How to Publish Your Code on COIN-OR

Robin Lougee-Heimer
and the usual suspects
Do you have software?

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

Consider COIN-OR
COIN-OR

- Tools for managing
  - Code distribution
  - Code maintenance
- Enable colleagues to re-use your work
- 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 Submission**
  - Initial submission
  - Stand alone
  - COIN-OR currently has 14* 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

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Scope

- Two tests
  1. Useful to Operations Research Professionals
  2. Not better suited elsewhere

- The SLB is the final arbitrator of “useful” and “better suited.”
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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
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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
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Legal

Consult your own legal department

- Two related legal items
  - License
    - “Ownership and Licensing for New Projects”
    - “Owner's Confirmation of Licensing”
  - Simple Paperwork
    - “Statement of Respect for Ownership” (SRO)
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

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- “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

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- “I wrote it, I must own it.”
  - Maybe, but it maybe (co-)owned by …
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Consult your legal department
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 “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.
Require SRO

- Statement of Respect for Ownership (SRO)
- Fill out once per project
  - The “Statement of Ownership and Licensing” and “Owner's Confirmation of Licensing” are legal documents stating
    - All the **LEGAL** owners of the project
    - Their licensing decision
- SRO is education and reasonable compromise
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.

R. Lougee-Heimer   IFORS   July 2005
“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.
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Operational Policies

- Project Manager
  - Mailing List
  - Webpage
  - Release Polices
Operational Policies

- **The Project Manager (PM)**
  - Has write access to the distribution
  - Becomes 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

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Operational Policies

- **Project Maintenance System**
  - **Trak**
    - Open-source, light-weight source-forgelike system
    - Each project is separate
    - Great features such as issue tracking, built-in Wiki, source code viewing,...
    - [http://www.edgewall.com/trac/](http://www.edgewall.com/trac/)

- **Version Control**
  - **Subversion**
    - Many advantages over the CVS system currently used
    - [http://subversion.tigris.org/](http://subversion.tigris.org/)

All new projects will use Trak and Subversion

R. Lougee-Heimer   IFORS July 2005
Submission Process

Submission complete?

Technical Review: build & test?

Librarian: grants permissions

Legal Review: license & COO?

Final Web Review

PROJECT ANNOUNCED!

R. Lougee-Heimer  IFORS  July 2005
Making a Submission

- Complete Submission Forms
- Send forms to the Submission Manager
  - submissions@coin-or.org
  - Laszlo Ladanyi
Got code?

- Get involved.
- COIN-OR at IFORS
  - Tutorial session RA-10
    - “Using Cyberinfrastructure for Computational OR”
      - Jeff Linderoth, Lehigh University
  - COIN-OR Users Meeting
    - 5:15pm today
    - Here - Sea Pearl II