BEST PRACTICES
Diversity and Inclusion in Open Source Projects

Association for Progressive Communications
Association for Progressive Communications

Best practices: Diversity and Inclusion in Open Source Projects
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This guide was written by Maja Kraljic, with feedback from the grantees and peers within NLNet Foundation and staff at Association for Progressive Communications.

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1. Introduction

1.1. Diversity and inclusion in free and open source software

Open source communities seem to be the ideal environment where diversity and inclusion make it possible to create software and hardware in a collaborative manner. However “in reality, open source communities tend to be less diverse than the overall tech industry”\(^1\).

The traditional industry, dominated by “Tech Giants”\(^2\), has added diversity and inclusion to their business models in order to attract and retain diverse talent, strengthen their policies, and influence corporate culture, all in order to increase revenue and drive innovation.

How come that open source projects which are created collaboratively, have their code and documentation publicly available for everybody to access, change and use, are still not regarded as diverse, and in some cases even excluding?

1.2 What are diversity and inclusion?

When we talk about diversity the focus is on various elements that compose people’s identities, for example race, ethnicity, gender, gender identity and expression, disability, sexual orientation, national origin and language, tribe, caste, socio-economic status, and others. These elements point out our similarities and differences and originate in identity politics that is also regarded as a basis for exclusionary and hierarchical approaches.

Although inclusion which is built on these approaches has a goal to make sure all voices are heard and our environments are safe for people to be who they are, it can still be seen as hierarchical.

In order to change perspective and focus we will use intersectionality as an analytic tool which will help us understand and analyze complexity of open source projects. Intersectionality as a framework gives visibility and questions powers and privileges that emerge as a result of gender, sexuality, race, ethnicity, nation, ability, age, class, and other social and cultural hierarchies. “Intersectionality investigates how intersecting power relations influence social relations across diverse societies as well as individual experiences in everyday life. […] Intersectionality is a way of understanding and explaining complexity in the world, in people and in human experiences.”\(^3\)

1.3 Purpose of the guide

The purpose of this guide is to spark conversations within the open source community and open source project teams. It does not offer a list of actions that will make an open source project all of a sudden diverse and inclusive, but it will guide you to think about various

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2 Amazon, Facebook, Microsoft, Apple and IBM.
aspects of diversity and inclusion in open source communities. It gives you an opportunity to rethink how things could be done differently.

Open source projects are not only about the code: equally or even more important is how projects are created and managed, how people contributing to the project and the users are treated, who feels welcome to participate and who might be harmed by the technologies that we help create.

This guide takes into account transfeminist theories, Feminist Principles of the Internet, Feminist Practices and Politics of Technology, Gender Evaluation Methodology (GEM) and observed practices in open source projects. It includes feminist values, acknowledges privilege, challenges norms, values and power structures while asking “Who is creating the service/platform/protocol/technology and who benefits from it?”

Building a diverse, just and inclusive open source community requires time, introspection, empathy, a desire to learn and willingness to change - ourselves, communities and the processes we are part of.

1.4 Reader’s role

While technologies can be used as trans-formative tools that can change power relations, they can also be used to preserve the present status quo. We have to acknowledge that technology is not neutral in its design, access and use. It is also not immune to other social realities. Achieving true diversity and inclusion in tech requires correction of systemic, structural and cultural issues across the tech ecosystem.

We, as participants in the open source ecosystem, are ethically responsible for the software and hardware we help create - as it can be used to perpetuate inequalities or help empower marginalized communities, and fight against patriarchy, capitalism, sexism, gender violence, racism, ableism, homophobia, colonialism, fascism, surveillance, and oppressive control.

2. Contributions and suggestions

This guide is organic - it will change, grow and respond to changes in the open source community. Suggestions, changes, updates, additions, learnings and best practices are welcome and will be considered in the next versions of the guide.

To submit feedback, please contact the author of this guide, Maja Kraljic (majak@apc.org).
3. Diverse identities

People in open source communities and users of open source projects may refer to various identities and life experiences. When working on an open source project it is important to have in mind how your project, behavior and actions might impact:

- People with various abilities, especially people with cognitive, emotional, hearing, mental, physical, visual and other disabilities.
- People of various ages, especially young and aging people.
- People coming from different cultural and socio-economic environments.
- People of various genders and gender identities, especially trans, non-binary and women.
- People of various sexual orientations, especially lesbian, gay, asexual and bisexual.
- People living in various time zones and continents (the global South, working remotely).
- People using various languages that might not be English, especially non-native language speakers, migrants.
- People who were not in contact with modern technology due to lack of access, or economic situation.
- People who are learning to code or are not familiar with all technologies used in your open source project.
- People with non-technical skills that are participating in the open source project (documentation, community building, design, users who need to report an issue with the software or open a support ticket, first time users) and frequent users.
- People with slow and/or unreliable access to the Internet.
- People whose usage of the Internet means high mobile data cost.
- People using small screens only, especially people who use mobile phones as primary or only device.
- Activists, especially whistle-blowers, human rights defenders, environmental activists, digital and internet rights activists, women’s rights activists, sexual and reproductive health and rights activists.
- People in abusive relationships, bullied children and elderly, survivors of abuse/violence and stalking.
- People who live on the margins of normative societies, especially homeless, incarcerated, sex workers, undocumented immigrants, asylum seekers.
- Other oppressed, marginalized and underrepresented groups.
4. Increasing diversity and inclusion

*Technology should be built by diverse individuals and for the diverse world we live in.*

Diversity and inclusive practices can be applied at various stages of the project. Knowing the right questions to ask ourselves will give us a chance to find the answers that can inform our actions and create a safer and empowered open source community.

The questions in this section address multiple viewpoints and stakeholders. Not all of them might be applicable to your project, however feel free to adapt them to your needs or add new ones.

4.1. Leadership and management

The leadership has a direct and very powerful role in setting up the standards and core values for a project to follow. Together with core values, team leadership sets an example for all contributors and decides about the processes and technology used in the project.

**Values**

- Imagine and research how diversity can enrich your project and community of users, developers, maintainers, designers and translators.
- Is your open source project already incorporating diversity and inclusion values and if so, how? Do you have any best practices to share?
- How can you prioritize learning about best practices for achieving diversity, equity, and inclusion, and sharing that knowledge?
- How do you encourage self determination, self description and self expression?
- What is your strategy for seeking diverse perspectives?
- How is your leadership empowering others?
- Are you practicing transparency and responsibility?
- Do you help people create and join identity groups within your project, for example lesbian, gay, bisexual, transgender and queer or questioning (LGBTIQ) and black, indigenous, and other people of color (BIPOC)?
- Do you provide a secure way for people to contact you? For example, possibility to contact you via encrypted email.

**Diversification**

- Is the leadership and/or core team diverse? Do you measure diversity, how?
- Do you have a plan on how to reach your desired diversification of core team, contributors, users, ...?
• Do you actively seek diverse gatherings and conferences where you could present your project?
• Are you actively seeking people who would be a good fit for your project in various places (online, gatherings, conferences...) and inviting them to become part of the core team or start contributing?
• If you have a selection process, does it consider and support diversity?

Roles

• Are responsibilities of leadership and core team clearly documented?
• Does leadership receive feedback regularly (at least yearly) and is their work/performance reviewed by community members?
• Are people with less technical roles acknowledged (for example illustrators, photographers, designers, translators...)?
• Is leadership ensuring people can grow in their roles and are promoted or change roles based on their aspirations?
• How are tasks distributed and is workload shared (to share responsibilities, avoid burnout and practice self care)?
• If your project is larger and core team member decides to leave, do you conduct exit interviews? Can you explain high/low retention rates?

Sustainability

• How do you keep yourself honest and keep acting in the interest of the project? How can business plans affect that, and what checks and balances have you put in to prevent moving away from the original values of the project?
• Are you building a sustainable business model?
• Do you use and support other open source projects?
• Do you hire consultants and vendors that share your values and reflect your commitment to diversity and inclusion?

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4 To find out local diverse metups explore Meetup.com and local Facebook events. In addition you can connect with non-governmental organizations working on the intersection of technology, art and human rights and ask for recommendations and possibilities for organizing/sponsoring/contributing to the events and initiatives.
4.2. Technology

Environment and humans are being impacted by technology. In this section we will be asking ourselves how we can mitigate negative effects of technology.

Environment

- How does the technology used or created in the project impact the environment?
- Can energy consumption be reduced, and environmentally friendly options selected?
- Are default settings optimized for better energy usage and lower environmental impact?
- Can user enable lower energy consumption and is it clear from the documentation how to do that?

Usage and Ethics

- How will your technology impact lives of marginalized groups? Can your technology be used for protection of human rights, people who are under threat?
- Have you considered how your technology/project/platform can be used to harass, harm, exclude, discriminate, oppress or target specific groups of people, enable/disable hate speech, hatred or violence?
- Can your technology be used to track or identify other users (current location, distance…)?
- Do you have solutions in place so users can report incidents of abusive behavior and gender based violence? How do you process the reports?
- Can users block and/or mute unwanted actions by other users? Do users have ability to change default settings and decide which data they want to share with other users?
- How can you influence and educate your global community and users about ethical issues?
- In which cases would you decide not to use certain technology\(^5\)?
- Can your technology reinforce or amplify existing biases?
- Are the algorithms you are using free from bias? How are you limiting and counteracting algorithmic biases in your technology?
- Is all data in your project collected with informed consent and used ethically?
- How was the data for AI training models collected?
- How can you make sure your technology/gathered data is not misused if your company/project/start-up is acquired?

\(^5\) Good examples are not to implement an algorithm to discriminate between people, not use AI where it could violate human rights, not use data that was gathered without consent, support the ban of facial recognition surveillance technologies, support moratorium on using biometric technologies, refusing to share mobile network data...).
4.3. Communication

Communication is an essential part of open source projects, especially as the teams and contributors are usually collaborating remotely, are coming from different cultural backgrounds, have different levels of proficiency and speak various languages.

Channels

- Are the channels of communication for the project clearly defined?
- Do you keep all communication about the project public so everybody can access it?
- Are your project’s communication channels safe places for reflection and various opinions?

Safe space

- When designing offline or online spaces do you establish and use principles of communication for example feminist principles of participation⁶ (they also can be a part of Code of Conduct)?
- How are you encouraging various voices to feel safe to participate and contribute ideas?
- Are you encouraging usage of friendly language and strive for friendly communication?
- Do you thank your contributors and users in issues, blog posts, emails, chat...?
- Do you talk to others to find out if your communication is clear? For example do you make an effort to not use acronyms or explain them when introduced?
- Do you have an anti-harassment policy in place?
- Are you making sharing and using pronouns⁷ a habit? Do you use the pronouns people want you to use while addressing them?
- How are you encouraging sharing knowledge and learning?

Code of Conduct

- Do you have a Code of Conduct⁸?
- Was a chosen/adopted Code of Conduct discussed within the project’s community?
- Does your project’s Code of Conduct state where it takes effect, to whom it applies to, does it describe expected/encouraged (friendliness, respectfulness, learning from each other...) and unwanted/unacceptable behavior (aggressive communication style,

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⁷ By adding your pronouns to the email signature and online profiles you inform everyone about your pronouns and help normalize the process for everybody.

⁸ As a starting point you can review and adopt Contributor Covenant [https://www.contributor-covenant.org/](https://www.contributor-covenant.org/) or alternatively Django Code of Conduct [https://www.djangoproject.com/conduct](https://www.djangoproject.com/conduct)/.
sexist language, threats of violence, personal insults, unwelcome sexual attention, derogatory comments...), how to report incidents, the review process\(^9\) and consequences for violating the Code of Conduct?

- Is the Code of Conduct published and accessible from all main project pages, the code repository and project’s communication channels?
- Do you make it possible to report an incident anonymously and/or privately (via web form or email address)?
- Does the project have a transparent plan for responding to Code of Conduct incidents?
- Do you immediately address unwanted behavior in official communication channels (even if the incident has not been reported)?
- Who determines the outcome of the decision making process? Is the group of decision makers diverse?
- How many reports have you received in the past and how were they resolved?

Meetings

- Who is invited to meetings? Do you enable participation at the meetings to everybody interested in the project?
- Is multi-language support available or facilitated (e.g. transcription, interpretation, translation of notes, etc)?
- Are meetings adapted to the timezones of participants? Can participants select which time slot suits them best?
- Do longer meetings have scheduled breaks?
- Can you provide alternative (e.g. text based) ways to participate and contribute in the meetings?
- Do you provide recordings, transcripts or meeting notes of the meetings?
- Do you make the decisions and important information agreed upon at the meeting available online and accessible?

\(^9\) Django’s enforcement manual describes one of the possible processes for responding to incident reports: https://www.djangoproject.com/conduct/enforcement-manual/
4.4. Development

Development includes not only coding, but also how we collaborate and make sure anybody interested can start using our project.

An operational security best practices guide\textsuperscript{10} for NGI Zero Privacy & Trust Enhancing Technologies (PET) and Discovery projects is made by Radical Open Security.

**Licenses**

- Did you select an open source license\textsuperscript{11} that fits your project? Have you included it in the code repository?
- Do you use Creative Commons licenses (for publications you publish, web site, images...)?

**Documentation**

- Do you provide a guide for users on how to start using the project (for example README.md file)?
- Do you provide a guide for contributors on how to start contributing (for example CONTRIBUTING.md file) and include instructions\textsuperscript{12} on how to make it easier for maintainers and other community members to do their job?
- Do you provide any other documentation (walkthroughs, tutorials, FAQs...)?
- Are you encouraging and supporting localization of the documentation?

**Code**

- Do developers and maintainers write well structured and understandable code, for example by making names of variables, functions and classes meaningful? (See clean code\textsuperscript{13} principles)
- Do the developers and maintainers use clear language in code and documentation (avoiding jargon and non-inclusive language)?
- Is the code well documented and commented? Is it understandable to junior developers and maintainers?
- Does the project support language internationalization (i18n)?
- Do your dependencies or code have any security issues?
- Are your dependencies regularly upgraded to the latest versions?
- What is the percentage of test coverage? Should it be higher?

\textsuperscript{11} For NGI Zero PET and Discovery Best Practices for Software Licensing review https://download.fsfe.org/NGI0/
\textsuperscript{12} These focus on checking for duplicates, how to open good issues, defining steps to reproduce the bugs, creating test cases, adding labels, replying to opened issues, closing the stale issues...
Contributors

- Are new contributors invited to start contributing, have clear instructions and know what kind of support can they expect?
- Do you provide support, ensuring users and contributors have their questions answered?
- Do you mark simple issues as “good first issue” for first contributors to work on?
- Do you provide issue and pull request templates\(^\text{14}\) or checklists?
- Do you require that all contributions pass the automated test before they can be submitted?
- Does the project provide mentorship and/or internship programs? Are mentors clearly mentioned on the web site?
- How are you encouraging people with non-technical skills to participate in the project (for example users to open a new issue, writers of documentation and community organizers)?
- Are preferred names or nicknames of people who contribute to the project — core team, maintainers and contributors — publicly displayed (in README.md or CONTRIBUTORS.md file, on the web site...)?
- Do you clearly state the authorship of photographs, illustrations, videos, translations...?
- Is there a clear procedure that describes what happens when a maintainer stops working on the project?
- Is there a group of people that is avoiding your project or abandoning your project? For what reason?

\(^{14}\) Example Issue and Pull Request templates: https://github.blog/2016-02-17-issue-and-pull-request-templates/
4.5. Users

When we create software and hardware we might introduce barriers and obstacles diverse participants experience while using the technology - so called *inclusivity bugs*\(^{15}\). These might be invisible to the majority and are hard to spot if you are not personally impacted by them.

Accessible software that is promoting healthier behaviors is benefiting all users. NGI Zero PET and Discovery can help make your project more accessible through support of [Accessibility.nl](http://accessibility.nl).

**Inclusivity**

- Was the project designed and implemented for a specific group of people? Were they part of the process?
- How would society be impacted if a specific group could not use your project, product, platform or service?
- Which genders and pronouns do you include in your (demographic) surveys, user data in systems (do you have a good reason to do so)? How will you use the data gathered?
- How does the content, design and documentation reflect different genders? Do you receive feedback from the users/readers where they mention they (don’t) feel included?
- When you plan user experience tests, do you make sure you are including diverse users as your testers and act upon issues/suggestions from their feedback?
- Do the illustrations, images, photographs, icons, colors, language used in your documentation and promotional materials support diversity?
- Is code optimized and compressed for faster download time and lower cost of mobile data (websites, mobile app size, online services...)?
- Can user set up preferred data usage for certain features (e.g. saving data when downloading large or high resolution files only while using WiFi connection)?
- Does the technology work on older devices, browsers, mobile phones? Is it accessible for people who don't have the latest devices?
- Does your technology support usage while the device is not connected to the internet?
- Are you providing subtitles and captions for videos and transcripts of videos and audio files? Are video subtitles available in multiple languages?
- Do settings enable user optimizing their experience (colors of the interface, font size, layout...)? Can some features be turned off?

\(^{15}\) Term by Anita Sarma and GenderMag.
Care

- How do you promote healthy usage of phone/service/app/technology?
- Do you avoid dark design patterns\(^\text{16}\) and manipulation of people's decision making process?
- How are you preventing information overload?
- Are you designing user experience that prevents users getting into dopamine-driven feedback loops\(^\text{17}\)?
- How are you limiting number of notifications? Is it possible to set frequency and a preferred way to receive notifications?
- Do you provide keyboard shortcuts for common actions in the software to support frequent users?
- When talking/writing about sensitive issues do you use trigger warnings\(^\text{18}\) and specify the content beforehand? Do you encourage content creators to do the same?
- How are you minimizing impact on user's privacy in case software you are developing was hacked?
- How do you help users choose and use self hosted tools instead of exposing them to potential privacy violations of large third party service providers like GitHub, GitLab, Slack, Zoom, Google Analytics, social media platforms and others?\(^\text{19}\)
- Are you using self hosted tools instead of third party service providers to protect your users and contributors?
- Is multi-factor authentication\(^\text{20}\) available?
- Is it easy for a user to reset the password?
- Do you educate the user about strong passwords/passphrases and their storage?
- Would it make sense to offer alternative ways of accessing your web page (e.g. peer-to-peer web hosting)?
- Do you enforce usage of a real name? Can the user use a pseudonym?

Consent

- Do you provide defaults which respect user's privacy?
- Does your technology ask for user's consent before it interacts with them or use their data?
- Do you give users the information they need to make an informed decision?
- Are features based on an opt-in or opt-out model?

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\(^{16}\) Dark Patterns are tricks used in websites and apps that make you do things that you didn't mean to, like buying or signing up for something. [https://darkpatterns.org/](https://darkpatterns.org/)

\(^{17}\) Dopamine-driven feedback loops cause reward-motivated behavior which can be experienced while playing online games, using infinite scroll, refreshing a view to get new content or publishing content to receive likes and comments.

\(^{18}\) Trigger Warnings allow those who are sensitive to the subject of discrimination and violence to prepare themselves for discussing about them, and better manage their reactions. [https://fxbreboot.wiki.apc.org/index.php/Notes_for_Holding_up_a_Healthy_Conversational_Space](https://fxbreboot.wiki.apc.org/index.php/Notes_for_Holding_up_a_Healthy_Conversational_Space) and [https://geekfeminism.wikia.org/wiki/Trigger_warning](https://geekfeminism.wikia.org/wiki/Trigger_warning)

\(^{19}\) Especially important in the context of a web page to avoid third party tracking of the web site visitors.

\(^{20}\) Also called two-factor authentication or 2-step authentication.
• Are you applying a consent filter to product decisions to create a safer user experience and help protect your users from harm?
• If you are developing a platform, does it enable non-consensual sharing of images, videos...? How are you disabling or discouraging sharing (and taking them down)?

Data

• How are you protecting user’s privacy?
• Are users of your technology fully aware if their data is collected, where and how it is stored? Can they get a copy or export it? Can they delete it?
• How are you making sure gathered data will be used only for purposes defined (to which users consented to)?
• Explore ways to be more responsible with the data21 of historically marginalized groups and individuals.
• Is it possible to use the technology/software/platform anonymously?
• How could a government use the collected data against your users?
• Do you have a policy about the response to law enforcement or government requests for information about the users (domestic or foreign)?

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21 Learn more about responsible data: https://responsibledata.io/
5. Recommended Reading

  https://mitpress.mit.edu/books/design-justice
  https://nyupress.org/9781479837243/
  https://politybooks.com/bookdetail/?isbn=9781509539673

6. Recommended training

- Linux Foundation, Inclusive Open Source Community Orientation (LFC102). 
  https://training.linuxfoundation.org/training/inclusive-open-source-community-orientation-lfc102/
- Mozilla. (Staff) Community Participation Guidelines (“CPG”) Enforcement 
  https://mozilla.teachable.com/p/cpg-training-staff

7. Resources

- Association for Progressive Communications. APC Notes for Holding up a Healthy Conversational Space. 
  https://en.ftx.apc.org/books/home/page/notes-for-holding-up-a-healthy-conversational-space
- Association for Progressive Communications. Our Feminist Principles of Participation. 
  https://en.ftx.apc.org/books/home/page/our-feminist-principles-of-participation
- Association for Progressive Communications. Feminist principles of the Internet. 
  https://feministinternet.org/
- Association for Progressive Communications. Gender Evaluation Methodology for Internet and ICTs - A Learning Tool for Change and Empowerment. 
  https://www.apc.org/sites/default/files/GEM_EN.pdf
- Association for Progressive Communications. GISWatch. 
- Association for Progressive Communications. Intersectionality and Inclusivity. 
  https://en.ftx.apc.org/books/home/page/intersectionality-and-inclusivity
- Association for Progressive Communications. Sexual Harassment Policy. 
  https://www.apc.org/sites/default/files/APC_Sexual_Harassment_Policy_v5.1_June_2016.pdf
• Leong, Danielle. Online harassment - Recommended readings. https://danielleleong.com/recommended-readings/
• Mozilla. Mozilla Diversity & Inclusion in Open Source. https://github.com/mozilla/inclusion
• Mozilla. Innovating for in Open Source. https://docs.google.com/presentation/d/13UxBGj2Ii66SLj6sp4NE3DH2ndT0k5QM0pPvyzzXuY/edit#slide=id.g3240500814_4_200
• Omidyar Network. Ethical Explorer. https://ethicalexplorer.org/
• Open Source Diversity. https://opensource.diversity.org/
• Peña, Paz and Varon, Joana. Consent to Our Data Bodies. https://codingrights.org/docs/ConsentToOurDataBodies.pdf
• Responsible data. https://responsibledata.io/
• The Engine Room. Tool for ethical decision making with geo located data. https://www.theengineroom.org/tools-for-ethical-decision-making-with-geo-located-data/
• The Oracle for transfeminist technologies. https://superrr.net/fellow/transfeminist-ai/