

Altering Model Textures



This tutorial requires access & installation of Adobe Photoshop.



Alice 2.2

This tutorial also requires access to Alice 2.2 for Mac or Windows.



You will also need any Mac or PC software capable of extracting .zip files.

Fun with Photoshop & Alice

Importing your Logo into Alice 2.2

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This tutorial was written by Travis East for the SPIRIT program at Purdue University. The content is provided to the end user for customizing Alice models in a personal and fun way. This information is not intended for those who would utilize it in a harmful or malicious manner. If you intend to use another person's image, you should always make them aware of your intentions before you begin working. I cannot be held responsible for any loss of friendship, job, or marriage that may arise from the use of this tutorial.

If you have questions or issues, you can contact Travis East at teast@nhj.k12.in.us.

Good Luck,

Travis East

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Alice Texture Map Examples



Alice ->



Penguin ->

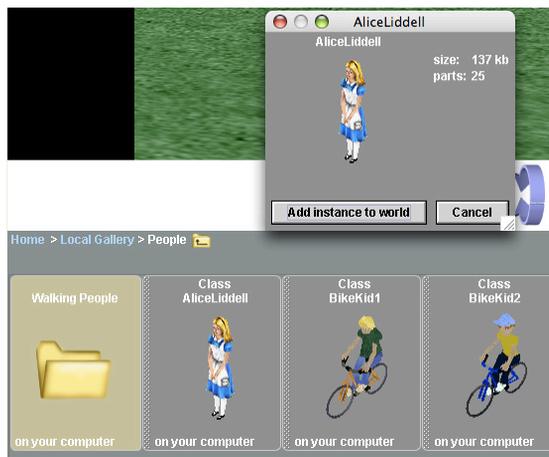


1 A Change of Character

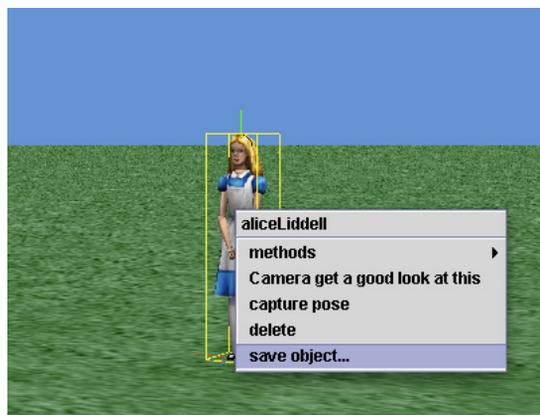
Welcome to the wonderful & mysterious world of three dimensional texture mapping. For those who are not aware, texture mapping is application of patterns or images to a 3D models to enhance the realism of their surfaces. While texture mapping truly is an art, I assure you that even those who are limited to stick figure drawings will still find success here. In this tutorial, we will be taking an existing model inside Alice and tweaking it to suit a specific need. While a working knowledge of Adobe Photoshop is helpful, you can still complete this tutorial using graphic programs like Paint and Graphic Converter.

In this tutorial, we will be modifying an existing model in Alice by changing the character's face with someone else's. It is advisable that you choose a simple human model from the Object Library as opposed to a more complicated character such as an animal. For instance, on the previous page, you will find two examples of texture maps. You can see that on the Alice texture map, it is very clear where her face is located. However, the graphic for the penguin is much more difficult to distinguish which parts are which. As your comfort level grows, you can begin branching out to more complex models. For now, I advise choosing a simple model when following through this tutorial.

To begin, double click on the Alice icon to open it. Once the interface has loaded, click on the green "Add Objects" button. It is time to decide which model you wish to modify. In this model, we will be using the Alice Liddell character from the People group in the Local Object Gallery.



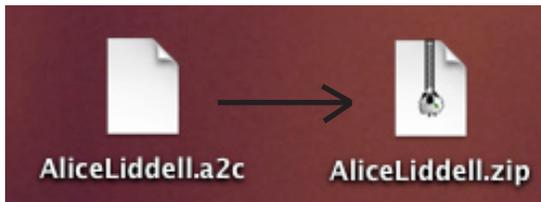
Once Alice is imported into the world, we will immediately export the model as an .A2C file. To do this, simply right click on Alice and select save object...



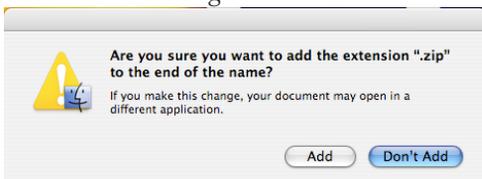
Prepare for Extraction

For right now, just save the Alice Object File to the Desktop of your computer. Alice Object Files are actually just zipped files with the extension .a2c. Once you have the file saved, you will need to a software program capable of extracting the content that makes up the model. There are several programs that can decode a .ZIP file for both Mac and Windows. The most popular extraction tool on the Windows operating system is WinZip. While the most popular extraction program on the Mac is Stuffit Expander, I have personally never gotten Expander to work with Alice files. However, there is a free software for the Mac called Zipeg. This software will be used in this tutorial. Regardless of which extraction program you use, the processes involved are primarily the same.

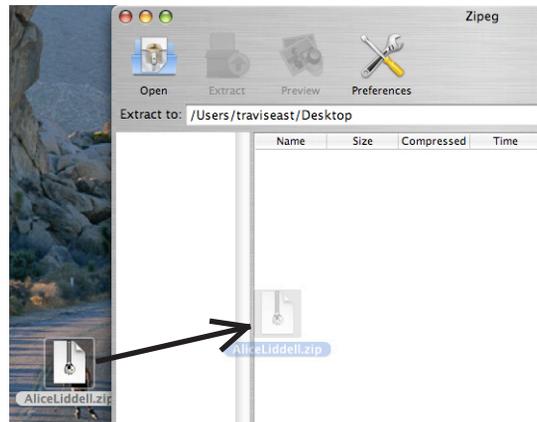
Something that should be noted regardless of which decoding tool you use, you will need to change the extension of the file to .zip. For instance, the model name for the Alice character we saved to the Desktop is AliceLiddell.a2c. You will need to change it to AliceLiddell.zip.



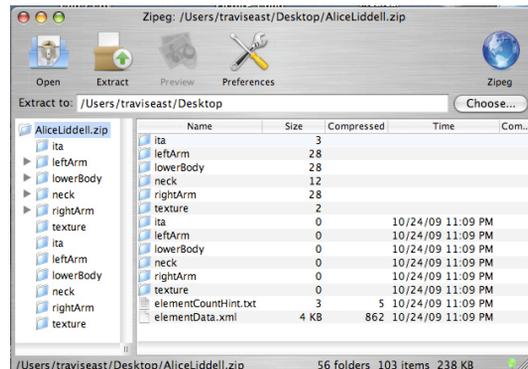
When you change the extension to .zip, you will likely get an error message asking if you really want to change the name. This is normal on any operating system. Simply click Add or OK indicating you want to make the change.



Once the files has the .zip extension, you are ready to import the file into either WinZip (Windows) or Zipeg (Macintosh). With most Zip extraction programs, you simply click and drag the zipped file over to the main interface window once the program is open.



Once you drag the file over to the main window, you will get a preview of what the extracted files will look like. There will likely be quite a few files and folders in the preview. The files for the Alice Liddell model can be seen below.

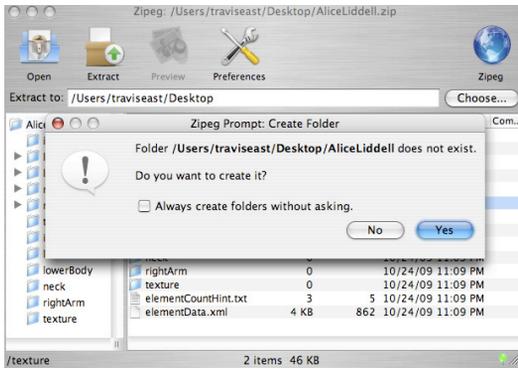


The folder that we are really interested in for this activity is normally called "texture". On several of the models, there will be mor than one folder with that name so you have have to dig around to find it.

Extracting the Texture Map

The time has arrived to extract the texture map. Whether you use Zipeg on the Mac or Winzip on Windows, the process is very similar. When you open either program, you will find tools near the top of the interface screen. The only one we are really interested in using is the Extract button.

When you click the Extract button, you may be prompted to create a folder to house the files. In our case, we will create a folder called AliceLiddell on the Desktop. It does not matter so much where you store it. Just make sure it is easy to find for later. If you already know where the correct “texture” folder is located, you can extract just that content to the new folder if you wish.



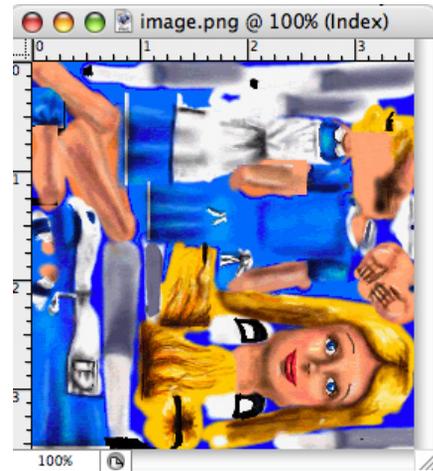
Now that we have the folder we need extracted to the desktop, let's examine the contents. In the Alice Liddell example, we find two files :



The file we want to open is “image.png”. In this tutorial, we will be using Adobe Photoshop, but you can use whichever graphic editor you prefer. Go ahead and open the file with Adobe Photoshop now.

Modifying the Texture:

When you open the file, you should see an image like the one below. In this texture map, it is apparent which part of the image is the model's face. It is not always easy to tell depending upon the complexity and shape of the model.

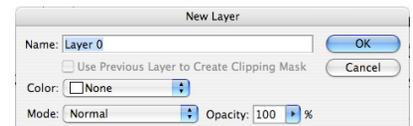


Now we are ready to find the person's face that we want to place on Alice. At this point, you will have already gotten permission from the person you intend to use. I got permission from my wife to use her image for this tutorial and so I will open her image in Photoshop. You will most likely notice that

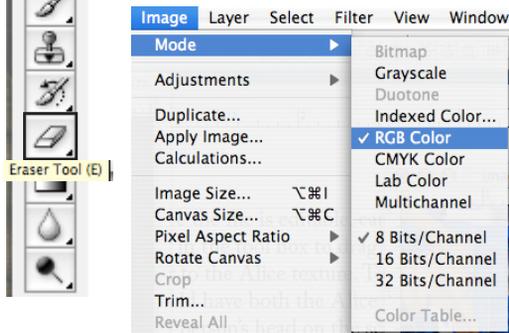


the image is padlocked in the Layers tab off to the right hand side of the interface. To allow the image to be edited, double click on the padlock to convert it to an editable layer.

A window like this will appear. Simply click OK.



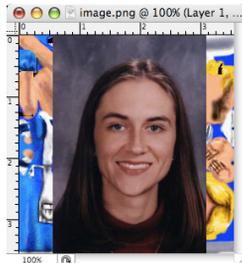
Once the file is editable, can use the Move tool in the tool box to drag the new face over to the Alice texture. To do this, you should have both the Alice texture and the new person's head on the screen together. Simply drag the person's head from their portrait over to the texture map. In some cases, you will be unable to drag the image directly over because of color indexing issues. If this happens, simply move your cursor up the Image menu (with the texture map image open). Under the image menu, select Mode: RGB Color.



The main reason this happens sometimes is that the color mode of one image does not match the other. For instance, if the texture map is in Indexed Color mode, you won't be able to drag an RGB image over it. Changing the texture map to RGB will remedy this problem. Once the color modes match, you should now be able to drag the new file over now.

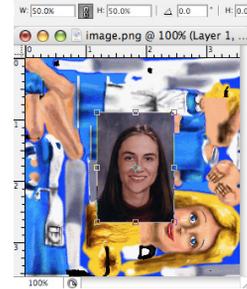
The Transformation

Once the new image is over to the texture map, the chances are good that the image is not the right size for Alice's face. As you can see in the example here, the file almost takes up the who image.



You can fix this problem by moving your cursor up to the Edit menu and selecting Transform: Scale. Near the top of the screen, you can begin modifying the Width & Height until you have the person's face about the right size.

In the example shown here, I had to adjust the width and the height by 50 % to get the size about right. You will likely have to experiment with some numbers to get yours the way you want it. When you are satisfied, simply hit enter.

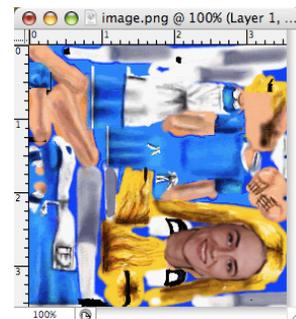


At this point, we are ready to erase the excess material. Click on the Erase Tool in the toolbox to the left side of the screen and take out any part of the persons portrait that you don't want.



In addition to the excess material around the person's face, we will also need to rotate the image to match that of Alice. Again, we move the cursor up to the Edit menu, but this time select Transform: Rotate. We want to rotate the person's head 90 degrees in this case. To complete the command, hit enter on the keyboard.

The final step is to use the Move tool in the tool box to bring the person's head directly over that of Alice. Note that it may be necessary to use the Edit: Transform: Scale command again to stretch the face to match the model.



Ready for Alice

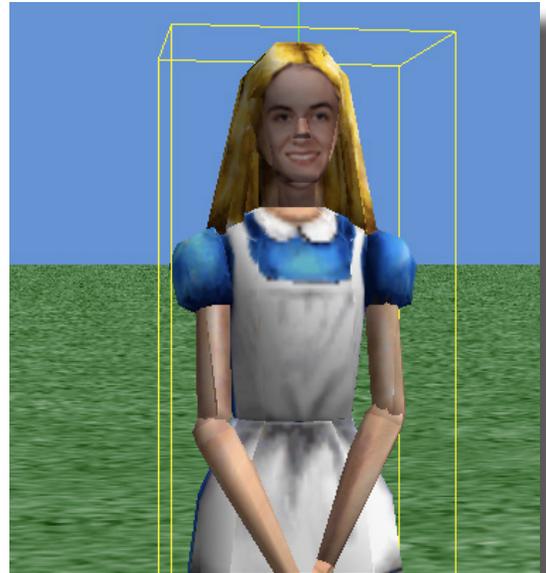
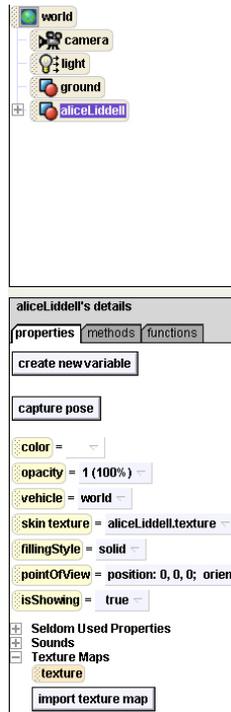
The time has come to get the file into Alice. Most of the texture maps in Alice are PNG files. Therefore, when you save in Adobe Photoshop, select PNG as your file format. Remember where you save the file because you will need to know for the next step. Give it a file name like “NewAliceTexture.png” or something you will recognize as the new one.

Quit out of Adobe Photoshop and open Alice 2.2. Click the green “Add Objects” button and import a fresh Alice model into a new world.

Click on the Alice model and select the Properties tab. At the bottom of the properties tab, you will find a “Import texture map” button. Click on it and go find the new texture map file you just saved.

Once it is imported, it should appear above the button as one of the possible textures you can choose. In the middle of the Properties tab, you will find an option for “skin texture”. Click on that option and change the skin texture to the new file you just imported. This will change Alice’s appearance to reflect the changes you made to the file.

Congratulations - you have now completed your first skin texture modification in Alice. Results may vary depending upon the model you chose. If you were following along with this tutorial closely, your model will likely look something like the one here.



As you will likely notice, the process that we demonstrated here is not perfect and you will likely have to go back to the new PNG file and make modifications to it. For instance, in the image above, you notice that the nose on the model does not match the skin tone of the rest of the person’s face. The reason for this issue is simple. The nose is a different part of the model and therefore has been assigned a different section of the texture map.

To figure out which section of the texture map applies to which parts of the model can be a guessing game if you are not an indexing and texture mapping expert. Each model is slightly different and it takes some practice to get good at it. A working knowledge of Adobe Photoshop or other graphics program is also helpful if you really want to add realism to your texture map modifications.

Good luck & have fun !



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