COS/MUS 314

ChucK Initiation Rites
Assignment due 2/13 (11:59pm)

Work alone for this assignment.

By the first rehearsal, don't forget to go through the PLOrk_Rep download and configuration!

Reading

a. Types, values, and variables
http://chuck.cs.princeton.edu/doc/language/type.html
b. Operators & operations – read section on arithmetic operators (+, -, etc)
http://chuck.cs.princeton.edu/doc/language/oper.html
c. Unit Generators in ChucK
http://chuck.cs.princeton.edu/doc/language/ugen.html
d. Manipulating Time in ChucK
http://chuck.cs.princeton.edu/doc/language/time.html

0. Your PLOrk_rep download includes the MiniAudicle. Read the MiniAudicle tutorial (about a page long) at http://audicle.cs.princeton.edu/mini/mac/doc/#tutorial. Run the two code examples from the tutorial and verify that they make sound.

1. Visit the ChucK website at http://chuck.cs.princeton.edu/. Look around. Make a note of at least 5 online resources where you can learn about or get help with ChucK. (.5 point)

2. Twinkle, Twinkle (5 points)
Download the "Twinkle, twinkle" skeleton code from http://www.cs.princeton.edu/courses/archive/spring12/cos314/assignments/assignment1/twinkle_skeleton.ck. As is, the code plays (and stops) the first note of the song. Add code to play the rest of the melody, with the right notes and rhythm. Try replacing the SinOsc with other UGens to see what they sound like.

Are you rusty on your Twinkle skills? See http://schools.tdsb.on.ca/joyce/main/pathfinder/download/chart_scoretwinkle.pdf for a score.

Hint: Think about how you want to rearticulate repeated notes, and make sure that, if you put space between notes, you don't get out of tempo!

3. ChucK primitives and variables (4 points)
Now add two variables to the beginning of your code from question 2:

```
dur quarterNote;
```

```
int firstMIDIPitch;
```

Integrate these variables into the rest of your code, replacing literals (such as 60 or 1.0::second) with expressions using these variables. Also instantiate them with reasonable initial values. quarterNote should be used as the duration of a quarter note throughout the piece, and firstMIDIPitch should be used to indicate the MIDI pitch (e.g. 60) of the first note. They effectively *parameterize* your twinkle code, so that different instantiations of these variables produce twinkles in different tempos and keys. Play around with setting them to different initial values and verify that it works.

If you've programmed before, this should be a cinch, so do something further with this to make it sound cool, or get started early on assignment 2 and make it extra awesome!

4. Verify that you'll be able to come to all rehearsals and performances on the syllabus (also on the wiki). Let us know now if there's a problem! (.25 points)

5. Choose a classmate to be your 314 lab partner for the foreseeable future, and tell us his or her name. Or tell us if you don't know anyone in the class and want us to choose someone for you. (.25 points)

What to hand in:

- Your list of ChucK resources from question 1.
- Your .ck file for question 3
- Your written answers to questions 4 – 5 (in a .txt or .doc format)

How to hand it in:

- Submit just one file. Put all of your files in single directory and zip it up (right-click or control-click --> compress in OS X). Go to the Assignments page in Blackboard, select Assignment 1 View/Complete. Then attach your .zip file. Don't forget to submit! People have had trouble in the past with Firefox, so try IE / Safari if your file won't upload. If you run into problems, post to Piazza and someone will help you out.