

Publishing your research code

Much research in audio and music informatics involves the development of new computational methods implemented in software and the evaluation of new methods against earlier work also implemented in software. Publishing your research software—including the source code—is increasingly seen as good practice but not enough researchers get around to it.

Why should I publish my code?

Make it easier to build upon your work—thus increasing citations and research impact

Increase trust in your results—improving your academic reputation

Ensure your work remains available—contributing to your own future career

Help support the research community—providing visible results to funding bodies and public

To promote software reuse outside of the immediate signal processing community you should consider adopting a “plugin” approach. Writing a plugin (eg. VST, VAMP) allows a working algorithm to be converted directly to a unit of code which can be used in real applications, without the need to develop a custom user interface. Developing to a published specification supported by more than one host program increases the relevance of the code and therefore the likelihood of its being maintained. Code that uses the plugin format of a successful application is relatively likely to be understood by other developers.

Before publishing your research code: a quick checklist

- ✓ Create a file called *readme.txt* in your project's root directory; put into it:
 - ✓ the **name of the software**;
 - ✓ the **names of all copyright holders**;
 - ✓ a means to **contact** you;
 - ✓ any **publication references** for work associated with it;
 - ✓ basic **instructions for how to build or install** the software
- ✓ Pick a **licence** for your software, and ensure it is clearly shown in the *readme.txt*;
- ✓ **Review all the libraries** you are using to make sure their licences are compatible with yours, and make sure anyone who gets your code can see what licences (besides your own) they may have to comply with;
- ✓ **Tag the version** you want to release in version control;
- ✓ **Package your release from version control**, either by using the version control system to extract a clean copy (e.g. hg archive, svn export) or by cloning a fresh copy and archiving it without the version control repository subdirectory;
- ✓ **Check the package**: make sure it unpacks into a new directory named after the name and version of the software, make sure you can build it, and make sure it doesn't include any extraneous build outputs or test files.

The software lifecycle does not end with publication: software that is to be used needs maintenance. The best way to ensure that your software is running is to have other users testing it and contributing to it.