

Techniques of Music Composition

MUSIC-GA 2162 - Spring 2014, Tuesday 12:30-2:30, Room 365

FOCUS on INTERACTIVITY

Profs. Elizabeth Hoffman and Jaime Oliver La Rosa

CONTEXT and RATIONALES:

The focus of this semester's seminar is computer interactivity. While computers, interacting with us, are not truly artificially intelligent and are not capable of doing what human interactors can do, computers can do a vast number of things that human interactors simply cannot. And, while computers continue to approach human-like activity in certain realms, humans are not conversely developing computer-like capabilities. The aim of this course is thus to consider the unique and growing potentials of what might even be called a unique genre of music.

While we may often think of acoustic instruments as being mediating interfaces that act in an interactive feedback loop with our bodies, computer interactivity generally refers to a different set of phenomena. Interactive systems can take the form of devices we play in tight feedback loops, of systems that model an "other" who plays with us, or interesting hybrids in between. But perhaps more importantly, we must design these systems, frame them in a theory of music, and give them a behavior; in other words, compose them.

In this context, there are several questions that need to be asked to inform the creative process:

What will the computer do on its own? Why? When? and How? //// What are the technical and the artistic rationales for given implementations? //// How will the computer perceive the entities with which to interact? //// If the computer generates sound, what will determine its characteristics? //// Which characteristics are repeatable and which are dependent on environmental or other factors? //// What are the unique possibilities of using voluntary human input? //// If the computer responds to our bodily input or contact with an interface, what sort of communication or energy transfer takes place? //// Is it discrete or continuous information or energy? Is it multi-sensory? //// Musicians cue each other, for example, using aural, visual, and occasionally tactile cues. //// Musicians can cue computers using all of these as well as infrared and electrical and radio frequency information. //// Computer generated data, computer transformed data, computer translated data are also large areas of ongoing development.

COURSE STRUCTURE:

The core content of this class will be the works created in it, and therefore it will focus in having “work in progress” presentations by students. The purpose is to have you show and workshop your works demonstrating some of the techniques you’re using, the context, the larger form, the aesthetic and intellectual rationale, etc. as it is being created, allowing you to consider alternative views to an unfinished work. This is an opportunity for you to showcase your work to your peers and receive from them valuable critique, insight, and pointers to new information and resources. A tentative schedule is attached.

Tuesday 12:30 – 2:30 class meetings will rotate through presentations by the course instructors and all students. The topic of each class meeting will be announced in the first weeks of classes (as we figure out how many projects we have and when will each be presented), and it will typically be tied to a set of listening assignments, readings, written responses, and mini-programming assignments where appropriate. A large portion of each student’s time in this course is assumed to be directed toward her/his dedicated semester Interactivity Project. Each class meeting will allow time for questions and discussion after a presentation. Because receiving and providing feedback is such an integral part of this class, it is required that you attend all sessions and we ask you to be especially considerate of this rule.

In addition to the Tuesday meetings we will be organizing additional lectures, guest talks, demonstrations, and hands-on workshops that will supplement the class. They are not required, but are strongly suggested. Frequently they will occur on Friday, from 11 – 1pm (allowing time for lunch with the guest even for students attending the 2pm Musicology seminar). Occasionally they will occur on a weekend.

We have two potential workshops:

1) **Video Recording and Editing:** This workshop will focus mainly in documenting works and their performances for archival purposes as well as for future performances. Alternatively, this workshop can also be used for creating video content to use in your work or elsewhere. The department would buy equipment and this workshop would be a training session for those interested.

2) **Raspberry Pi workgroup:** the field of physical computing refers to the design of systems that use sensors to measure the digital world to respond to it in some way. The success of arduino and other microchip boards has led to boards that can hold an operating system and can be used just like a computer. In this workgroup, interested students can work with Jaime to get a sense of the basic operation of a Raspberry Pi to connect buttons, lights, potentiometers, etc. to a credit-card-sized computer and program it, and then continue working as a group.

FINAL WORK

While we hope you can finish a work during the semester leading to a performance or exhibition of some sort, as well as its documentation, we understand that this might not always be the case. In those cases, we will work with you in determining the scope of your project and the specific goals we will try to achieve. We will therefore need to determine the nature of your final presentation.

SOFTWARE

Examples will be provided in different software platforms and operating systems. You are welcome to use any software platform and operating system you want.

SYLLABUS

We're working on a number of subjects that might be useful to your specific projects and see which ones might better be presented individually in small groups or to the whole class.

GUESTS:

Joel Chadabe, Mara Helmuth, Patty Cudd & Cort Lippe, Juraj Kojs, JACK Quartet, Levy Lorenzo, Zachary Seldess.