooth", and "Noise". The Elevation Adjustment displaces the mesh from its current height by a set amount. The smooth and noise options create less or more variation, respectively, in the displacement as you drag across the mesh. Play with them later. For now, keep the tool set to Absolute Elevation with a displacement of -1 and the 2 circles left at their current diameters.

Let's mess up our beautiful bowl by importing the water map. We could have imported it before making any displacement adjustments. Good advice. I did it this way to make a point – and to show you how to fix things if you do it this way. Go to the “Map” menu and select “Reflection Map→Import”. In the dialog box that pops up, maneuver to the “water.pict” file you created above in Photoshop and click “open”. A few blinks and, well, nothing happens. Why? Knew you would ask.

To prove that the reflection map has been imported, click on the tool at the bottom right of the toolbox (I have no clue what that icon is). If necessary, maneuver around in the main window until the center pond is visible. See the highlighted polygons in the pond? Showing you the highlighted polygons tells you that they are water. That is the extent of what this tool does. Click the pointer tool – the top left arrow in the toolbox – to see the surface of the water again.

For our rendered scene to show the “reflective” properties of the water, you have to add light and shading. No problem. Go to the “Map” menu and select “Shadow Map→Add Model Shading”. The other options, “Basic Lighting” and “Add Mesh Shading”, are done automatically if you choose the Add Model Shading option. Other things you can do in the Shadow Map menu include importing and exporting shadow maps, as well as “Unprotecting” the submesh. We haven't protected it, so we don't need to worry about it. A submesh is a 256 X 256 area of the map. You can show the submeshes and select one using the submesh selection tool – the sundial icon just under the pointer tool near the top left of the toolbox. I haven't found much use for this yet, so I can't tell you much about it.

When you added shading, the main window should have gotten a little darker and the water in the pond became all lumpy. If it didn't, save the mesh, close it, and reopen it via the File menu. What happened to our nice bowl? The short answer? - Importing the water map messed it up - but why?

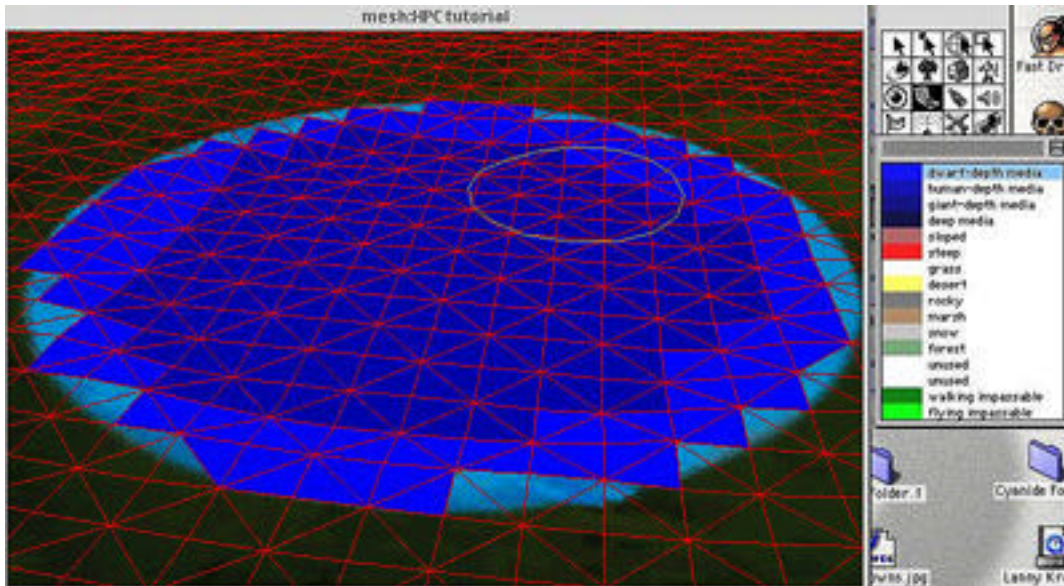
If you look under the “Mesh” menu, you will see 4 options for setting “heights”. Two of these options are for “Media”. Hey! Media=water, right? Can water have a separate height (displacement) than the mesh? Sure it can. If it didn't, your Trow wouldn't really look like he was wading now, would he? His feet have to be on a surface (the mesh) while his waist is at the level of the water.

When you imported the reflection map, those areas of the mesh which corresponded to the black part of the image were designated as “water” and reset to a height of zero. The lumpy part of our pond is just the mesh being displaced upwards out of the “bowl”. We just have to move the mesh back down. The neat thing about water, or “media”, is that it splits your color map as you separate it from the mesh. The texture from your color map becomes the surface of the water. Lowering the mesh below it creates a “physical space” that has no surface. It is not seen, only used. Because the water surface must have the texture of your color map, you cannot raise the mesh to a level above it. Try it.

This can be confusing. To make things even worse, the Tools in Loathing don't help. As you click through the various tools, the color map will sometimes be rendered on the surface of the water, other times, the mesh. For the best idea of what your final map will look like, click on the pointer tool.

Let's set the height of the water to where we want it. You can have water at multiple levels in Myth by selecting areas and then using the "Set media height" option in the Mesh menu. We have only one body of water, however, so we don't need multiple levels. In that case, selecting it is not necessary. Go to the Mesh menu and choose "Set all media heights". Set the number to "-0.5" and click OK. Our pond should now be slightly lower than ground zero. Now let's set the mesh to where it is a smooth bowl again with the bottom just under the surface of the water. Select the displacement brush and make sure it is still set to "Filter:Absolute Elevation" and the elevation set to "-1". The center circle should still fit exactly on the pond and the outer circle be half again as big. Before you click, hit the F9 key a couple of times to make the inner circle a little bit smaller than the pond. This will create the effect of the water getting gradually deeper as the units wade through. Click the mouse button and viola! We have a pond. You may have to close/open the mesh again to see the effect (save it!).

Our mesh is almost ready for units and scenery. We have to tell Loathing what units can wade through our pond first. When you adjust the displacement of the mesh, Loathing automatically calculates the "passability" for the new mesh level based on the depth below ground zero or the rate of slope upwards. For water, a depth of -1 below ground zero is just beyond "dwarf depth" and into "human depth". What this means is that a dwarf won't go there if you try and move him to that spot during the game, but a berserk will. The various passabilities for depth range from dwarf depth (any unit will pass) to "deep" (only wights and thrall). For surfaces above the water, passabilities not only control what units may pass, but also how the surface reacts to projectiles such as bombs, fireballs, flame arrows, etc. Click on the "passability tool" which is just to the right of the eyeball in the toolbox (again, I have no idea what this icon is). The grid of polygons returns to the main window with 2 shades of blue in our pond. A menu pops up under the toolbox with descriptions of each passability. By default, flat ground is set to "grass" (and the polygons are not shaded). "Sloped" and "Steep" are gradations used for the sides of hills, etc. Steep polygons will only allow spiders or flying units such as Soulless to pass. "Walking Impassable" allows only flying units to pass, and "Flying Impassable" allows no units to pass. When we made the edges of the mesh "Impassable" earlier, it designated the polygons as "Flying Impassable". The "Desert", "Rocky", "Marsh", "Snowy" and "Forest" options are variations on "Grass" that determine more the effect on projectiles than passability. The Desert setting makes fire less effective but bombs more effective. It also shows footprints when units move over it. Rocky does not burn at all, while explosives are much more effective (watch this one, your dorf may blow himself up just by lighting a bottle – as you click to attack another unit: BOOM!). Marsh and Snow make both bombs and fire less effective as well as slow down some smaller units movement.



The bottom of our pond was automatically set to “human depth”. Let’s set it back to dwarf depth. Our dwarf’s head won’t go underwater because we lowered the surface of the media as well. The passability tool is once again a circle that you can decrease or increase the diameter of with the F9 and F10 keys, respectively. Use F8 to toggle between a circle or square. If you hold the Shift key down as you press the mouse, it only changes one pixel at a time. Note that you can’t adjust the passability tool in the Tool Preferences under the Edit menu. You can, however, use the Undo feature.

Make the circle about a quarter of the size of the pond. Click on “dwarf depth” in the menu below the toolbox. Click and hold the mouse as you drag around the pond and change all the dark blue polygons to light blue. If you accidentally change a polygon which is in the grass, you can either use the Undo feature, or change the passability back to “grass” using the tool.. Click on the pointer tool when you are done.

One more thing about the passability tool. When you add models and certain scenery items (i.e. trees) , the polygons where they are placed become designated impassable (flying impassable) automatically. This is good because you don’t (usually) want your units walking through trees or houses. If you put a few trees close together, however, there may be a lagoon or narrow strip of polygons that are passable between them, yet too narrow for a unit to get through. This causes the units to get “stuck”. One solution is to just change the passability of the narrow area to Flying Impassable. Part of the final checklist for every map should be looking for these potential traps and eradicating them by making them impassable. The typical unit requires a minimum of 3 “cells” (triangles) in the polygon mesh to pass through.

It’s time to start adding units and scenery to our map. Up until now most of the work has been our own. For the rest we will be mainly pilfering items from the existing Myth archive. It’s OK because they said we could. Remember that. Don’t pilfer anyone else’s map or units unless they have given you explicit permission.

Creating new units sounds like fun, but is far too difficult for the first time mapmaker. I'll briefly show you how to modify existing Myth units here. As this tutorial is intended to keep things simple, I also will not add every item possible such as Models, Animations, or projectiles and will not set up every type of game. My hope is that what I do show you will give you enough of an idea as to how things work that you can figure out the rest yourself. The setup for them is similar. Feel free to experiment. If you need further help you might want to check out one of the more extensive guides mentioned earlier such as the Myth II Handbook.

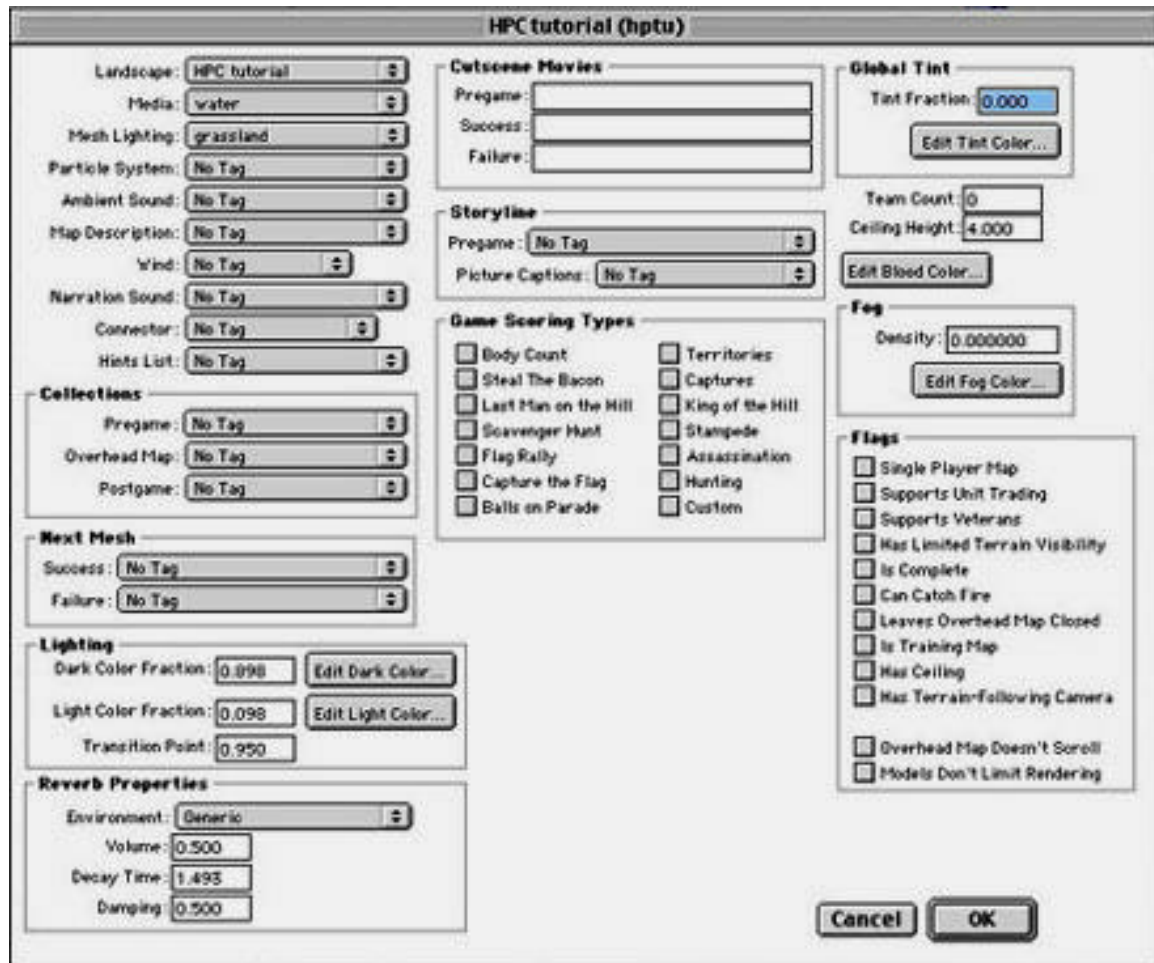
I will describe briefly the other options: At the bottom left of the toolbox is a flag icon. This is used for map "scripting" – code that controls actions and behaviors. This is mainly used in single player maps. Some actions in network maps require scripting as well, such as the delay that occurs before you gain control of the chickens in Gimble Stampede. Models and animations are placed from the house and windmill icons, respectively. They are different from scenery in that they have a "3D" surface - as you rotate around them you see a different surface on each side. Scenery items are 2D only. As you rotate around them they rotate as well and remain facing towards you (Remember the half-naked women in Duke Nukem?). Models and Animations fit very specifically into the mesh and can only be moved using the "Model" menu once they are placed. You can use the cursor keys to rotate them before placement. Many of the Models available are actually the specific steps, or "frames", in an animation. This is why you will find 14 copies of "06 bridge" in the models list. Level 6 is where your dwarves blow up the bridge at the end. Using one of these "frames" individually or trying to recreate the animation is not something you will want to try in your first map.

Projectiles are placed using the icon just to the left of the speaker icon. Projectiles are just what they sound like, things that can fly or be thrown. Many of them are "parts" which result from an explosion. Scroll down the list and you will see "berserk head", "berserk arm", etc. Again, many of these are part of an animation sequence in the single player map levels. The local projectile groups are placed by the tool just to the right of the flag in the bottom left (a volcano?). These are small snippets of animation. The leaves which fall from the trees in the Badlands, for example, are a local projectile group.

The remainder of the tools we will be using shortly. Before that, however, we need to do a few things in Fear. Save your mesh, quit Loathing, and open Fear. When you open Fear, it polls your Myth II folder and creates a list of all the "tags" that are present. This may take a few seconds. You should be presented with a list of folders starting with "Ambient Sounds" and ending with "Wind". It is in Fear that you change the properties of many aspects of the game, ranging from what words show up after "loading ____" when you start a game to the animation sequence seen as a ghol runs across the terrain. There are far too many tags and options to go through here. I encourage you to read the documentation supplied by Bungie and to look through the existing tags from the various maps and units available. Try and figure out what they do by the options they present. A word of warning: There is no "save" under the File menu in Fear. If you bring up a tag's menu of options and then close it by clicking "OK", the change is saved. Click the

“cancel” button if you’re “just looking”. A modified tag will no longer have its name in bold, as you will see in a minute. If you’ve made a change and want to remove it, you can either trash the entire “local” folder, or go to the specific folder inside it and trash the modified tag.

Let’s set up our map so that we can have “connectors” – the barb wire between fence posts. Open the “Meshes” folder and scroll to the bottom. See our “HPC tutorial” there? It’s not bold, indicating it either a modified tag or a new one. Double click it to open it. How’s that for a few options?



We’ll work in the top left for now. The “landscape” tells Myth what color map to use. The “media” we set to “water” when we created the mesh. The “mesh lighting” basically has light, evening, or dark as options -“grassland”, “long desert shadow” or “catacombs shadow”. Leave it on “grassland” for now. “Particle system” determines the weather. Some of these have to be activated by a script, so leave it set to “none”. “Ambient sound” enables you to select a sound that is heard everywhere in the map. It is not localized. You have a variety of options, I chose “ambient marsh”. The “Map Description” is the name of your map in Fear. This is what shows up after the “Loading”

when you start a game. This “name” is also important if you want to create a duplicate of your mesh and then, say, make a “Dark” version. You can duplicate a mesh from the Edit menu in Fear, but if you try to play it without creating a separate Map Description for it - neither mesh will load. We haven’t created our Map Description yet, so leave it set to “No Tag”. “Wind” doesn’t control the sound of wind, but actually whether your map has real wind effects! Sounds like fun, but leave it set to “No Tag” for now. The “narration sound” presents you with a lot of options (every sound tag in the sounds folder) but is actually the narration at the beginning of each single player level. It is not used for network maps. The “connectors” menu determines what is used when you “create a connector” in Loathing. It should currently be set to “no tag”, which is why we had to stop here first. Set it to “wire fence”. The “Hints List” is used for single player levels and selects which text to add to the hints.

Click the OK button to save the changes. While we have Fear open, lets add our overhead and netgame previews. We will also modify a few things. Close the “meshes” window. Now go to the File menu and select “Import→overhead map”. You will be presented with a dialog box that asks you to name the overhead. Call it “hpctutorial oh”. Now you get a dialog box which allows you to select the file on your hard drive to import. If you are using a Mac, select the “overhead.pict” file. If you are using Windows, select the “overhead.bmp” file. For Mac users our workaround with Amber will eventually replace this image, but it’s easier to create the tag for it here. The reason you have to create 2 files is because the Mac version of Fear will only recognize the .pict file, while Amber will only recognize the .bmp (depending on what file translator settings you have on your Mac, you may have an option to import a .bmp using quicktime translation in Fear – but it doesn’t fix the problem). Now go to the File menu again and select “Import→Netgame Preview”. Name it “hpctutorial prev” and select the “preview.pict” file (.bmp in Windows).

We still need a “Map Description” for our map. Any text that you see in Myth is contained in a file called a “String List”. You can edit any of the 311 “strings” in the game or add your own. Double click the “String List” folder to open it. Now go to the File menu and select “New Tag”. You will be asked to name the tag, call it “HPC tutorial”. You will be presented with a dialog box that has an empty area in which you can enter text. Type in “HPC Tutorial” and don’t hit return/enter. Click OK. Hitting return tells Fear that there is something in the next line. If there isn’t –not good.

So long as we are in the String Lists, let’s modify one of the lines of text associated with one of the units. How about it’s name? OK. Scroll down until you find the string list called “Dwarf Hero Name” and double click it. Ever wonder why all the dwarf heroes are called Andvari? Heck, it’s the only option they have! Let’s give them a few more. Each time you start up your map, it will randomly select a name for the dwarf heroes from this list. Click to place the cursor at the end of “Andvari” and then hit Return. Type in a couple more names of your choice. Be sure to hit the Return key after each name, but NOT after the last. I entered “Ungar the Ox” and “Fat Blowpig”. Click OK. Notice that the tag for the dwarf hero name is no longer in bold.

Now that we've given them new names, why don't we make the dwarf heroes a little tougher? Remember that units and wildlife are called "Monsters" Close the String Lists window and open the Monsters folder. Now scroll down to the "dwarf hero" tag and double click it. Holy cow! Does every tag in Myth have this many options?

I won't go through all of the options here. Feel free to look around and try and figure out what things do. Just be sure to hit "cancel" instead of "OK" for now. Some things can be changed and work fine. Others cause nasty crashes or bizarre effects.

In the middle of the options do you see the box called "String Lists"? The second one down is how the "monster" dwarf hero calls on the names we just modified. The "sequences" and "sounds" over to the right, as well as the "collection" and "object" on the top left, are where you will find the references to the animations and sounds you will see and hear when looking at the dwarf in a game. The "projectile groups" are a reference to the animation seen when the dwarf dies or explodes – the 'dwarf pieces". We want the dwarf to have an even more powerful attack. Look on the bottom left and you will see the 2 "attacks" that the dwarf has. For dwarf heroes, their molotov cocktail attack is the same as that of the dwarf pathfinder's. Double click where it says "dwarf pathfinder bottle lit" to edit it. As you look through the flags and options, you can see how the behavior of the dwarf's attack is regulated. One thing that is missing, however, is the damage the bomb creates! That's because this is the tag for the "attack"-how the dwarf looks and acts as he throws the thing. The bottle itself is a "projectile". See at the top left where it says "projectile" with "dwarf pathfinder bottle lit" as the selection? There must be a tag somewhere in the projectile folder with the name "dwarf pathfinder bottle lit".

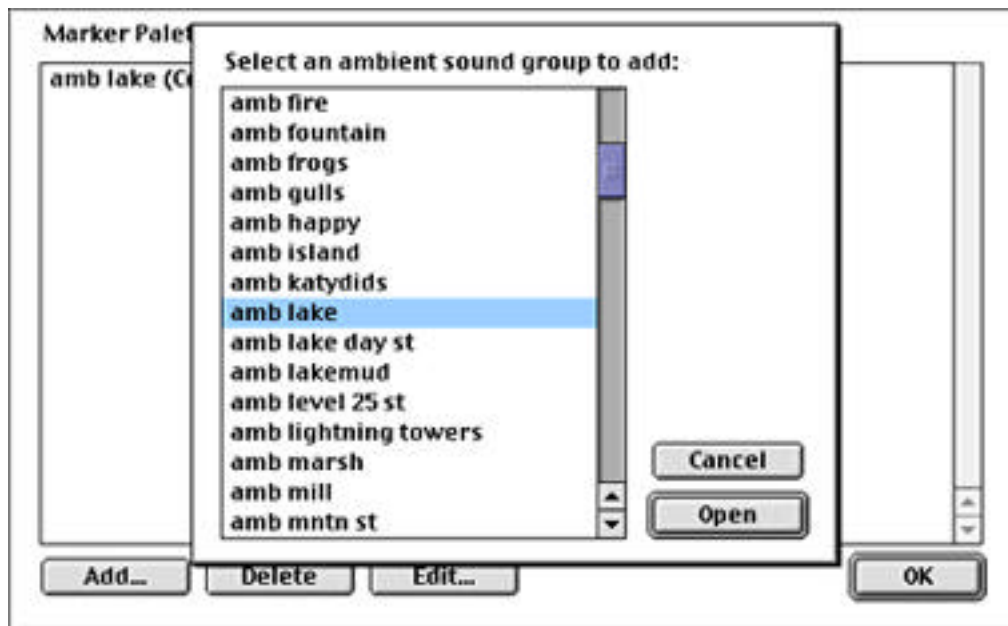
Before we leave this menu, however, let's change some parameters of the dwarves attacking style. Why not make him shoot farther and take less time to reload? Change the "Maximum Range" to 20 and the "Recovery Time" to 1. Machine gun bombs! Click OK for this menu as well as the Monster menu for the Dwarf Hero. Notice how his name is no longer in bold. Close the "Monsters" window and open the "Projectiles" folder. Scroll down until you find the "dwarf pathfinder bottle lit" tag and double click it to open it. Another unwieldy menu! Heck, even the physics of the "volume" is "unwieldy" (look in middle of menu to get pun - that tag reference actually dictates whether other units such as ghol's can pick the item up off the ground. If it is set to Unwieldy, they can't). Hey! On the right side there is a button labeled "edit damage". Now we are cooking. Click it. The next menu is thankfully a little smaller. The damage options near the top left can be changed to give the bombs more oomph. Don't go too crazy! Where it says "Damage" change the left number to 8 and the right to 10. If you go through other units tags and look at the projectile settings for their attack, you'd see that the dwarven pathfinder's was already one of the most damaging. We just made it even more vicious! Click OK to accept and click OK in the main projectile menu. Close the Projectiles window.

What you've just done is only the tip of the iceberg as far as what you can do in Fear. I'm sure you can now see how difficult creating a new unit and actually getting it to work

can be. I also hope you want to play a little more and see what you can come up with. One of the best ways to learn Fear is to try and find a sequence of tags that you think you know what they do, modify them, and then see if you get the result you expected. Be prepared for crashes and bizarre events, but have fun!

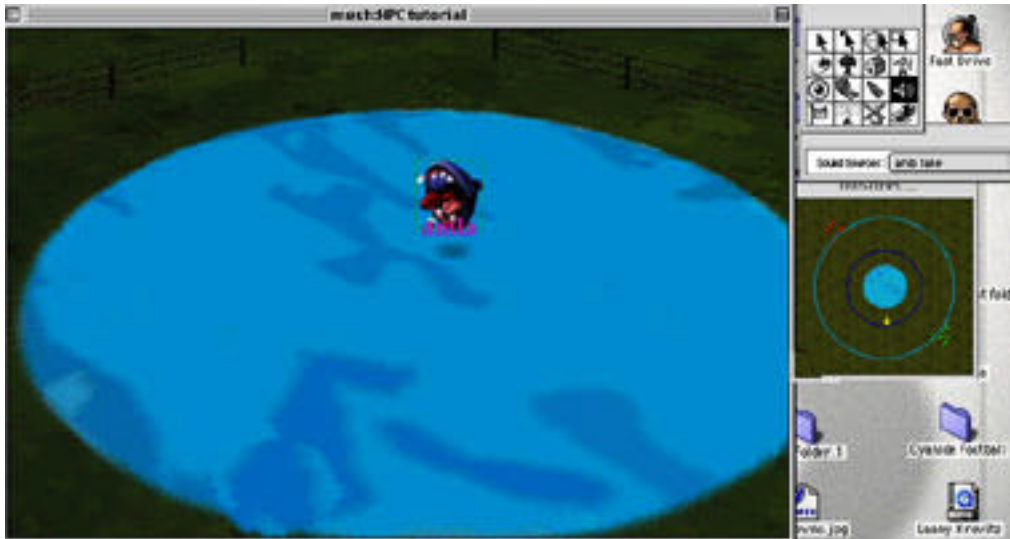
Now let's go back to Loathing and finish our mesh. Quit Fear and open Loathing (they can't be open at the same time, btw). Use the File menu to Open our mesh again (usually at the bottom of the list).

Let's add some sound first. Double click on the speaker icon in the toolbox to open the sounds menu. The menu you see will be similar for all units and scenery. You have to add items to this list first before they can be placed on the mesh. You setup each item's parameters as you add them to this list. You can also modify them later by double clicking on their name. We don't have any sounds yet, so click on the "add" button in the bottom left. You now can select any of the sounds that are used in Myth II. At the top of this list are the "ambient" sounds, the bottom ones are "random". The 'ambient marsh' that we selected in Fear will sound the same no matter where you are viewing the game from. Ambient sounds in this list are constantly playing, but can only be heard in a localized area. The random sounds here are also only heard in a localized area, but occur sporadically. Another aside – if you look closely at the possible sounds, you will notice 3 that don't seem to fit called "win screen", "loss screen" and "splash screen". Do you like the pounding drums that play after you win a single player level? You can plug that sound (Win Screen) right into your map!



We want the water in our pond to make a sound. There isn't an "ambient pond" sound, but there is an "ambient lake". Highlight it and click "Open". You will get another dialog box asking you to select the tag, which should already be set to "ambient lake". Click OK. This second dialog box seems redundant and in this case it is. Where it is

useful, however, is if you have placed a number of sounds on the mesh and then decide you want them all to be something different. You can just double click on the name in this list and change the tag. Had you placed 40 ambient lake sounds throughout the map, they would all change to the new sound. Sure beats finding all 40, deleting them, then adding 40 new ones! This feature is most often used when changing groups of units. Close the tag menu and Click OK to exit the Sound menu. You should now see a small box underneath the tool palette that says “Sound Sources”. We only selected one sound, so the only option available is ambient lake. Maneuver to the pond in the main window and, roughly in the center of it, click on the water. The neat looking speaker with a tongue that appears indicates that you have placed a sound there. The “amla” tells you the name of the sound. If you look at the small overhead view window, you will see that two blue circles have appeared which indicate the areas where you can hear the sound. The dark circle is the area where the sound is heard at full volume. The light blue circle indicates where it can no longer be heard.



You may need to center these circles around the pond. It's time to learn how to move things in Loathing. You can select any item in Loathing using the pointer tool. If it can be moved (remember that models can't), you do so by holding down the Control/Alt key and then dragging the item to where you want it. You can also orient the item by clicking on it and then dragging without using the Control/Alt key – much as you do in the game itself. You can drag a box around a group of items to select them as you do in the game, but double clicking on a unit will not select all similar units – it will bring up a dialog box we will use shortly. Clicking on more than one unit while holding down the shift key will select multiple units at one time.

The problem is, if you change to the pointer tool, the blue circles go away! If you want them in view while centering the sound, you have to select the sound in the main window using the sound tool itself. You can then move it using the Control/Alt key as above. The trick is to actually select the sound. If you click just a little bit off, you will just place a new one. The best way to do this is to move your mouse over the sound until you see its bordering box appear (this will be difficult to see against the blue background of

the pond, you may have to zoom in a little). When it does, hold the mouse steady and click the mouse down. Now hold down the Control/Alt key and move the mouse until the circles are centered. Neat. Now change to the pointer tool to prevent from accidentally adding more sounds.

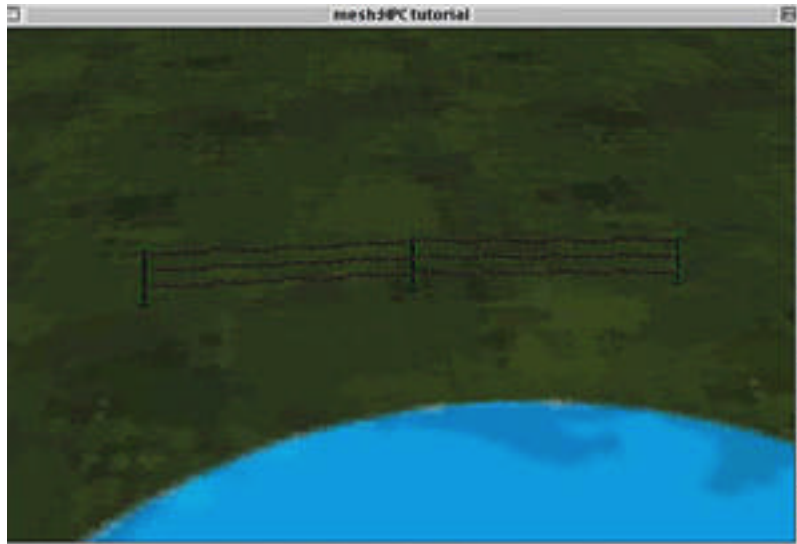
Now let's add some scenery. Scenery is much like your color map in that a lot of time and effort can make the difference between what looks like a beautiful masterpiece versus what looks like a something Bill Gates would come up with. Feel free to place any objects you desire. The selection process, movement, and orientation is similar to what we just did for sound. For this tutorial's sake I will add just a few items. I will show you how to make connectors, however – one of the quirkiest steps in Loathing.

Double click on the tree icon in the toolbox (between the sundial and the house). You get another empty menu. Click on the Add button and scroll down to the "01 post" item. Highlight it and click open. Once again you get a menu with the option to change the tag. This one also asks you what game types the scenery will appear in – leave them all checked. The "Team" option should be set to "-1". More on that in a minute. Click OK. Click OK again to close the scenery selection box. You now can use the fence posts seen in level 01 of the Myth II single player game.

You should now see a small box underneath the toolbox that says "scenery" and have "01 post (team -1) as the only option. Click on the scenery icon in the toolbox if not. Now place 12 fence posts symmetrically around the pond, 3 each in the N, S, E, and W. Use the Control/Alt key to move them until they are lined up neatly. As you add them using the scenery tool, notice the blue dots that show up on the small overhead window. You can use this as a guide for lining them up, but, again, you have to be careful selecting them when using the scenery tool.

When you are happy with their position, change to the pointer tool (if necessary). The following steps need to be followed *exactly* in order to make connectors. If it doesn't work, go back to step 1 and try it again. If it still doesn't, check to be sure you selected a tag for connectors in Fear.

- 1) Use the pointer tool and click on the ground to make sure you don't have anything selected.
- 2) Go to the Mesh menu and highlight "create new connector".
- 3) Without opening any other menu or changing tools, click on one of the 3 fence posts on any side of the pond. Now hold down the shift key and click on the 2nd and 3rd fence posts from that side so that all three are selected.
- 4) Go back to the "Mesh" menu. The "create new connector" option should have a next to it. Select that option again and let go of the mouse.



If you did it right, you will now see 3 wires between your fence posts. You also now know how to do something that many a frustrated mapmaker does not, based on the number of posts in the forums asking about it. The confusion arises from the mark. Remember that it *should not* be there when you start the process and that making it go away is what actually creates a new connector. Go ahead and make connectors between the groups of 3 fence posts on the other sides of the pond.

It's finally time to add some units. Double click the knight icon just to the right of the house in the toolbox. Once again you get the empty box. Click "Add" to see the list of available units. Scrolling down this list should give you some insight into how the Myth II game is organized. The top of the list contains units with a number as part of their name. These units are used in the single player maps. For the most part you can still use them, but some may not behave the way you expected. Below that you will find the units which are used in the netgames that Bungie provides. Some of the units have descriptions after their name which can either be useful, or misleading. For example, the "archers (flameless)" are as advertised, no flame arrows (i.e. those used in Spider/Grave). The "frog (stampede)", on the other hand, will just sit there if you add them to a stampede game and then try to move them to the center. If you were to open the Monster tag for "frog (stampede)" in Fear you would see that they can't move at all. Under the "Edit Sequences" menu, any sequence associated with movement has "no tag" selected. Why they named the thing "Stampede" then, is just one of the many mysteries you will come across as you dig through the guts of Myth II. If you're not sure what the name means, or which one to select, try opening the map in Loathing that you think uses the unit and see what you find. For example: As you scroll down to the "Deer", you'll see that there are 3 that have specific names – "explosive", "hunted", and "hunting". The "explosive" deer sounds like the one from the secret level "A Long Awaited Drinking Party", but what about the other 2? If you wanted to make a map where you could hunt deer, would you use the "hunted" or the "hunting"? Most people would say "hunted", right? Well... If you were to open the Gimble mesh and check, you would see that the deer that are used are the "hunting" ones. Doggone em! Use this "look what they did" method for any units or other aspects of the game that you're not sure of.



Of course the first thing we have to add is our modified dwarf heroes. Scroll down to “dwarf hero”, select it, and click “open”. Another dialog box opens. It again has the option to change the unit tag. The “Team” box should say “0”, if not, make it so. We will go through “teams” in a second. Down the right side you will see check boxes for each game type you want the unit to appear in. Leave them unchanged. (This is how LMOTH Untamed has only Dwarves, Jmen, Thrall and Wights – the other units used in that map have the LMOTH box unchecked). The other options are: “uncontrollable” – the player can’t control the unit in the game. This does not make the unit “ambient life” in that the unit is still part of the players team, they just can’t control them. An example would be the chickens in Gimble Stampede which start off as “uncontrollable” (blue box), then change to controllable (green box). Leave this unchecked. “May be traded” – this box must be checked if you want the unit to be available for Unit Trading at the beginning of a netgame. Check it. “May use veterans” – the units will keep their experience if they survive to the next netgame (Veteran units will not work if the map or any player changes). Leave unchecked. “Must use veterans” – this feature can be used to make a unit show up only if veterans of the same kind survived the last game. Leave it unchecked. “Is Ambient Life” – use this for “monsters” that are scenery such as birds, deer, or peasants. Hunted animals should also be set to “is Ambient Life”. Leave this unchecked. “Is Hunted Creature” – allows the unit to be targeted when playing Hunting. A combination of checking this box and only the “hunting” box for “appears in gametype” will make the unit only appear in the hunting game and be targetable– i.e. the pigs in Proving Ground. If you allow the unit to appear in other games as well, like the birds in Spider Web, they will only be targetable in Hunting. Leave this unchecked. Click OK to accept.

We now have to discuss what the “team” number is. Myth keeps track of what units and objects are part of each team and creates scores for the network games based on this number. In single player maps, there are only 2 teams, good vs bad. In network maps, however, each player is part of a team and needs to have units that are assigned to a specific number. Where the confusion comes in is that the scenery and ambient life also have team #s. Ambient creatures have team numbers because they are part of the same tags (Monsters) as fighting units. Scenery has team #s because some of the scenery items - the balls you use for balls on parade – have to be assigned to each team. So how do you make a scenery item or ambient creature not be assigned to a player’s team? Remember when we placed the fence posts and we set the team to “-1”? That is the number that Myth uses to identify the item as “background” – not on anyone’s team. It uses this number a little differently in single player maps, but we won’t let that bother us here. This number is an important thing to check before you finalize your map. Make sure all the scenery and ambient creatures are set to “-1” (hunted creatures are also set to -1). You can double click on their name in the selection list to change all of them at once. If you don’t have the numbers set correctly, you will end up with bizarre effects such as a player having all their units destroyed, but still showing 50% of their army left because the birds and fence posts are assigned to them.

The units that will engage in combat are assigned to teams beginning with team 0. A four player map would then have team 0, 1, 2, and 3. When you place units in Loathing, you must add each unit to your selection list one time for every team. By making the team number different for each, a new entry will appear on the list.

For simplicity, let’s make a 2 player map. We have available in our list dwarf heroes assigned to team 0. We need some assigned to team 1. Click the Add button again (Double click the unit tool to open the list again, if necessary). Scroll down to the dwarf hero again and click Open. You will get the same dialog box and the team number will say “0”. Change it to “1”. Make the other settings are the same as we had for team 0’s dwarf. (Check the “may be traded” box). Click OK. The unit selection list now shows that you have dwarf hero available for team 0 and team 1, and that they can be traded (“Tra/”). It also tells you how many are placed on the map - the “count” should be 0 for each right now. Use this count during your final checklist at the end to make sure everything came out even for each team. It’s not necessary to make each team have the same number of units, but it isn’t very fun to play if you don’t. Click OK to close the list.

Go to the main window and maneuver until you are facing the top left corner of the map. Back away until you have enough room to place a small army a little distance from the wall. Where you place units in Loathing is where they will start out when the game begins. With the unit tool active, click on the menu just below the toolbox and select “dwarf hero (team 0)”. Now pick a spot on the main screen and click to place a dwarf hero. Click just to the side of him to place another.

Use any method you wish to keep track of the starting spot for each team, but make sure you do. I try to make the top left team 0 and go clockwise around the map from there.

Since we are only going to place 2 teams, let's make them start across from each other. Go to the bottom right of the map to place team 1. With the unit tool selected, click on the menu just below the toolbox and select "dwarf hero (team 1)". Now click on the map and place 2 dwarves.

You could stop here and simply play body count with these 4 dwarves, but let's do some more. To add more units, double click on the unit tool. If you added the dwarf heroes correctly, your count should now show 2 for each. If not, fix things by going back to the main window and either deleting them (select them and hit delete/backspace) or adding them. If you have 4 for one of the teams and 0 for the other, you forgot to switch the menu just under the toolbox before placing the second team.

Click the Add button in the unit list. You can add any units you like, but follow along to learn how to configure units correctly for games like assassin. We have a deadly dwarf hero, so let's give him some tough competition. Scroll down until you see "Warlock Hero", select it and click Open. Set the team to 0 and click the box for "may be traded". Click Open. Repeat the procedure substituting team 1 for team 0. Now find "Trow" and add one for each team as well, allowing each to be traded. What the heck, find "Alric" (don't use the "emperor" one) and add one for each team as well. Make sure you click the "may be traded" box for each.

Your unit list should now have 2 each of Dwarf Hero, Alric, Trow, and Warlock Hero. Each should have "Tra/" after their name. Double click on any unit name in the list which is incorrect and fix it. If you only have one listing for a particular unit, you may have forgotten to change the team number. Adding a unit to the list with every parameter set exactly the same as that of one which is already there will simply make no change. You can add the same type of unit to the same team so long as at least one of the parameters is different. For example, you could have Trow that can be unit traded, and Trow that cannot. Units that cannot be traded simply are present at the beginning of the game, like the Wights in Gimble or Spider Web.

Some games, such as assassin, require units that are set up in a special way. Let's give our super dwarves a challenge and make an Assassin game with the target Soulblighter. Double click the unit tool to open the list (if you've closed it) and click Add. As you scroll down you will see a lot of different Soulblighter variations (it is *his* game, after all). Choose the one without a number or description in parenthesis. When you click Open, set him up as follows: Team = 0. Uncheck every box under "appears in netgame type" except "Assassin". Make sure all of the boxes on the left side are not checked as well (don't allow him to be traded). Click OK. Repeat the process and add a Soulblighter to team 1. Make sure the other settings are the same. Click OK to close the list.

Now go to the top left corner of the map in the main window again. Use the menu under the toolbox to make sure you are adding units assigned to team 0 and add 3 Trow, 1 Warlock Hero, 1 Alric, and 1 Soulblighter. Arrange them so that they all can be seen in the main window without zooming all the way out or panning. Scary looking bunch, aren't they?



We still have to set up Unit Trading and have to designate Soulblighter as the assassin target. Setting him to appear only in Assassin is not enough. Change to the pointer tool and double click on the Soulblighter for team 0 in the main window (This usually spins the unit around. Don't bother turning him back yet as we will be clicking on a few more units and will orient them all back at once). Another menu! At the top of this menu is the option to set the minimum level for which the unit will appear. This is how maps like Leagues From Nowhere give you more units when you set the difficulty higher. Leave it set to timid. The numbers in the boxes next to "I", "J", and "K" along with "Z" "yaw" and "pitch" control the 3D positioning of your unit in relation to the mesh. Changing these is unlikely to have a desirable effect, so leave them as they are (If you change the "Z" to a higher number the unit will start off above the ground, but will drop to the ground as soon as the game begins if it is not a flying unit – try it sometime). The "invisible" box makes the unit just that, invisible. Invisible units can have other units move through them and cannot be controlled. The main use for this feature is unit trading, which we will do shortly. The "stone" option sounds neat but doesn't have much use in network maps. Try setting a unit as "stone" sometime and see what happens. You can use this option for stampede games in which the goal is the same flag for all teams. Setting the flag to "stone" will prevent the flag from being "captured" and changing color to that of the nearest unit. "Detonates Immediately" can be used for things like the Wights that explode at the beginning of Proving Grounds (be sure to set the team to -1 if you try to set up something like that). "Is invisible observer" is used mainly for scripted events in single player levels. Leave each of these options unchecked. The one you want is the "Is Netgame Target" – check that and click OK. You just told Myth that Soulblighter is the target for the Assassin game. The only other game where you need to designate a target is Stampede (called "Rugby" in Loathing – another mystery). Scenery items such as flags *do not* have to be designated as targets – that is done automatically.

For a stampede game, designate each unit (i.e. peasant) for which the goal is to bring them to the flag as the Netgame Target. Interestingly, for hunting targets you *should not* designate the unit as a Netgame Target. You set them up in the Unit Selection list by designating them as “is ambient life” and “is hunted creature”. Hunting targets are also on team -1, not the individual teams.

One final word on Assassin and Stampede. If you remember from playing the game, or look through the network game meshes from Myth II, you will notice that the Assassin target and the Stampede target are never the same unit and they don't appear in other games. There must be a reason for this, right? If you designate a unit as the netgame target, be sure that it is only set to appear in that particular game. Failure to do so leads to the infamous “Game Over” as soon as the game loads that has made it to a few 3rd party maps out there. Since hunting units are on team -1 and are not designated as “netgame targets”, they will work correctly if added to multiple game types. For Stampede and Assassin, if you want to have the same type of unit be in multiple games *and* be the target, you have to create a separate instance for each in the unit list. Take a look at the Fetch in the unit list of Spider Web for more details.

To allow unit trading you not only have to tell Myth which units can be traded, you also have to define the number of units which are available as the default and the number that can be added. You do this by making some of the units “invisible”. Visible units are what you get as the default. Invisible units can be traded for (if they have the “May Be Traded” option checked). Let's make Alric and one of our Dwarf Hero units the ones that can be traded for. Double click on one of the Dwarf Heroes and make it invisible. Now do the same for Alric. When setting up Unit trading, try to keep in mind the cost of each unit (available in the Monster tag in Fear – which can be changed) and what the possible combinations are. It does no good to make an expensive unit like a Trow invisible and then not give the player enough of other kinds of units to trade up for it. Try and match things up so that the combinations come out “even” as well. We won't worry about it too much here, as we just have a few units. We basically are giving the player the option to drop a Trow (24pts) for Alric (16pts) and a Dwarf Hero (8pts) – a good deal.

The image shows a dialog box for configuring unit settings. At the top, there is a dropdown menu for "Minimum Difficulty" set to "Timid". Below this are several input fields for numerical values: "I:" (0.000), "J:" (0.000), "K:" (0.000), "Z:" (0.746), "Yaw:" (56640), and "Pitch:" (0). At the bottom, there are two columns of checkboxes. The first column includes "Invisible" (checked), "Stone", "Detonates Immediately", and "Is Invisible Observer". The second column includes "Netgame Target", "Unused 5", "Unused 6", and "Unused 7". At the very bottom are "Cancel" and "OK" buttons.

Our units for team 0 are set. Using the pointer tool, click on the ground and drag around them all to select them. Now click and drag on one of them to orient them all towards the middle of the map. Now maneuver to the bottom right corner of the map in the main window and repeat for team 1 what you just did for team 0 (Add the same number of units, make souldblighter the netgame target, make 1 Dwarf Hero and Alric invisible, and orient all units towards the middle). Be sure you use the Team 1 options in the menu below the toolbox. We are almost done!

If you stopped now you could play BC and Assassin. No game would be complete without Balls on Parade, however – King Adrock’s favorite game. The balls and flags that are part of many network game types are actually scenery. The algorithm for setting them up as team items is similar to what we just did for units. Items that are unique to each team (ball for Balls on Parade, Flag for Capture the Flag, Flag for Stampede if each team gets their own destination) have to be added to the scenery list one time for each team. Items that are shared by all teams (flags for KOTH, LMOTH, Territories and Stampede with a common destination; balls for steal the bacon, and captures) only need to be added once and set to team –1. Flag Rally flags and scavenger hunt balls are still set to team –1, but you must add one to the list for each one that appears in the game (this is how the numbers are generated that come up in the scorecard while playing).



Double click on the scenery icon and click Add. Scroll down until you see the variety of “netgame” items. The first is the “netgame LMOTH flag”. Select it and click Open. Make sure the team is set to -1. You can leave all of the games checked in which it appears. When Bungie coded the netgame scenery items to work they also made Myth smart enough to figure out which games they should appear in. Now add the “netgame king of the hill flag” and set it to team -1 as well. Add a “netgame balls on parade ball” and set it for team 0. Add another for team 1. Click OK to close the scenery list. Now scroll to the pond and place one LMOTH flag and one KOTH flag there (be sure to select them in the menu below the toolbox before clicking!) You can use the pointer tool along with the Control/Alt key to move them to the center of the pond, as well as stack them so close together that they look like one. Now go to the top left corner. Select the scenery tool again and choose “netgame balls on parade ball (team 0)” in the menu below the toolbox. Click in front of your units in the main window to place the ball. Now go to the bottom right and place the BOP ball for team 1.

Now we can play a few games. You can set up others if you like, otherwise we are done in Loathing. Oops! Wait! – no one asked what the eyeball is for! How could we miss that? The eyeball is the “camera” that creates the player’s view when the game is actually played (Sometimes it’s also called the “observer”. Unlike “media”, however, a variety of unrelated things in Myth are called “observer”). For multiplayer games, each team gets their own camera.

Yep, you guessed it. Double click on the eyeball and click Add. The options here are simple, just enter the team number. Add one camera for team 0 and one for team 1. The “cameras” come close to the “sounds” as far as how neat their marker looks in loathing. Click somewhere on the main screen with the camera tool selected to see what I mean. Now pan around and watch that spooky looking eyeball follow you. We could drag and orient the eyeballs like we did units and scenery to set them up, but the result would probably look like my kids first attempt with the video camera. Loathing has a neat feature that lets you “frame” the view you want to be seen when the game starts. Change to the pointer tool and click on the eyeball you just placed on the mesh. Hit the delete/backspace key to remove it. Now save the mesh and close it. Use the File menu to open it again. If you want your camera to line up exactly with the view you are about to frame, it is important that you *do not* hit the zoom keys “V” and “C” until we are done. If you back away from your units using the “V” key and then set the camera, the view seen in the game will not be the same. You *can* use any of the other keys from Myth to maneuver around. If you accidentally hit one of the zoom keys, close the mesh and reopen it as we just did before placing your camera. Move towards team 0 in the upper left corner until you have a nice view of all the units framed in the main window. Be sure not to zoom in or zoom out. When you are happy with your view, click on the eyeball in the toolbox. In the menu that pops up below the toolbox select Team 0. Now go to the “Mesh” menu at the top of the screen and select “drop observer”. Back away (don’t zoom out!) and there is an eyeball! It’s all set to show what you just framed, so don’t touch it. Maneuver to the bottom right corner, frame your view, change to Team 1 in the menu below the toolbox, and drop another observer. Change to the pointer tool and save.

One more step and we are done in Loathing. To prevent players from getting too close to the edge of the map with the camera, you need to set the limits by which they are “bound”. Go under the Mesh menu and select “Set Mesh Parameters. This brings up a dialog box called “observer bounds” where you can enter 4 numbers. The numbers tell Myth how many units from the left, right, top and bottom edges to let someone panning around get before putting the brakes on. For most maps, putting 25 in each works OK. If you find that during the game you can move the camera too close to the edge and see too many bizarre pixels, make the numbers a little larger. If you find that units sent to a corner of the map become no longer accessible (i.e. Badlands), make the numbers a little smaller. Click OK.

Now go through and double check that you have set up everything correctly. Make sure there is only one camera for each team (check the “count”). Double click on the scenery tool and make sure you have just one KOTH and one LMOTH flag. You should have a BOP ball for each team. You should have 12 posts. Now check that you have one Soulblighter, three Trow, one Alric, one Warlock Hero, and 2 dwarf heroes for each team. Soulblighter should be the only unit that can’t be traded. Look at the units in the main window and make sure that Alric and one Dwarf Hero are invisible and that Soulblighter is set to the netgame target. Reorient the units towards the center, if necessary. When your satisfied everything is correct, save the mesh and close Loathing.

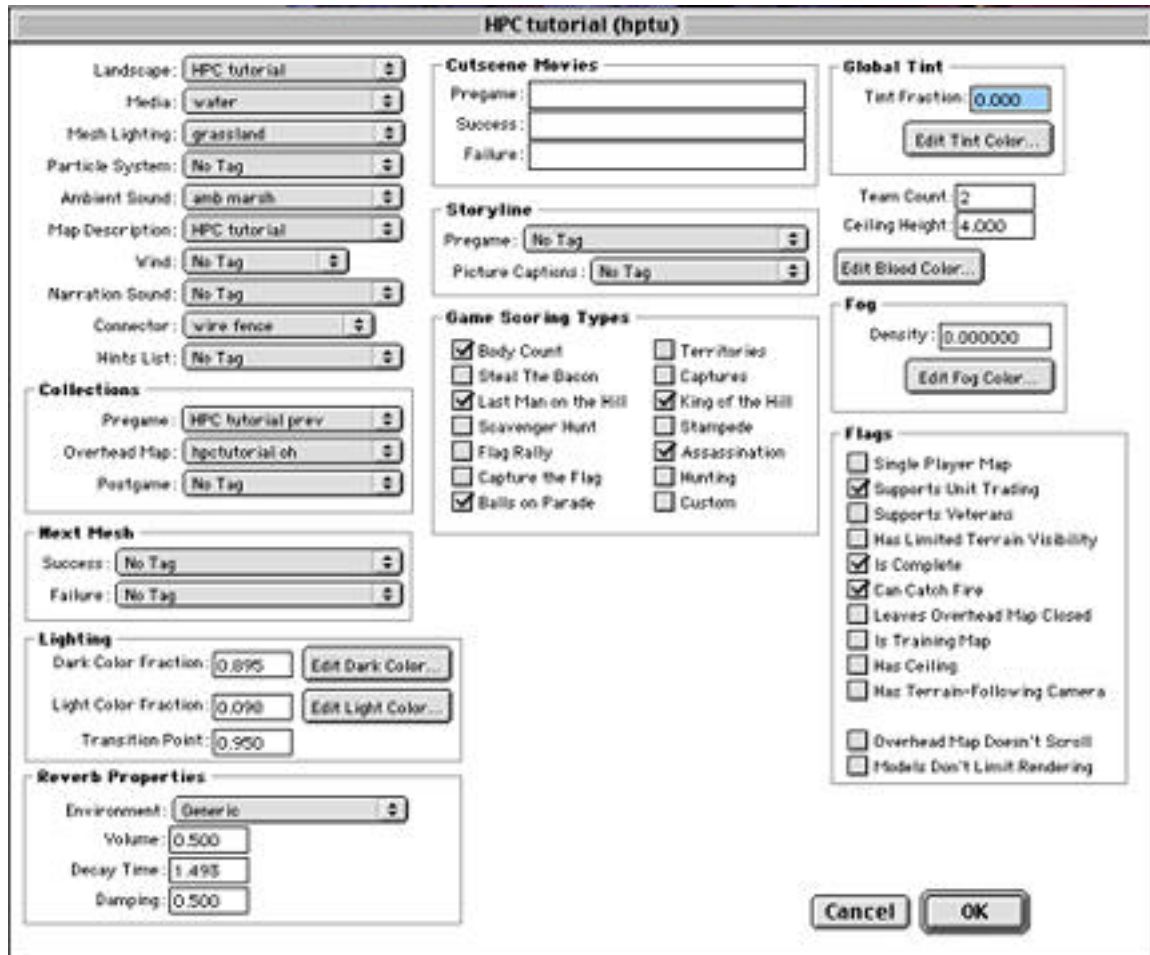
Before we can play our map we need to set up a few more things in Fear. For Mac users, however, we need to make a stop in Amber first to fix our Netgame Preview and Overhead Maps. Windows users can skip this part. Open Amber. Click the information screen to get rid of it. Go under the File menu and select Open. Maneuver to your Myth II folder, go into the “local” folder and then into the “collections” folder. You should see the “hpctutorial oh” and the “hpctutorial prev” tags that were created when we imported the images into Fear. Select the “hpctutorialprev” and click Open.

I won’t try to explain Amber short of saying it provides a way to directly edit the tags in Myth II. Go to the “Collection” menu and select “Replace bitmap”. In the dialog box that opens, maneuver to the “preview.bmp” (not the .pict) file and select it. Click OK. The next dialog box allows you to set a few options, leave them as is and click OK. You should now get a warning that tells you that the colors don’t match and asks if you want to replace those in the tag with those from the file you are importing. Click OK. The fact that your .pict and .bmp files have different color tables points to the source of the problem noted above. If only....

Save the preview tag and close it. Now open the “hpctutorial oh”. Again go to the Collection menu and replace the bitmap. Follow the same procedure as before except select “overhead.bmp” to replace it. Save it and quit Amber.

Just a few final steps! Open Fear. Open the Meshes folder and double click on HPC tutorial to open it. Just below the area where we previously made changes on the top left is a box labeled “Collections”. Click on the pop up menu for “pregame”, and scroll all the way to the bottom. Select “hpctutorial prev”. Now go to the option for “Overhead

Map” and again scroll to the bottom. Select “hpctutorial oh”. Now move to the center of the Mesh menu where it says “Game Scoring Types”. We have set up for BC, LMOTH, BOP, KOTH, and Assassin, so check those. Now go to the right side of the Mesh menu where it says “Flags”. Our map supports unit trading, so click that. Click “is complete” and “Can catch Fire” as well. We are done! Click OK. Close the meshes window and quit Fear.



Before we make our map a plugin, we should test it. Fire up Myth II and go to the Multiplayer game options. Rather than log on Bungie.net, select “other” and host a TCP/IP game. Don’t worry if your modem is slower than Tobias’ wit, you’ll be the only one in the game. Try each game with the time set to a couple of minutes. Make sure everything works correctly including the flags and balls, the text (check your dwarf names), and the Unit Trading. Test the assassin game by bombing Soulblighter to death with your new machine gun dwarves. He is still tough, so give yourself at least 3 minutes and control click on the ground under him rapidly for constant bombardment. When he dies it’s pretty cool! You can’t use Alric’s special weapon unless you are playing someone else – bummer.

A couple things you can do while playing by yourself (watch that dirty mind!):

Have the dwarves make a stack of satchels around the ball in BOP and then control click on the ground to blow them up. Holy cow! The ball will stop bouncing around in about one minute. Save the film and try to keep up with that thing!

Put your dwarves on a hill and move the rest of your units about a quarter of the map away. Select the dwarves and then control click on the ground under your other units. What a range! If the dwarves move before firing, move the other units a little closer.

Don't touch the flag in LMOTH. When the time runs out you will enter Sudden Death. How long will it go? Until you touch the flag. Set up a Mac and a PC next to each other trapped in this infinite game and see which one crashes first. Aww, sorry PCs!

If something doesn't work correctly, go back into Loathing or Fear and see if you can figure out the problem. I've enclosed a copy of the completed local folder for you to check if you can't locate the problem. You will have to swap local folders in and out of the Myth II directory in order to see each.

When your satisfied everything works correctly, it's time to make a plugin. Bad news - this is very easy and doesn't require a bunch of menus with multiple options. Quit Myth and open Fear. Under the File menu highlight the option "Build Plugin". Enter "HPC tutorial" under the name. Leave the url as is. Click OK. Now quit Fear and go to your Myth II folder. Look in the plugins folder - there it is!

Congratulations! You've just made a map that can be played between 2 players over Bungie.net or a local network. Feel free to polish it up, make sweeping changes, or toss it in the trash. Try it with a friend to see what kind of havoc Alric can create.

A final word on distributing maps. When you create your own work of art and want to make it available for others to play, you need to give Bungie credit for giving you the opportunity. Check page 78 of the Myth II Soulblighter Manual for details. Create a read me file for any map you distribute with the line "Copyright 1998 in whole or in part Bungie Software Products Corporation. Created with Bungie's Fear and Loathing by: (your name and e-mail address)".

Good Luck!

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