2DDigitalGraphics_Assignment01

By

Warren Gill

Artist - JMW Turner

Though I'm not an art buff in the slightest I have been researching several artists and have finally settled on one. I have chosen J.M.W. turner for this assignment. His painting style seems to lend well to texture creation in that they are very textural, full of detail lots of brush strokes and in some cases a noticeable cracked effect. He also uses big colour clashes. I feel these attributes of his work will aid the creation of my textures immensely.

The following information is taken from the sites above:

"Turner was absolutely among the artists we now classify as Romantics, but he had one foot squarely in what would come to be known as Impressionism. It became routine for him, during his lifetime, to be lampooned by critics for his "unintelligible chaos of colour," "yellow fever" and seas that looked ", like soap and chalk."

Turner's talent was recognised early in his life. Financial independence allowed Turner to innovate freely; his mature work is characterised by a chromatic palette and broadly applied atmospheric washes of paint. According to David Piper's The Illustrated History of Art, his later pictures were called "fantastic puzzles." However, Turner was recognised as an artistic genius: the influential English art critic John Ruskin described him as the artist who could most "stirringly and truthfully measure the moods of Nature."

J.M.W. Turner's Technique

http://www.artble.com/artists/joseph_mallord_william_turner

Style

Early Years: In Turner's early paintings he executed dramatic, Romantic subjects by emphasizing luminosity, and atmosphere. One can observe a more precise attention paid to architectural and natural details in his early years

Middle Years: Turner's painting style shifted during the 1880s. His painting became more luminous and atmospheric. He began to focus more on colour than the details of the actual topography. St. Mawes at the Pilchard Season (1812) is an example.

Advanced Years: He moves away from marine subject matter, and focuses now on the railway in Rain, Steam, and Speed-the Great Western Railway (1844). This is a prime example of how Turner focused mainly on colours and the idea of fluidity through his whirling colours.

Method

Turner's watercolour paintings provided a later influence on his technique with oil paint. He started to use oil paint in a translucent manner, similar to the effect of water colour, which helped produce his original style. Before painting a vast majority of his work, as many of his subjects changed so quickly, he had to do preliminary sketches. He later turned his sketches in to watercolour or oil paintings.

My Textures

I want to try and convey a sense of **"fluid movement"**, a **"chaos of colour"**, **"luminosity"** and even a **"translucent"** effect in the textures and elements in the level, to stay true to the style of JMW Turner. My level is set in a cave so this may prove tricky; however given the book and period it's set, a chaos of fluid colours may be more attainable than I first feared. I will need cave textures for the walls and the floor. I will also need a wood texture for the walkways and prisoner platforms. There are also stone and or Jade platforms connected to the walkways and a set of steps in the centre of the cave. There are four pink pillars on said

steps. There are three boulders blocking the exit and a gap so the sky can be seen from the inside. The mood in the cave will be of a magical ilk. I intend to have certain textures to be odd in appearance, perhaps slightly moving, glowing and or even aluminous.

The Process

To begin with I selected several images by JMW Turner and opened them in Photoshop CS2.

I then began isolating areas I felt yielded viable textures and created 13 1024 x 1024 images. After using the offset filter I then altered these images using the clone stamp tool, to erase the seams, thus creating a seamless and tileable texture. These 13 images would be only used as overlays. Meaning I would integrate these textures into my other main textures. They are merely for definition and in some cases for some extra colour depth.
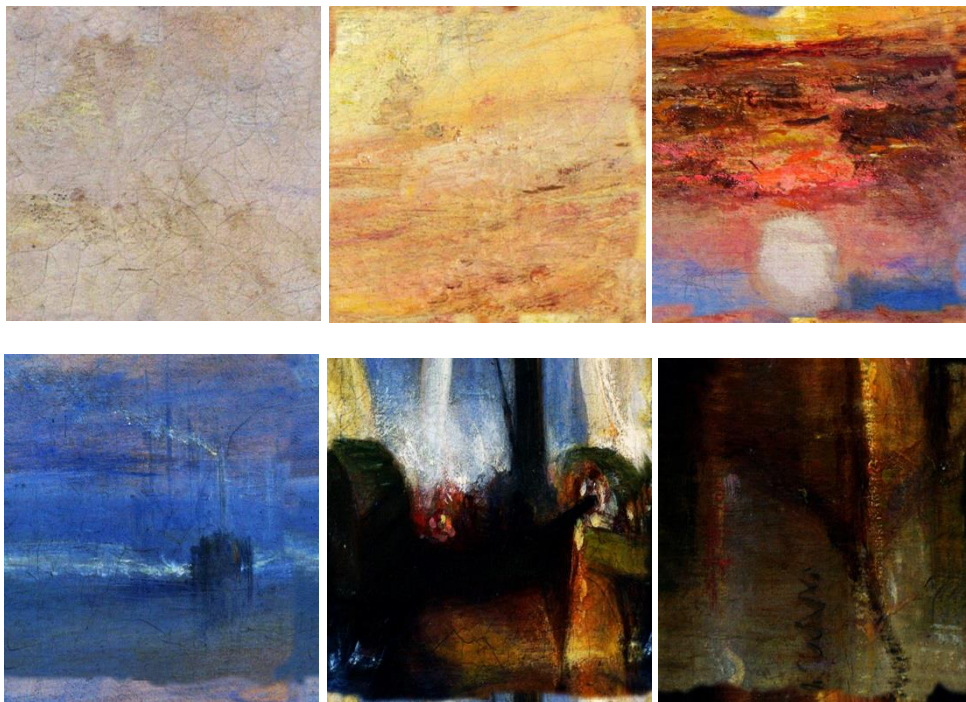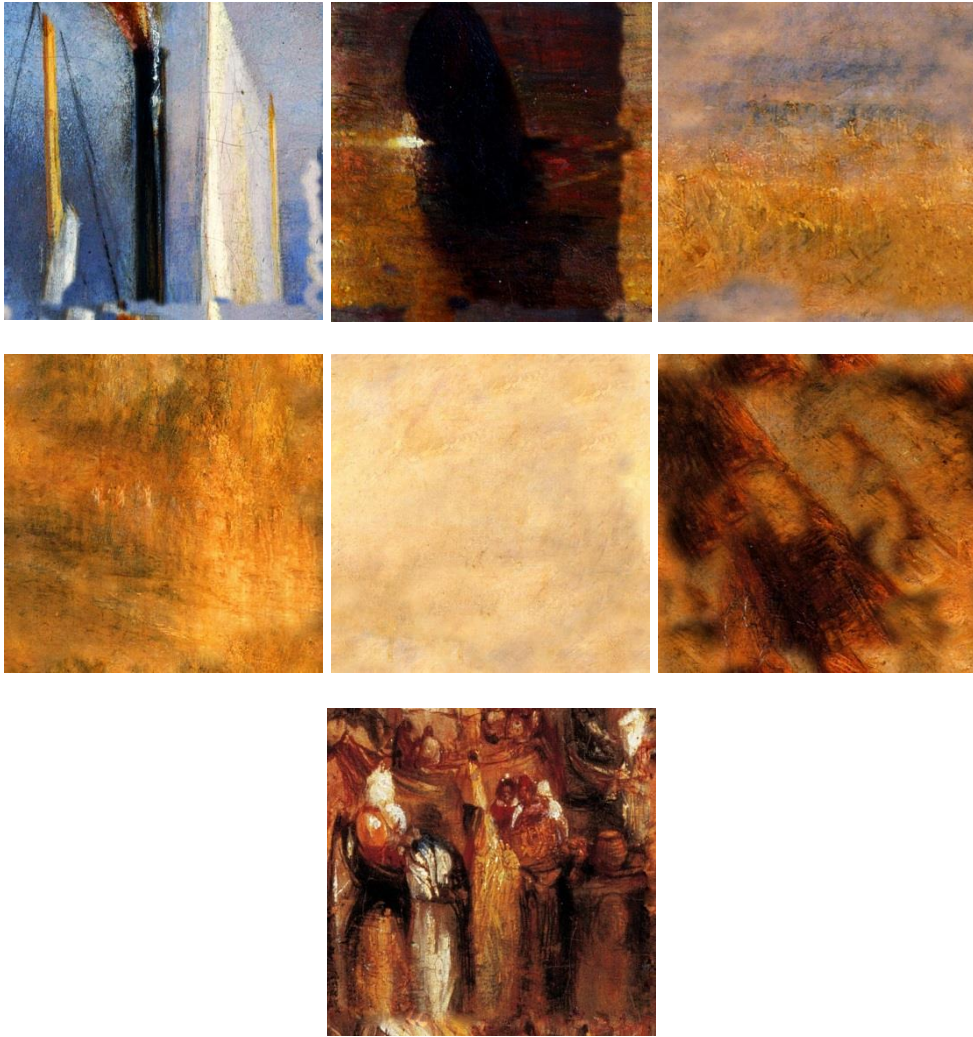
I then searched for some images that I could use to create my main textures from. Here are just a few. The rest may be found in the research folder.
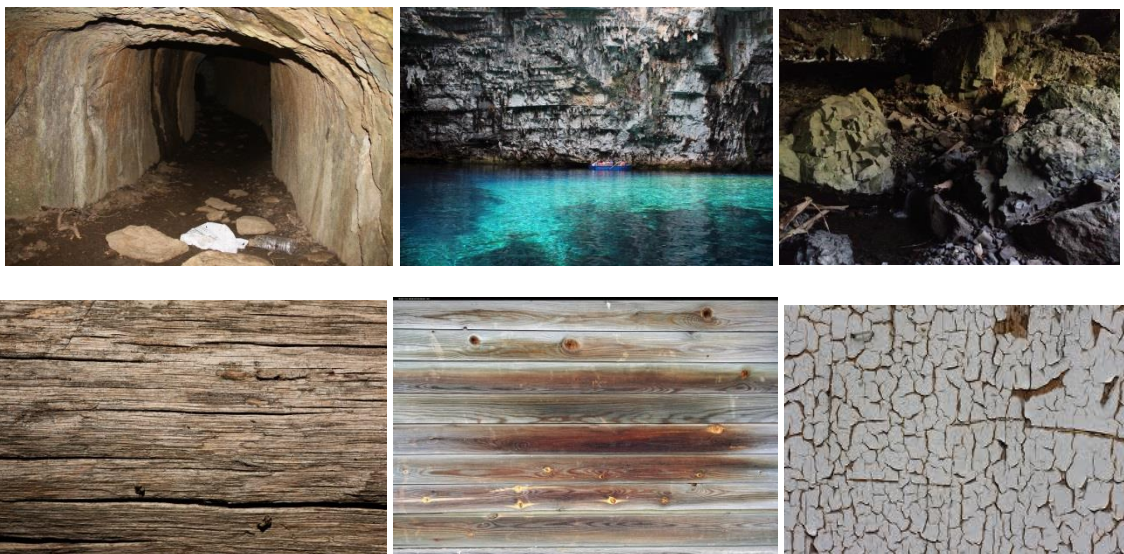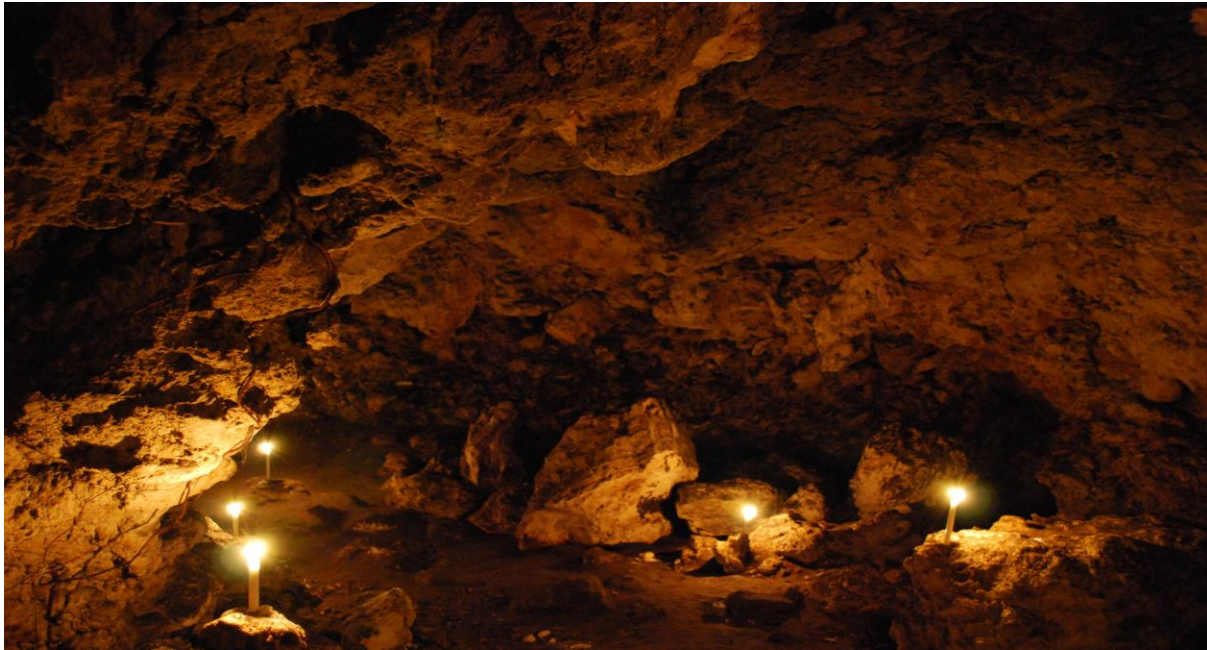
This image was the one that struck me the most and I tried to emulate it as best I could. To create my main textures I again isolated an area of these images I deemed viable for my needs and further created a 1024 x 1024 image from said selection. After applying the offset filter with a value of 512 x 512 I erased the created seams by using the clone stamp tool. I then chose three of the overlays I created earlier from my artists work and overlayed them onto my main texture, simply by dragging them onto the image and setting the blend mode to overlay. Depending on my needs I desaturated most of the overlays. This process was repeated for all of my textures. Before I declared a texture completely done I applied the offset filter a few more times and erased any further seams that may have arisen.
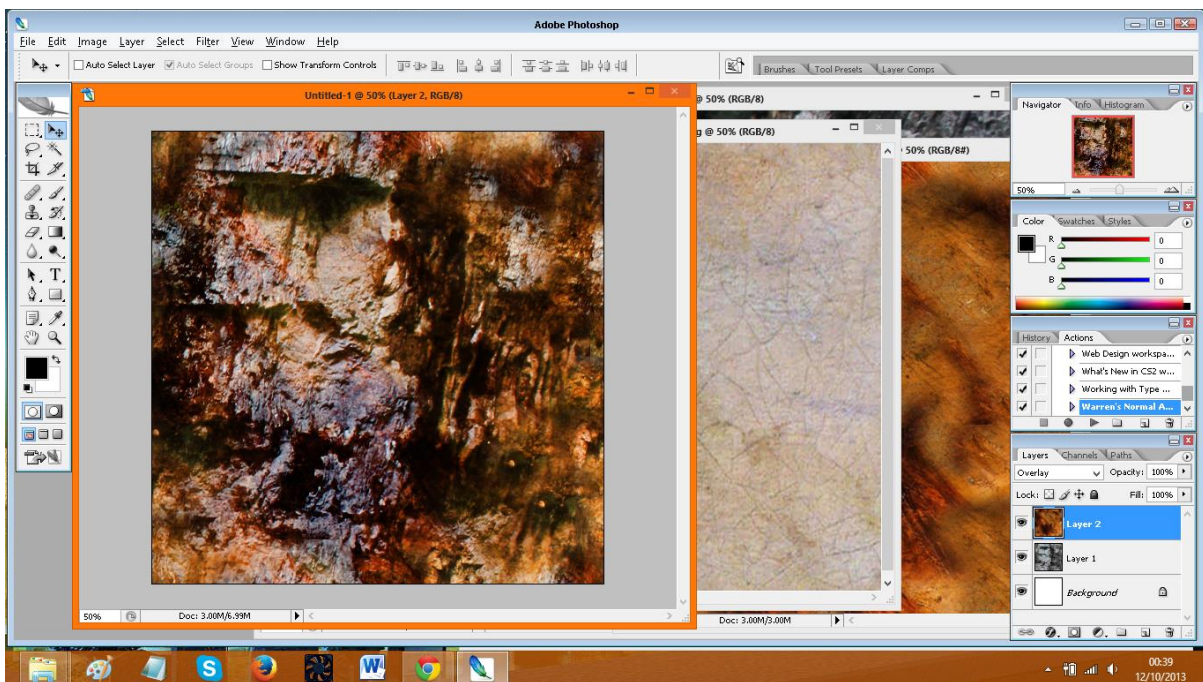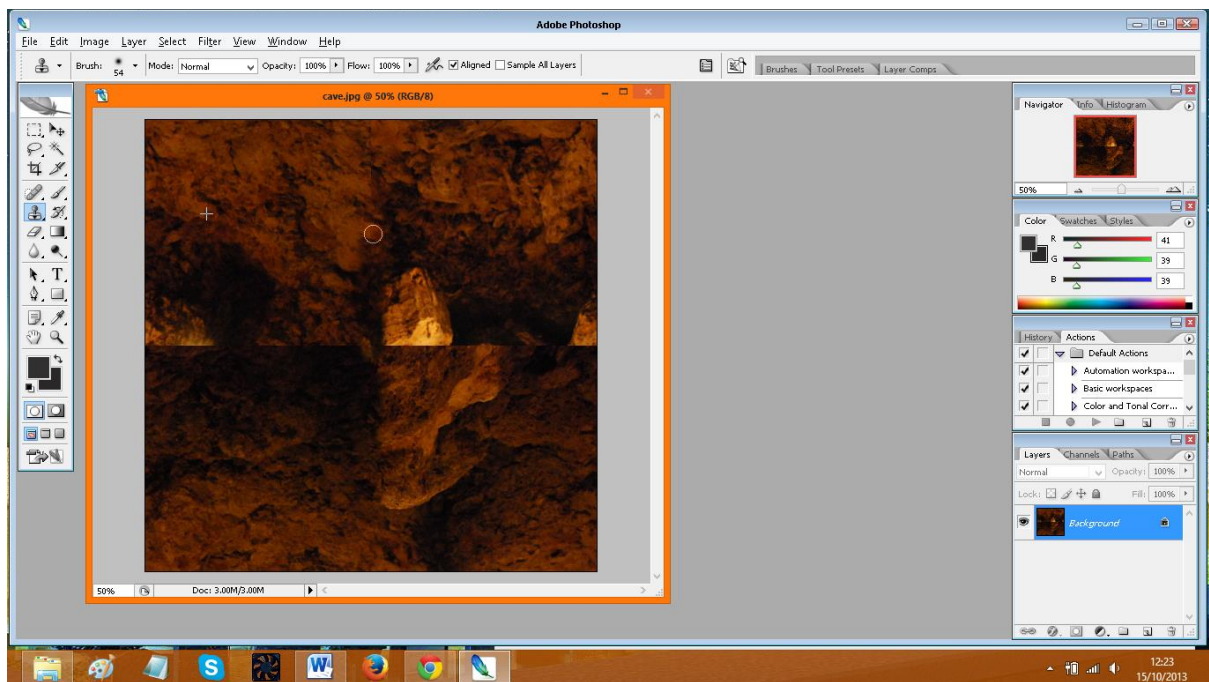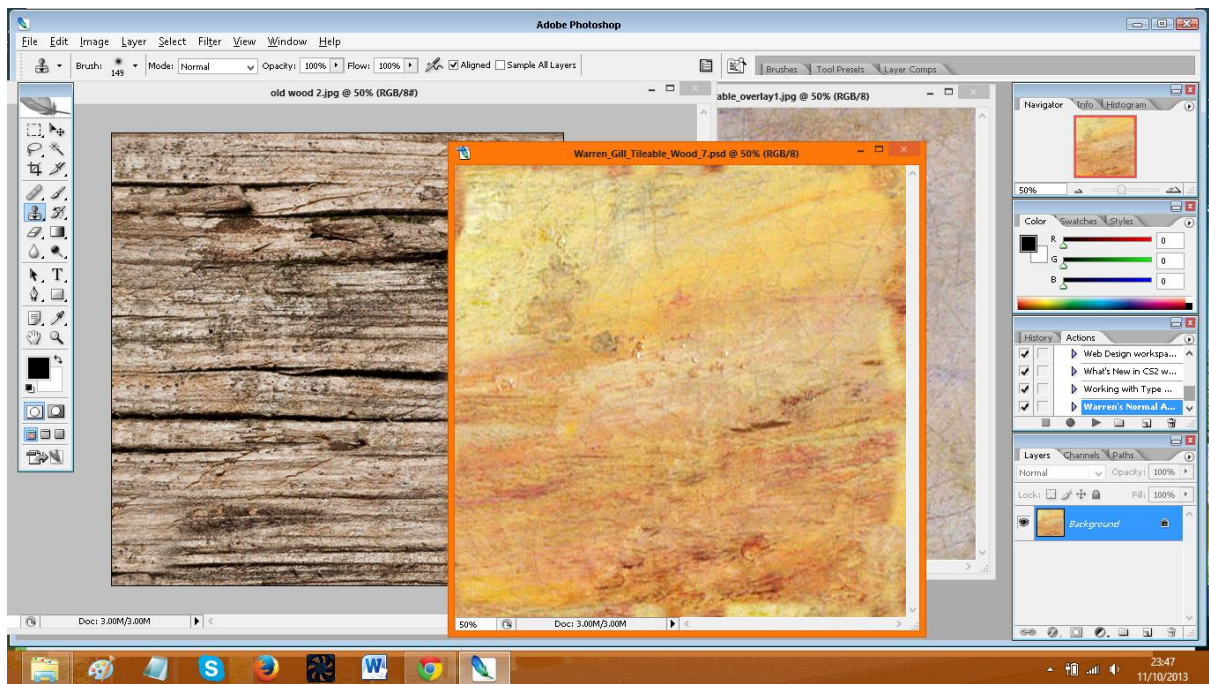
To create bump or normal maps of these textures I downloaded the Nvidia Normal Map Filter and installed it to Photoshop CS2. I opened whatever of my main textures I needed to create a bump map for. I created two actions at this point both using a different combination of filters as I wanted two kinds of bump maps. One would be for really rocky and bumpy surfaces within the cave and the other for smoother surfaces with cracks in them like wood and perhaps some stone. I changed the image mode to grayscale and then raised the brightness and contrast a little. From earlier attempts I found that raising these settings too much yields undesirable results. I then added a little noise to the image via the noise filter as my earlier attempts came out far too smooth for the look I wanted to achieve

for the cave wall and prisoner platform textures. I applied the high pass filter to the image in the other action by lowering the slider to 25 and also a tiny amout of noise. I then changed the image mode back to RGB mode. I then applied the Normal map filter. Then I duplicated the layer, applied a gausian blur filter and set the blend mode to overlay. I duplicated this layer several times until I was satisfied with the Normal Map, if not and the noise levels seemed a little high I would flatten the image and despeckle the image via the noise filter.
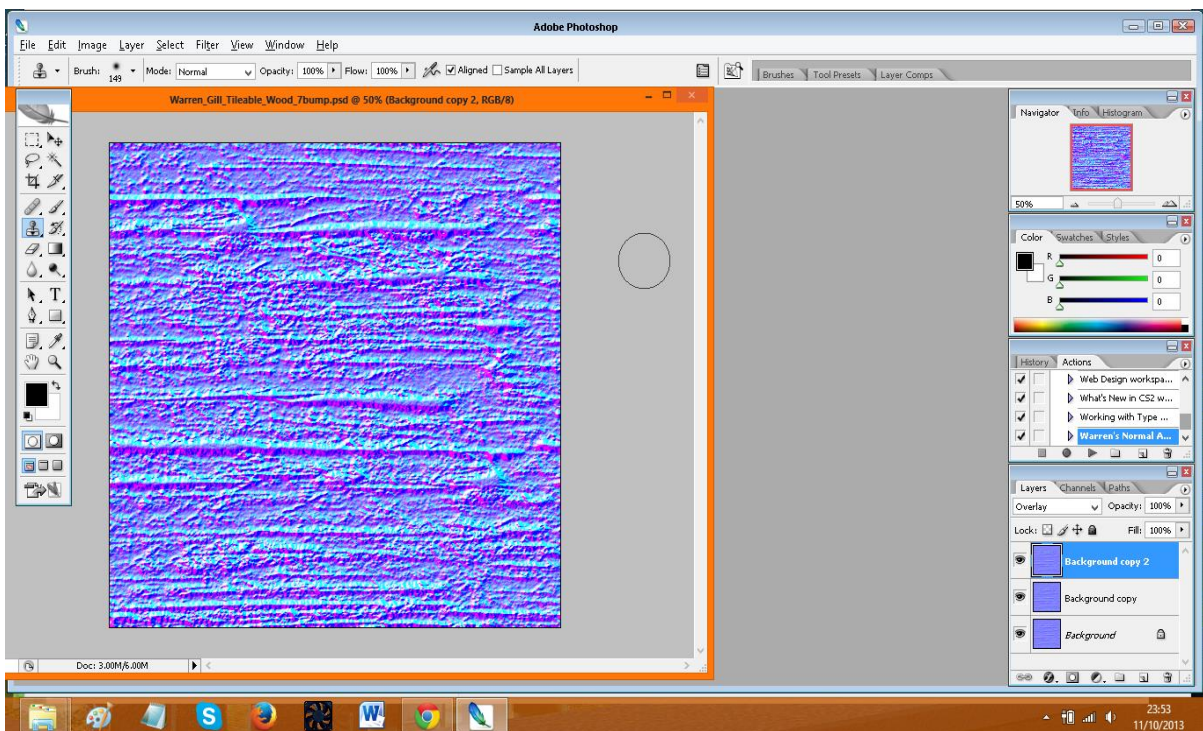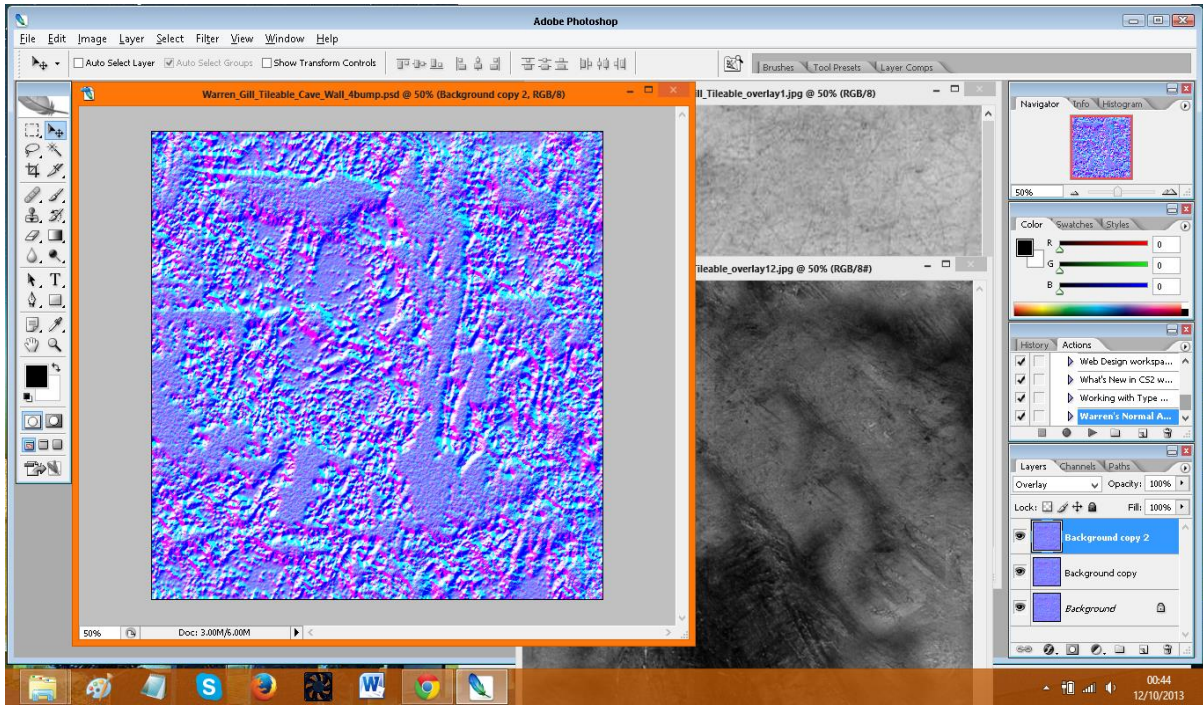

I also dowloaded nDo2 and created some normal maps using it. It is not a very complicated piece of software and seems to be extremely powerful even in the free version. Once I had a

texture open I wanted to create a bump map for I clicked convert on nDo2 and that pretty much did the work or I would choose the medium standard preset and I altered the sliders a little and when I was satisfied with the normal map I saved it.
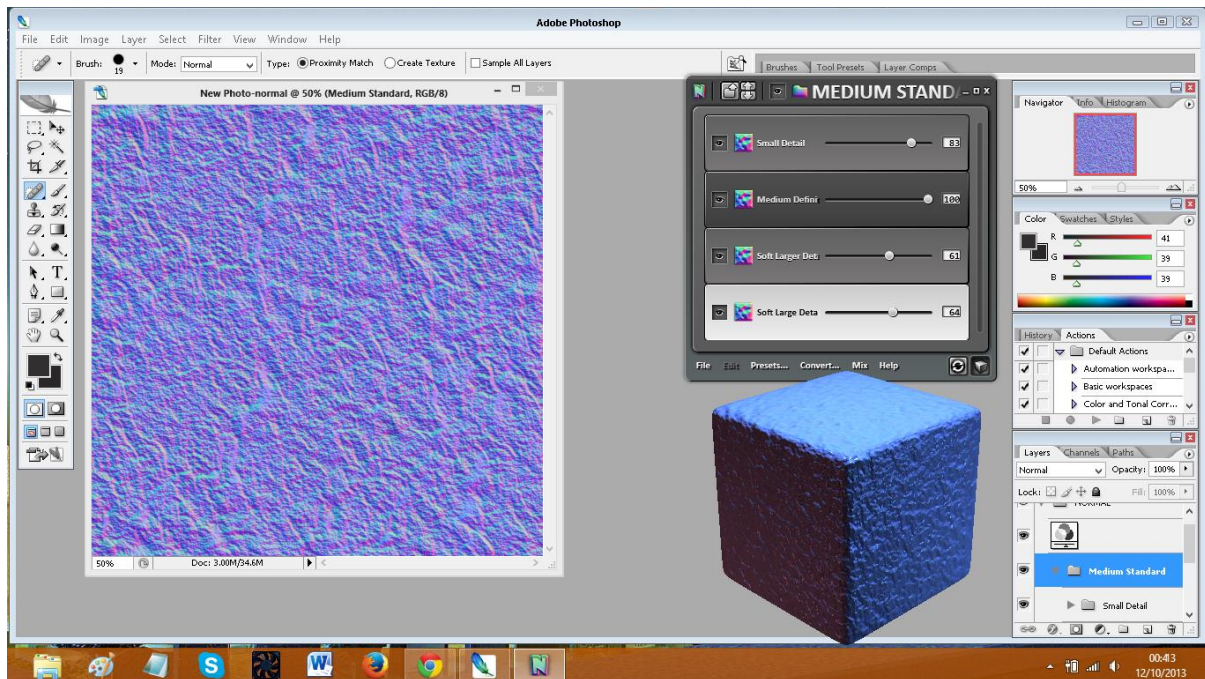

For argument sake I opened one of my previously created bump maps and compared it to one nDo2 created without any modifications. If I felt my own version was slightly more tangible for the level then I didn't overwrite the file. In the case below I kept my own version and this was the case for 20 percent of my textures. Strictly speaking from a texturing novices standpoint of course and the fact that I'd grown completely attached to my own textures I wanted to use as many of my own personally created stuff. However several if not a lot of my textures were extremely noisy and definitely had to be replaced. In this instance my normal map created using the action containing the high pass filter is on the left and that is the one I used for the level.
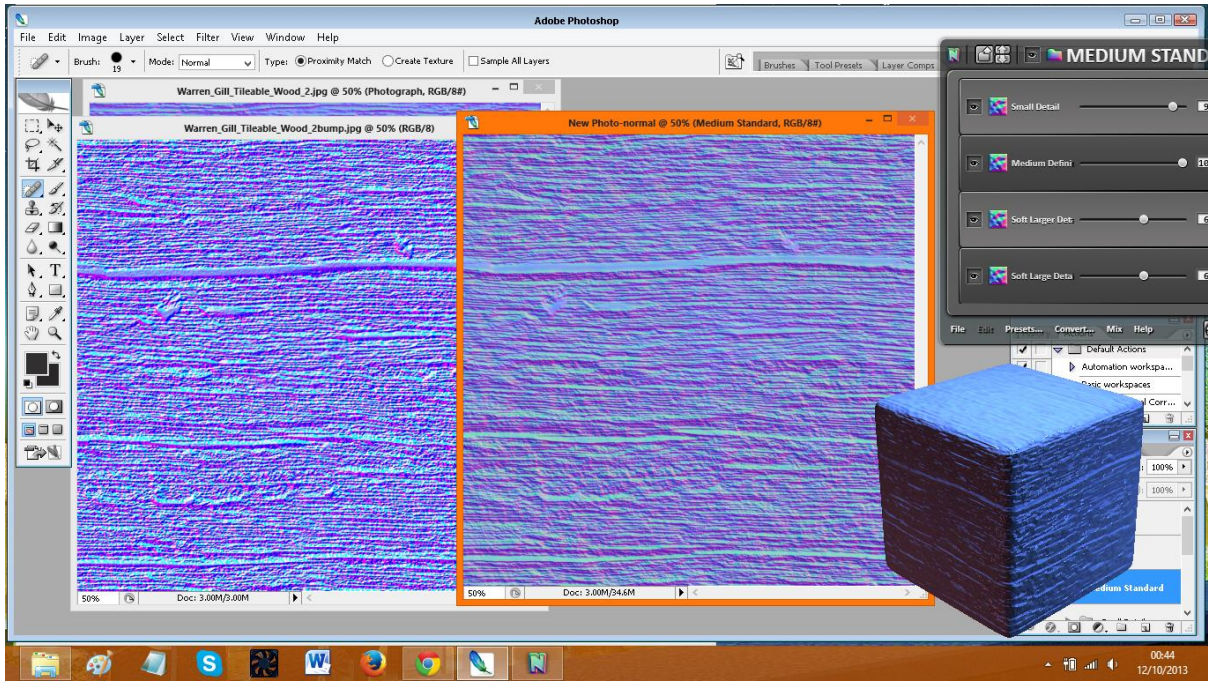
I also created a tileable texture for the pink pillars at the centre of the level. These are representative of the Buddha's fingers and I felt it would add more impact if they appeared to be moving and I felt this rang true in the spirit of my artists technique's and style of fluidic movement. I created a scrolling texture script last year and decided to add it to the level in this particular instance. I know from experience that once applied this script only affects the texture and the normal map remains still. I think it adds a lot to mystic feel I was aiming for in the cave. I ovelayed some caligraphy onto one of the pillar textures I'd created to add an extra dimension to the texture and to aid in the oriental mood of the level. To achieve the desired pink colour I used the unity shader on the material in the level.
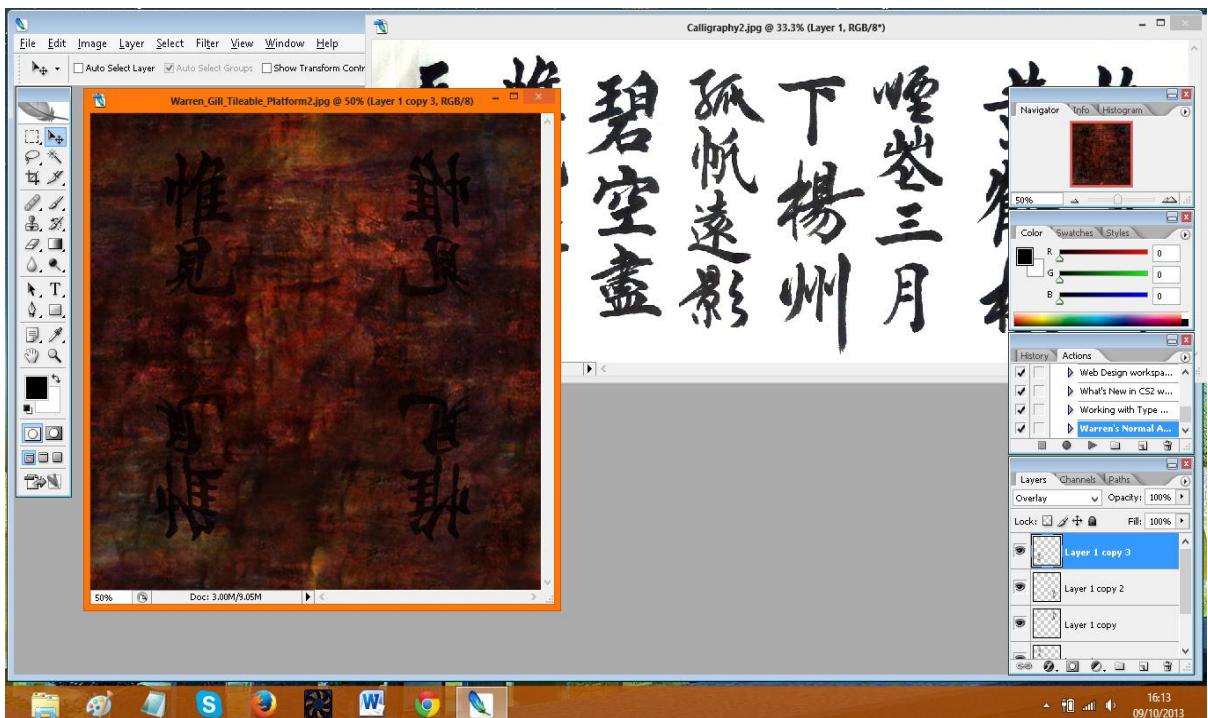
I also created a wooden platform texture but overlayed grey lines created with the rectangle tool. I created a rectangle the length of the image and coloured it slightly grey. I found earlier that black yields undesirable results so I shall go with grey in future. I then duplicated this layer several times and placed them at irregular intervals along the image. I was trying to simulate the grooves that one finds in old creaky wood and I've also found that although it does not look the best in photoshop, once applied in game with the bump map applied and the lighting affects it, these texture look very good. I offset the image a few times and erased any seams that had arisen. Finally I flattened the image.
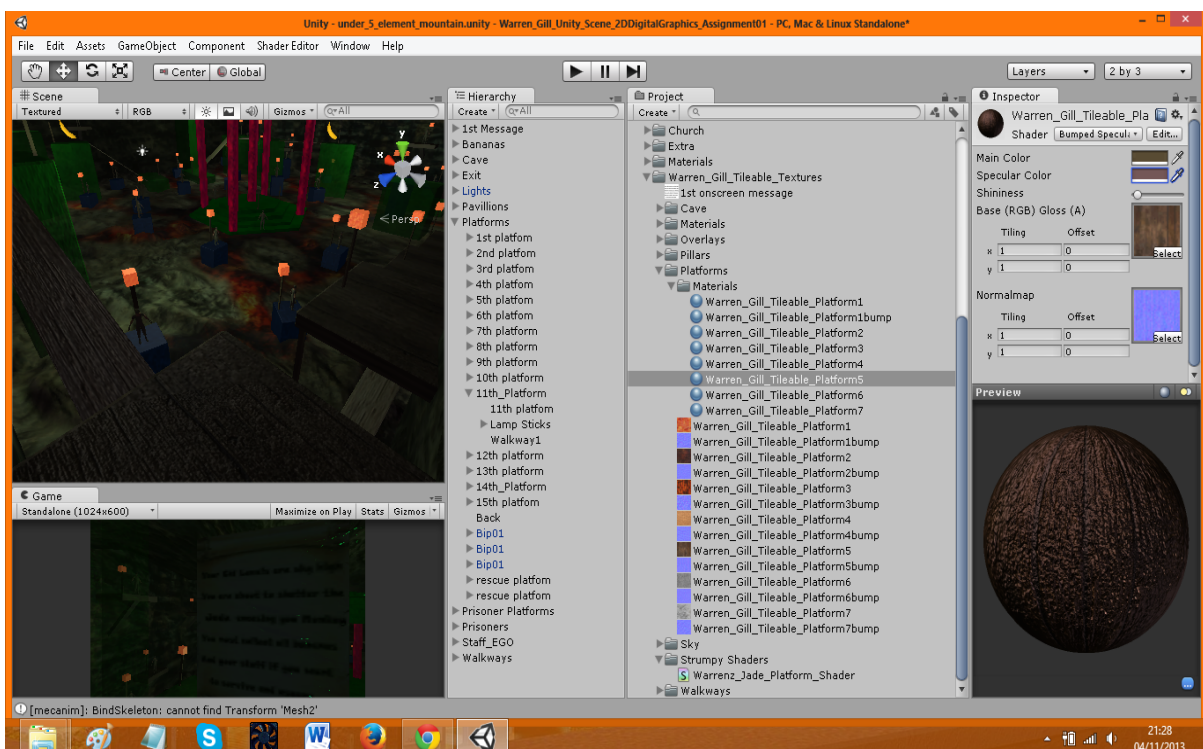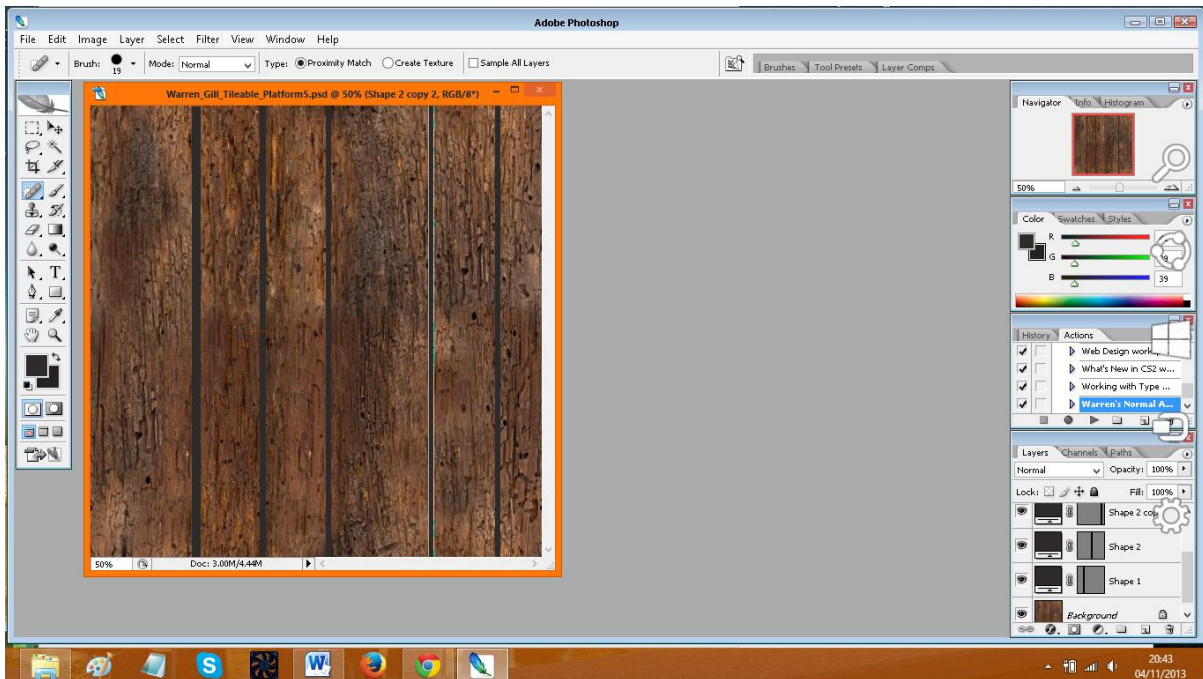
I also needed to create a texture that was not seamlees nor tileable. I needed it to display the on screen message It was a simple image of a scroll with instruction for the player. I simply overlayed text onto an image of scroll I obtained on the net.
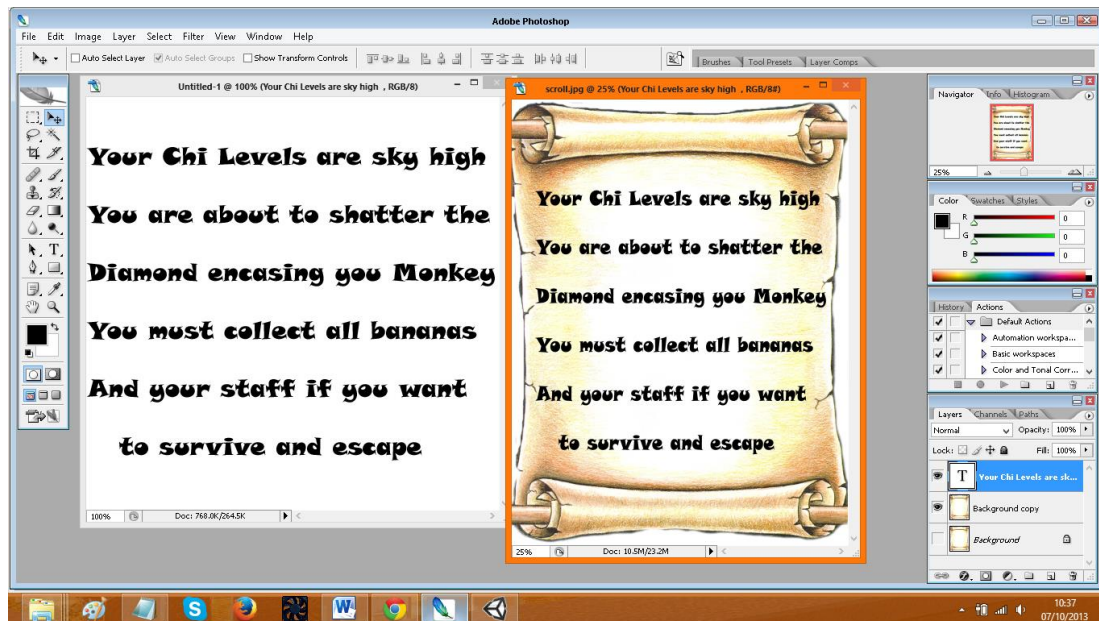

For the terrain I used three of the textures I created and carefully blended them in certain spots using the paint tool in unity's terrain editor to try and give a hard rock and earth like cave floor. I also added a dull bloody like texture that I painted in a spiral around the five finger center pavillion. I was trying to connect the prisoners to it to try and convey a magical mood and portray lava or even some kind of mystic substance linking them to the Buddha.
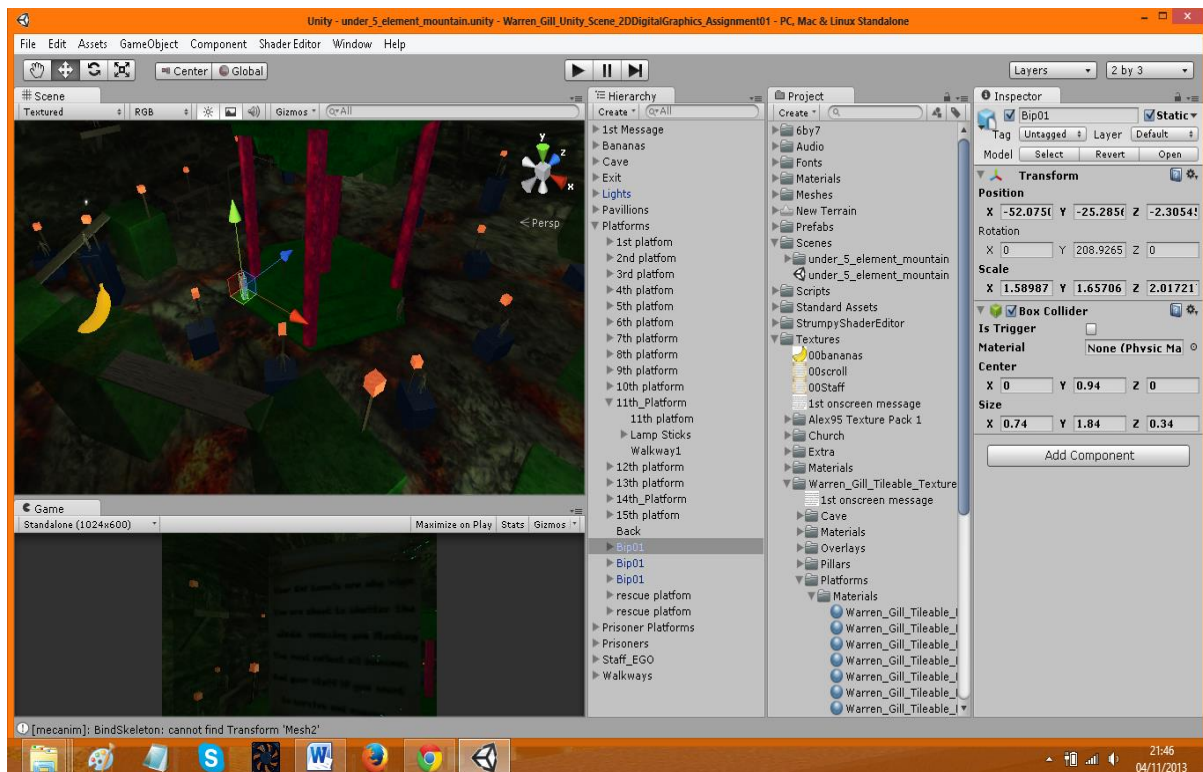
Then I created a set of materials for each of the blended textures I'd created to paint my level. I used unitys built in shaders to create the materials. The majority of the materials are bumped diffuse maps and bumped diffuse specular maps. I did also create several self-illumintaed, bumped-diffuse, specular maps and one transparent, bumped-diffuse, specular for the Jade encasing Monkey at the beginning of the level and the platforms the prisoners that fight Monkey stand on. As a last minute decision I decided to make the Jade platforms slightly transparent, simply by sliding the transparency slider of unitys colour editor. I was experimenting with certain looks and this transparent look just seemed to fit the level and feel of the story. Jade is afterall transparent and it adds to the magical feel I was trying to convey.
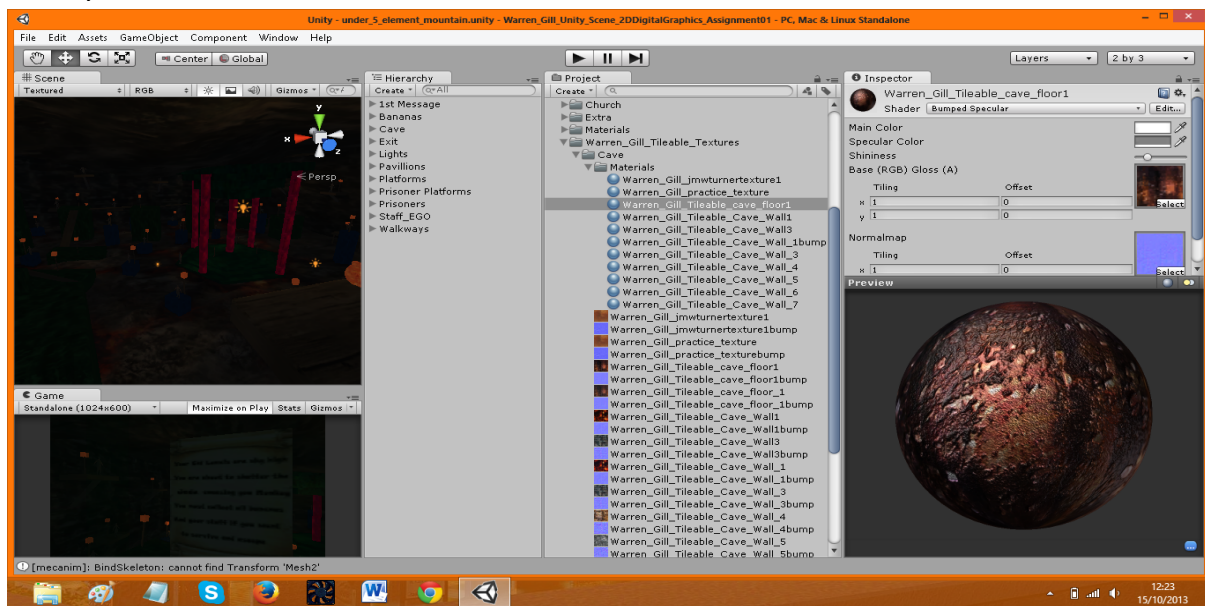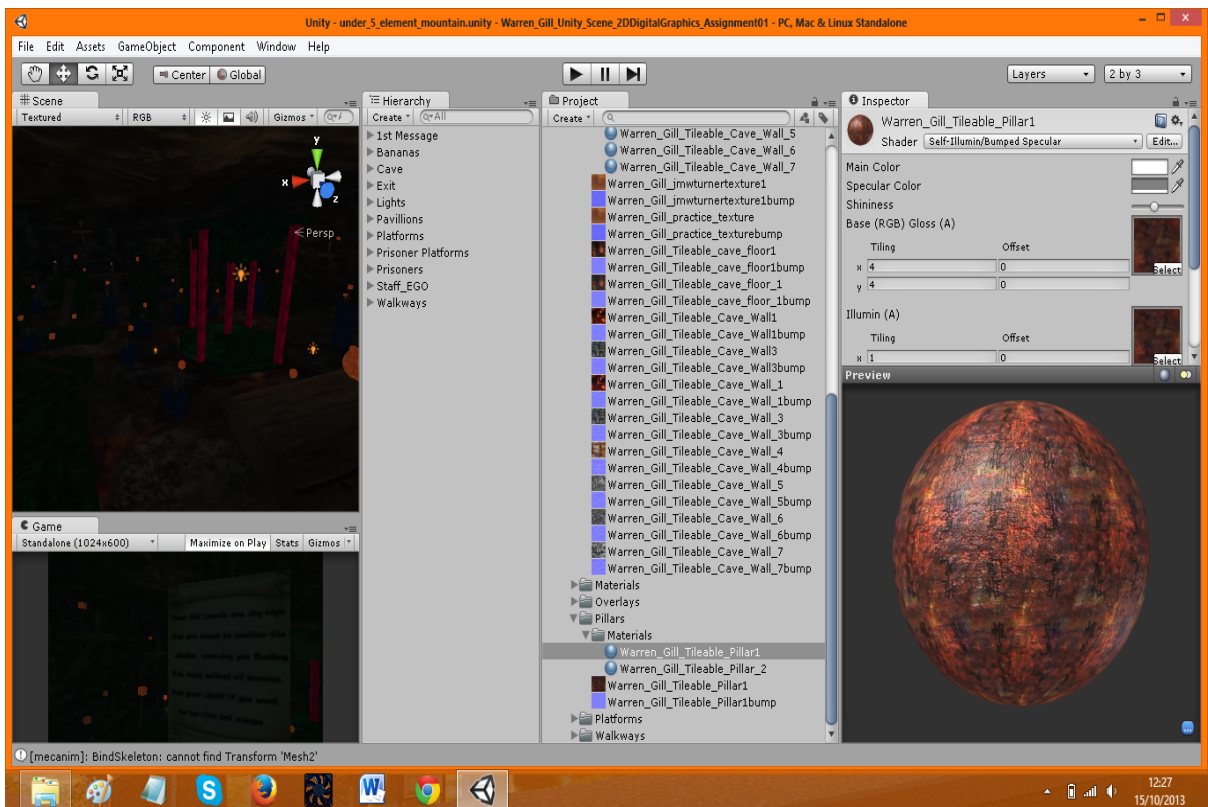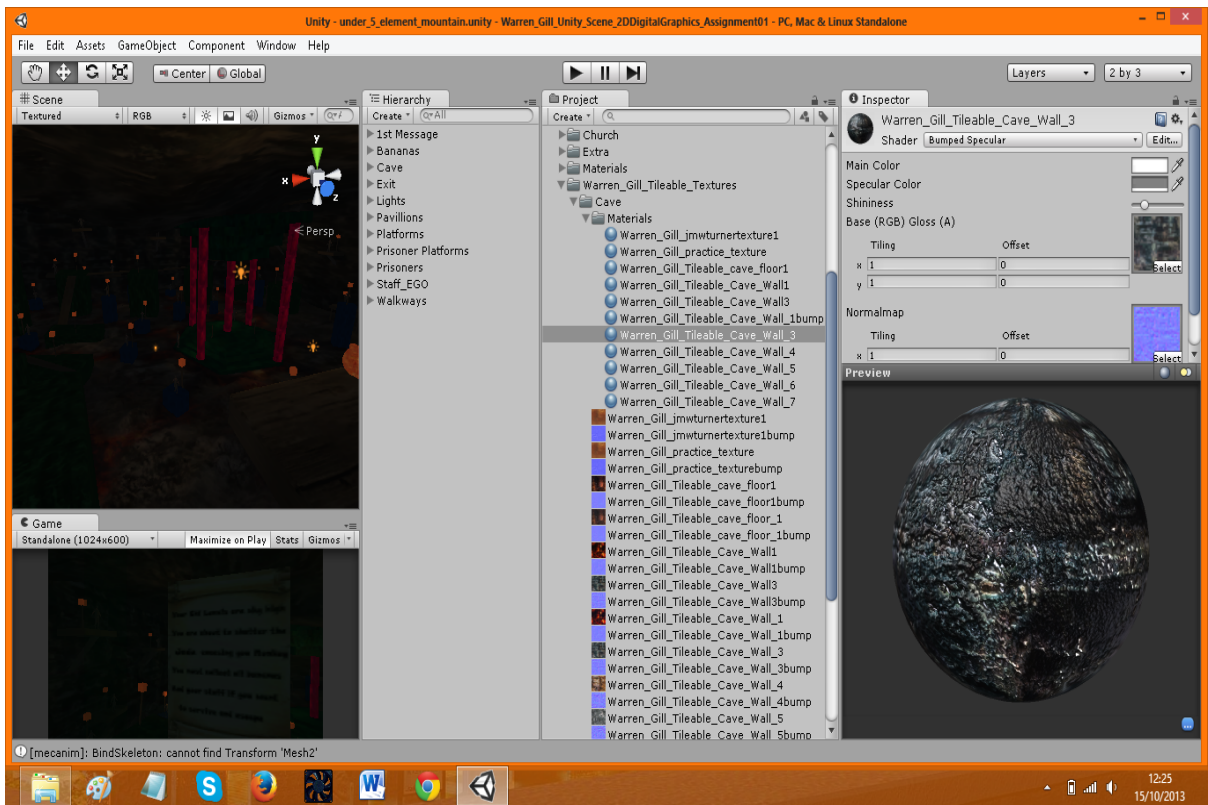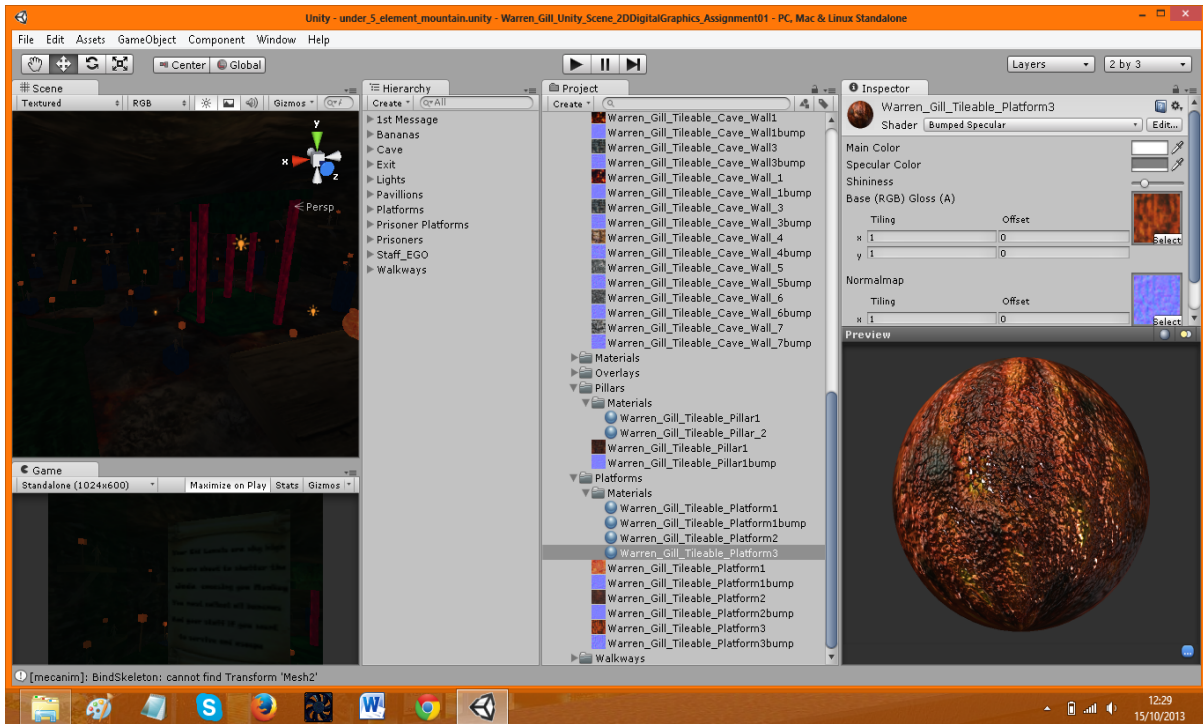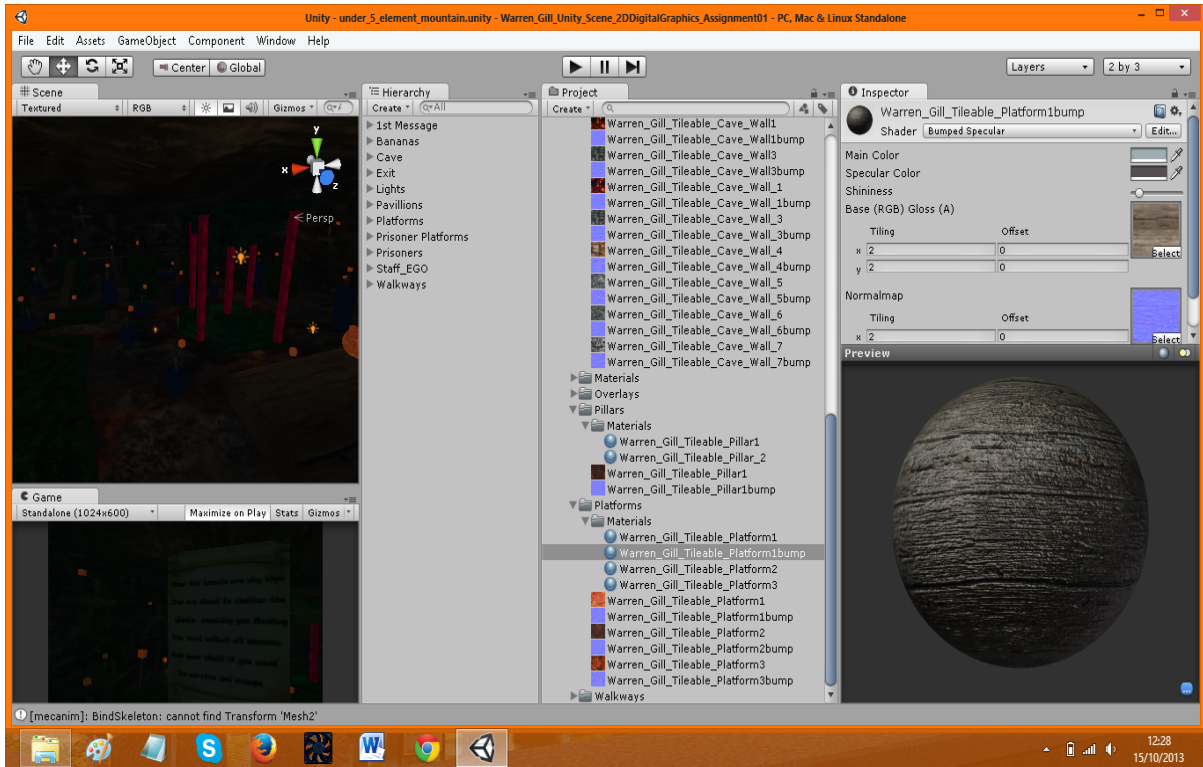
I also went ahead and tried to create my own shader using strumpy shader editor, which I downloaded from the unity asset store. I wanted to use it for the slightly flourescent prisoner platforms so it needed to have a diffuse map, a normal map, a specular map and to convey the magical sense to the scene an emmisive map. Although strumpy seems to be a very daunting piece of software I think I managed to create what I needed after a little perseverance. There was an issue regarding the lightmapping and the emmissive channel of this shader so I had to switch it off.

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First of all I created a diffuse channel and duplicated it four times. I then reconfigured each channel to the one I needed. i.e. a normal channel, a specular channel and an emissive channel. Then I created a tex2D node for each channel and connected the corresponding inputs and outputs. I also created a tex2Dnormal for the normal channel and connected up the inputs and outputs. I wanted to be able to change the colour of the diffuse channel and the emmissive channel so added a coluor node and a multiply node and connected these to the corresponding inputs and and outputs. I then saved the graph and exported the shader to the unity project.
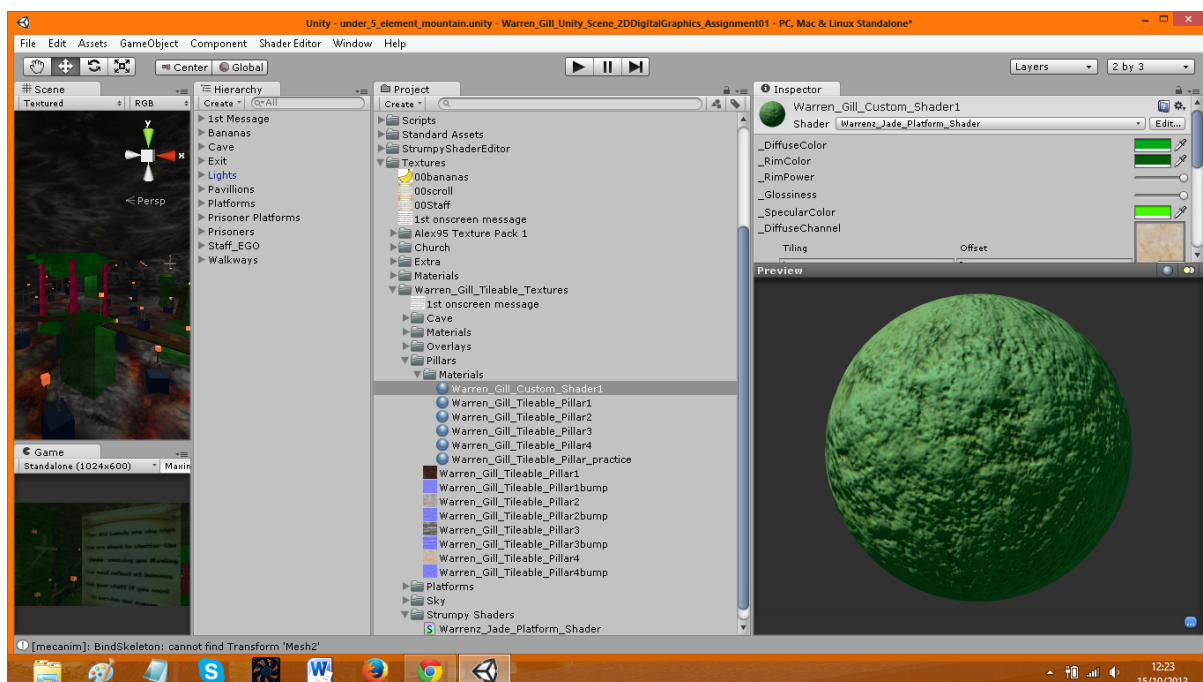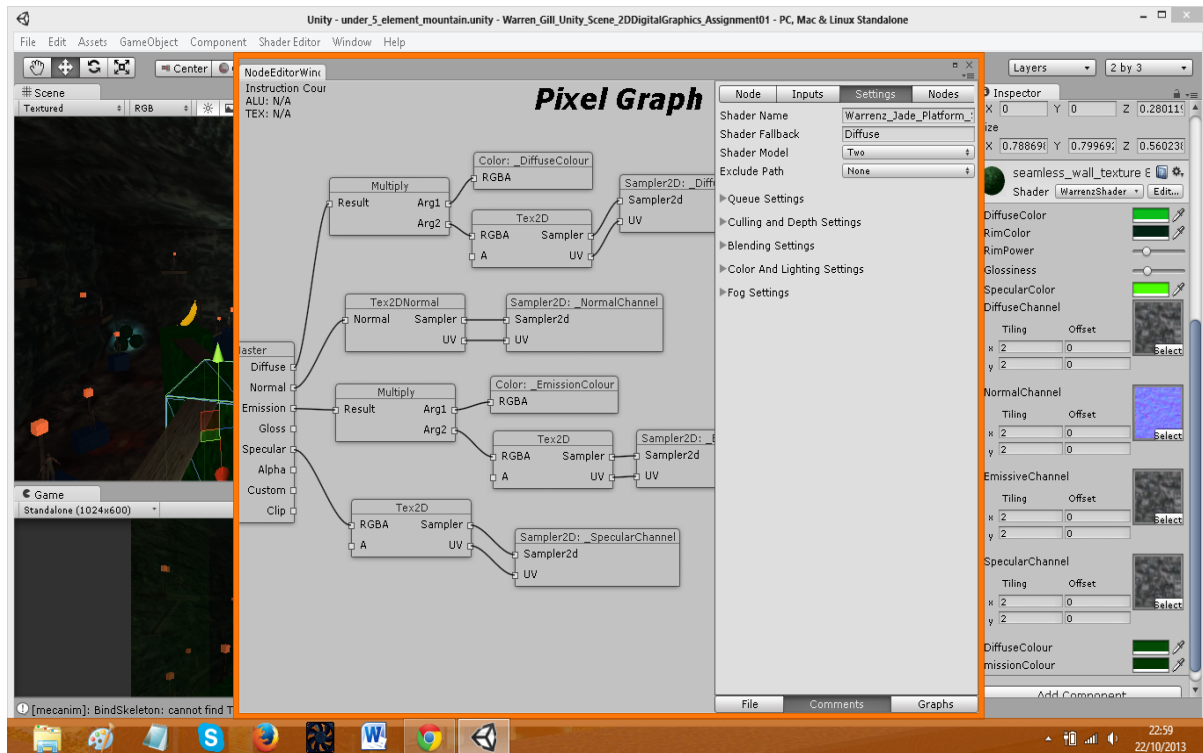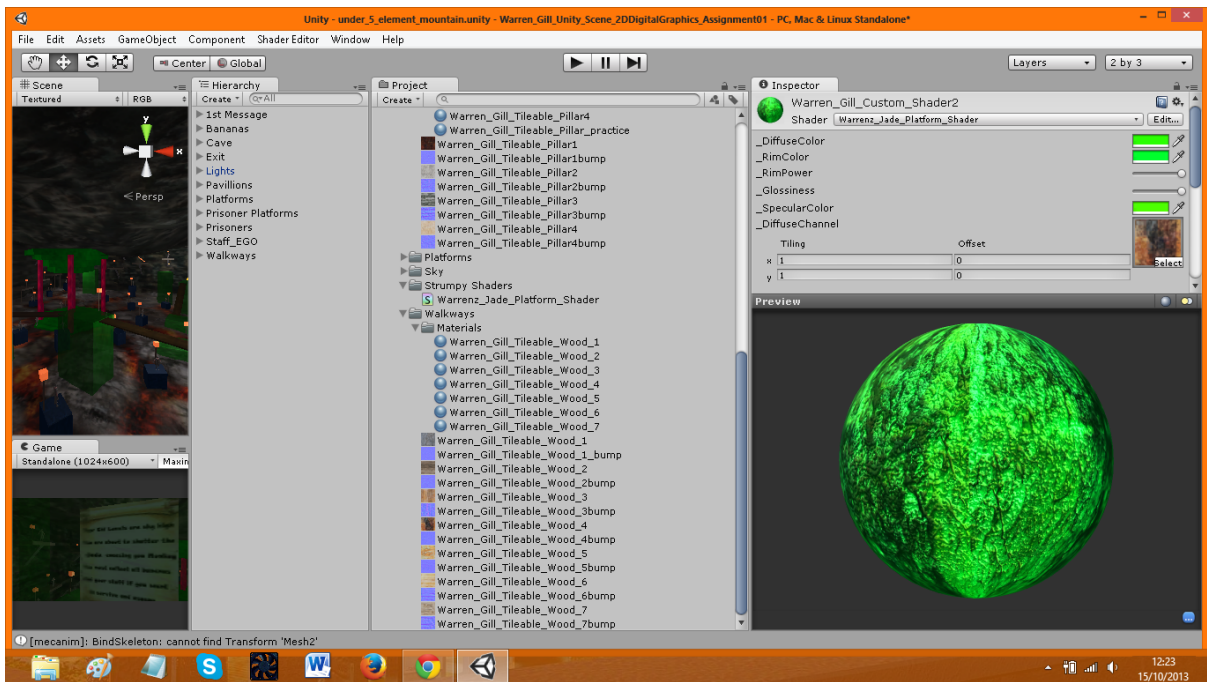
I then decided to try and create my own skybox. Even though the level is set in a cave there is one vantage point at the exit, in between the boulders, where the sky is visible and the daylight shines through. My attempts at creating the six skybox images in 3DS max via 6 cameras and a sky image on a sphere did not prove fruitful as I could not eliminate the seams even with the wrap mode set to clamp and as this was a last minute decision I have decided to move forward and use 6 six images from the unity asset store that are proven to yield the proper results. I plan on practicing that technique in 3DS max for future projects.
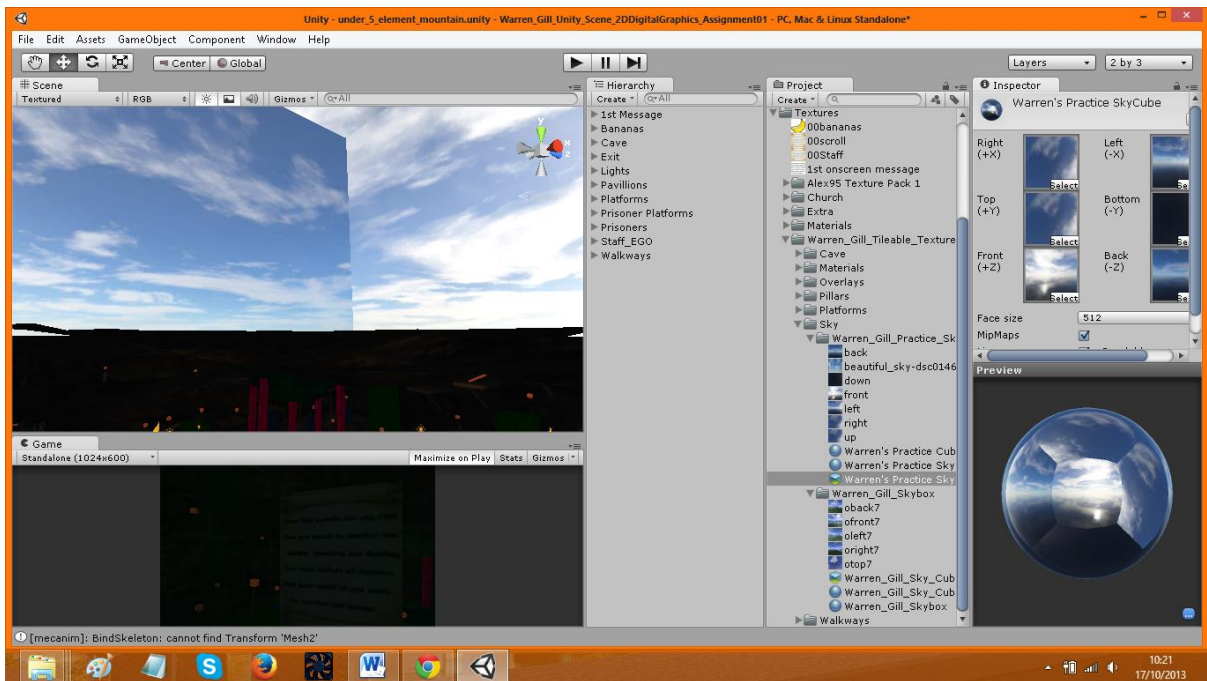

To remedy this predicament I downloaded a free skybox package and selected one that suited my needs. I placed the six images into a folder in my cave's project folder. I set all of

these images' wrap mode to clamp and set their resolution to 512. I then created a cube map and placed the corresponding images into their slots.
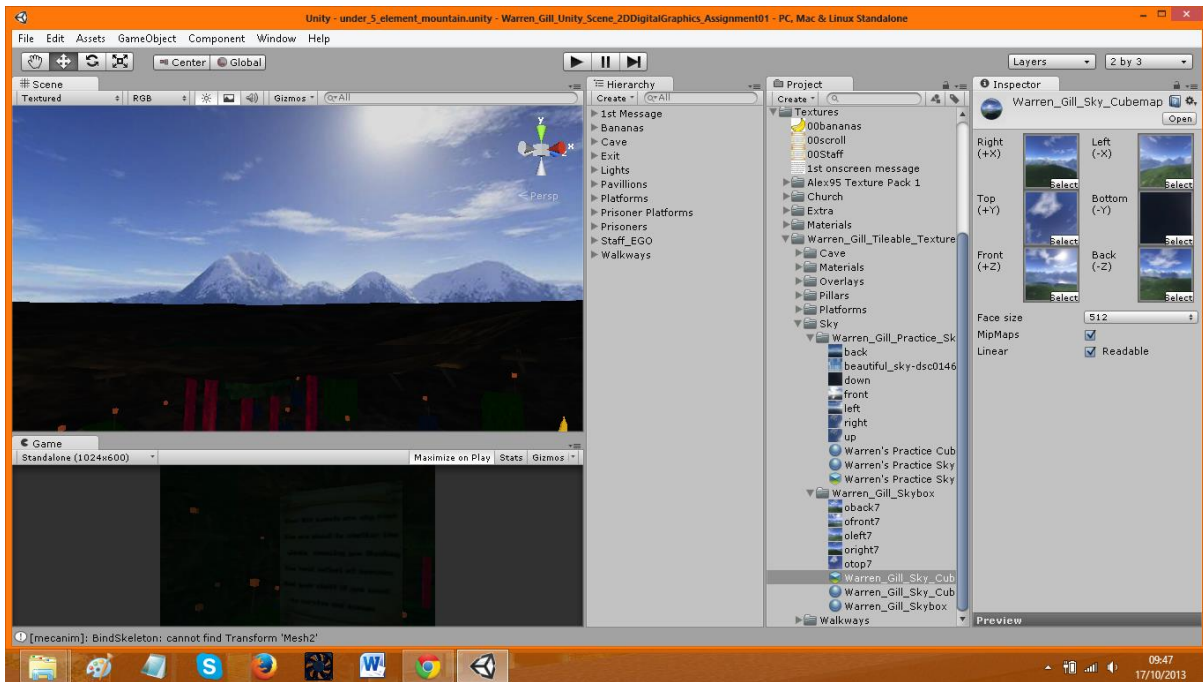

I then created a new material and set it to render/fx skybox cubed and dragged the cubemap I previuosly created in there. I then set this material to the skybox in the project's render settings. Below is the view of the cave scene from the outside.
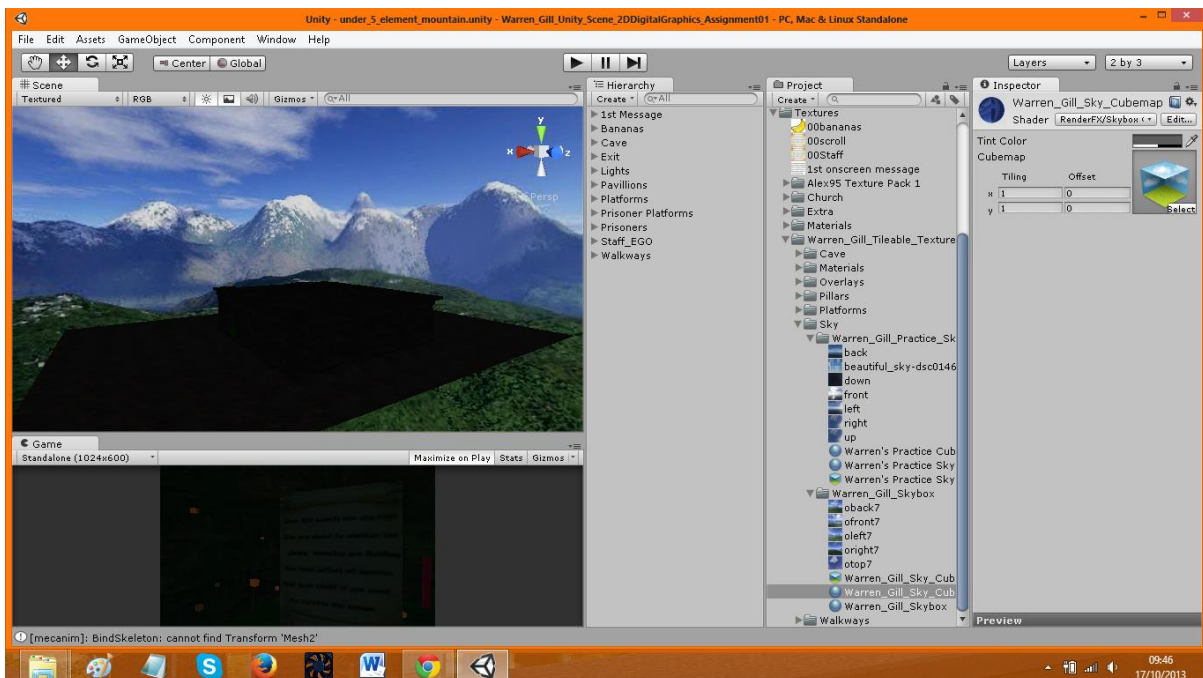

I also created a skybox material by setting the render/fx to skybox in a new material and I dragged the six images into their corresponding slots as before. I set this material to be the

skybox material in the projects's render settings.
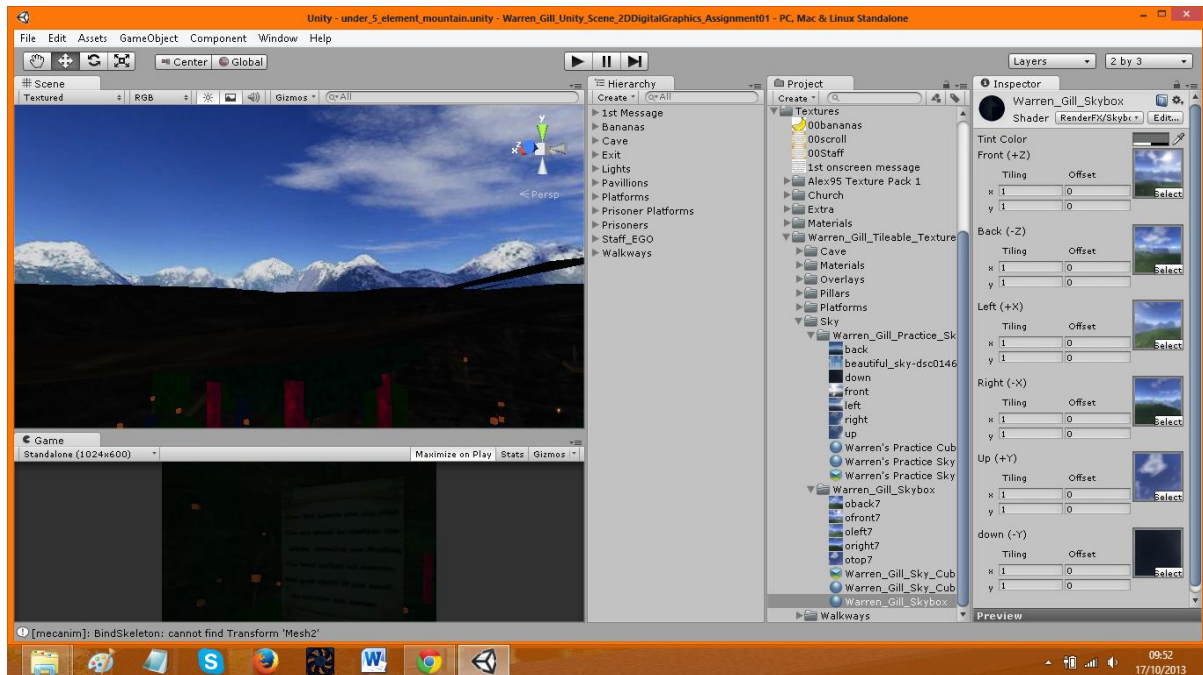
Finally after a lot of careful consideration and swapping, I settled on which textures I wanted to incorporate into my level I decided to create a lightmap of the scene. To begin I selected everything in the scene I wanted to be lightmapped and set it to static and then I selected all meshes and set them to generate light map. I then opened the lightmapping window and clicked bake scene. Upon completion I noticed something was off. Although the level is set in a cave and a little darkness is expected everything seemed a little too dark in places. In photoshop I raised the levels of the darkest black to slightly grey and lowered the whitest white also in all 36 tileable textures that I'd created and this seemed to greatly improve the overall look and feel of the level and I baked the scene using unity's beast lightmapping .
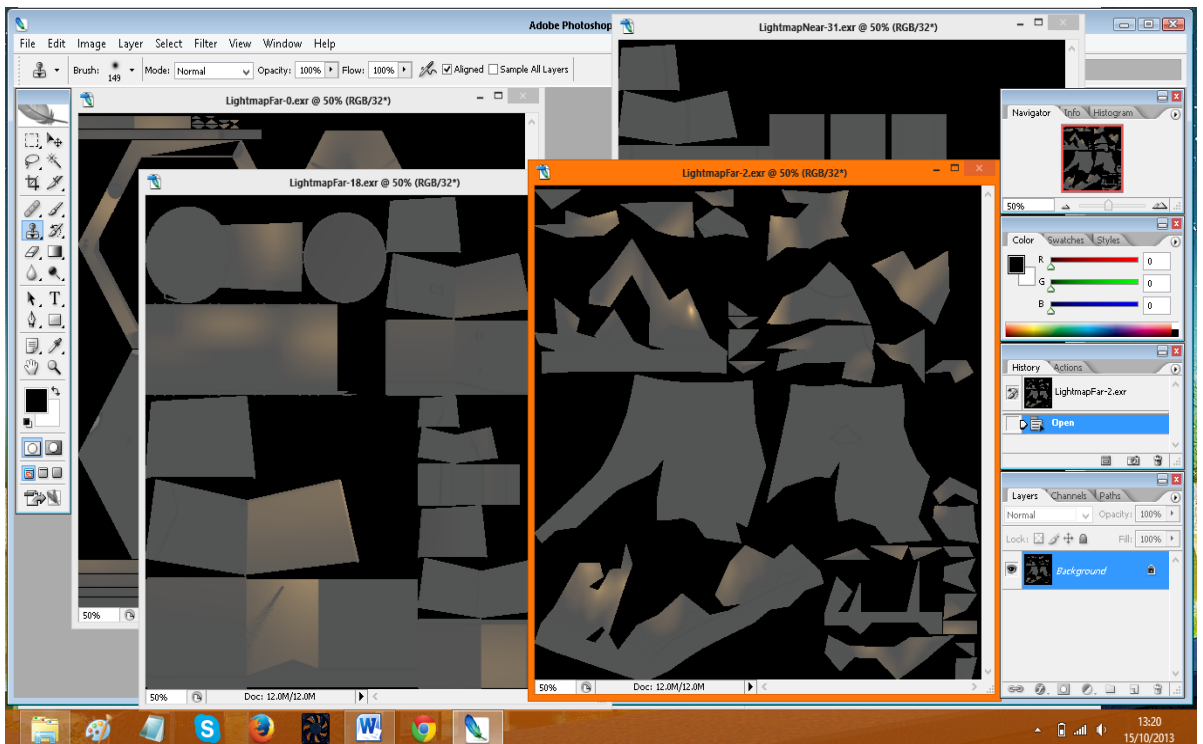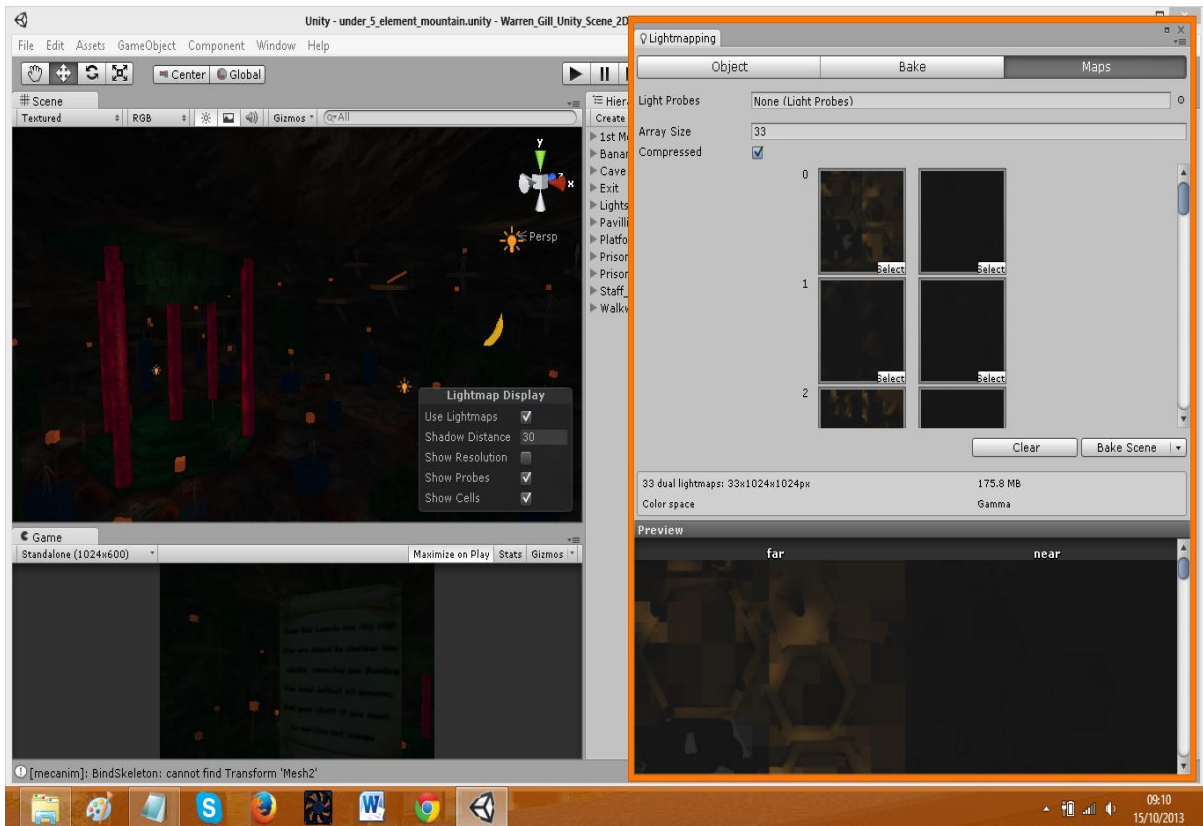
This lightmapping process has been the most laborious and taxing thing I've encountered yet in unity. By this I mean setting up the lighting and all it entails in general. The above lightmapping took almost two hours and the final file size was 175 MB. I had a feeling that something wasn't right. Upon testing the level with all of the lights off and just using this newly created lightmap I noticed that everything was flat. The lightmap had completely

negated the bumps and specularity on all surfaces. The issue was solved by turning all of the lights back on. So I was and am a little perplexed by this issue. Upon furter investigation I seemed to have overindulged in the use of the point lights. I originally had 50 plus and deleted a lot of them. According to the lightmapping info I had over 33 lights and thus created a lot of lightmaps. The issue with the flatness seems to be related to the version of unity one is using and unfortunately my laptop only has the free version installed. The solution was to drastically reduce the number of lights in the scene to 4 and use one extra directional light. After deleting the previuos behemoth of a lightmap I baked another and the results are satisfactory as far as I'm concerned and it clocked in at 37 MB and took a healthy 20 minutes to compile. Despite my trials and tribulations during this assignment I feel satisfied with the outcome and am confident in the techniques I learned and emplyed.