

**CMSI 371-01**  
**COMPUTER GRAPHICS**  
Spring 2014

## Assignment 0403 Feedback

With the inclusion of 3D transforms, outcome *2a* expands to a maximum proficiency of **+**. Outcomes *3d* and *3e* remain at a maximum of **|** because full coverage has not been reached yet in either outcome.

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*2a* — I think it's fair to say you've gotten a handle on transforms, both 2D and 3D, although your scene does not take full advantage of this. A single 3D object??? Come on now. (|)

*2b* — You have successfully implemented 3D projection, going orthographic rather than frustum. The result is decent, but I think a frustum implementation would have been more interesting. I mean, *you're kicking a soccer ball*—perspective will make a big difference there! (|)

*3d* — At this point I also know that you got `lookAt` done, but in-keeping with the scope of this assignment we'll just say "good job, keep it up"—knowing that all will be well in the end :) (|)

*3e* — No problems with adding instance transformations to your shader, but the instance transformation itself is incomplete (see inline comments). (/)

*4a* — The major implementation issue seen is the way that the soccer ball's movement is handled. The inline comment explains the issue there. Outside of that, there really isn't much more to say, but then again you don't push things that much—you have a single 3D object. The background image is nice, but in the end that is just smoke and mirrors. More is expected. (/)

*4b* — Overall, top-level structure of your code generally separates concerns well. But again, that `setInterval` function setup spoils things: it replicates logic that can otherwise be captured in data (i.e., a velocity vectors), and is extremely fragile. What if you want to ball to change course an *arbitrary* number of times (e.g., multiple bounces off the goal; opposing players; etc.)? Your implementation choice completely gets in the way of that, when it really doesn't have to. (/)

*4c* — Code is generally straightforward to read, but you have some commented-out code that really should be just deleted, and you have a small number of leftover tabs in *shapes.js* and *soccer.js*. These don't hurt you here, but I figured I should remind you. (|)

*4d* — Decent job lining up the needed information to get your matrix library up and running, but now you need information to help you make use of this library more extensively. (|)

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

*4f* — Initial matrix library submitted on time, everything else followed later. (|)