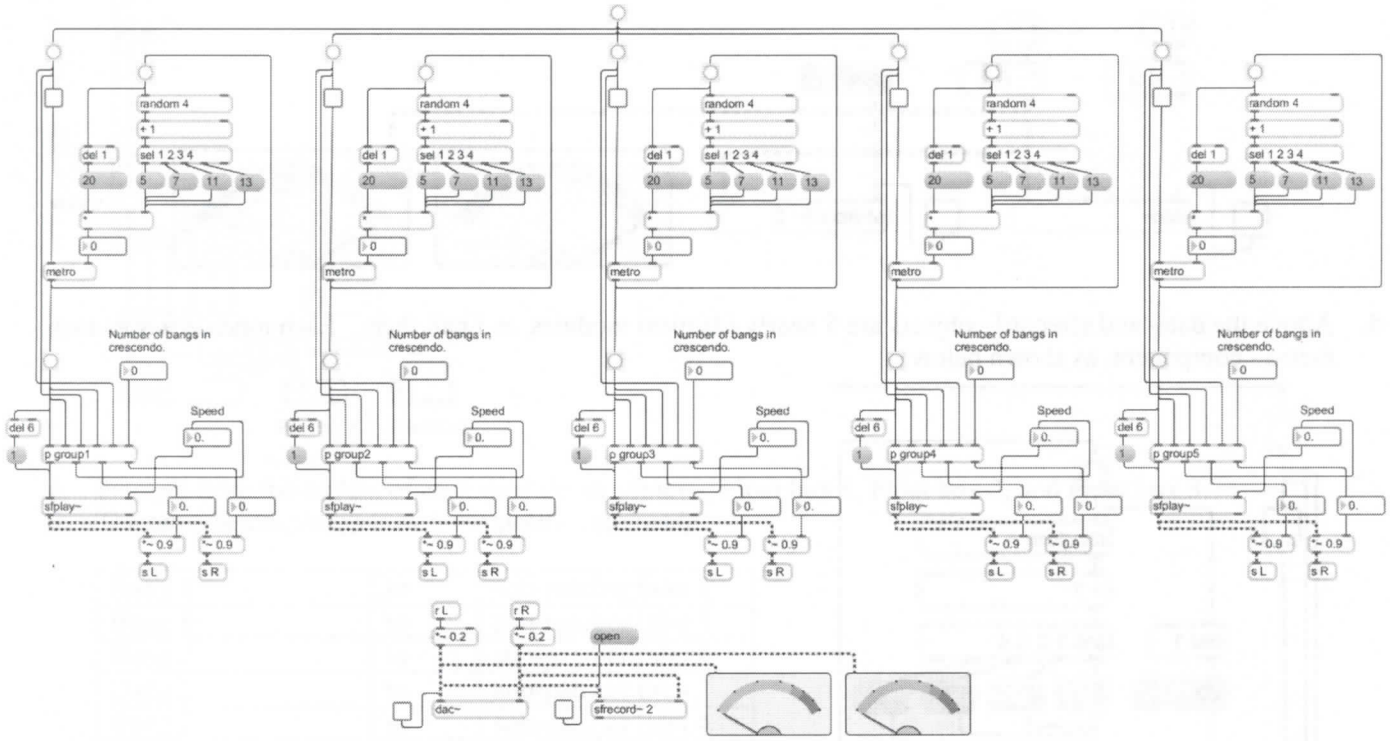
Composition: Electronic Media II
Spring 2009
Assignment 2 Part Two

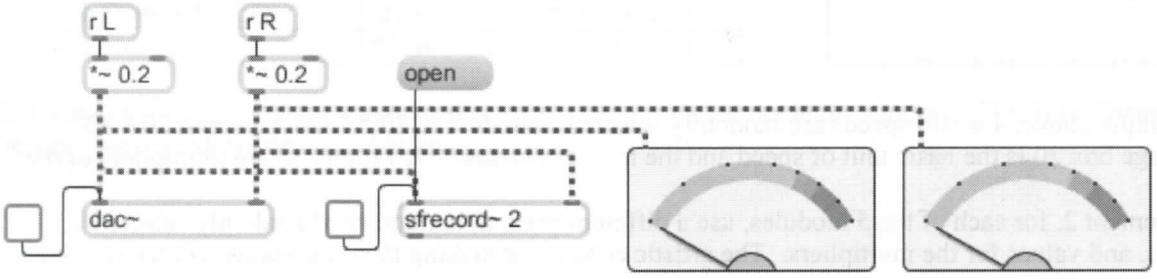
1. This assignment will be due in class on Wednesday, March 4. There will be no class on March 2, since both Prof. Fritts and Matt Dotson will be out of town for a new music festival.

2. The soundfiles created in Assignment 2 Part One, Aa, Ab, Ac, Ad, Ba, Bb, etc. will be used in this Max patch. Make sure that the patch resides in the same folder as the sounds. If sounds do not play back as expected, close the patch, then re-open it. Sometimes Max loses track of where the patch is sitting.

3. The patch consists of a main patch and a sub-patch. There will be 5 copies of the sub-patch, as discussed below. The main patch will resemble the one below:

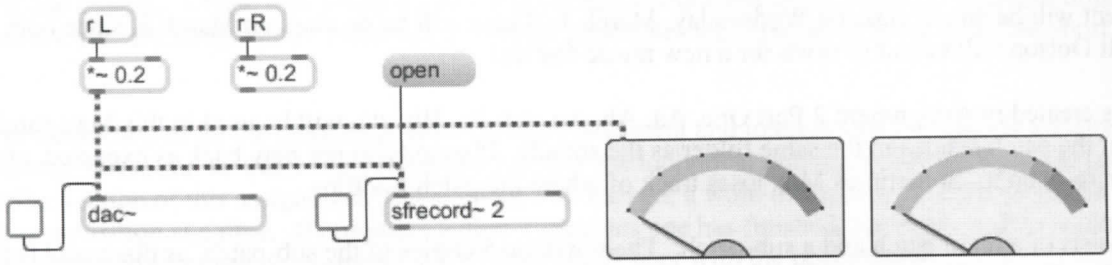


4. The bottom part of the patch consists of left and right audio signals sent to the dac~, sfrecord~ 2, and level meters.

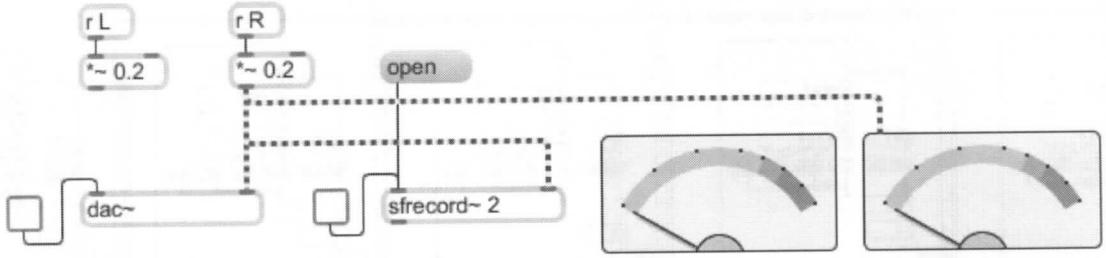


   a. The left channel receives an audio signal sent to "r L" from "s L" in the modules. The right channel receives an audio signal sent to "r R" from "s R" in the modules.

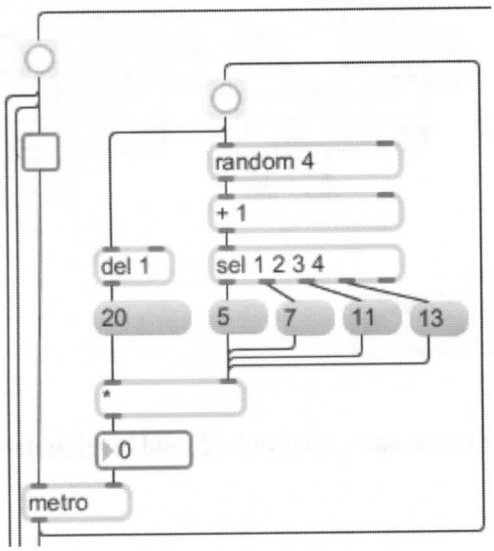
b. The left "*~ 0.2" signal multiplier is patched to the left inlets of the dac~, sfrecord~ 2, and level meter, as shown below:



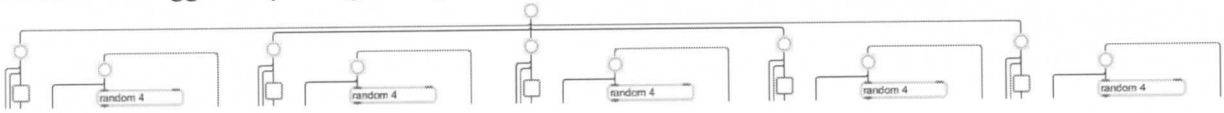
c. The right "*~ 0.2" signal multiplier is patched to the right inlets of the dac~ and sfrecord~ 2, and the left inlet of the level meter, as shown below:



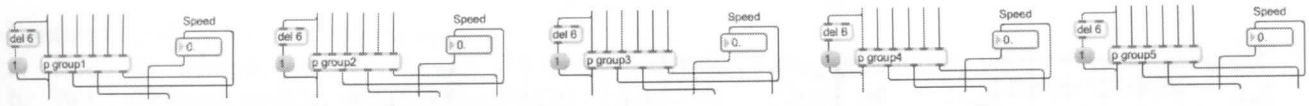
5. Above the dac~ and sfrecord~ objects are 5 nearly identical modules, as I call them. Each module has its own metro~ component, as shown below:



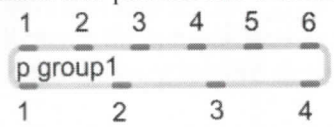
a. In the example above, 4 metro speeds are randomly selected from 20 * 5, 20 * 7, 20 * 11, and 20 * 13.
b. The message box 20 is the basic unit of speed and the message boxes 5, 7, 11, and 13 are multipliers of the this unit.
c. For Assignment 2, for each of the 5 modules, use a different basic unit, number of randomly selected multipliers, and values for the multipliers. The artistic criteria for making these decisions will be discussed in class.
d. Each metro object is turned on by a toggle that is triggered by a bang button. The bang buttons of the 5 modules are triggered by a single bang button at the top of the patch, as shown below:



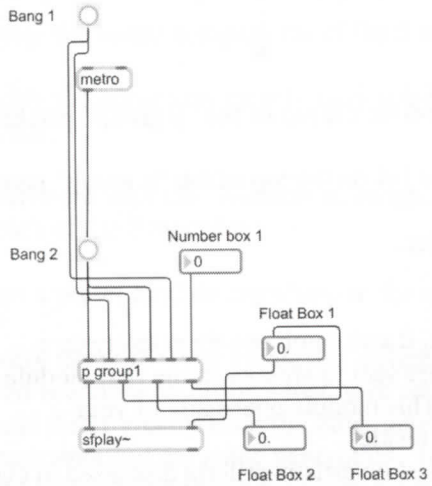
6. Each module has a sub-patcher called "p group1", "p group2",..., "p group5", as shown below:



a. Each sub-patcher has 6 inlets and 4 outlets, as shown below:



b. Patched to the inlets of each module are Bang 1, Bang 2, and Number box 1, as shown below:



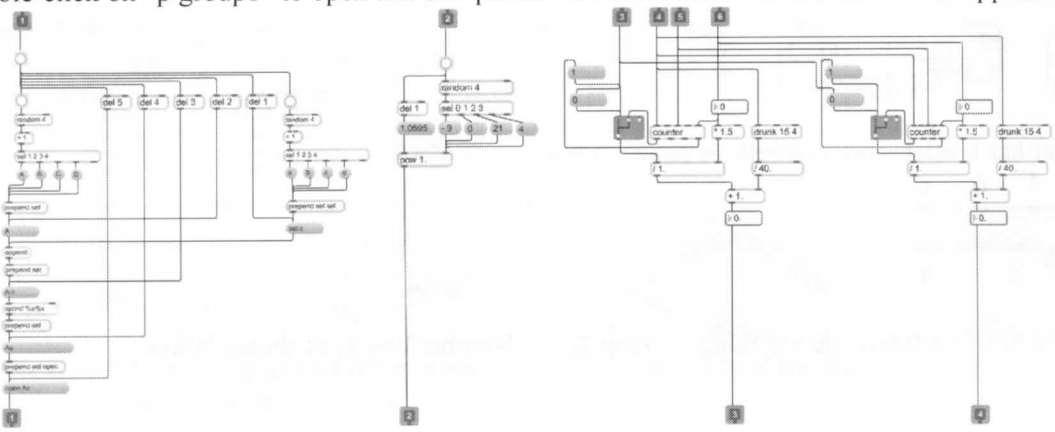
c. Patched from the outlets of each module are sfplay~, Float box 1, Float box 2, and Float box 3.

d. The table below shows how these patches are made:

Bang 1	to	sub-patcher inlet 3
Bang 1	to	sub-patcher inlet 5
Bang 2	to	sub-patcher inlet 1
Bang 2	to	sub-patcher inlet 2
Bang 2	to	sub-patcher inlet 4
Number box 1	to	sub-patcher inlet 6
sfplay~	from	sub-patcher outlet 1
Float box 1	from	sub-patcher outlet 2
Float box 2	from	sub-patcher outlet 3
Float box 3	from	sub-patcher outlet 4

7. The window that contains the modules discussed above is called the main window. This is to distinguish it from the sub-patch windows discussed below.

8. Double-click on "p group1" to open this sub-patch. A window like the one below will appear:



   a. The icons for inlets 1-6 in the sub-patch group1 correspond to inlets 1-6 on the top of the "p group" patcher in the main window.
   b. The icons for outlets 1-4 in the sub-patch group1 correspond to outlets 1-4 on the top of the "p group" patcher in the main window.
   c. The patches for these inlets and outlets in group1 will be discussed later.

9. The group1 sub-patch contains 3 modules with the following functions:
   a. The module on the left generates random letters A, B, C, D and a, b, c, d and combines them to create a message box that reads "open Ac", "open Cb", etc. These messages are sent to sfplay~ in the first module on the left (henceforth called the group 1 module) in the main window. This module opens any of your appropriately named soundfiles sitting in the same folder as the patch resides.
   b. The choice of soundfiles that can be opened in this module will be based on artistic criteria discussed in class.
   c. The middle module in group1 generates random numbers -9, 0, 21, 4 that are exponents of 1.0595 (the 12^{th} root of 2). The product controls the pitch/playback speed of sfplay~ in the main window.
   d. The number of choices and their values should be varied in all of the sub-patches in this assignment. These will be based on artistic criteria discussed in class.
   e. The far right module in group1 uses a drunk walk object in conjunction with a counter to generate a series of float numbers from 0 to 1 that increase in a random fashion. This module is controlled by a number box labelled "Number of bangs in crescendo" in the main window. This module has two channels. The left channel controls the left sound multiplier in the group1 module in the main window. The right channel controls the right sound multiplier. This module creates a crescendo in stereo for the soundfile. The timing of the crescendo is determined by the "Number of bangs in crescendo" number box in the main window and the speed of the metro.

10. The modules used for generating soundfile names and drunk walk crescendos will be discussed in detail later in class. The middle module needs no discussion, since it is similar to one used in Assignment 1.

11. Items 8-9 above can be used to refer to sub-patchers group1, group2,…,group5.

12. Build the patch for Assignment 2 in this order:
   a. Build the soundplayback and recording module.
   b. Build the group1 module on the far left in the main window, but note that you cannot connect the patcher to any objects until step 12.c is completed below.
   c. In the sub-patch group1, insert the 6 inlets and 4 outlets, but do not do anything else on this page yet.
   d. Now that 12.c is completed, the patcher in the main window will show 6 inlets on top and 4 outlets on the bottom. You can patch these to their appropriate objects by referring to step 6 above.
   e. Build the module in step 9c-d above and patch it to the inlet and outlet shown in step 8.
   f. These steps can be completed using the knowledge and experience you already possess.

13. In class on Wednesday February 25, we will discuss in detail how to build the other two modules in step 9.

14. Continue building the patch for Assignment 2 in this order:
    a. Build the filename generator module in the sub-patch group1 described in step 9a-b.
    b. Build the drunk walk crescendo described in step 9e.
    c. In the main window, copy the entire group1 module and paste it 4 times to create a total of 5 modules as shown in step 3.
    d. Rename the sub-patchers as shown in step 6.
    e. Patch the bang buttons as shown in step 5d.

15. Save the patch to a folder in which are sitting the soundclass examples that you created in part one of this assignment. Close the patch, then re-open it so that Max will recognize the correct soundfiles.

16. Modify the metro components of the 5 modules to create variety and interest.

17. Modify the name generator in each sub-patch to create variety and interest in the types of soundfiles that are played.

18. Experiment with the "Number of bangs..." number box to create variety and interest in the timing of crescendos of each of the 5 modules.

19. Insert a preset module anywhere in the main window and use it to save different settings.

20. Modify items 16-19 to create 3-5 different versions of this patch, labelled approporiately. The goal is to create stereo soundfile recordings that have several versions of each type of patch that you have created. Each patch should differ greatly from the other patches. The most important changes you can make will be in the metro components and the name generators. In the metro components, you can create rhythmic patterns with a steady beat having different subdivisions, rhythmic cells (consider using a counter, as you did in Assignment 1), or you can create a rhythmic sound mass at slow to medium tempos, as well as extremely fast tempos that can be processed in Pro Tools as we did with Tony's files last week.

    You can create very powerful structures by controlling how soundclasses are used in the name generator. You can try using only one soundclass, but varying the pitch and rhythm in interesting ways. You can use one soundclass with one module, a second sound class with the second module, and so to create interesting soundclass structures. Using a counter in the metro components, you can create very tightly controlled motivic units. For example, in the group1 module, you can use soundclass A and it 4 or more instances a, b, c,… once, sound class B twice, and soundclass C once. In group 2, you could vary this scheme by using soundclass A twice, soundclass B once, and soundclass D once. Instead of playing all 5 modules at once, you can can deselect the toggle of any metro to stop it from playing.

    You will undoubtedly find a counter on your metro object to be very useful. I highly recommend building this into your patches. I just did not want to complicate this assigment. But YOU can complicate this assignment.

21. You will have to work earlier rather than later on this project. I would try to have step 12 finished by the start of class on Wednesday Februrary 25. After examining step 9 in detail during that class session, you should start implementing those modules as soon as possible, before the weekend if you can. After the weekend, you can work on putting the whole patch together and creating 3-5 versions of it, as discussed in step 20.

22. You have my permission to work in pairs only if every student in class has a partner. And only if the labor is divided. You should schedule at least one or two sit-downs with Chris and Matt.

23. In my work with Max, once I get a good set of sounds out of a patch, I will record 4-10 versions of it, or until it gets too stale and each take sounds too much like other takes. I try to create patches that create variety but also have the potential to fit together. Still again, I will try to create patches that are not meant to sound good played as is, will be useful in creating a more complex set of sounds by copy, editing, and pasting in Pro Tools. I will sometimes take results and either chop them up in isolated gestures or combine them yet again to create an even denser shaped sound mass or rhythmic interplay. Lastly, I will play all of the modules with a very slow metro speed to create quirky, or soulful melodic/rhythmic gestures. I will do all of these things until I become bored. Bored with your material is nature's way of telling you to move on.

24. But wait, there is more. After you have exhausted everything you can do with the soundclasses in step 23, then create a new catalog of soundclasses. Do this by mixing, editing, and transforming with plug-ins in Pro Tools the original sound classes. Create new sound classes that are rich composites of the originals. But not mini-compositions, yet. By composite, I mean that 2 or more soundfiles are fused or overlaid into one, short, distinct sound.

25. Finally, you can chop of all the recordings made in this assignment and intercut and overlay them to create mini-compositions. These can be treated as soundclass just like the individual one-note files were used as soundclasses in the earlier version of this assignment. When doing this, though, a word of caution. Each module can only play one mini-composition at a time. If one starts before a previous one has finished, the result will be a cutting off of the sound of the earlier mini-composition. We will solve this later with the poly~ object.