

July/August end-of-month review

(written 4 September)

These two months have seen a large number of successes, which I am extremely pleased about. I have also encountered several difficulties, which I am confident about being able to resolve next month.

I have successfully gotten Texture code to work. This is a large part of OpenGL, and has been rather tricky to get working, mostly because OpenGL has carried with it a lot of historical baggage which means that a lot of functions need to be called in order to set up textures.

I am working very hard on the bridge simulation, which I intend to show off most of the capabilities of the Verlet integration physics engine, as well as being fun to play around with! Currently I have made it successfully simulate a suspension cable material, which is flexible. In addition the length constraint in the physics engine breaks the cable if excessive weight is applied.

Work still needs to be done on the simulation, however. Currently there is no rigidity in the physics simulation, which means that no proper bridges can be built yet, only flexible materials such as suspension cable can be simulated. In order to make rigid materials such as metal beams I need to figure out how to not only apply length constraints but also angle constraints. I am having a hard time finding this information.

Overall, I am very happy with my progress -- it has mostly gone to plan, and the results of the simulations are very satisfactory so far. In addition my confidence in implementing mathematical algorithms has vastly improved. I am looking forward to a month of light polishing and finishing up the simulations -- including adding 3D lighting and shading to the wave simulation.

Next month I need to make sure that I do not start anything overly ambitious, and that I keep focused and meet deadlines. I have set myself the targets of adding rigid materials to the bridge simulation and adding 3D lighting to my wave simulation. In order to keep on track I will not only put the deadlines in my calendar app, but I have also promised my friends that it would be done by that date, at which time they can play the bridge game. This will hopefully "peer pressure" me into doing the work by then -- I don't want to let them down!