

Sound/Image

Columbia University School of the Arts / Computer Music Center

Fall, 2003 – R6006

Thursdays, 5:30-7:30 PM. 324 Prentis Hall (632 w.125th Street).

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Introduction

Hi there. This class will look at the creative possibilities that lie at the confluence of the auditory and visual experiences. Put simply, we'll be looking at ways in which we can use sound and image in interesting ways *together* to create art that, hopefully, transcends simple multimedia experience that you run across in everyday life. By looking at how we perceive our environment and how current technology facilitates the creation of new immersive and performance experiences, we might come to some interesting conclusions about how to create some new and exciting artworks.

On the technical side, we'll be looking at ways in which you can manipulate a variety of visual media (time-base and still, vector and raster, 2-D and 3-D) in performance and interactive installation situations where some sort of real-time processing or procedure is desired or necessary for the success of a piece. In addition, we'll look at analogous techniques in real-time sound manipulation (both synthesis and signal processing). We'll also look at how to successfully integrate physical interfaces, performance practice, and presentation strategies to make successful work. By the end of the class everyone should have at least one piece that they've created that they think speaks to them about how sound and image interact.

Prerequisites / Software

Depending on the interests and pacing of the class, we'll be looking to a greater or lesser extent at two software packages that allow the creation of interesting audiovisual works on the computer: Max (a visual development environment developed by Cycling'74), and Processing (a Java-based platform for creating web-based interactive experiences in beta development at the MIT Media Lab). That said, knowledge of either of these programs is not particularly necessary to get some great work out of the class, and the concepts taught using these programs can be applied to other software. In most cases, many of the ideas have nothing to do with computers at all.

Texts

The main text we will use to talk about different interaction strategies is called:

Multimedia: From Wagner to Virtual Reality. Randall Packer and Ken Jordan, eds. W. W. Norton, 2001. ISBN 0-393-04979-5.

It should be available from Labyrinth, as well as online from Amazon, etc. The book is a compendium of theoretical readings in human-machine interaction, multimedia theory, cybernetics, etc. While you don't need to be reading along with me, I'll be riffing off much of the material in the book. Other readings, etc, that may prove interesting as we go along will be posted on the class website or put on reserve in the music library in Dodge Hall (we'll keep a copy up here at Prentis as well).

Resources

Students in the class will be able to work at the Computer Music Center as well as the Digital Media Center in the School of the Arts. There are also extensive on-line resources for the class as well as the book that will be linked in on the course web site.

Assignments and Grades

The only assignment for this class is for everyone to do a semester-long project, either individually or in small groups. The format of the project is highly flexible but *must* be in a presentable/performable format by the end of the term (we will have a group presentation along with the final presentations of other classes at the CMC).

Class Schedule

This schedule is subject to change depending on the interests and pace of the class, etc.

Class 1 (9/4): Orientation. Talk about the class. See what everyone wants to do, etc.

Class 2 (9/11): Historical overview of “multimedia” as a pure definition. Technical overview of physical representations of sound and image; visual and auditory perception theory (visual cognition / psychoacoustics).

Class 3 (9/18): Historical overview of “multimedia” as a meter of technological progress. Digital representations of sound and image. Introduction to Max/MSP/Jitter.

Class 4 (9/25): Hypermedia and non-linear access as an alternative to narration. Algorithmic composition and how it relates to non-narrative film experience. Mocking up such a project in Max.

Class 5 (10/2): Interactivity; using performance or participatory strategies to generative an audio-visual interaction. Overview of interactive strategies in the arts. How simple interfaces work. Introduction to Processing.

Class 6 (10/9): Audio-visual synchronization issues. Terry comes in and talks about sound design and mixing.

Class 7 (10/16): STUDENT PROPOSALS

Class 8 (10/23): Amit Pitaru talks about Processing.

Class 9 (10/30): Presentation issues with technology. Douglas talks about installation art and presentation, etc.

Class 10 (11/6): Data mapping (sound->image, image->sound). How data mapping and translation informs the experience. Some fun ideas in Max and Processing for generating one medium from another. Data mining. Using databases, networking, GIS, etc and strategies to display and auralize sense-neutral information. Brad talks about mapping.

Class 11 (11/13): Guest speaker: Jarryd Lowder.

Class 12 (11/20): Guest speaker: Toni Dove.

11/27: THANKSGIVING (no class)

Class 13 (12/4): FINAL STUDENT MEETINGS / PRESENTATION STRAGETY MEETING

FINAL PRESENTATION PERFORMANCE TBA

Enjoy the class!