

Software Livre, como começar? motivações e desafios!



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Image by: opensource.com

Igor Scaliante Wiese, PhD.

Software Engineering Professor and Researcher at UTFPR - Brazil; Husband! Father! Corinthians fan! Chargers fan! Beer lover!

Home Publications Research Students Service Teaching



I completed a PhD in Computer Science at the [Institute of Mathematics and Statistics](#) at [University of São Paulo](#) in 2016. Currently, I am a Assistant Professor at the [Federal University of Technology - Paraná \(UTFPR\)](#), Brazil, working in the Academic Department of Computing (DACOM), where I am developing my research in the [Software Engineering and Collaborative Systems Research Lab](#). I was a visiting scholar at the [University of California, Irvine](#) from July 2013 to January 2014. I am also a member of the [Software Engineering and Collaborative Systems Research Group](#) from University of São Paulo, and the Research Group on Information Systems from [State University of Maringá \(UEM\)](#). Currently, I am at Northern Arizona University doing a post-doctoral.

I research the intersections of **Software Engineering (SE)** and **Computer Supported Cooperative Work (CSCW)**. Currently, I am working on help developers to find artifacts to perform a task correctly, using recommendation systems based on socio-technical aspects of software development. I am interested in Mining Software Repositories techniques, Recommendation Systems, Open Source Software, Human Aspects of Software Engineering and Empirical Software Engineering.

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Cooperative and HUman Related
Research Applied to Software
Engineering





Quando o movimento do software livre começou, ele desafiava as corporações que usavam direitos autorais e termos de licença para restringir as liberdades do usuário e do desenvolvedor. O movimento do software livre é uma história de rebeldia.

E hoje... qual foi o caminho percorrido?





Red Hat

Aquisição por \$32 bilhões.
(3x o valor de mercado de 2014)



Aquisição por \$32 bilhões.
(3x o valor de mercado de 2014)



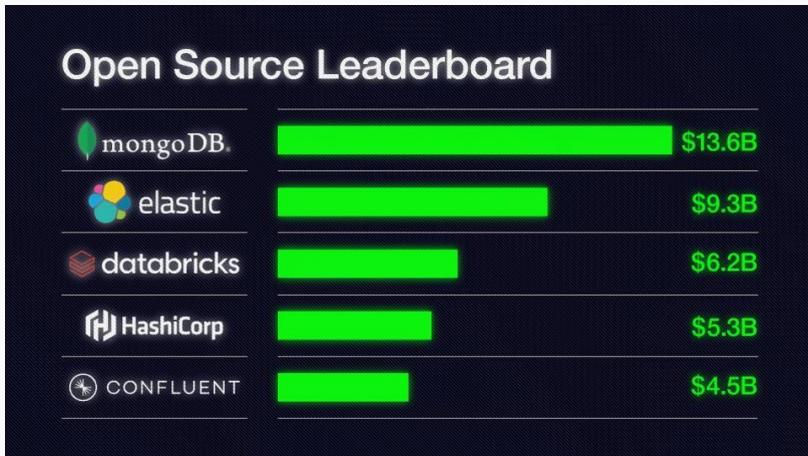
WORDPRESS

40% das páginas da internet...



Red Hat

Aquisição por \$32 bilhões.
(3x o valor de mercado de 2014)



Valor de mercado...



WORDPRESS

40% das páginas da internet...



Red Hat

Aquisição por \$32 bilhões
(3x o valor de mercado de 2014)

Open Source Leaderboard

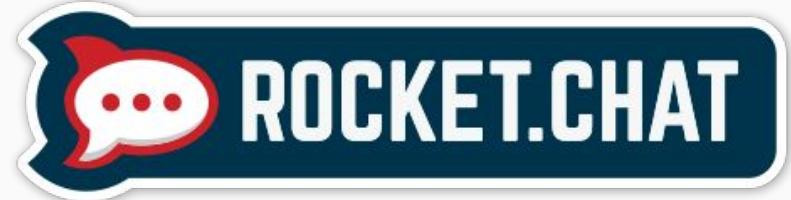


Valor de mercado...



WORDPRESS

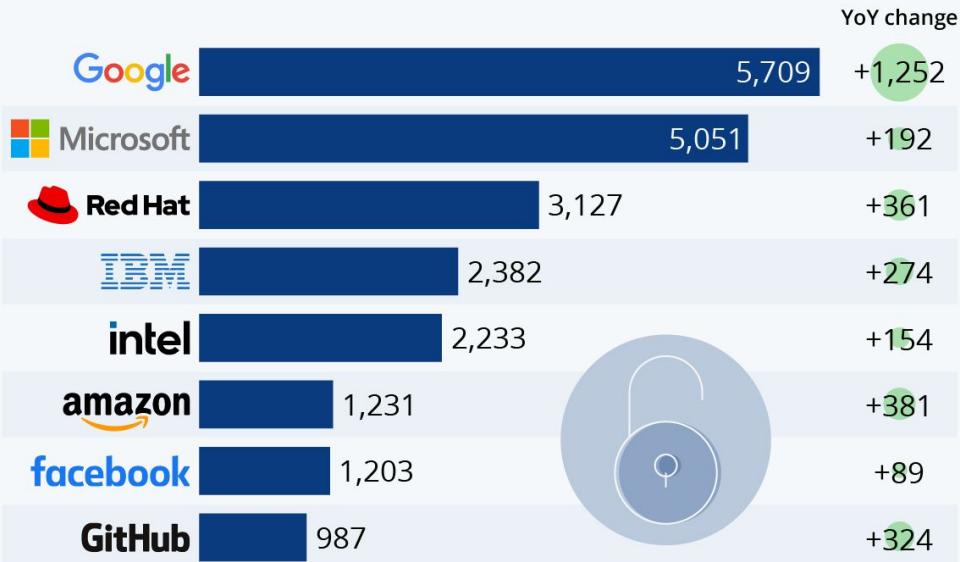
40% das páginas da internet...



100 milhões de reais captados...

How Big Tech Contributes to Open Source

Active GitHub contributors by employer by Dec 31st 2020*



* Active contributors: More than ten commits on GitHub

Source: GitHub



statista

Let's look back at the code and communities built on GitHub this year...

<https://octoverse.github.com/>

Based on the data collection range of October 2019 – September 2020.

56 M+

total developers on
GitHub



60 M+

new repositories created
in the last year

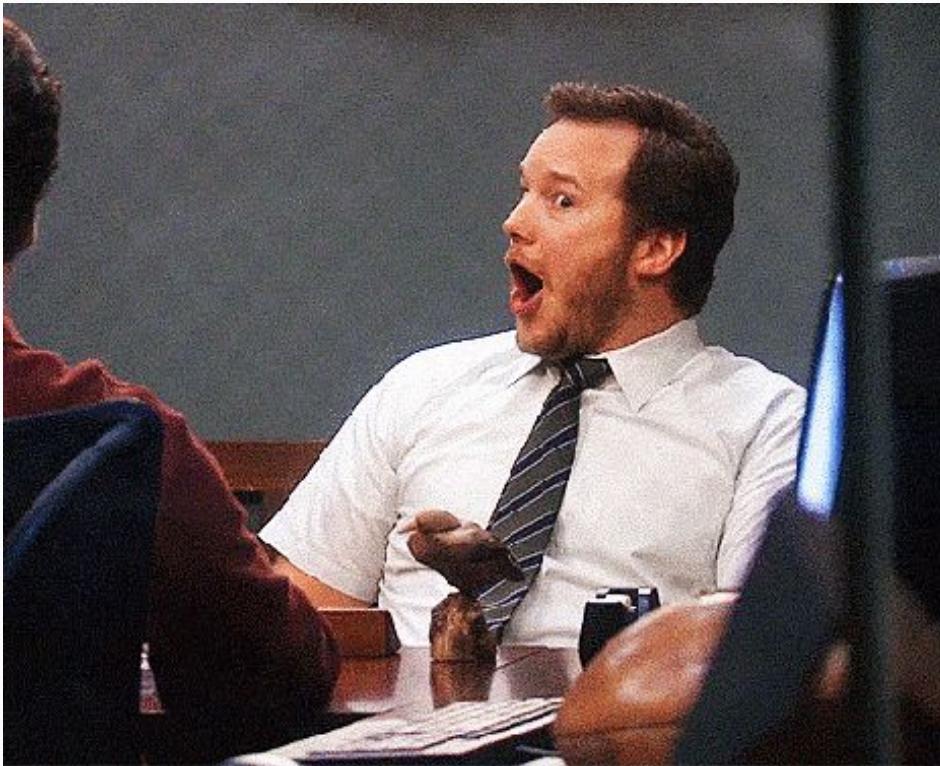
72 %

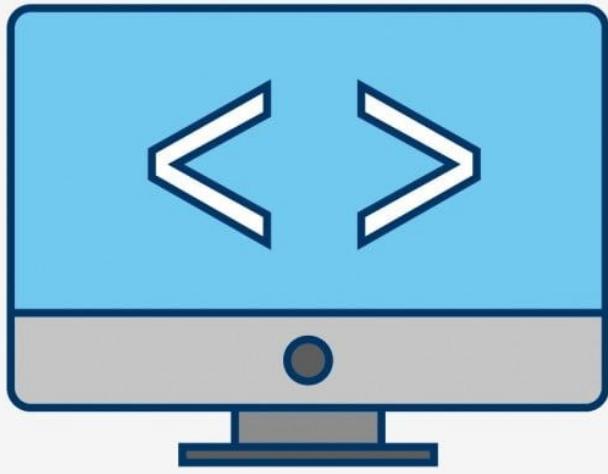
of Fortune 50 companies
use GitHub Enterprise

1.9 B+

contributions added
in the last year

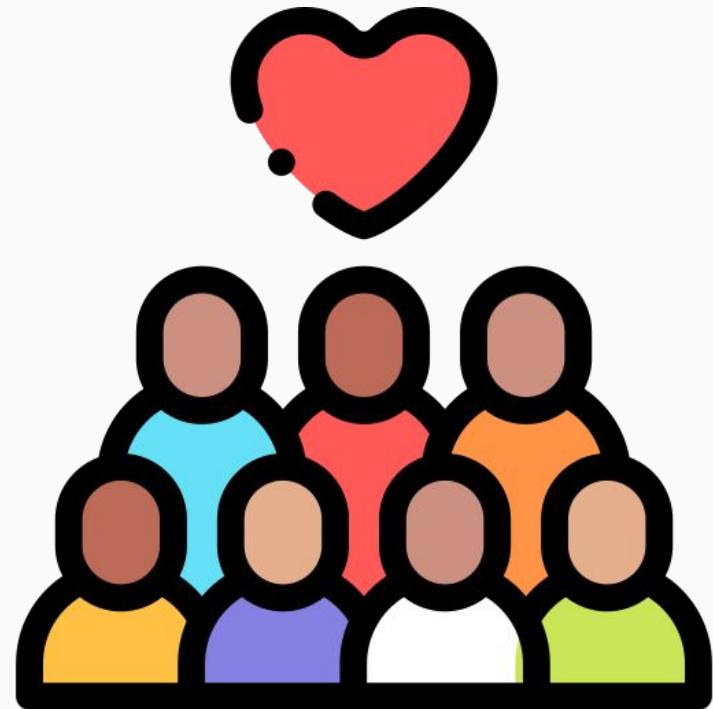
E como eles chegaram lá?





Código

E



Comunidade



**Hoje vamos
falar sobre
Comunidade...**

...Porque tudo é sobre comunidade.



OpenStack

tem 1,016,340 commits feitos por 11,660 contribuidores representando 12,951,523 linhas de código



Mozilla
Firefox

tem 774,387 commits feitos por 8,456 contribuidores representando 23,916,940 linhas de código



Node.Js

tem 34,878 commits feitos por 3,536 contribuidores representando 9,050,856 linhas de código



Apache
HTTP Server

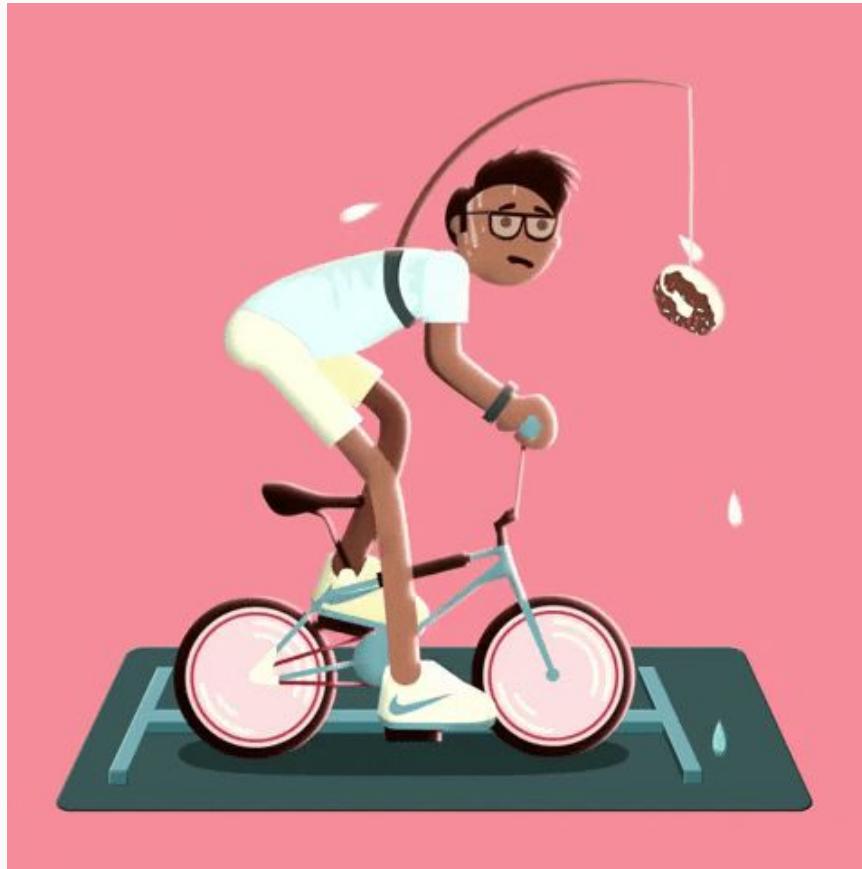
tem 65,078 commits feitos por 241 contribuidores representando 1,583,036 linhas de código



Wordpress

tem 44,565 commits feitos por 101 contribuidores representando 813,834 linhas de código

Parte I - Motivação



The Shifting Sands of Motivation: Revisiting What Drives Contributors in Open Source

Marco Gerosa, Igor Wiese, Bianca Trinkenreich, Georg Link, Gregorio Robles, Christoph Treude, Igor Steinmacher, Anita Sarma

Open Source Software (OSS) has changed drastically over the last decade, with OSS projects now producing a large ecosystem of popular products, involving industry participation, and providing professional career opportunities. But our field's understanding of what motivates people to contribute to OSS is still fundamentally grounded in studies from the early 2000s. With the changed landscape of OSS, it is very likely that motivations to join OSS have also evolved. Through a survey of 242 OSS contributors, we investigate shifts in motivation from three perspectives: (1) the impact of the new OSS landscape, (2) the impact of individuals' personal growth as they become part of OSS communities, and (3) the impact of differences in individuals' demographics. Our results show that some motivations related to social aspects and reputation increased in frequency and that some intrinsic and internalized motivations, such as learning and intellectual stimulation, are still highly relevant. We also found that contributing to OSS often transforms extrinsic motivations to intrinsic, and that while experienced contributors often shift toward altruism, novices often shift toward career, fun, kinship, and learning. OSS projects can leverage our results to revisit current strategies to attract and retain contributors, and researchers and tool builders can better support the design of new studies and tools to engage and support OSS development.

Comments: Paper accept at 43rd ACM/IEEE International Conference on Software Engineering, Madrid, Spain. June 2021

Subjects: Software Engineering (cs.SE)

Cite as: arXiv:2101.10291 [cs.SE]

(or arXiv:2101.10291v3 [cs.SE] for this version)

In collaboration with Universidade Tecnológica Federal do Paraná, Bitergia, Universidad Rey Juan Carlos, University of Adelaide, and Oregon State University

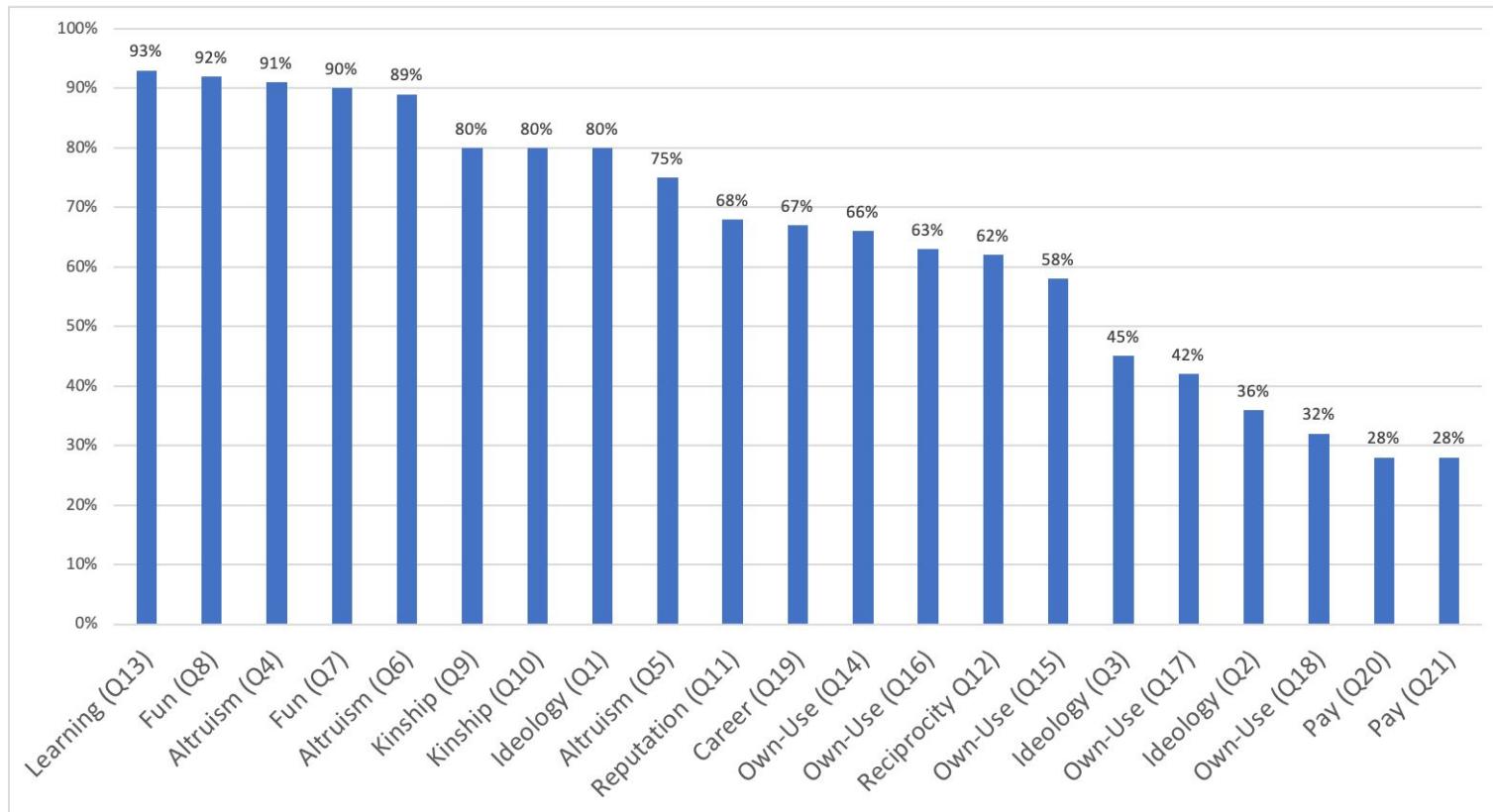


O que atualmente motiva os desenvolvedores Open-Source?

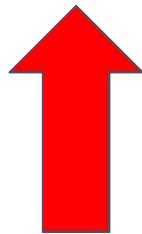
- 242 respostas validas ✅
- 82% se identificam como homen ♂
- 81% coders 🖥️
- 26% (parcialmente) pagos para trabalhar com OSS 💰
- Na média, os respondentes trabalham 10h/semana e tem 9 anos de experiência
- Projetos diversos



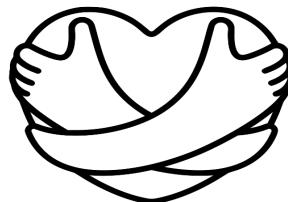
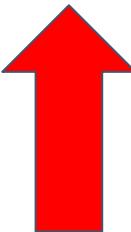
O que atualmente motiva os desenvolvedores Open-Source?



Como a motivação para contribuir mudou?



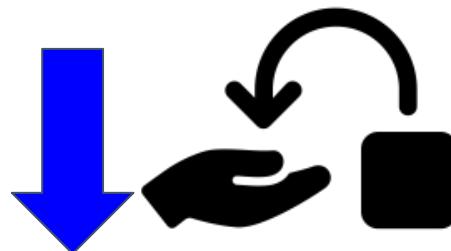
Altruismo
7 - 2 lugar



Sentimento de pertencimento
6/7 - 3 lugar



Reputação
10/11 - 5t/6 lugar

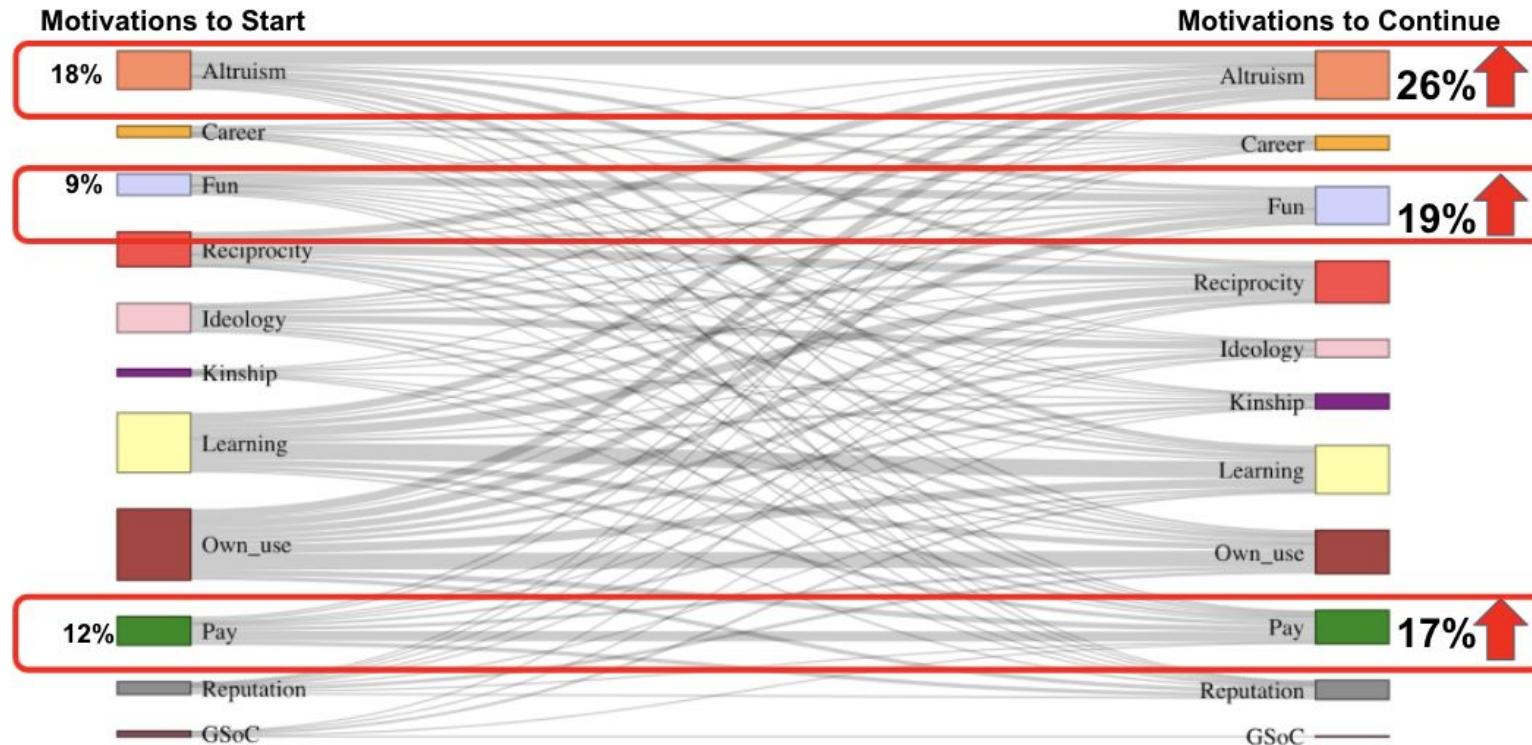


Próprio uso
3/4/5 - 7/9 place

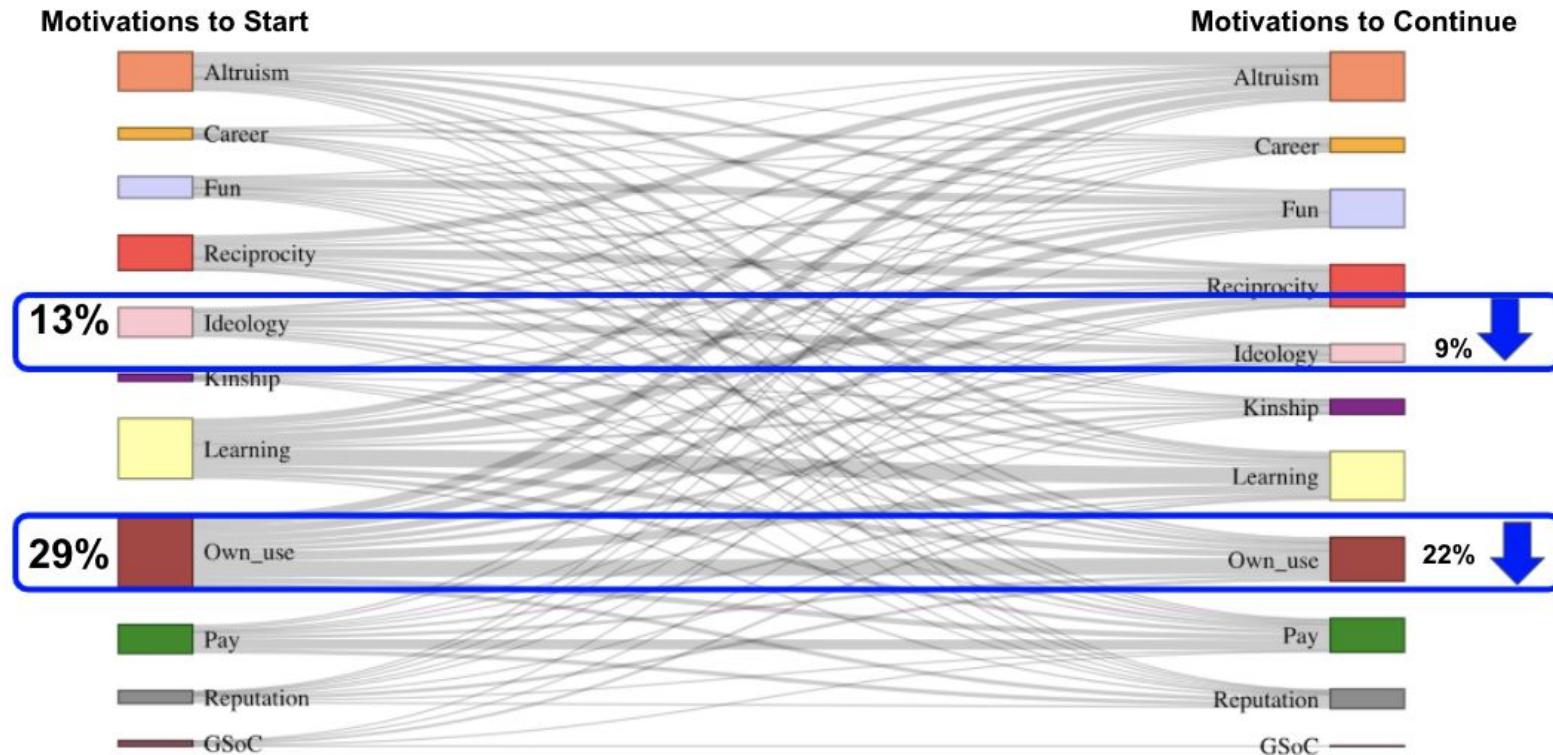
Como a motivação para contribuir mudou?

Motivation	Question	Hars	Ours H*	Lakhani	Ours L*	Ghosh	Ours G*	Ours
Ideology	Q1 I believe that source code should be open			4	3	4	3	6
	Q2 I dislike proprietary software and want to defeat them			9	10	8	9	18
	Q3 I want to limit the power of large software companies							16
Altruism	Q4 I want to share knowledge and skills					2	2	5
	Q5 I want to improve the product of other developers					3	5	3
	Q6 I deeply enjoy helping others	7	2					9
Fun	Q7 I have fun writing programs							4
	Q8 I feel intellectually stimulated by writing code			1	2			2
Kinship	Q9 I like to work with this(these) development team(s)	6	3	7	3			6
	Q10 I want to participate in the F/OSS scene	2	3			5	3	6
Reputation	Q11 I want to enhance my reputation	3	5	10	5	11	6	10
Reciprocity	Q12 I feel personal obligation because I use F/OSS			6	8			14
Learning	Q13 I want to develop and improve my skills	1	1	2	1	1	1	1
Own-Use	Q14 I need the software for my work	4	7	3	7			12
	Q15 I need the software for non-work purposes			5	9			15
	Q16 Problem could not be solved by proprietary software					7	8	13
	Q17 The projects that I contribute to would not make money					12	10	17
	Q18 I need help in realizing a good idea for a software product					9	11	19
Career	Q19 I want to improve my career opportunities	5	6	8	6	6	7	11
Pay	Q20 I am paid to contribute					10	12	20
	Q21 Sell products and services related to F/OSS	8	8					20

Como a motivação para contribuir mudou conforme OSS amadureceu?



Como a motivação para contribuir mudou conforme os projetos open-source amaruderam?



Como a motivação muda de acordo com o perfil dos respondentes?

Contribuidores experientes



Dinheiro



Ideologia



Altruismo

Novatos



Carreira



Aprender



Diversão

≥ 35 anos



Dinheiro



Altruismo

< 35 anos



Aprender

Coders



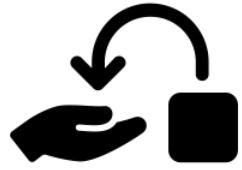
Diversão

Não-coders



Ideologia

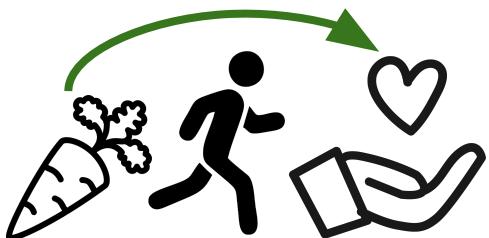
Resultados importantes



curiosidade "não é mais" a
motivação



Aprendizado "é o principal"
motivador!



Mudança de fatores extrínsecos
para intrínsecos



Dinheiro não é "a"
motivação (ainda?)



Altruismo e interação social motivam +
experientes



Novatos PROCURAM
carreira

Mensagem para os gerenciadores de comunidades e projetos



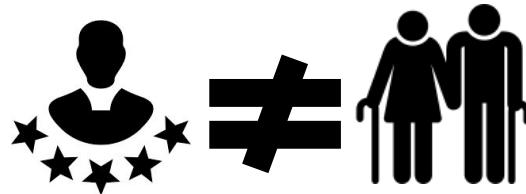
Reputação e Carreira motiva mais que pagamento



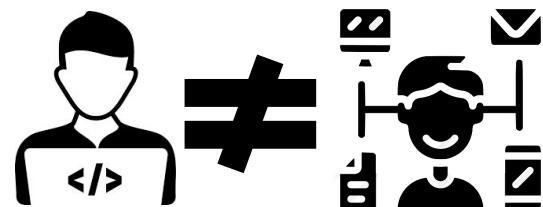
Aspectos sociais são fatores cada mais importantes



Motivações mudam depois da entrada



Experiência e idade explicam motivações diferentes



Coders e não coders reportam motivações diferentes

Parte II - Engajamento



O que os projetos têm feito? Eventos de engajamento e mentoria...



By: Leonardo Saraiva

Investing in new talent and diversity helps the entire open source community thrive

Mentorship makes it easy to sponsor and help train the next generation of open source developers by serving key needs of the community, including...

- **We want to grow our project, but...**

Struggle to attract new contributors from the community

- **New contributors tend to drop off quickly**

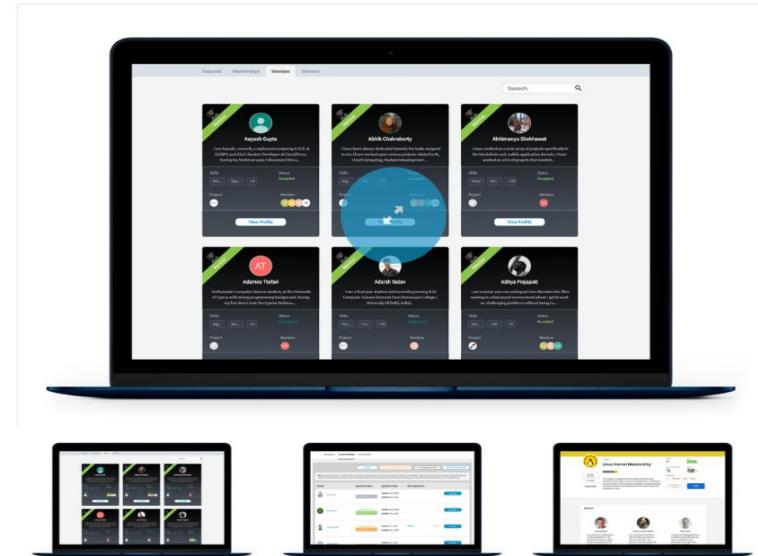
So we need to give them better reasons to stay engaged

- **It's too costly for us to run a mentorship program**

Because we don't have the resources needed to train mentees

- **We want our community to be more diverse**

We don't know how to attract more under-represented groups



Outreachy

Outreachy provides **internships in open source** to people subject to systemic bias and impacted by underrepresentation in the technical industry where they are living.

Outreachy internships are:

 **Paid** - \$6,000 USD total internship stipend

 **Remote** - both interns and mentors work remotely

 **3 months** - internships run May to August, or December to March

Work on Open Source

Outreachy interns work with experienced mentors from open source communities. Outreachy internship projects may include programming, user experience, documentation, graphical design, data science, marketing, user advocacy, or community event planning.

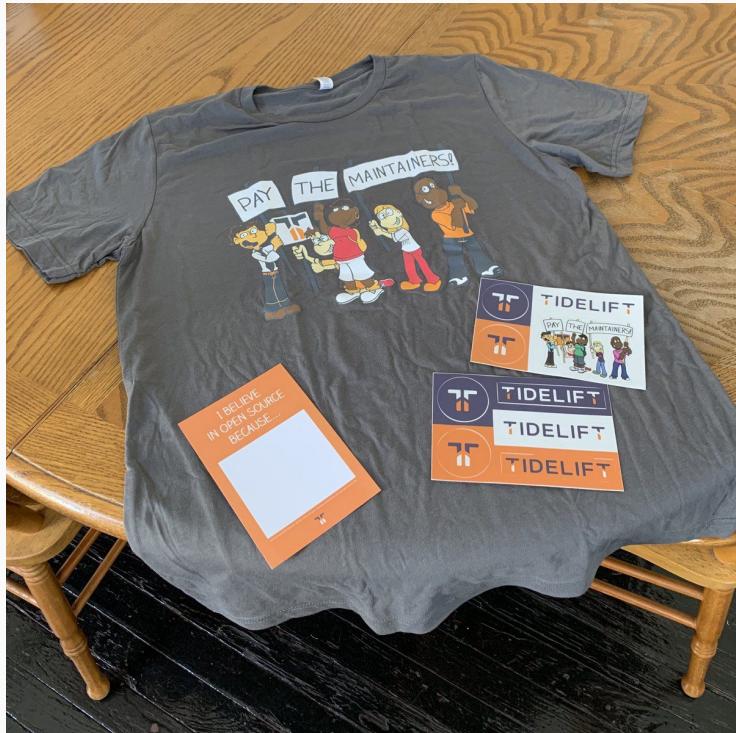
 [Read the Outreachy applicant guide for details.](#)

Important dates

December 2021 internships:

 Intern applications are closed

Revisar código toma tempo, encontrar mentor não é fácil...



Iniciativas...

Issues	
① Linter rule: use ASCII quotes not Unicode ones	good first issue tools
#11209 opened on 7 Feb 2017 by gibfahn	14
① Certain docs have very little information provided per API	doc good first issue help wanted
#11135 opened on 3 Feb 2017 by sagilavinash	18
① should the fact that `this` is bound to module.exports be documented?	good first issue
module	13
#9623 opened on 15 Nov 2016 by sam-github	
① stdio: cannot write to stdin after #1233	good first issue help wanted process
#9206 opened on 20 Oct 2016 by bnoordhuis	12
① doc: guide/topic on how to use streams	doc good first issue stream
#8646 opened on 18 Sep 2016 by mcollina	5
① Feature request: better crypto error messages	C++ crypto feature request good first issue
#5444 opened on 26 Feb 2016 by mscdex	18

Rótulos em vários projetos



Bots em todos os lugares

Efeitos do uso de Bots durante a revisão de código



Code review bot

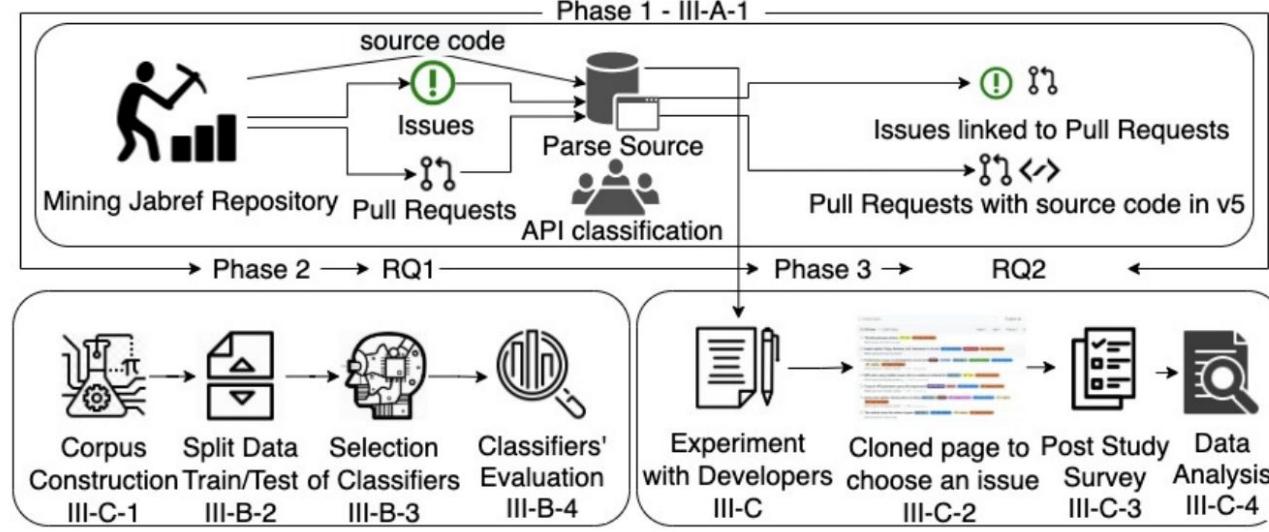
1194

Coveralls bot
Codecov bot
Ansibot
Elasticmachine

Open Source Software Projects
in our sample



Rótulo + Skills!!!



Parte III - Barreiras



Escolha um projeto...

About

Ruby on Rails

 rubyonrails.org

ruby

rails

html

activerecord

framework

mvc

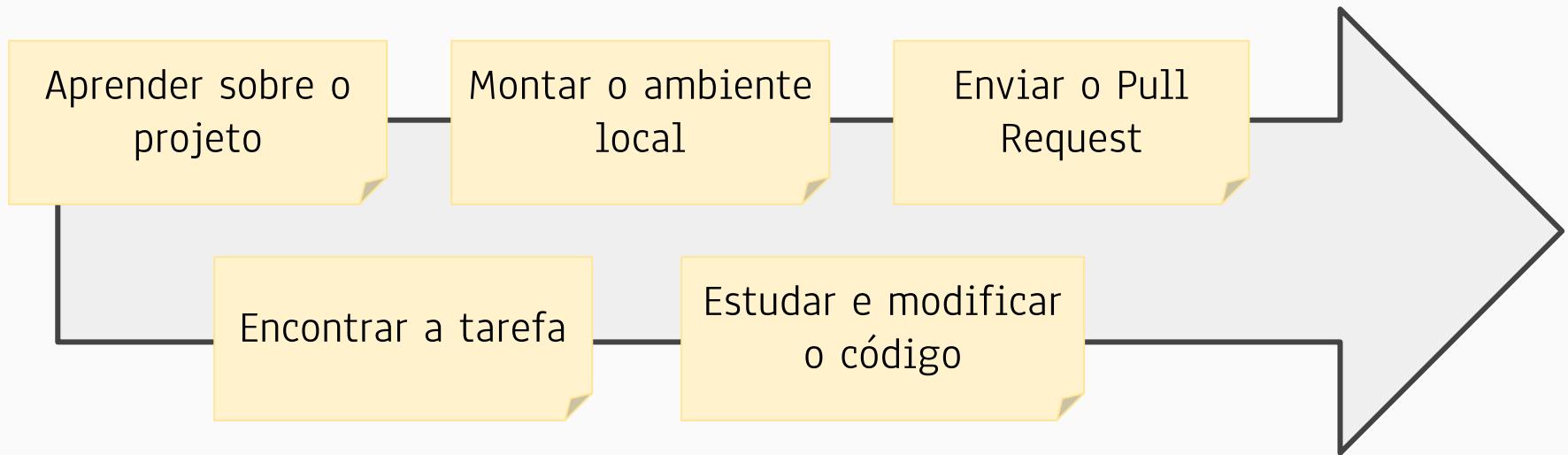
activejob

 Readme

 MIT License

 Code of Conduct

MAS COMO COMEÇAR...?



SUPORTE DA COMUNIDADE

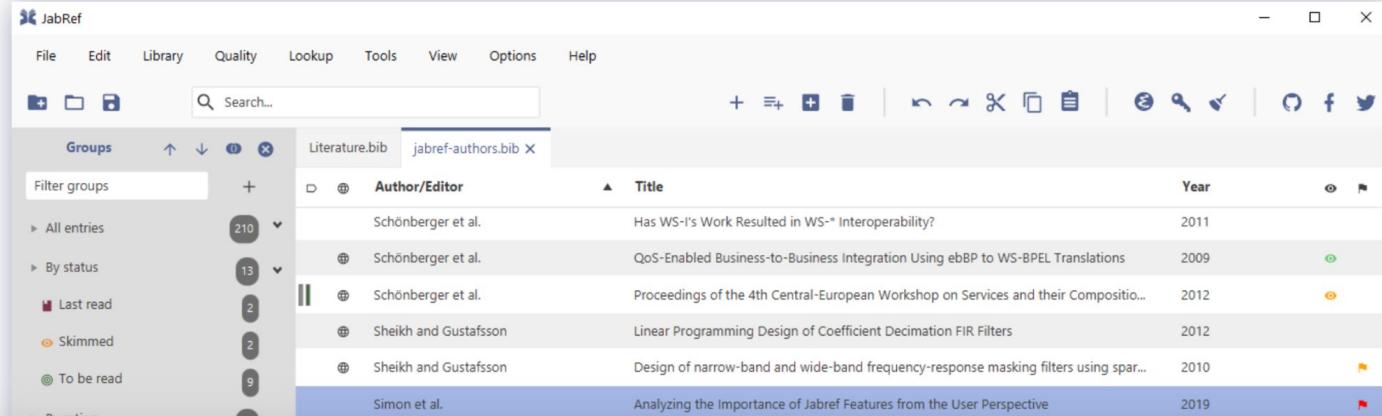
Como podemos aprender sobre o projeto?

JabRef

Features Download Get Involved Support News

Stay on top of your Literature

The efficient way to collect, organize & discover



The screenshot shows the JabRef application window. The menu bar includes File, Edit, Library, Quality, Lookup, Tools, View, Options, and Help. The toolbar features icons for file operations like New, Open, Save, and a search bar labeled "Search...". The main interface has two tabs: "Groups" and "Literature.bib" (which is currently selected). A sidebar on the left titled "Filter groups" lists categories: All entries (210), By status (13), Last read (2), Skimmed (2), To be read (9), and Publications (0). The main pane displays a table of entries with columns for Author/Editor, Title, and Year. The first entry is Schönberger et al. (2011) with the title "Has WS-l's Work Resulted in WS-* Interoperability?". The last entry shown is Simon et al. (2019) with the title "Analyzing the Importance of Jabref Features from the User Perspective". Each entry has a small circular icon next to it.

Author/Editor	Title	Year
Schönberger et al.	Has WS-l's Work Resulted in WS-* Interoperability?	2011
Schönberger et al.	QoS-Enabled Business-to-Business Integration Using ebBP to WS-BPEL Translations	2009
Schönberger et al.	Proceedings of the 4th Central-European Workshop on Services and their Compositio...	2012
Sheikh and Gustafsson	Linear Programming Design of Coefficient Decimation FIR Filters	2012
Sheikh and Gustafsson	Design of narrow-band and wide-band frequency-response masking filters using spar...	2010
Simon et al.	Analyzing the Importance of Jabref Features from the User Perspective	2019

Documentação!

Want to learn more?

Getting started



Propose a new feature

User Documentation



Report a bug

Forum



Blog



Install

Desktop apps

Browser extensions

Development build

Change Log

Links

Resources

Java by Comparison

Impressum

Datenschutzerklärung

Contribute

Donation

Translation

GitHub

Developer Docs

Help & Contact

Documentation

Forum

Twitter

Report an issue



<https://www.triggerandfreewheel.com/comic/not-so-fast-buddy>

Escolhendo uma tarefa! fácil, não?

JabRef / jabref (Public)

Sponsor Watch 97

Issues 245 (circled in red)

Pull requests 23 ZenHub Actions Projects 6 Wiki Security Insights

Want to contribute to JabRef/jabref? Dismiss ▾

If you have a bug or an idea, read the [contributing guidelines](#) before opening an issue.
If you're ready to tackle some open issues, [we've collected some good first issues for you.](#)

Filters ▾ Q is:issue is:open Labels 57 Milestones 1 New issue

245 Open ✓ 3,123 Closed Author ▾ Label ▾ Projects ▾ Milestones ▾ Assignee ▾ Sort ▾

Issue	Author	Label	Projects	Milestones	Assignee	Sort
How to populate abstracts? type: feature	#8208 opened yesterday by DOFactory	2 tasks done				2
An exception raised after pasting a BibTeX source to an entry in a subgroup	#8207 opened 2 days ago by dsoutw	2 tasks done				5
Save sort order switching between "Keep original order" and "Use current table sort order" preferences	#8198 opened 7 days ago by HoussemNasri	2 tasks done				3
Display "Show in Folder" notification after exporting entries	#8195 opened 9 days ago by HoussemNasri	type: enhancement ui				
Duplicate fields assigned to entry types	#8194 opened 9 days ago by HoussemNasri	type: bug	2 tasks done			
Using - in fulltext search freezes JR	#8191 opened 9 days ago by ytzemih	os: linux search	2 tasks done			

NÃO! :-(Muitas opções!

Journal names are not imported <small>status: depends-on-external</small>	17
#8167 opened 16 days ago by matheger	
native-messaging-host files are missing when installing JabRef via brew <small>installation os: macOS type: bug</small>	6
#8161 opened 17 days ago by sdall	
DOI title fetcher seems to miss "booktitle" since 2021-10-16 <small>status: depends-on-external</small>	3
#8159 opened 18 days ago by kopper	
Make [DATE] work for 'linked file regular expression search' and 'automatically set file links' (F7); File attachment <small>external files keygenerator type: enhancement</small>	3
#8152 opened 19 days ago by ThiloteE	
Error when using search <small>search type: bug</small>	3
#8151 opened 19 days ago by ThiloteE	
"Crossref" field should also work if Autocomplete is disabled <small>type: enhancement</small>	3
#8145 opened 22 days ago by nicolahinssen	
Publish releases to new Windows Store <small>installation status: depends-on-external type: enhancement</small>	1
#8135 opened 25 days ago by tobiasdziez	
Default save order should be "Keep original order" <small>good first issue type: enhancement</small>	9
#8133 opened 26 days ago by kopper ⇨ v5.4	
Library should not be flagged as externally modified when changing library properties <small>type: enhancement</small>	3
#8132 opened 26 days ago by kopper	
Support for multi-paper PDFs (AKA proceedings) <small>external files import type: enhancement ui</small>	1
#8128 opened 29 days ago by kopper	
Invalid DOI should not show "Connection error" <small>good first issue type: enhancement ui</small>	4
#8127 opened 29 days ago by kopper	

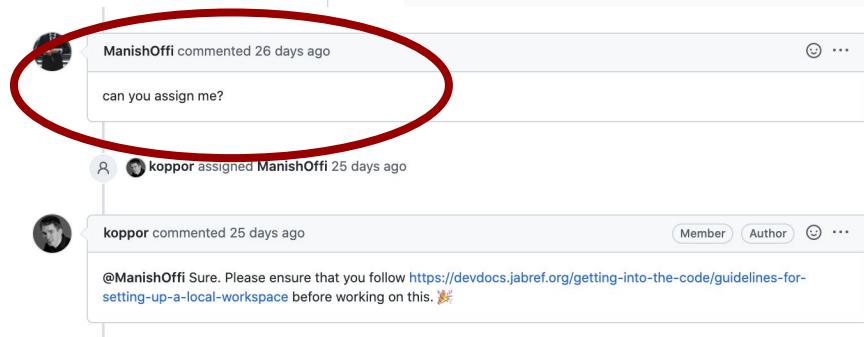
Novatos precisam de orientação em um ambiente não familiar



Comece procurando por tarefas boas para novatos e SINALIZE que você quer trabalhar na tarefa

- ⌚ Journal names are not imported status: depends-on-external
#8167 opened 16 days ago by matheger 2 tasks done
- ⌚ native-messaging-host files are missing when installing JabRef via brew installation os: macOS type: bug
#8161 opened 17 days ago by sdall
- ⌚ DOI title fetcher seems to miss "booktitle" since 2021-10-16 status: depends-on-external
#8159 opened 18 days ago by kopper
- ⌚ Make [DATE] work for 'linked file regular expression search' and 'automatically set file links' (F7); File attachment external files keygenerator type: enhancement
#8152 opened 19 days ago by ThiloteE
- ⌚ Error when using search search type: bug
#8151 opened 19 days ago by ThiloteE 2 tasks done
- ⌚ "Crossref" field should also work if Autocomplete is disabled type: enhancement
#8145 opened 22 days ago by nicolahinssen 2 tasks done
- ⌚ Publish releases to new Windows Store installation status: depends-on-external type: enhancement
#8135 opened 25 days ago by tobiasdiez
- ⌚ Default save order should be "Keep original order" good first issue type: enhancement
#8133 opened 26 days ago by kopper 2 tasks done ↗ v4
- ⌚ Library should not be flagged as externally modified when changing library properties type: enhancement
#8132 opened 26 days ago by kopper 2 tasks done
- ⌚ Support for multi-paper PDFs (AKA proceedings) external files import type: enhancement ui
#8128 opened 29 days ago by kopper 4 tasks
- ⌚ Invalid DOI should not show "Connection error" good first issue typ enhancement ui
#8127 opened 29 days ago by kopper 2 tasks done

Comunicação é CHAVE



Tarefas de documentação são boas portas de entrada

github.com/rails/rails/pull/43586

Imagine Reading SBES-Education... call-for-paper-SB... Regulamento - 2º... Visualizar - Portal... ICSE 2022 - Supe... ICSE 2022 Publici... Outros favoritos

Add persisted and new_records methods to ActiveRecord::Associations::CollectionProxy. #43586

Open stevepolitodesign wants to merge 4 commits into `rails:main` from `stevepolitodesign:has_many_association_persisted_records`

Conversation 8 Commits 4 Checks 3 Files changed 4 +157 -1

stevepolitodesign commented 2 days ago • edited

This is a work in progress, and I wanted to get some feedback before I go too far.

This aims to extend the `methods added by has_many` and account for cases where a record is not yet saved but is still added to a collection.

Usage

```
class Post < ApplicationRecord
  has_many :comments
end

Post.first.comments.persisted
```

Example

Reviewers
excid3

Assignees
No one assigned

Labels
activerecord **docs**

Projects
None yet

Milestone
No milestone

Quando encontrar a tarefa... Tente reproduzir o erro. Evite tarefas que não apresentam passos para reprodução

koppo commented 10 days ago Member

JabRef version
Latest development branch build (please note build date below)

Operating system
Windows

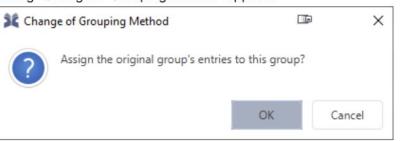
Details on version and operating system
Windows 10

Checked with the latest development build

I made a backup of my libraries before testing the latest development version.
 I have tested the latest development version and the problem persists

Steps to reproduce the behaviour

1. Edit the properties of a group
2. Change the color
3. Click "OK"
4. Dialog "Change of Grouping Method" appears



Expected behavior: No dialog appears, just the group color should change

Refs #7325

Appendix
No response

Antes de editar o código, LEIA o guia de como contribuir

The screenshot shows a portion of the JabRef GitHub repository's README.md file. A red circle highlights the "Contributing" section, which contains a list of ways to contribute. Another red circle highlights the "Workspace" setup section, which includes instructions for setting up the development environment and running tests.

An explanation of donation possibilities and usage of donations is available at our [donations page](#).

Contributing

Want to be part of a free and open-source project that tens of thousands of scientists use every day? Check out the ways you can contribute, below:

- Not a programmer? Help translating JabRef at [Crowdin](#) or learn how to help at [contribute.jabref.org](#)
- Quick overview on the architecture needed? Look at our [high-level documentation](#)
- For details on how to contribute, have a look at our [guidelines for contributing](#).
- You are welcome to contribute new features. To get your code included into JabRef, just [fork](#) the JabRef repository, make your changes, and create a [pull request](#).
- To work on existing JabRef issues, check out our [issue tracker](#). New to open source contributing? Look for issues with the ["good first issue"](#) label to get started.

We view pull requests as a collaborative process. Submit a pull request early to get feedback from the team on work in progress. We will discuss improvements with you and agree to merge them once the [developers](#) approve.

If you want a step-by-step walk-through on how to set-up your workspace, please check [this guideline](#).

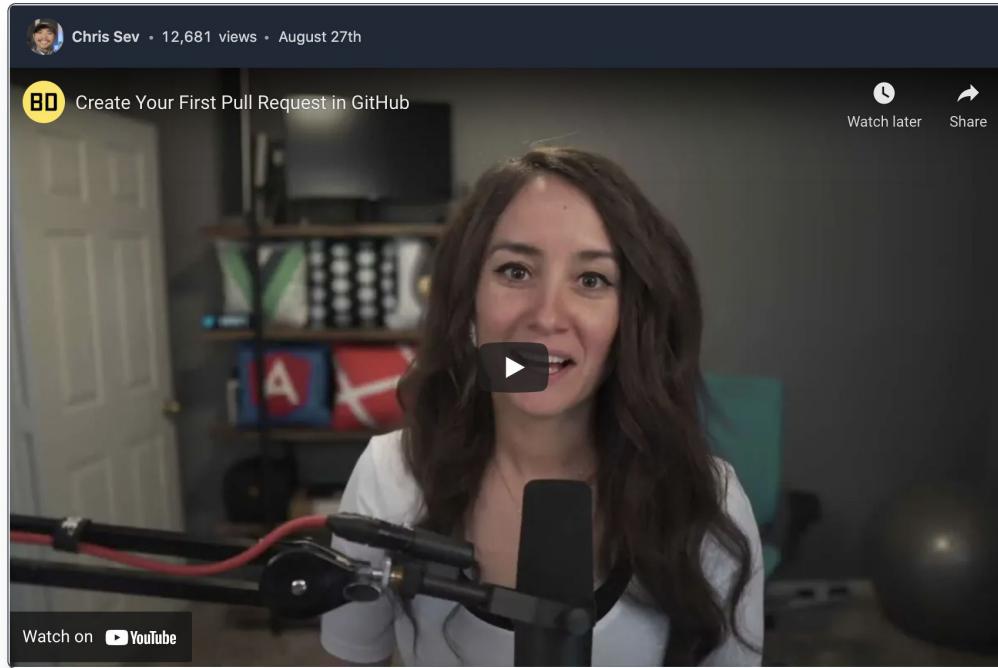
To compile JabRef from source, you need a Java Development Kit 15 and `JAVA_HOME` pointing to this JDK. To run it, just execute `gradlew run`. When you want to develop, it is necessary to generate additional sources using `gradlew generateSource` and then generate the Eclipse `gradlew eclipse`. For IntelliJ IDEA, just import the project via a Gradle Import by pointing at the `build.gradle`.

`gradlew test` executes all tests. We use [Github Actions](#) for executing the tests after each commit. For developing, it is sufficient to locally only run the associated test for the classes you changed. Github will report any other failure.

Workspace

Pesquise como fazer o seu primeiro pull-request

Create Your First GitHub Pull Request



<https://www.better.dev/create-your-first-github-pull-request>

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Documentação do projeto e da arquitetura

Preste atenção nos TESTES! E padrões. Até o nome da variável importa!

README.md

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Eles são
importantes
para sua
contribuição
ser aceita!!!

O seu trabalho não acaba quando o pull request ou o patch foi submetido!

calixtus left a comment

Hi @COLiINN thanks for your interest in JabRef and your PR. Yes, you are probably right about the internal use of the optional in the class. On first sight a quick comment / something to think about.

```
src/main/java/org/jabref/model/database/BibDatabaseContext.java
```

221 220 public Path getFulltextIndexPath() {
222 221 Path appData = getFulltextIndexBasePath();
223 - LOGGER.info("Index path for {} is {}", getDatabasePath().get(), appData.toString())
222 +
224 223 if (getDatabasePath().isPresent()) {
224 + LOGGER.info("Index path for {} is {}", getDatabasePath().get(), appData.toString())
225 225 return appData.resolve(String.valueOf(this.getDatabasePath().get().hashCode()))
226 226 }
227 +
228 228 return appData.resolve("unsaved");
229 }

calixtus on 23 Jul

I wonder if not that method should return the optional instead of 'unsaved', but this would probably be a bigger refactoring - if it makes any sense...

COLiINN on 23 Jul

I think it makes a lot of sense. Return an empty optional to represent an invalid path seems a better approach to me.

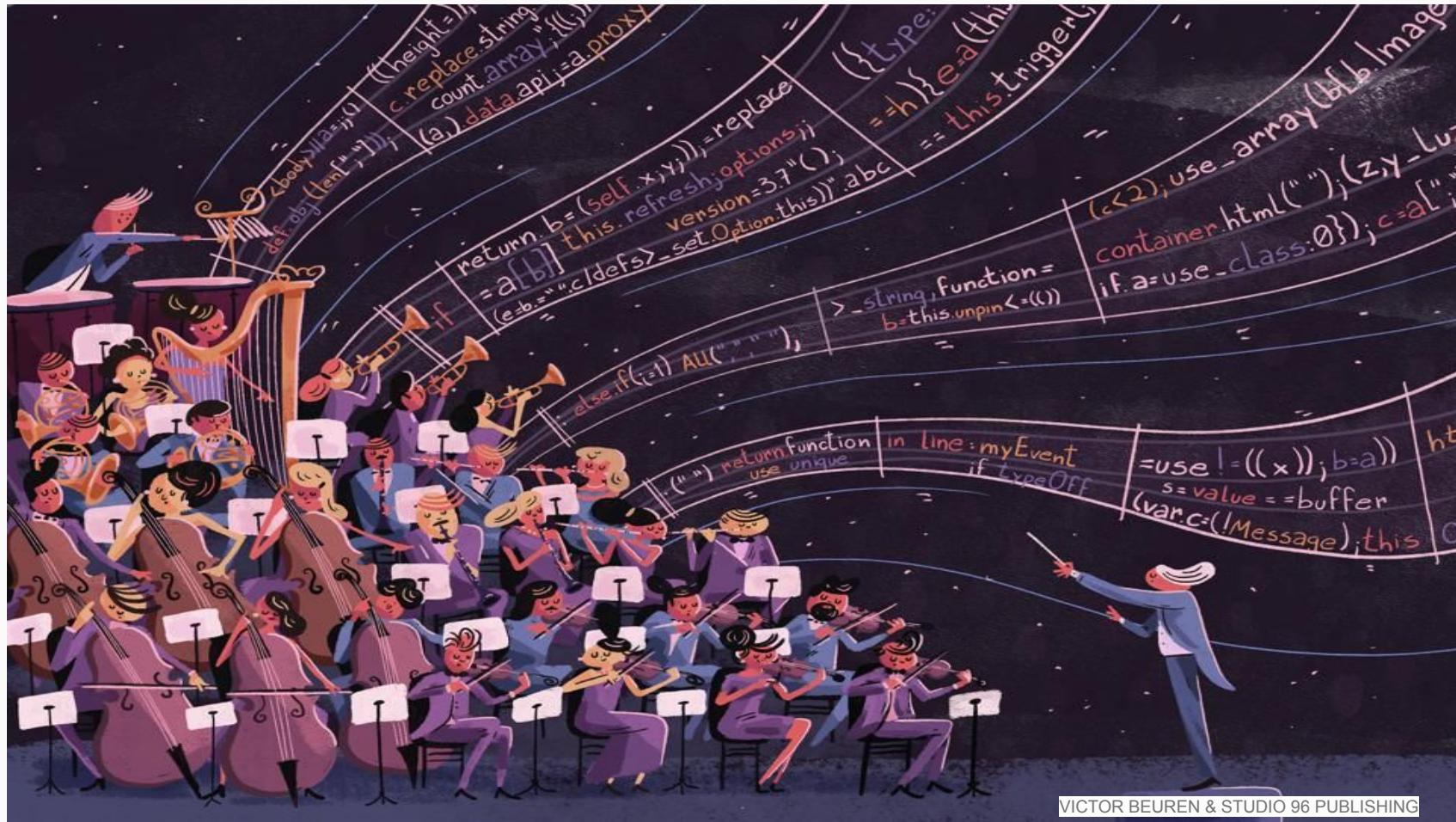
Engage na revisão do código

Para ter sucesso!!!

Queremos uma comunidade diversa!!!

1. Seja proativo
2. Engage nas discussões
3. Siga os padrões
4. Respeite a comunidade





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The expert
in anything
was once a
beginner.





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Desenvolvimento de
Software Livre



com Igor Wiese (UTFPR)



@igorwiese



<https://anchor.fm/fronteirasES>



SCAN ME