

# How to Publish Your Code on COIN-OR

Bob Fourer  
Industrial Engineering & Management Sciences  
Northwestern University  
COIN Strategic Leadership Board



## Do you have OR software?

- Interested in maintaining it?
- Interested in licensing it?

Consider COIN-OR



## COIN-OR



- Tools for managing
  - Code distribution
  - Code maintenance
- Re-use of your work by colleagues
- Rewards
  - Recognition
  - Testing
  - Collaborators
  - Fair(er) comparisons
- Low entry requirements

## COIN-OR



- Established in 2000
- Managed by COIN-OR Foundation, Inc (est. 2004)
  - Educational, nonprofit corporation
- Hosted by INFORMS
- Mission:
  - *“Explore an alternative means for developing, managing, and distributing OR software, models, and data so that OR professionals can benefit from peer-reviewed, archived, openly-disseminated software”*

## Terminology



- *Project*
  - Initial submission
  - Stand-alone
  - COIN-OR currently has 28\* projects
- *Contribution*
  - Modification to an existing project

\* Over 30 if separate Cut Generators and OSI interfaces included

## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - Working Code
  - Documentation
  - Legal
- Adhere to a few “Operational Policies”

## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - Working Code
  - Documentation
  - Legal
- Adhere to a few “Operational Policies”

## Scope



- Two tests
  1. Useful to Operations Research Professionals
  2. Not better suited elsewhere
- SLB acts as final arbitrator of “useful” and “better suited”

## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - **Working Code**
  - Documentation
  - Legal
- Adhere to a few “Operational Policies”

## Working Code



- Tests
  - The project has some type of “tests.”
  - The tests are in a form that can be easily supplemented.
  - No specific requirements on the form or magnitude of the tests.

Tests ensure the code remains  
working as it evolves

## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - Working Code
  - **Documentation**
  - Legal
- Adhere to a few “Operational Policies”

## Documentation



- Four (GNU style) files
  - AUTHORS
  - INSTALL
  - README
  - COPYING

## AUTHORS File



- Lists all the authors
  - Original authors and anyone who has made a contribution

## INSTALL File



- Fully describes how to build, install, and run the code on at least one platform.
- No other build/install requirements
  - Any platform
  - Any computing language

## README File



- Basic information about the project (FAQs)
  - What is the project name?
  - What is the project for?
  - Who is the maintainer?
  - How to contact the maintainer?
  - How do I run the project once it's built/installed?
  - How do I report a bug?

## COPYING File



- Licensing information



## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - Working Code
  - Documentation
  - **Legal**
- Adhere to a few “Operational Policies”

## Legal



Consult your own legal department

- Related legal items
  - License
  - COIN-OR Paperwork
    - “*Statement of Respect for Ownership*”
    - “*Contributor’s Statement of Ownership and Licensing*”
    - “*Owner’s Confirmation of Licensing*”

## License



Consult your own legal department

- Any *certified* open-source license
  - See [www.opensource.org](http://www.opensource.org) for a list
  - Common Public License (CPL) is recommended
    - Having all the code under the same license maximizes cross-pollination of code without creating legal issues
    - Note: IBM authored the CPL. Microsoft uses the CPL.

## Common Misconceptions



- “All open source licenses are the same.”

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be **very** different.

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be **very** different.
  - “*Free for Academic Use Only* is open source”

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be **very** different.
- “Free for Academic Use Only” is open source”
  - No. Open source does not permit discrimination.

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be very different.
- “Free for Academic Use Only” is open source”
  - No. Open source does not permit discrimination.
- “I wrote it, I must own it.”

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be very different.
- “Free for Academic Use Only” is open source”
  - No. Open source does not permit discrimination.
- “I wrote it, I must own it.”
  - Possibly, but it might be (co-)owned by ...
    - Employer
    - Granting Agencies
    - Student/Colleague Co-authors
    - Beyond the intellectual property
      - Who owns the machines it was written on?

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be very different.
- “I wrote it, I must own it.”
  - Maybe, but it maybe (co-)owned by ...
  - How do I know who legally owns the code?

## Common Misconceptions



- “All open source licenses are the same.”
  - No. Open source licenses can be very different.
- “I wrote it, I must own it.”
  - Maybe, but it maybe (co-)owned by ...
  - How do I know who legally owns the code?

**Consult your legal department**

## COIN-OR Paperwork



- Fill out once per project
  - “Contributor’s Statement of Ownership and Licensing”  
“Owner’s Confirmation of Licensing”
    - Legal documents stating
      - All the **LEGAL** owners of the project
      - Their licensing decision
- Fill out once per person
  - “Contributor’s Statement of Respect for Ownership”
    - For education — a reasonable compromise

## Contributor's Statement of Ownership and Licensing (for New Projects)



- I, \_\_\_\_\_, represent that:
  - (a) the individuals and organizations listed immediately below are the only owner(s) of the contribution \_\_\_\_\_;
  - (b) if any part of the contribution is not owned by the individuals and organizations listed in (a), that part was obtained under an open source license certified by the Open Source Initiative; and
  - (c) all owners have agreed to license the contribution under the \_\_\_\_\_, an open source license certified by the Open Source Initiative.

## Owner's Confirmation of Licensing



- Each person listed in the “*Contributor's Statement of Ownership and License*” forms fills out this form:  
  
I, \_\_\_\_\_, am an owner of the contribution \_\_\_\_\_, and I agree to license any portion I own under the terms of the \_\_\_\_\_, an open source license certified by the Open Source Initiative.

## Contributor's Statement of Respect for Ownership



- I \_\_\_\_\_, certify that
  - (a) I have read and understood the statement below on Ownership of Intellectual Property;
  - (b) for any contribution I make to the COIN-OR Foundation repository,
    - I will make all reasonable efforts to determine the legal owners of the contribution, and
    - I will obtain the permission of the owners of the contribution to make the contribution available under an open source license certified by the Open Source Initiative;
  - (c) for any contribution I make to an existing project I will use the same license the project was released under.

## “Ownership of Intellectual Property” Statement



- The creator of a work may not be the sole owner of the intellectual property associated with the work.
- In general, \*any\* individual or organization which contributed resources to the development of a work may be a co-owner.
- The legal ownership depends on the particulars of the situation and the contracts involved.
- Some employment contracts assert that the employer has ownership rights to any work created by the employee
  - even if that work is created outside of regular working hours and without the use of the organization's resources.
- Also, an employer may be fine with contributions to one project but not to another.
- Contributors should consult with their management, legal counsel, and/or technology transfer officers when determining the legal ownership of a contribution.



## Getting Published on COIN-OR



- Project must be in “Scope”
- Requirements
  - Working Code
  - Documentation
  - Legal
- Adhere to a few “Operational Policies”

## Operational Policies



- Project Manager
  - Mailing List
  - Webpage
  - Release Policies

## Operational Policies



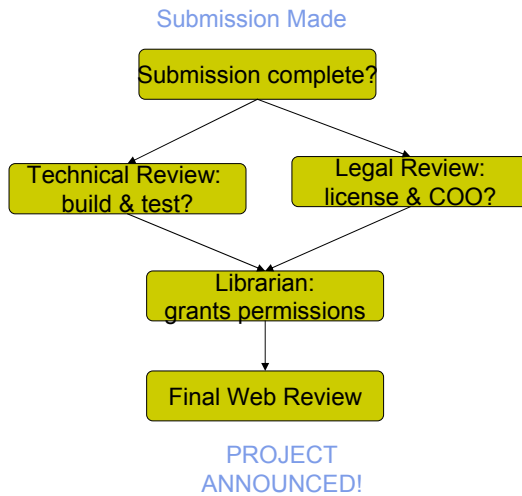
- **The Project Manager (PM)**
  - Has write access to the distribution
  - Is invited to become a full member of COIN-OR Foundation, Inc
  - Subscribes to COIN-OR's mailing list for PMs
  - Announces the project on coin-announce
- **The PM agrees to**
  - Maintain the project code
  - **Maintain a Web page**
    - Simple template provide; no more than the submission info
  - **Moderate a mailing list**
    - Mailman list provided by COIN-OR
  - Follow the COIN-OR procedures
    - Accepting contributions
    - Release

## Operational Policies



- **Project Maintenance System**
  - **Trak**
    - Open-source, light-weight source-forge-like system
    - Each project is separate
    - Great features such as issue tracking, built-in Wiki, source code viewing,...
    - <http://www.edgewall.com/trac/>
- **Version Control**
  - **Subversion**
    - Many advantages over the CVS system previously used
    - <http://subversion.tigris.org/>

## Submission Process



## Making a Submission



- Complete Submission Forms
- Send forms to the Submission Manager
  - [submissions@coin-or.org](mailto:submissions@coin-or.org)
  - Laszlo Ladanyi

## Got code?

- Get involved . . .

