CS499 - Open Source software development

Creating an OSS project

Dr. Igor Steinmacher
e-mail: Igor.Steinmacher@nau.edu

Twitter: @igorsteinmacher

NAU NORTHERN ARIZONA UNIVERSITY

Starting…

- A3: Review your colleague's code!
- P2: You have one more paper to read
- A4: Starting today
- P1: Which group will present? I will randomly select.

Slides Based on

https://opensource.guide/starting-a-project/

Fogel, Karl. **Producing Open Source Software.**
https://producingoss.com/

Steinmacher, Igor; Treude, Christoph; Gerosa, Marco. **Let me in: Guidelines for the Successful Onboarding of Newcomers to Open Source Projects**, IEEE Software.
http://www.igor.pro.br/publica/papers/IEEESoft_2018.pdf

Starting It

- Use what you have

- Different paths
  - Own project → Open
  - Corporate project → Open

- Decide the scope and make it clear
  - What is it about?
  - What is it not about?

Make things clear

All the knowledge about the project needs to:

- Be public
- Be detailed

Outsiders need to quickly understand all the details

- Design docs
- User manuals
- Next steps (future features)
- How To’s
- Code standards

Reduce the “*hacktivation energy*” *[See Fogel’s]*

Name and Surroundings

Choose a name that represents the goal of the project

But easy to say and remember

Look around for trademarks, projects with the same name, etc.

Domain: check for the name looking for the .org, .net, .com also helps look for already existing things

Starting the Readme file

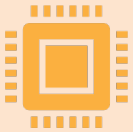
- When creating your page/repository make it clear that the project is free/open

- Create one short paragraph describing the mission of the project

The Apache™ Hadoop® project develops open-source software for reliable, scalable, distributed computing.

The Apache Hadoop software library is a framework that allows for the distributed processing of large data sets across clusters of computers using simple programming models. It is designed to scale up from single servers to thousands of machines, each offering local computation and storage. Rather than rely on hardware to deliver high-availability, the library itself is designed to detect and handle failures at the application layer, so delivering a highly-available service on top of a cluster of computers, each of which may be prone to failures.

List the features and Requirements



What does this software do?

What is planned for it? (Future features)

What do I need to run your project?

OS, compiler, disk space, etc.

https://github.com/JabRef/jabref

Issue Tracker

Public issue tracker is needed

- Report bugs
- Check the project activity
- Contribute

Curating the issue tracker is a constant and infinite task

Version Control

You MUST have your code in a version control system

- For GitHub it is easy, we know

It is not only about having it

- Maintaining
- Receiving/reviewing code
- Use the same way as ANYONE needs to use

Create Communication Means

More than the Issue Tracker

Open Source is a collaborative endeavor

Communication is key

Extra ways to communicate are interesting

Slack, Discourse, IRC, mailing list

Challenge!!!!

Answering

Empty channels/quiet forums are demotivating

Make It Easy to Contribute

CREATE A CONTRIBUTION (NEWCOMER-FRIENDLY) PAGE OR PORTAL

WHAT ARE THE REQUIRED SKILLS

STRUCTURED DOCUMENTATION

GIVE ONE TUTORIAL-STYLE EXAMPLE OF HOW TO DO A COMMON TASK

MAINTAIN A FAQ

Make It Easy to Contribute

Create a contribution (newcomer-friendly) page or portal

Identify and/or dismiss outdated information

Point newcomers to easy tasks

Keep the issue list up-to-date

Make it easy for newcomers to build the system locally

Document the code structure

How?!?

- https://opensource.guide/starting-a-project/

How?

Community profile

Here's how this project compares to recommended community standards.

Checklist

- ✓ Description
- ✓ README
- ● Code of conduct — What is a code of conduct? **Add**
- ✓ Contributing
- ✓ License
- ● Issue templates — **Add**
- ● Pull request template — **Add**

https://github.com/electron/electron/community

README File

- What does this project do?
- Why is this project useful?
- How do I get started?
- Where can I get more help, if I need it?
- How you handle contributions,
- What are the goals of the project?

README File

main | 13 branches | 0 tags | Go to file | Add file | Code

igorsteinmacher Update outline.md	00bce54 11 hours ago	172 commits
assignments	Create P2.Papers.md	11 hours ago
notes	Adding Lecture 4	last week
students	Merge pull request #41 from eml292/main	last week
CONTRIBUTING.md	Adding initial resources	last month
CS_599_Syllabus.pdf	Updating syllabus	last month
LICENSE	Initial commit	last month
README.md	Update README.md	last month
assignments.md	Adding A2 Assignment	2 weeks ago
code-of-conduct.md	Adding initial resources	last month
groups.md	Update information of Group 13	2 days ago
outline.md	Update outline.md	11 hours ago
papers.md	Adding initial resources	last month

README.md

CS499 - Open Source Software Development

Instructor: Dr. Igor Steinmacher

Email: Igor.Steinmacher@nau.edu

Class time: TuTh 2:20 - 3:35 PM

Office Hours: TuTh 8:30 - 9:30 AM; Room 090-205.

MS Teams: Please hangout, discuss, create channels for specific groups and issues. Join here -- Use the code cg9mzqt to be automatically approved

Syllabus: REVIEW the policies, grade breakdown, and Textbooks recommended. Read it here

iClicker: Attendance and in-class polls. Access our course here

Course Schedule

Contributing File

- How to file a bug report
- How to suggest a new feature
- How to set up your environment
- Coding standards/code styles
- Your roadmap or vision for the project
- How contributors should (or should not) get in touch with you

Contributing File

CONTRIBUTING file can be simple (for starters)

FAQ section fits well here

Link to your CONTRIBUTING file from your README

Nice template: https://github.com/nayafia/contributing-template/blob/master/CONTRIBUTING-template.md

Code of Conduct

Sets ground rules for behavior for the participants

Facilitates healthy, constructive community behavior

Describes who these expectations apply to when they apply, and what to do if a violation occurs

You can also do

Create Issues and Pull requests templates

Checklist of what is expected for the Pull request or Issue

Communicate what you want the contributors to report/do

Documentation

- [ ] Project has a LICENSE file with an open source license
- [ ] Project has basic documentation (README, CONTRIBUTING, CODE_OF_CONDUCT)
- [ ] The name is easy to remember, gives some idea of what the project does, and does not conflict with an existing project or infringe on trademarks
- [ ] The issue queue is up-to-date, with issues clearly organized and labeled

Code

- [ ] Project uses consistent code conventions and clear function/method/variable names
- [ ] The code is clearly commented, documenting intentions and edge cases
- [ ] There are no sensitive materials in the revision history, issues, or pull requests (for example, passwords or other non-public information)

People

If you're an individual:

- [ ] You've talked to the legal department and/or understand the IP and open source policies of your company (if you're an employee somewhere)

If you're a company or organization:

- [ ] You've talked to your legal department
- [ ] You have a marketing plan for announcing and promoting the project
- [ ] Someone is committed to managing community interactions (responding to issues, reviewing and merging pull requests)
- [ ] At least two people have administrative access to the project

THE ASSIGNMENT!!!

- Using your project under github.com/NAU-OSS
- Follow the guidelines at http://opensource.guide
- Think about all the details of the project
- Deadline: March 2