There are a lot of reasons which I could cite for why this project turned out the way it did. I could quote the staple reasons - lack of foresight, confusion on the topics, time management with other classes and projects. And to some extent those are all true. But not as much as they might be in other cases. I understand the concepts really well, why the lighting model works the way it does, the use of PhongMaterial and how to generate geometry and use SceneElement as a base class. Yet the results aren't up to the quality I'm used to turning in, so in my typical fashion I plan to be verbose in answering how and why the project got to the state it is in.

So, first thing is first - the project is late. Late to the point of barely being able to count for partial credit. I know. I had hoped by giving myself all that extra time that I would be able to deliver a quality project, but I know it doesn't have that "wow" factor that would make it stand out, compared to project 2 at least. And by the way, this is the first time I have ever made a premeditated decision to turn in a project late ever. But ask anyone, these past few weeks have been crazy, in terms of school, in terms of work, in terms of life. Honestly I haven't been able to dedicate all that much to this course even if I had really wanted to give it my all. And after the last exam I figured I could relax just a little bit.

This is a very demanding course. So far I've done rather well in it but I'd be lying if I said that I've had to work harder for my scores here than just about any other course I've ever taken. I enjoy the content; I really do, but the amount of time I set aside, in addition to my other classes and of course the senior project puts me in a weird spot where, if I want to do well in every single one of my courses, I have to sacrifice something. Maybe I'll go out less, or maybe I just don't get enough sleep (resulting in me going out less as well), or I give less attention to work, or I skip a few basketball games. Something would happen. And it's probably bad timing too, because it's about that point in the semester, doubled with the semester where I've worried the least about it - that grades actually don't matter anymore.

And I hate to say it, but when I think about the realistic impact of getting an A in a course versus a C, it actually will do nothing for me. With the amount of courses already completed, it will barely make a dent in the old GPA. And GPA is rather insignificant to me at this point anyways. Really the only worry I can have is to make sure I pass the class, and sorry if that makes me a worse student, because I really do enjoy the material; it's actually very interesting for me and I dig that kind of math. But in my position, to quote Office Space, "that will only make someone work just hard enough not to get fired".

And I'm not saying all of this because I'm fed up with the class, or hate this project, or want sympathy or points back or anything. I completely expect my grade for this project and future scores to be fair and earned. But I think it's worth spending a few minutes explaining the situation I'm in, at least so you can understand where I'm coming from. I'm sure the comments on this report will be very interesting.

So that was a lot. Despite all that, I still managed to do quite a bit with this project. As far as I can tell, the entire lighting model is accurate, all the math and dot products are correct, vectors are computed as they should be, normals are conditionally negated, points are defined in MC and converted to EC, and the logic makes sense to me. I just don't get why it won't light things as I want them to. And I know it's probably going to be one small thing I didn't think about that's causing some big problem, but I've tried fiddling with it for a while and I'm not too sure what exactly it is. As a result, I have it in a working state, where it's close to correct but not exact. The specular coefficient seems to cause a lot of problems and pinning down exactly why is tricky.

The geometry looks good. That being said, it looks a lot like the geometry in project 2, which is geometry that looks good. I did modify the numbers a tiny bit, and would have modified them further had the specular coefficients not given me grief. That being said, on the geometry side I didn't have to add that much for it to look like a realistic scene. I didn't create any new geometry because I went overboard making things like spheres from scratch last time, and trust me that was not easy.

Around the project you might find some lines of code that look like they make perfect sense, but are commented out for some reason and maybe there's an explanation why. I've tried to mess around with those a lot but nothing I've done seems to work, so I simply put a placeholder line there explaining what I was trying to do and why it might not be working, but if I knew why it wasn't working, then I would be able to fix it. Probably the most unsure thing I did was compute the transformation from MC to EC using the matrix in basic.vsh. It just seemed like the place to do it, since mc_ec was already defined there, but in the writeup for the phong model it passed in the light source points as uniforms, so I know I'm deviating there. But it works better for my case, I think.

Most of my issues arose because passing information from SceneElement to the shaders through uniforms got messy, and again if I knew how to fix it I would. At this point though, with the amount of time I actually did spend working on it trying to solve that problem (today, in roughly an hour because I plan on going to the game tonight) seems unfeasible. This is the position I was in last week too, except this week the project is turnin-able.

So while all is said and done, I still did a lot. I think in many ways I got things mostly or almost right, but a few hiccups are causing the whole thing to not function exactly as it should. It's definitely not something I'm happy about submitting in at this state, but it's not exactly like there was no effort put into it either.

That's what's up. Hope you're having a good day/evening, especially when you decide to grade everyone's projects. Ciao.