Distribution of Software

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Programming for Scientists

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Why Make Your Software Available?

- You want to.
- You have to.

Open Source

What is open-source?

Intellectual Property

Wikipedia-level introduction to intellectual property:

1. copyright
2. patent
3. trademark

Licenses

A license is a loosening of the default "All Rights Reserved" framework.

Licenses

1. Public-domain
2. BSD or MIT licenses
3. GPL (copy-left)
4. ... (10 million others)

Public Domain

I can do whatever I want.

MIT License

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Copyleft

GNU Project

http://www.gnu.org

Free Software

- Free as in beer (gratis)
- Free as in speech (libre)

GNU General Public License (GPL)

You can distribute & modify the software as long as

- you make the source code available,
- you license your modifications under the GPL.

GPL Compatibility

You can use BSD licensed code in a GPL.
BSD is GPL compatible.

GNU Lesser General Public License (LGPL)

If you write a library and release it under the LGPL,
then closed-source programs can use it.

Summary

- Think about your license
- Pick either BSD/MIT, or GPL, or LGPL
- Be careful about code re-use

Non-Code Open Source

- Creative Commons.
- GFDL
- . . .

Creative Commons

Restrictions

- **Attribution** [By] you need to state the source
- **Non-Commercial** [NC] you cannot use it for commercial purposes
- **Non-Derivative** [ND] you may not modify the work
- **Share-Alike** [SA] you must license your derivative works similarly

Mix & match to get a license, e.g., By-NC-SA.

How do you actually distribute your software?

- Put it on your home page
- Put it in PyPI (Python Package Index)
- Use a service like sourceforge, google code, launchpad, . . .

Distributing Software: setup.py

```python
import setuptools
long_description = '''...'''

classifiers = ['Development Status :: 2 - Pre-Alpha',
'License :: OSI Approved :: MIT License',
'Programming Language :: Python',]

setuptools.setup(name = 'Particles', version = '0.1',
      description = 'A Task Based Framework',
      long_description = long_description,
      author = 'Spring 09 Class of 98111 (CMU)',
      author_email = 'lpc@cmu.edu',
      license = 'MIT', platforms = ['Any'],
      classifiers = classifiers,
      url = 'http://code.google.com/p/particles/',
      packages = setuptools.find_packages(exclude='tests'),
      )
```

Distributing Software: PyPI

Python Package Index