# G2:- Work log

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| Date | Time Spent | Work Done |
| 11/02/19 | 2:40 | * Implemented the scene graph class methods |
| 15/02/19 | 0:40 | * Started implementing class that overrides from scenenode * Work seems to be taking long to do little due to understanding taking longer than normal |
| 16/02/19 | 2:00 | * Setup initialise method, discovered that without specifying that it is a cube method and not just a method within cube that it cannot see variables that are private to cube * Now able to compile and run however output is black screen. |
| 18/02/19 | 1:45 | * Tried to go back over the first part of week3 tutorial as I think some methods do not work correctly * Update issue of not being able to multiply an xmmatrix by an xmfloat4x4 |
| 18/02/19 | 2:00 | * XMLoadFloat4x4 :- turns a float4x4 into an FXMATRIX * Messed about with folders due to uni computers not having enough space to save my work |
| 19/02/19 | 1:40 | * Rewatched lecture recording to try and understand better * Setup a scenegraph in graphics2.cpp * Still no display * Cannot figure out how to setup a constructor that takes a colour or texture, “No default constructor in scenenode exists” * Only able to make a constructor if inherited, do not understand what : SceneNode(L"Root") {}; means properly, always creates a node named root? * Maybe figured it out * Nope, cannot build as: Cube::Cube(DirectX::XMFLOAT4) already has a body |
| 21/02/19 | 1:00 | * Still not managed to get it working * Think main issue is shader however once added get no main entry point found. * Ask wayne about shader, and inherited constructor |
| 22/02/19 | 1:00(?) | * Managed to include the shader file without giving it a main. * Still not working |
| 23/02/19 | 00:30 | * Re-read tutorial pdf and tried stepping through code to see if I could find any issues * Fixed one issue where all my for loops in scene node were getting a vector size of 0, however still no cube displayed. |
| 25/02/19 | 1:00 | * Forgot to upload work to continue from so trying to get back to where it was, * New: Realised that I should be using directxframework view and projection transformation |
| 25/02/19 | 3:00 | * Wstring .c\_str function converts wstring into a w\_chart array so that createWICtexture does not have issues * Update function fixed, uses the correct matrix * Added all the new classes required to display * Changed properties and stuff * Hey it works the plane is now displayed! |
| 26/02/19 | 00:30 | * Merged implementation logs between the forgetting to upload with the catchup * Re-setup the include directories to work on home pc too * Started making the TerrainNode class. |
| 27/02/19 | 1:00 | * Implemented nested for loop that hopefully generates the grid right |
| 02/03/19 | 1:30 | * Implemented methods that should make it load in the big grid * Unsure about indices setting up * Errors about PS, fixed by changing buildshader code * No grid is drawn. |
| 02/03/19 | 00:30 | * Tried adapting code from <http://www.chadvernon.com/blog/resources/directx9/terrain-generation-with-a-heightmap/> to fit to my variables for the indices part however does not seem to help. |
| 04/03/19 | 5:30 | * Started week6 even though week5 does not properly work just as I want to get the camera working. * Added the camera class and it has issues * Issue: viewtransformation is never initialised * Fix: viewtransformation was only ever set in initialise, needed to also be called on render so that it could change as it will change as the camera moves. * Issue: camera always moves itself * Fix: The keyboard must have been very grimy * Back to terrain * Issue: terrain only generated 1 vertex per square * Fix: set up each corner of a square then fill indices vector * Still no display * Fix: drawindexed should call \_indices.size() as should indexbuffer setup whereas vertexbuffer should use \_vertices.size * It draws * Implemented height map stuff * Had issue of multiplying two unsigned ints by each other, then looping through the result * Next issue: height map generates squares at the correct height however separated as each square in grid is moved by set height. * Tried to fix and theres other issues – it kinda displayes one quadrant but very odd |
| 05/03/19 | 1:00 | * Spent some time trying to figure out height map, managed to get it to load using the same height for each vertex of the square |
| 11/03/19 | 6:30 | * Managed to get the height map to load correctly minus the very edges of the grid, they still implement the old behaviour * Tried to do normal stuff but no display * Issue: Cbuffer expected by the shader was very different to the cbuffer being passed in * Issue: Trouble getting camerapostion * Fix: Call directxframework to get the camera postion * Fix: Can now pass in appropriate stuff for the cbuffer * Issue: normals not actually set for any vertices * Fix: After making changes to new vertices made set the vertices in the vector back to the values so they gain the new normal * And the moonscape works with some very ugly code. |
| 18/03/19 | 2:30 | * Managed to implement the content from the tutorials fairly painless * Having many issue trying to get a nice blend map going, it all seems to go to one texture |
| 23/02/19 | 2:30 | * Played around with the blend map some more, still having trouble getting it to work correctly * Started adding the skyNode class * Fixed up some warnings, all type casting related * May have to scrap some of these changes as Ive somehow broken it quite badly. can no longer initialise the terrain * Okay after reverting to an old copy then trying add the new changes it appears be the skynode somehow causing an error in initialising a grid for a terrainnode. Excluding the skynode class for now. * Another issue was vector related compared to <= vector.size rather than just < * Somewhat better last row of the grid now still messy code tho |
| 25/03/19 | 4:00 | * Messed around with blend map values for quite awhile whilst not being able to get more than one texture loading at a time * Discovered blend map tex co-ords are never set * Started trying to to figure out what to set them to * Changed include directories to be relative filepaths |
| 25/03/19 | 2:15 | * Got the blend map texturing to work, was using x and z the wrong way around for the u and v in blend map tex co-ord. * Implemented some equations to get a smotth gradient between two values * Tried to do the slightly random u and v for tex co-ord but not sure I understand c++ rand() function |
| 28/03/19 | 1:00 | * Finished up some of the implementations for skyNode * Changed DDStexture implementations in terrain and sky to use the sizeof array rather than coded value * Error with vertex struct already defined * Discovered header guards and guarded most things * Still get the error * Changed name to SkyVertex for skies vertices * New error in wchar.h Access violation reading location 0xFFFFFFFFFFFFFFFF. |
| 29/03/19 | 1:10 | * Figured out the error, the skyNode constructor was wrong tried to redo some functionality already done in its parent class * It compiles and runs but there is a big issue with the skyNode it seems * With skynode: * Without skynode: * Realised that in creating dds texture it was still using grass rather than the name passed in when skyNode is constructed * Think the issue is to do with createDDS texture or transformation * After messing around with both I haven’t found the issue |
| 01/04/19 | 7:00 | * Fixed more warnings (24…) * Realised that I never call the method to add the skies texture * Setting of pixel shader and vertex shader was in the wrong place * Some areas still referenced vertex when they should reference SkyVertex |
| 02/04/19 | 00:45 | * Changed terrain nodes calls for setting the shaders and layout into the render method too * Both sky and terrain work at the same time * Messed around with the order of the matrices for the sky and now it works a bit better, looking up and down is still funky but side to side seems to be fine |
| 03/04/19 | 00:45 | * Added a function that should get the y height at a certain x and z position, not sure if it works, untested so far * Implemented a cameraHover method, it crashes * CameraZ = -1007026176 using XMVectorGetIntZ for some reason * Fix: use XMVectorGetZ, this gives the correct value so something strange was happening before, not sure what since the x value worked. * Hey it actually seems to work, didn’t expect the code for getting a y point to work first try albeit a little buggy * When running it sometimes seems to flicker blue in certain spots as though I have escaped the terrain and skybox * Jumping off the terrain causes a crash as it will try to access outside of the vertices vector * Thought It may be that it didn’t know what to do if dx and dz were the same so added <= but doesn’t fix the issue of going into the terrain. Maybe it doesn’t work fully first try |
| 08/04/19 | 2:00 ~ 3:00 | * Made the get height at point function check that the x and z point being tested are within the bounds of the terrain so that it no longer crashes. Could make it return a position instead to make the function better for handling going off the edge. * Re-added the plane to the scene and made it fly across the sky, however does not loop around the terrain. It flies off forever * <https://www.turbosquid.com/3d-models/sample-trees-c4d-free/1008420> Add at home when pc will remember username/password for site |
| 11/04/19 | 00:45 | * Started setting up moveable mesh node class “MoveableNode” * Added a tree, lighting is really weird with it tho, any bits in shadow are fully white – try different shader next time maybe |
| 12/04/19 | 00:45 | * Tried some more assets from turbo squid and all have issues with lighting, not a shader issue as Meshnodes do not use shaders. * Tried setting up an assets folder to put all assets in, changed filepaths throughout project but get error: MSB3703 so I’m just going to not bother with a neater file setup for now * Added ability to be able to fly away from the floor again by holding space |
| 13/04/19 | 1:30 | * When I try and add a moveableNode get another odd error with error code C2338. I think it could be to do with my constructor im not too sure. * Redone some terrainNode code to be a bit neater * Changed GetHeightAtPoint function to return an XMFloat3 instead, if no conditions are met will return current x and z but y of 0 * Tried messing around with the constructor however cannot figure it out, the error makes no sense to me. * “You've instantiated std::aligned\_storage<Len, Align> with an extended alignment (in other words, Align > alignof(max\_align\_t)). Before VS 2017 15.8, the member type would non-conformingly have an alignment of only alignof(max\_align\_t). VS 2017 15.8 was fixed to handle this correctly, but the fix inherently changes layout and breaks binary compatibility (\*only\* for uses of aligned\_storage with extended alignments). Please define either (1) \_ENABLE\_EXTENDED\_ALIGNED\_STORAGE to acknowledge that you understand this message and that you actually want a type with an extended alignment, or (2) \_DISABLE\_EXTENDED\_ALIGNED\_STORAGE to silence this message and get the old non-conformant behavior.” * I have tried defining either of them and still get the error so who knows. |
| 17/04/19 | 2:00 | * Tried adding ability to specify a moveable node and and offset in camera class however seems to have caused a bunch of non-sense issues, “identifier camera is undeclared” in the directXFramework yet nothing has changed here. * Reverted these changes * Issue is now persisting * Reverted back to changes after 08/04/19… * Copy pasted some of the changes for terrainnode code neatness and button to hover camera * Setup git repo to make reverts easier and to not have to juggle multiple copies |
| 23/04/19 | 1:00 | * Figured out how to make the normal calculation for the terrain neater |
| 25/04/19 | 1:00 | * Reimplemented the moveableNode class * Back to the “instantiated with an extended alignment” error again * Made camerHover return -1 if all else fails for running off edge of map |