INFO6015 – Animation 1

Final Exam – Fall 2010

Instructor: Michael Feeney

The exam format:

- You may use any resources you feel are necessary to complete the exam, but you are to answer the questions on your own.

- The questions are *__not__* of equal weight. There are two (2) pages with six (6) questions with a total of 80 marks (if my math is correct)

- The answers may be one or a combination of the following:

    o Short answer (in your own words)
    o Snippets of code
    o Complete running solutions

- <u>CLEARLY</u> indicate which answer goes to which question. My suggestion is that you place each answer in its own folder, named "Question_01", "Question_02" and so on (or something equally clear). Another option is to create a Visual Studio solution and add a number of projects – one per question – to it.

- Place any written answers into a Word, RTF, or text file. Again, *clearly* indicate which question you are answering.

- If you are combining answers (which is likely), please indicate this with a "readme" file or some note (not buried in the source code somewhere) indicating this.

- For applications: If it doesn't build and run; it's like you didn't answer it. I'll correct trivial, obvious problems, but you need to be sure that it compiles and/or runs.

- You have until Friday, December 17th at 11:59 pm to submit all your files to the appropriate drop box on Fanshawe Online; this is because of the grade deadline of December 20th. Note: The intention is that you have the exam for 24 hours.

- You can reach me:
    o In my "cubicle of destiny" most afternoons this week (I'm invigilating in the mornings)
    o On the office phone: (519) 452-4430 x4798
    o My cell 519-494-7569
    o Or at home 519-438-3300 (but if you call me in the middle of the night, I'll be *very* annoyed, and if one of my kids answer, you'll get a verbal smack down, possibly in French or German. Really.)
    o Or through e-mail (mfeeney@fanshawec.ca), of course.

Questions:

1. (10 marks) Why can't you use the OpenGL matrix stack with skinned meshes?

2. (15 marks) Demonstrate the use of "client" based model-view transform (i.e. not using the OpenGL stack). Note: you can *base* your demonstration program it on some code from class, but just submitting one of the posted examples will earn you precisely zero marks.

3. (10 marks) What are the main differences between id software's MD2/MD3 format and the MD5 format?

4. Referring to question 3:

    o (5 marks) Why would it be unlikely that a main character (such as a space marine or monster) in a current game would be implemented in MD5 instead of the older versions?

    o (5 marks) Is there any technical reason why you *couldn't* implement your main character in a modern game as an MD2/MD3 model? Answer the question this way: Your boss insists that your new shooter use MD3 models, and you are trying to convince him/her otherwise.

5. (10 marks) *Demonstrate* the use of a C++ "interface."

6. (25 marks) *Demonstrate* the use of a quaternion rotation.

That's it.