Music 254/CS 275B: Syllabus for Spring 2007

For frequently updated information see http://www.ccarh.org/courses/254/

Time: Friday 10-12:00; lab TBA.
Place: Braun Music Center #129.
Goal: Music 254 (a cognate course of CS and SSP) is a project oriented course following Music 253 (musical information). After a few weeks of conventional coursework, we switch into research mode. Students are assigned individual readings related to their sphere of interest and report on these periodically as they develop a project idea, select (or write) tools that will help them, and determine what data they will use. Because the students come from several disciplines, the exchanges of information in class are often quite valuable. A presentation is given by each student in the last class, and a final write-up of the project is due in finals week. (It may be submitted earlier.)

Lab: The lab sessions focus on the Humdrum Toolkit, which runs on Unix platforms and is freely downloadable. Each student reports weekly on one tool or two tools (there are more than 100, but many are most useful in combination with others). Humdrum is useful for some work in all project areas, but students may also use other software (for notation, sound, statistics, computation, modeling, etc.) with which they are familiar.

Credits: This course works best for 3 or 4 credits, since doing research takes serious time. Regular class participation is expected. Those who can considered taking only 2 credits may prepare for research by selecting a topic, reading the literature, and writing a report on their proposed project.

Week	Lecture/discussion topic	Hands-on (lab) topic	Assignment
Week 1 (4/6)	Course overview; **Music Query** with *Themefinder* (http://www.themefinder.org)	Overview of the **Humdrum Toolkit**. See http://dactyl.som.ohio-state.edu/HumdrumDownload/downloading.html; Also: http://museinfo.sapp.org/doc/examples/humdrum/	Set up accounts in Braun lab for access to both sets of Humdrum tools (Ohio State, CCARH)
Week 2 (4/13)	**Music Analysis** by Computer: Overview *Humdrum kern* file structure Basic concepts of music theory used in music analysis. See http://esf.ccarh.org/MusicTheory/MusicTheory_ComputerApps.htm	The ****kern** data format: (http://dactyl.som.ohio-state.edu/Humdrum/guide02.html) Common unix commands (sort, uniq) used in Humdrum General commands: census, glid, blank, ditto, irange, irangeplot, notecount, plainkern, prange, rcheck, scaletype, spinetrace	**Assignment 1.** *Themefinder* **Due 4/14**
Week 3 (4/20)	**Style Analysis** **Style Simulation** (the work of David Cope)	The Humdrum **command set** (http://dactyl.som.ohio-state.edu/Humdrum/commands.toc.html)	**Assignment 2.** The *MuseData* and *KernScores* databases. **Due 4/21**

		Useful **data conversion** types in Humdrum; Sound tools in Humdrum (proof, smf, assemble) Using **Kern 2 MIDI**. See http://www.ccarh.org/courses/253/lab/kernmidi/. Also hplay, kernin, smf2, swing, mid2hum, mid2asc, simpsmf	
Week 4 (4/27)	**Melodic query** types. Melodic cognition.	Unix **regular expressions** in Humdrum; Interval and melody commands: ana, pchlist, ttuprofile, themebuilder **Notation from kern** data (ms, convert, ps2pdf, mup)	**Assignment 3.** Literature survey for project ideas.
Week 5 (5/4)	**Project proposals, associated readings, demos.**	Pattern searching and counting: context Visualizing musical features: proll, keyscape2, pitchhist, triped	**Assignment 4.** Report on project idea and recent approaches, results, software, tools, etc. **Due 5/5**
Week 6 (5/11)	**Harmonic analysis**: concepts and queries	Harmonic analysis commands: chordset, chordtone, harmanal, key, quality, chorck; base12, base40, diaroot, diametric, harm2kern, keycorel, modid, rootcomp, roottest, transpose	**Assignment 5.** Further reading.
Week 7 (5/18)	**Rhythmic analysis**: concepts and queries. Tempo. Gesture.	Rhythm and duration commands: addtime, beat, composite, meter, metertype, minrhy, rhylev, scordur Combining pitch and duration: jointfeature	**Assignment 6.** Project report.
Week 8 (5/25)	**Data Conversion Tools**	Conversion commands: hum2gmn, hum2xml, hum2cmn; xml2krn, esac2hum, rism2krn, krn2dm, krn2mel, conductor, blank, time2matlab, time2tempo	
Week 9 (6/1)	Randomization, generation, transposition	Humdrum randomization techniques: scramble, rend, cleave, humcat, mvspine, ottava, http://www.ccarh.org/courses/253/lab/kerndice/	**Assignment 6.** Project report.
Week 10 (6/8)	**Student presentations and demonstrations (6/9).**	Project help	Presentation/demonstration **Due 6/9**.
6/14	**Written reports due by 6/14/07** (earlier by graduating students		**Written reports due by 6/14/07!**