

AUDI 314 - New Musical Interface Design

Midterm project - design and prototype a musical interaction

Guidelines

Spend some time exploring sound and different interactions. Collect, process and synthesize sound, look at the interaction of different instruments and objects. Watch the videos of instruments we looked at in the class. Draft several sketches on a piece of paper that reflect the interactions you most enjoyed and listen to the sounds you collected. Think about how you'd like to manipulate the sounds through your interactions. Now start getting more practical. Think which of these interactions can you create or are feasible to develop throughout the remainder of the semester. Start prototyping your idea.

Your documentation should be a high level description of your idea and should accomplish the following fundamental objectives:

- ✓ Articulate your concept and creative design process. Discuss and evaluate how existing digital or electronic music instruments have addressed interactive musical interfaces like yours. What are the additional features or interesting combination of features you have created (or would like to create) compared to existing interactive systems. (introduction and literature review)
- ✓ Describe all the hardware parts and software components you have and why you need them all. Elaborate this section of your document by details on your circuit diagram, how you put all your electronic parts together, which online resources or existing code you elaborated to build your project, which parts you had to design from scratch. Please keep in mind less is more. You don't need to add too much complexity. You can even start from one of the processing or wekinator patches from the class and expand them. (technical components)
- ✓ Discuss your mapping strategies, sonic components, range and magnitude of your parameters. Ideally draw a table or diagram that shows each interaction and the related sound parameter. (mapping)
- ✓ Describe a use case of how a user can interact with your instruments and what are the possible outcomes. (use case)
- ✓ Summarize your ideas, including what questions/problems were answered, what you learnt, what is still unresolved, and what new or refined questions/problems you discovered from your project and if and how you would continue this project in the future and if you are planning to expand it as your final project. (conclusion)

Your prototype should be ready for presentation in the class on **March 22nd**. Presentation and demonstration of the prototype is a substantial component of your grade. Your presentation should include:

- ✓ The functionality and mapping of at least one interaction. (for example if your instrument has two knobs and three sliders, you should at least have the implementation of one knob or one slider finished to demonstrate how turning the knob or moving the slider modifies the sound)

- ✓ Your prototype should be fully functional for one use case (how a user can interact with your instruments and what are the possible outcomes.) You should be able to demonstrate that in the class.

Submission Instructions: Submit your assignment as a single archive including your documentations as a pdf and your code files. Name your submission archive using your initials and the assignments name, for example I use VG_midterm.zip. Upload your archive on Canvas.

Grading Criteria: Your assignment will be assessed based on:

- ▶ Completion of the prototype (functional)
- ▶ Creativity and novelty of the design
- ▶ Aesthetics of sound/composition for the presentation (having a clear use case for presentation)
- ▶ Clear mapping of interactions to sonic components (logical, flexible, learnable mappings)
- ▶ The quality of your sketches, diagrams, document (not aesthetically but readability)

Grading Rubric:

Functionality of the prototype	5%
Creativity and novelty of the design	3%
Clear mapping and design of sonic interactions	2%
Readability of sketches, diagrams and images in the document	3%
Clear description of the concept and all components in the document	2%
Engaging and inventive presentation	5%
Total	20%