Organizational Mycology Guide to Open Source

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1 Introduction

This is currently a work in progress by the team at Organizational Mycology, if you'd like to help out, or make contributions, please reach out to the team at: info@orgmycology.com

2 Introduction

This book is born of our time working within and across organizations working to advocate for Open Source, Open Science. We're passionate about the ways in which open organizations, and open models for organizations can empower and enable communities. We feel strongly that open models for contribnution within and across organizations can unlock the potential of a wide community of contributors. Traditional techniques for leading and managing fall apart at certain scales. While open models aren't panaceas, they do offer interesting and unique ways to achieve progress even in the face of disagreements and differing approaches. This book is meant to be a menu of possibilities for the ways in which open source models and associated supporting sysytems and infrastructure can be used to enable any community to explore how an open source model for contributions and sharing of resources can invite broad collaboration and increased impacts.

2.1 Shared Mision / Vision

talk about developing shared missions and visions as the anchoring activitiy to direct the diversity of oss contributions

3 The History of Open Source

3.1 Providing some historical context

In the early days of computing in the late 19th and early 20th century software and hardware were closely coupled to each other. Early computers came with software as part of the machine. The source code was freely shared and changeable by owners of the machines. In the 1980s Richard Stallman coined the term "free software" and started a free software movement. This is a movement which feels that all software should be freely shared. Later Linus Torvald released an open source copy of UNIX, called Linux which is still the most dominnat open source operating system in the world today. Eric Raymond wrote the landmark essay "The Cathedral and the Bazaar" outlining principlas for the open source movment.

3.2 Collective Good

Of course alturistic and shared public goods have been around for longer than there have been computers. One of the preminnant pieces of scholarship on common-pool resources (CPRs) and collective action is her work "Governing the Commons". Within this work Ostrom lays out 7-8 design principles for long-enduring CPR institutions. These rules are often applied to key resources like water, crops, and shared infrastructure, but there is a lot to learn about social interactiona, and shared labor from this work that parallels challenges and opportunities of Open Source as well.

Many countries have provisions in their tax code for organizations that are deemed collective goods to be able to operate without the burden of paying taxes, and enabling other private citizens to support them

3.3 Indigenous collective decision making

We are not experts in all of these indigenous models of collective action, but we present them to show models of governance structures which can come from different places, and based on differing cultural practices and norms.

In indigenous Māori culture, the native people of New Zealand, there is an emphasis on collective decision making and the importance of taking the time to conduct consensus building. Rangatira (chiefs) have a sense of collective Kaitiakitanga (guardianship) for the environment, land, and resources of the community. Bringing people together for a Hui (meeting) where releationships are built and the collective energy of gathering, are importnat parts of how Māori society works.

The Iroquis Haudenosaunee Confederacy model brought together the Six Nations under one governing Great Law of Peace. This governance strucutre and model laid out a Grand Council, Clan and Nation structures, Political Representation, the important role of Women in society. These democratic principles pre-date European settlement and are considered to be the roots of our modern liberal democracies.

Potlach ceremonies were popular among the tribes of the Pacific northwest of North America. These were gatherings where social structures were reinfornced, wealthy individuals were expected to redistribute wealth, conflicts could be resolved and stories shared among the attendees. There were complex protocols, rules and laws governing the events. These events lasted from days to months, and were cornerstones of collective action among various indigenous groups of the pacific northwest.

- Land councils in Australia
- Sami Silda System in Scandinavia
- Spanish Water Tribunals

3.4 Civic action

3.5 Governance

This is just a taster, we'll cover collective action models more closely in the chapter on governance.

3.6 Open source pre-Internet

Freeware Shareware

3.7 An explosion of licenses

GNU MIT BSD

3.7.1 Permissive Licenses

3.7.2 Restrictive Licenses

Free as in beer

3.8 Present day

Licenses continue to proliferate.

4 The Organization

This lesson will explore types of organizations that you can form when thinking about advancing your scientific open source software entity. There is no "correct answer" when considering what type of entity to operate your software project under, but there are numerous pros and cons of various kinds of structures. We'll work to build familiarity with each of the entity types and explore case studies that will help us better understand the advantages and sometimes dissadvantages of each type of entity.

5 Non Profit

Not-for profit legal structures are in good spiritual alignment with the ethos of open source. In most legal jurisdictions, a non-profit entity operates in an area of the law where the nation it is legally based within allows it to operate without paying income tax on its profits due to its "charitable purpose" being in alignment with the needs of that country's society. Rules vary widely, and none of this lesson should be construed as advice. Each software project and team must make their own decisions about what works for their community, situation and legal / geographic constraints. This lesson serves to introduce you to a few of the models and organizations that operate under them.

5.1 Fiscally Sponsored Project

This is a somewhat USA-specific approach, but it can often be emulated to some extent by associating your project with a larger not-for-profit entity.

5.2 Foundation

5.3 Umbrella Non-profit

5.4 Universities

5.5 Charitable legal entity

6 For Profit

6.1 Company

6.2 Partnership

7 Hybrid models

7.1 Non-Profit wholy owning a for-profit company

8 Where to look for funding

Funding

- Where to look

  - Funding databases
  - Funding networks
  - Fiscal Sponsors - NumFocus, Code for Science and Society

- How to prepare to write a grant proposal

  - Letters of Inquiry
  - Pre-proposals
  - Responding to solicitations
  - Basic Proposal Outline
  - What will be your impact for each $ spent?
  - Work with a small group to hone the message

- Industry partnerships
- How to ask for money
- Contracts, invoices, accounting OH MY!

You can look for funding in a wide variety of places, there are many databases ## What is a proposal?

In short a proposal is just a written documnet that lays out some vision for some series of activities. There are many different kinds of proposals for various types of funders.

8.1 How to think about grant proposals

When thinking about grant proposals, you'll need to get in the headspace of those who will be making the funding decisions about whether or not to take the document you wrote, your proposal and fund it. If you're applying to a research funding organization like the National Science Foundation, National Institutes of Health, European Horizon, you'll need to consider that most of your reviewers will be scientists who will look at the intellectual contribution of your proposed activities to the greater scientific community. They'll do this often under

the guidelines of an overarching research program or initiative, which will usually have clearly articulated objectives and funding areas it will be focused on.

If you apply to a philanthropic foundation, it will have objectives as well, but these will often be less scientific and more impact-based. A proposal to a philanthropic foundation that focuses heavily on advancing science, or deep technological work, may not hit the mark. Many philanthropic foundations and entities are looking to make grants that have impacts they can measure, within areas they've articulated they'll be contributing to. So the voice of a proposal to a foundation will be quite different than to a national science body.

8.2 Building industrial partnerships

Is your research interesting or important to businesses? Do you know they've been using your software for free, without contributing? There is a possibility you can build a mechanism for them to contribute. Companies often can't or wont "just donate" money to projects. They need *something* they can invoice against that has some tangible benefits to the company articulated. They'll need some kind of structure to which they're contributing to that can be sold to management and leadership internally.

Examples of structures:

- Annual conference access / sponsorship
- Standards group
- Learning / teaching materials development / access
- Software interoperability group

To find what might work in your space, think about what kinds of "research questions" you might ask of people who use your software in Industry.

- How do you use our software?
- Why do you prefer our tools over other commercial tools?
- Does your organization / company pay for software? What are the mechanisms they use to pay for it?
- How are license seats for specific-use software tools managed inside your organization?
- Do you participate and help to lead key non-competitive industrial development spaces?/
- Is your organization a member of any societies or working groups?
    - What benefits do you get from these memberships?

Examples *in the wild* of membership models:

- Industrial affiliates programs
    - Stanford (look up links)
    - MolSSI (find a link)

- Carpentries Memberships
- Jackson Lab Model
- Academic Industrial Partnerships

    - Indiana Advanced Aerospace Manufacturers Alliance

When is it an industry association, working group, professional society, standards group, and when is it a business?

It is a business when they companies you're targeting want some tangible service in return for money. Perhaps they want a support contract, or access to project-based consulting from your developers. This kind of engagement generally is better handled with a business entity like an LLC, Partnership, or Limited Company (depending on your part of the world). Industrial affiliates, or simple membership programs can be managed under the umbrella of a non-profit, like a university or fiscal sponsor entity.

9 Governance

10 Leading teams

11 Sustaining the Organization

12 Appendix

- SustainOSS
- OSPO++
- Open Source Guides
- CARE Principles for Indigenous Data Governance