HOW TO CONTRIBUTE TO OPEN SOURCE

How to Contribute to Open Source?

Preface:

Developing computer programming skills takes lots of hard work and practice. For the aspiring programmers, the open source is the ideal choice to sharpen their coding skills. It helps you get better at reading code as a software programmer you will be spending lot of time reading and working with other people's code. It also helps you learn how to build code around logic and algorithms.

By making a contribution to the Open Source, developers are exposed to tons of opportunities which can help them to hone their skills and master the art of programming. This helps them to design optimum experiences which the people love. The following article is a complete guide to, how to contribute to Open Source?

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What is Open Source Software?

Open Source is software or a program which has been designed to make available the source code for public use free of cost. The user can modify or enhance it as per requirement. A releasing license is attached with the OSS. Programmers using this platform will be able to produce a more useful product because it is freely available for all, unlike the Propriety software which is privately controlled and owned.

Sharing is a powerful motivator and in the world of programming, anything which is freely available can be shared easily.

Here are few reasons to highlight the reason for the contribution to Open Source.

Characteristics of Open Source

The distribution of Open Source Software has to comply with certain factors. Few more facts which should be known to the programmer about Open Source are as follows:

- The license cannot restrict any party to sell or give away the component of any part of the software.
- It is important that the program must include the source code. The source code is the form where the programmer can make the modifications.
- The license acquired by the new format should have the same terms as the original program. However, the license cannot discriminate against any person or group.
- The license cannot restrict use for any business or for any generic research

Why Open Source?

Control - Open source allows users to study and modify the underlying source code and design. It provides effective control over the software making it easy for businesses to control the development and services built on the software.

Training – It is a good place for students to learn to code. People can learn to code by looking at quality code created by experts. Contributing to open source projects also helps in improving code quality.

Security – Open source code is more secure as the source code is visible to all people everyone can check for security vulnerability and fix it.

Stability – Open source code is maintained by multiple people and teams so it is stable compared to proprietary software.

Why you should contribute to Open Source ?

Although there are a number of reasons for the users to contribute to the open source, few are mentioned below:

- As the powerful conviction in the field of programming goes that sharing is a motivator. This forms the first and foremost reason for the programmers to believe that the code should be open and free. Thus they contribute to Open Source Software and this allows them to grow, hone their skills, and further redevelop and redefine.
- This proves to be a great start for the beginners, however small their start may be. The programmers want that the code should be easy for the people to understand.
- The platform is huge which allows people of similar interest and likes to meet. Freelancers working on varied projects have the advantage of getting noticed by the potential employers which serve as a great opportunity for them.
- The above criteria give an opportunity to the programmers to develop their skills and reinvent their ideas. As they become a part of the huge and vibrant community, their level of exposure increases which acts as a great booster for their career.
- Open Source can boost the competitive edge of the organisation and help them to recruit better talent and build their image in the market.
- The industry always accepts a norm and technology which sets the standard. The Open Source is one such format which is being followed by several companies and has thus become a standard in itself.
- It helps in saving time and energy for the programmers because as the standard and the norm has already been set, there is no point starting things from scratch. It is always better to define the code which is available and modify the same to develop programming skills.
- Mentoring and teaching goes hand in hand in Open Source.

What does it mean when they say to contribute?

Coding is not the only factor which is regarded as a contribution to Open Source. This stands true for the beginners as sometimes they are not pro in Coding and hence find it to be intimidating. But there are other aspects in which they can also contribute.

- Organize events and plan for the same. This will allow the pitching of the program which is also a contribution because the social community grows in return and you add to the effect. Helping the development of conferences can also be counted as a contribution. Writing code is not the only contribution, although the programmer may love to do coding.
- Look for the features of the software or the program. Redesigning the structure, layout, etc. is also contributing as it redefines the program and makes it further appealing. The project's usability also increases in this way. Creating artwork or framing the visual designs also fall in this category.

- Writing is also a contribution. Do documentation, write for the project, design newsletters with great content, writing tutorials, or even translation are all contributions.
- Test the program and add tools to it so that the user experience can be elevated.
- Designing software is one angle attached to it. Apart from that contributions can be done by collaborating in just anything like books, lists, recipes, etc.

Factors to consider before going Open Source

Before plunging into the Open Source Project, the programmer should be aware of the factors for consideration.

- The most important aspect which comes to the fore is the Programming Language. Some of the most popular languages are Python, JavaScript, GitHub, PHP, Ruby, and Java. You must have proficiency in some technology and programming language before contributing code to open source.
- Making the selection for the type of project is an important factor. The best tip is to keep it simple. Start with your strengths before moving to more challenging projects. Work your way up and read a lot of code.
- Project volume is another important factor and the tip under this category is to use a platform like Github which has immense potential to help the newcomers feel at ease when they start programming. These are some of the tips which can make the journey of the programmer a smooth sailing affair.
- Look for the support which the OSS has because good support will yield beneficial results. With the help of good community support, you will be able to contribute better. Making the selection of the OSS with support can also prove to be very beneficial to brainstorm ideas.
- Consider an Open Source which has good documentation. This is divided into two categories; User Documentation and Developer Documentation. Both should be good enough and you can start by reading the user documentation to understand the features completely. The code reading and going through developer documentation will be the next step before you start writing the code.
- One of the most important aspects for consideration before choosing the Open Source is the Licensing of the OSS. Following the licensing formats:
  1. General Public License or GPL is the most popular and common one. A superb example of this is MySQL.
  2. Lesser General Public License or LGPL complies with non-OSS technologies. The software code also maintains confidentiality.
  3. Affero General Public License or AGPL makes the modified source code available to the community. An example of this format is AGPL.
  4. Free Documentation License or FDL is a license for the documentation and it gives credit to the authors.

How to find a new project to Contribute to OSS?

See whether the following criteria are met to decide the first contribution to a project.

- The project should fit in the definition of Open Source. By now the reader must be quite familiar with the term and the newcomer in this field can easily find whether the project he/she wants to start with is fitting in the definition of Open Source.
- Check the license type of the software and the comfort level with the same. This is a decisive factor which can really help the beginner to make the right choice.
- Does the project accept contribution? Your first project can be a simple correction in the documentation. Is the project ready to accept and modify the same? The answer to the question will help the newcomer in making the right decision.
  Also, check the contributions which the project already has.
- A welcoming and friendly project will be receptive to new contributions and such a project should be the ideal choice, to begin with.

How to submit the contribution?

Finally, you are ready with the project of your choice and here are the few tips which can be employed to make an effective contribution.

- Communicate effectively with the people of the group because this is one tool which can really help the beginner wade through easily. Before opening an issue the following points should be considered.
  1. Explain the errors and the ways to fix it. Take the help of other too for better efficiency.
  2. It is fine if things are unclear and not known because sharing can be motivating.
  3. Be short and crisp with the requests so that people can notice.
  4. A discussion should be kept public so that more people can learn from it.
  5. Community decision should be respected though there may be a difference of opinion with the maintainers.
  6. Keep everything classy because people across boundaries are going to view the project and offer their feedback.

- Gathering Context is an important point in the contribution submission. Scale the project's issues, mailing list, and Stack Overflow.
- Opening an issue becomes inevitable when the person is not able to resolve the issue. New ideas can be proposed. If an issue is already open, then it can be tackled. Before starting any work, ask for the conformation to report.
  For a pull request, the trivial issues like fixing a typo are resolved. Others can also give their request on the pull request. Screenshots of the before and the after changes can be shown. Testing the changes can be done but the existing project should not be broken.

Where can you contribute?

Some of the best OSS where the beginners can start contributing is:

- Mozilla has multiple gateways for the beginners to start contributing. It is simple and thus proves to be an excellent platform for the newcomers.
- Apache is also a prominent platform and a very fast, flexible, and secure OSS. It provides HTTP services which is in sync with the HTTP standards. It has been released under Apache License.
- Linux kernel is a good place for making contributions because it is a free and Open Source Software. It has been released under the GNU General Public License. It is a powerful OSS as it is used by the contributors worldwide.
- Samba has been released under the GNU General Public License. It was originally developed by Andrew Tridgell. It also provides services for a Microsoft Windows client.
- MySQL is one of the most popular OSS. It is simple to use and an excellent platform for the starters. It has been made available under the GNU General Public License. Applications which are using MySQL are Joomla, Wordpress, Drupal, TYPO3, and other software.

Conclusion

It is not limited to making a contribution to the well-known communities only. Several Open Source contributions are found in the websites like Bitbucket, Google Code, Github, SourceForge, and much more. The point is to begin the contributions and the journey in itself is a learning experience which can make the beginners pro in it.

Resources

https://www.hackerearth.com/getstarted-opensource/

https://rubygarage.org/blog/how-contribute-to-open-source-projects

https://opensource.guide/how-to-contribute/

https://www.webopedia.com/DidYouKnow/Computer_Science/open_source.asp

https://www.datamation.com/open-source/slideshows/9-reasons-to-contribute-to-an-open-source-project.html

https://www.meddeviceonline.com/doc/factors-to-consider-before-taking-the-open-source-software-leap-0001

http://www.tothenew.com/blog/key-considerations-for-selecting-open-source-software/

https://www.linux.com/blog/top-10-best-open-source-softwares-rocks-world-wide-web