

**CMSI 371-01**  
**COMPUTER GRAPHICS**  
Spring 2013

## **Assignment 0418 Feedback**

Outcome *3a* can now “graduate” with this assignment, with *2c* and *3e* maxing out in Assignment 0502.

### **Andrew Kowalczyk**

*1c* — Your clock serves as an excellent demonstration of your ability to compose multiple objects in an effective and intentional way. Congratulations on finding the missing ingredient in your recursion :) (+)

*2a* — Your use of transforms is definitely well-demonstrated with both the construction of the clock itself and the way you map the real time to the appropriate transforms on affected objects. (+)

*3a* — Although your code as committed right now does not do animation, you have certainly shown me prior versions that animate, and overall (by virtue of *2a*) your foundation for effective dynamic behavior is pretty strong. So those are good things, and now you do simply have to “just do it” to max out this particular outcome. (|)

*3e* — Your vertex shader has now reached a great degree of flexibility; we just need to add lighting calculations to max out the proficiency for this outcome. (|)

*4a* — Your 3D model and instance transform code certainly works as intended now. Don’t forget to include a unit test for your instance transform and camera matrices though. Plus, the beginnings of your mouse event handlers may need some clarification. (|)

*4b* — Your separation of concerns is generally good, with the one suggestion (detailed in the inline comments) that you should consider consolidating all of your clock information within a single `clock` object. This makes your code more readable, and cleanly differentiates clock-specific data from the other data in your scene code. (|)

*4c* — Your indentation and spacing reflect your code’s semantic structure well. Further, with the proliferation of clock-specific data and functions, you use comments well in identifying these, as distinct from graphics variables (e.g., matrices, rotation, etc.) and other utility variables (e.g., index counters and maximums). (+)

*4d* — Your work shows good use of resources and documentation. Including the instructor “resource” haha. (+)

*4e* — Your commit frequency and messages are appropriate to the work done. (+)

*4f* — Most of the work done, particularly with respect to the overall clock and the framework for dynamic behavior, was actually done after the deadline for this assignment. Don’t get me wrong—it is an excellent and significant batch of work. But that is reflected in the other outcomes, and is not the concern of this one. (/)