

MUCP 5690 Topics in Electroacoustic Music: Chamber Music With the Computer Spring 2014

Time and place: MWF 1:00 – 1:50, MU 2009

Instructor: Andrew May

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Office hours: WF 12:00 – 12:50, MU 1003

Final presentations: Friday, May 9, 10:30 a.m. - 12:30 p.m.

Prerequisite: MUCP 5680 or consent of instructor

Course Description

Overview

Students in this seminar will study and create interactive computer music from the perspective of chamber music, addressing such questions as: how can musical agents respond to sound or other cues in real time? how can we model musical knowledge, expectation, and adaptation? what kinds of information are useful in an algorithmic model of group improvisation? what are the most useful controls for musically responsive processing and synthesis systems? We will study musical examples and code from the repertoire, as well as articles from the research literature, and build a library of tools and techniques through the course of the seminar, which will be useful in the development of students' final projects. Class projects may include compositions, improvisation environments, real-time algorithmic tools for composition, interactive computer music tools or interfaces, network-based performance systems, integrated hardware/software systems for performance, etcetera. Reading and practicum assignments will be made each week. Most examples will be given in Max or Pure Data; students are encouraged to work in Pure Data but may use any environment they are comfortable with (Max, Pure Data, SuperCollider, ChuCK, Processing, etc).

Materials

- CD-R or -RW media, flash drives, or server space for upload, so you can easily back up your work.
- You will be issued access cards for CEMI studios 2009 and 2013 (\$20 deposit, refundable when you return the card). You are encouraged to use them, as they have many advantages over home systems. Max, Pure Data, and SuperCollider are installed in the studios; ChuCK and Processing may be as well.
- Pure Data, Supercollider, ChuCK, and Processing are freeware; Pd in particular is available for all the most common modern operating systems (Windows, MacOS, linux). You may download the software from <http://msp.ucsd.edu/software.htm>

Textbooks and Resources

Readings will be available either online or in the library. The following are useful resources for Pd programming (the Max and Pd tutorials are also excellent).

Farnell, Andy. *Designing Sound*. Cambridge, MA: MIT Press, 2008
<http://iii.library.unt.edu/search/X?SEARCH=farnell+designing+sound>
code examples may be downloaded from
http://mitpress.mit.edu/sites/default/files/titles/content/ds_pd_examples.tar.gz

Kreidler, Johannes, transl. Mark Barden. *Programming Electronic Music in Pd*. Austria: Wolke Verlag,, 2009.
<http://pd-tutorial.com/>

Puckette, Miller. *The Theory and Technique of Electronics Music*. Singapore: World Scientific Press, 2007.
<http://crea.ucsd.edu/~msp/techniques.htm>

Puckette, Miller, et al. *Pd Documentation*. Web resource:
http://msp.ucsd.edu/Pd_documentation/index.htm

Zimmer, Frank (ed.), transl. Derieg and Maureen Levis. *BangBook*. Hofheim, Austria: Wolke Verlag,, 2006.
<http://pd-graz.mur.at/label/book01/bangbook.pdf>

Zmoelnig, Johannes, et al. *The Pure Data Portal*. Web resource:
<http://puredata.info/>

Assignments

Reading and practicum assignments will be given weekly.

Final projects will be due at the beginning of the final exam time (Friday, May 9, 10:30 a.m. - 12:30 p.m), during which students will present their projects in the Merrill Ellis Intermedia Theater. Projects will be interactive music systems: normally they will be works of music for performance, but projects involving other media or other modes of presentation may be appropriate in some cases. Students will commit to a project design by which may also involve other media, and will integrate aspects of what you have learned through work with other technologies. On Friday, December 18, from 1:30 – 3:30 pm (final exam time) students will present and discuss their projects.

Students will present a 1-2 page project proposal by March 7 (midterm – right before spring break) in order to get timely feedback and revise their plans as needed. The final project will include a 5-6 page written essay documenting the goals, techniques, salient features, and results of the project. It will be due at the same time as the final project.

Course Policies

Grading

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| Readings and class participation | 20% |
| Practicum assignments | 30% |
| Project proposal | 10% |
| Final project and essay | 40% |

Attendance policy

You have liberty of movement, but there are consequences to your choices. This course will move fast; you will become *very confused* if you do not attend regularly. In case of 6 or more unexcused absences, the instructor reserves the right to summarily assign you a failing grade for the course. If you are unable to attend a class, inform the instructor in advance. It is your responsibility to come to the instructor's office hours and/or communicate with your colleagues in the class to make up material missed.

Academic dishonesty policy

see also http://www.unt.edu/policy/UNT_Policy/volume3/18_1_11.html

- 1) Cheating. The term "cheating" includes, but is not limited to:
 - (a) use of any unauthorized assistance in taking quizzes, tests, or examinations;
 - (b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
 - (c) the acquisition, without permission, of tests, notes or other academic material belonging to a faculty or staff member of the university;
 - (d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s).
 - (e) any other act designed to give a student an unfair advantage.
- 2) Plagiarism. The term "plagiarism" includes, but is not limited to:
 - (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement and
 - (b) the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in the selling of term papers or other academic materials.

Disability policy

see also http://www.unt.edu/policy/UNT_Policy/volume2/6_8_3.html

Individuals qualifying under the Americans with Disabilities Act (ADA) who need special assistance to participate in a program, service or activity sponsored by the University Union are asked to contact the Verde Scheduling Office, a minimum of three business days in advance of when they will need the requested assistance to allow time for the request to be handled in an appropriate manner. The Verde Scheduling Office is located on the level 2 of the University Union. Telephone: (940) 565-3804, 565-3806 or TDD access through Relay Texas 1-800-735-2989.

Course Outline – *subject to modification!!!*

Week 1 (1/13, 1/15, 1/17)

defining chamber music as interaction

Week 2 (1/22, 1/24)

design issues: what performers do, and what they need

Week 3 (1/27, 1/29, 1/31)

structuring time and causality

Week 4 (2/3, 2/5, 2/7)

structuring events and processes

Week 5 (2/10, 2/12, 2/14)

audio, MIDI, OSC, and other control sources

Week 6 (2/17, 2/19, 2/21)

mapping input to output

Week 7 (2/24, 2/26, 2/28)

turning data into decisions

Week 8 (3/3, 3/5, 3/7)

sifting and improving data; final project proposal due 3/7

Week 9 (3/17, 3/19, 3/21)

what makes a good interface?

Week 10 (3/24, 3/26, 3/28)

improvisation: different in degree or in kind?

Week 11 (3/31, 4/2, 4/4)

the elusive question of timbre

Week 12 (4/7, 4/9, 4/11)

new performance/ensemble models, and old ones too

Week 13 (4/14, 4/16, 4/18)

more data, and what to do with it

Week 14 (4/21, 4/23, 4/25)

degrees of virtuality, including the Web

Week 15 (4/28, 4/30 – 5/2 is reading day, no classes)

degrees of freedom; degrees of complexity; “intelligence”

Week 16 (finals week – no classes)

Friday, May 9: final exam presentations 10:30 a.m. - 12:30 p.m