

21M.380 MUSIC AND TECHNOLOGY
SOUND DESIGN

FINAL PROJECT, PART 4 (FP4)
FINAL SUBMISSION, PRESENTATION, AND DOCUMENTATION

DUE: WEDNESDAY, MAY 11, 2016, 9:30AM
SUBMIT TO: MIT LEARNING MODULES ▶ ASSIGNMENTS
10% OF TOTAL GRADE

1 Instructions

Implement the remainder of your final project in Pd. Test and revise your project, document it, and present the result in class on Wednesday, May 11, 2016.

2 Context

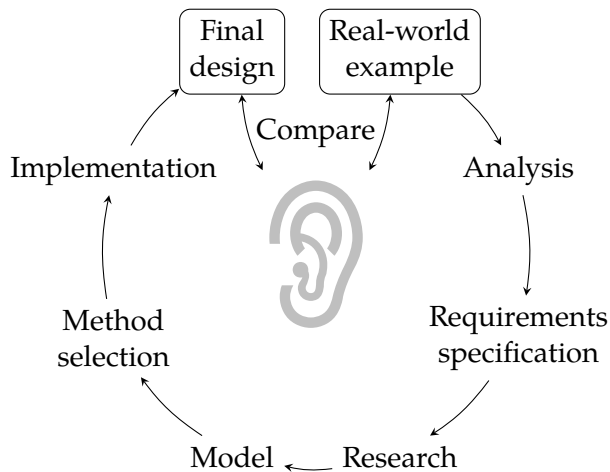


FIGURE 1. Stages of the sound design process (after Farnell 2010, figs. 16.7, 16.1)

We have been following Andy Farnell’s methodology for a systematic approach to the sound design process (cf., figure 1). For this last part of your final project, you are asked to complete the implementation stage of this process, as well as to test, revise, and document your project in detail.

3 Guidelines

3.1 Implementation, testing, and revision

Leave enough time for revising your implementation. The emphasis for this assignment should be to design actual sounds rather than debug Pd code. Prefer simple models that leave you with time to tweak the sonic result over solutions that might be capable of providing better results, but turn out too demanding to implement!

Keep your patch's graphical user interface as simple as possible and model user interaction after the real-world example you are trying to recreate. Do not offload sound design decisions to the user! For example, if you are modeling a sound whose pitch the user would not be able to change in real life (e.g., a police siren), do not expose pitch as a parameter to the user. You can still parameterize your abstractions with creation arguments where it is useful, but not all of these parameters necessarily need to be included in the graphical user interface. For example, our `driveby~.pd` patch from the EX3 assignment instructions included a creation argument for the train's speed, but the user interface itself consisted of a simple `[bang(`. Vice versa, any parameters that you *do* consider part of the user interface should be changeable through GUI elements (message boxes, sliders, toggles, etc.)—do not expect the user to edit your patch.

3.2 Documentation

Proper documentation will constitute an essential part of your project. You are expected to submit a `.pdf` with your project that should include:

- A short description of the project as a whole
- A description of each design stage (you can use the enumeration of sound design stages above as a guideline).

This document should provide an insight into your design decisions and is also the right place to discuss your learning experience. Which aspects of the project worked better than you initially envisioned? Which didn't? Why? How would you approach things differently next time? In addition to the PDF writeup, you are also expected to

- provide a separate `*-help.pd` patch for every abstraction that you submit to demonstrate its functionality, and

- clean up and comment all Pd code prior to submission.

Cleaning up your Pd patches involves removing any experimental code that does not serve any function in the submitted project. Also, remove any code that has been added exclusively for debugging purposes, such as number boxes to display intermediate values and [print] objects whose output would clutter the main Pd window. The resulting code should be optimized for legibility on different screen sizes and should allow an outside person not familiar with your project (which might include yourself in only a few weeks time) to trace your design process. Liberally document your Pd code with comments.

4 Assessment criteria

Quality of design How creative have you been in your approach to solving the given sound design problem? How much effort have you devoted to researching synthesis techniques and design approaches? How suitable are the methods that you have chosen with respect to the given problem?

Quality of sounds How convincing and realistic are the sounds that you have created? The difficulty of the task that you have set yourself will of course be taken into consideration when comparing the sonic results to the original reference sound.

Quality of implementation How well have you implemented the chosen methods in Pd? Are transitions clean, or does the patch occasionally create audio dropouts or clicks? The usual criteria apply with regards to the functionality and to readability of your code. Ascertain yourself that your code is working on machines other than your own, be sure to automate as much as possible, and provide clear instructions to the user with regards to any elements that s/he can or has to control.

Quality of documentation Is your project documented in a clear and concise manner that illustrates your motivations, design decisions, and learning experience?

5 Submission format

Submit your assignment as a single .zip archive that contains:

- Any .pd files (abstractions, help patches, etc.) that are required to run your assignment. Name the patch that needs to be loaded to test your project main.pd.
- Any other files (.wav, etc.) that are required to run your assignment
- Project documentation as a single .pdf file. Any documenting figures (screenshots etc.) should be embedded in this PDF rather than submitted as separate files.
- A representative audio file of the original sound that you have attempted to recreate¹

Unzipping your archive and running main.pd should result in a working example; don't expect the user to move files around before running your example. Make sure to test this prior to submission, ideally on a machine other than the one you developed the project on.

If your submission is significantly larger than 100 MB in total, we will probably use an Athena course locker or a physical storage media rather than Stellar for submission. If you think this will apply to you, please contact me at least a week before the deadline, so we can discuss feasible submission channels.

¹ This might be the same audio file that you already submitted for FP1, unless you have found a better real-world model in the meantime.

References and useful resources

Farnell, Andy (2010). *Designing Sound*. Cambridge, MA and London: MIT Press. 688 pp. ISBN: 978-0-262-01441-0. MIT LIBRARY: [001782567](#). Hardcopy and electronic resource.

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