

Use case 2 : Forges

Céline Hernandez, I2BC, 0000-0001-8664-1340



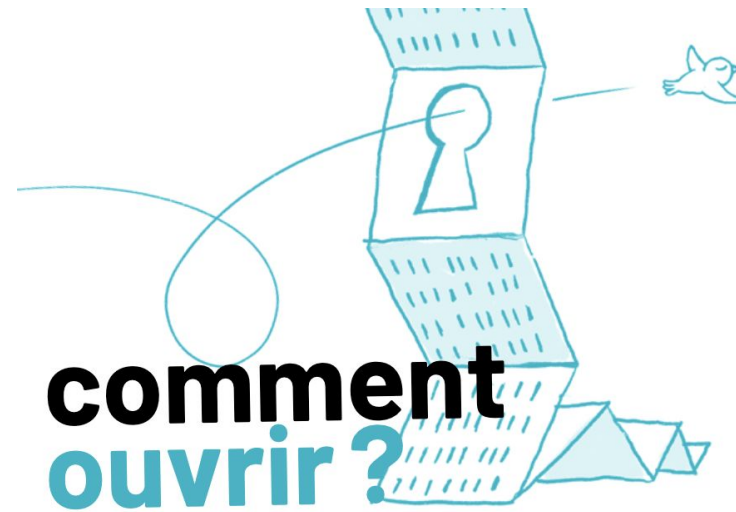


<https://www.ouvrirlascience.fr/science-ouverte-codes-et-logiciels/>

Le logiciel c'est quoi ?	4
Pourquoi ouvrir ?	6
Comment ouvrir ?	7
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<https://www.ouvrirlascience.fr/science-ouverte-codes-et-logiciels/>





Version control



Collaboration

GitHub



GitLab





- Web platforms
- Aggregate communities
 - Bug report
 - Suggest new functionalities
 - Interactivity
- Offer many services
 - Manage contributors and rights
 - Documentation (wiki)
 - Continuous integration (automated testing/build)
 - Plan roadmap and releases
 - ...



- Powerful tools
- Unmissable in a developer's life, but not only



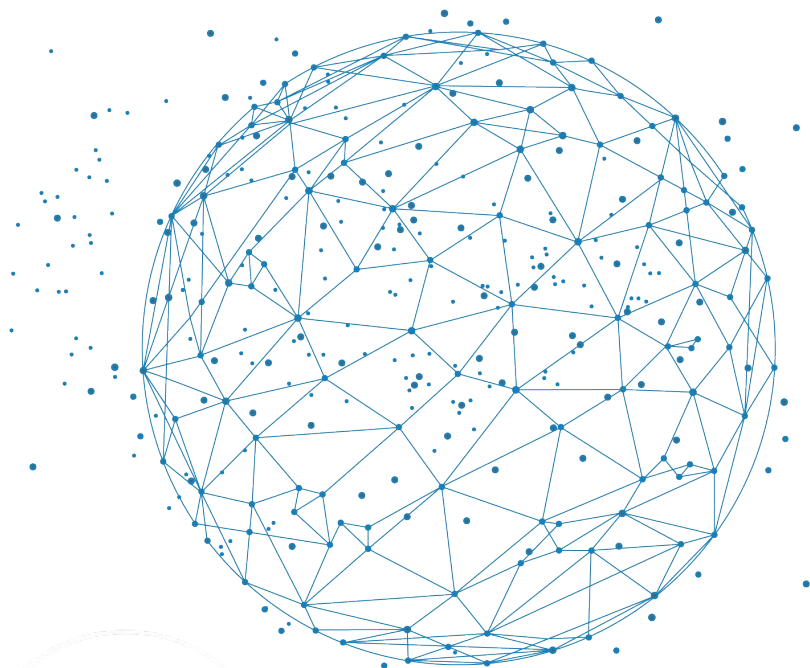


The screenshot shows the GitHub interface for the repository 'colomoto / colomoto-docker'. The main content is a preview of a Jupyter Notebook titled 'Usecase - Mutations enabling tumour invasion.ipynb'. The notebook title is 'Prediction of Mutations to Control Pathways Enabling Tumour Cell Invasion with the CoLoMoTo Interactive Notebook (Tutorial)'. The authors listed are Nicolas Levy^{1,2}, Aurélien Naldi³, Céline Hernandez³, Gautier Stoll⁴⁻⁸, Denis Thieffry³, Andrei Zinovyev⁹⁻¹¹, Laurence Calzone⁹⁻¹¹, and Loïc Paulevé^{1,*}. A detailed list of affiliations follows, including LRI UMR 8623, Université Paris-Sud, CNRS, Université Paris-Saclay, Orsay, France; École Normale Supérieure de Lyon, France; Computational Systems Biology team, Institut de Biologie de l'École Normale Supérieure, CNRS UMR8197, INSERM U1024, École Normale Supérieure, PSL Université, Paris, France; Université Paris Descartes/Paris V, Sorbonne Paris Cité, Paris, France; Équipe 11 labellisée Ligue Nationale contre le Cancer, Centre de Recherche des Cordeliers; Paris, France; Institut National de la Santé et de la Recherche Médicale, U1138; Paris, France; Université Pierre et Marie Curie, Paris, France; Metabolomics and Cell Biology Platforms, Gustave Roussy Cancer Campus; Villejuif, France; Institut Curie, PSL Research University, Paris, France; INSERM, U900, Paris, France; MINES ParisTech, PSL Research University, CBIO-Centre for Computational Biology, Paris, France.



- Powerful tools
- Unmissable in a developer's life, but not only
- Very often used without thinking
- Very often taken for granted
- Very often not really known

GitHub

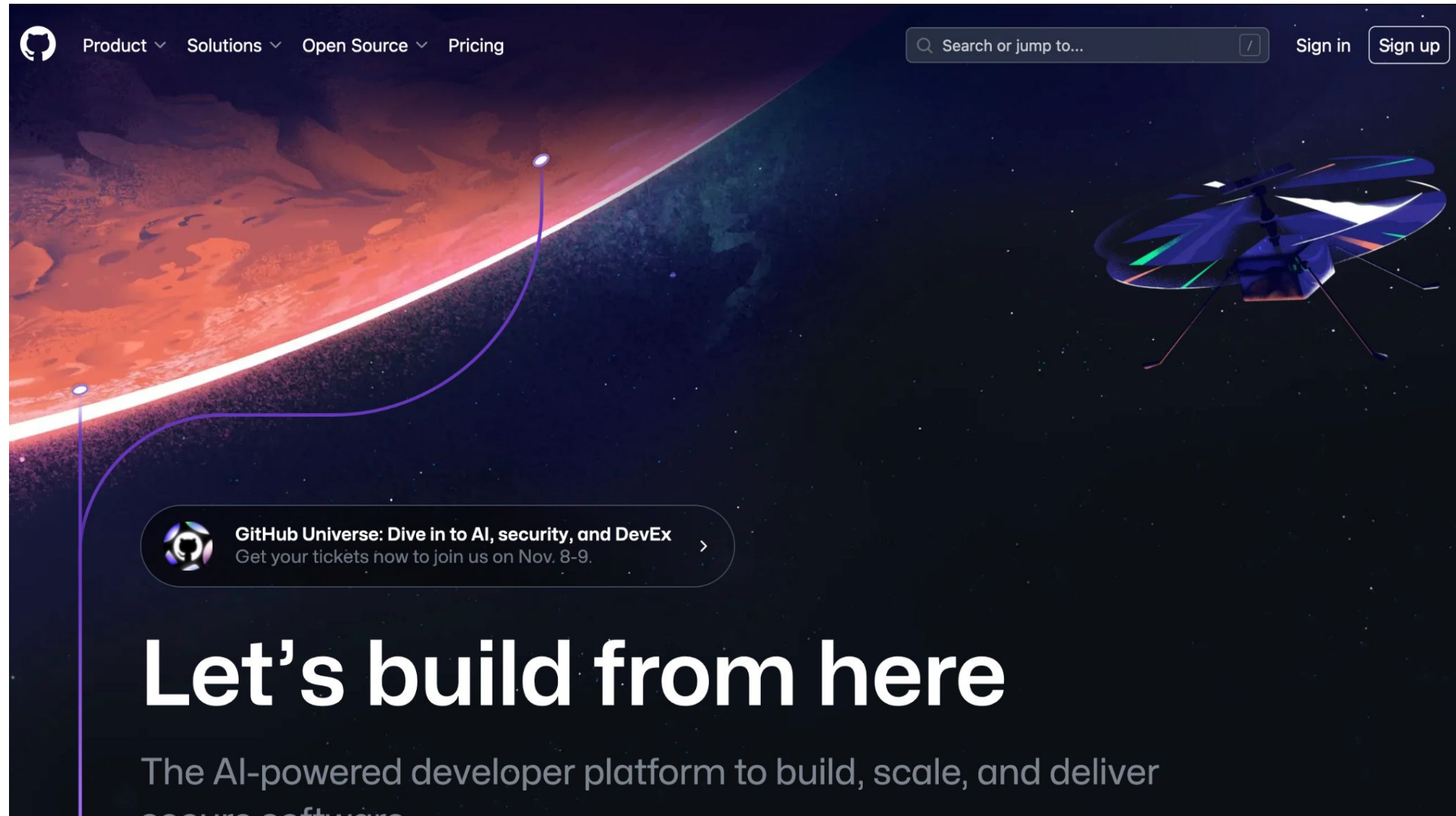




Quizz

Captu

- 1 public institute (governmental)?
- 2 semi-public institute?
- 3 not-for-profit organisation?
- 4 private company?





Company

About

Blog

Careers

Press

Inclusion

Social Impact


Shop




GitLab, a **GitHub** alternative?

A screenshot of a web browser displaying the 'The company' page on about.gitlab.com. The browser's address bar shows the URL 'https://about.gitlab.com/company/'. The page header includes the GitLab logo (a stylized fox head) and a 'Get free trial' button. The main content area is titled 'The company' and features a large white box containing the GitLab logo and the text: 'GitLab Inc. is an open-core company that sells subscriptions that offer more features and support for GitLab.' Below this text is a link that says 'Learn about open core →'.

← → ↻ 🏠 <https://about.gitlab.com/company/> ⌵ ⋮ ⛶ ☆ ⭐ ⬇️ 📄 👤 ☰

 [Get free trial](#) 🔍 ☰

The company



GitLab Inc. is an open-core company that [sells subscriptions](#) that offer more features and support for GitLab.

[Learn about open core →](#)



Koda

GitLab instance



https://src.koda.cnrs.fr

Rechercher

Mail CNRS Gmail Partage Zoom CNRS Site I2BC - PFNGS JupyterLab (auto-W) Intranet CNRS Etherpad EtamineMISSIONS Notilus InOne

Autres marque-pages

Your work > Projects

Welcome to GitLab

Faster releases. Better code. Less pain.

- Create a project**
Projects are where you store your code, access issues, wiki and other features of GitLab.
- Create a group**
Groups are the best way to manage projects and members.
- Explore public projects**
Public projects are an easy way to allow everyone to have read-only access.
- Learn more about GitLab**
Take a look at the documentation to discover all of GitLab's capabilities.

Your work

- Projects
- Groups
- Issues
- Merge requests
- To-Do List
- Milestones
- Snippets
- Activity
- Help

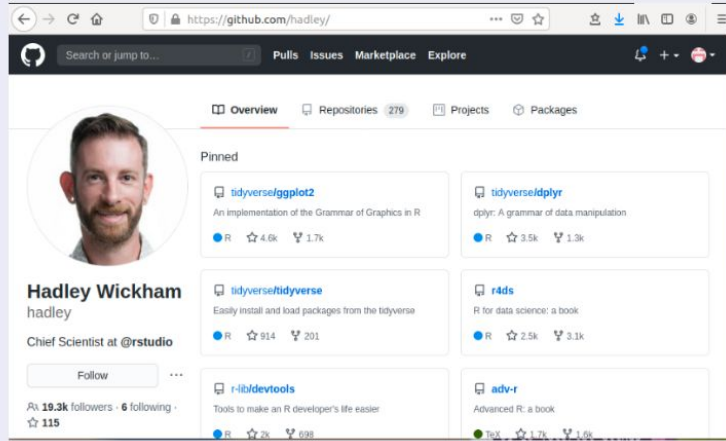


Quizz

- 1 social network?
- 2 desktop application?
- 3 tool to create websites?
- 4 stable repository to publish any file?



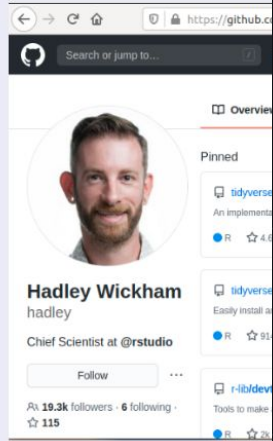
a social network ✓



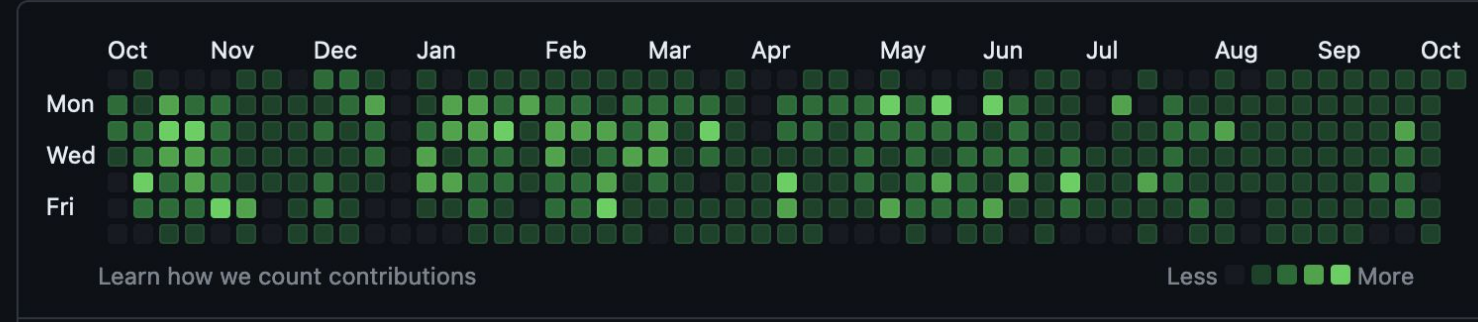
<https://github.com/hadley>



a social network



4,385 contributions in the last year



- @r-lib
- @rstudio
- @tidyverse
- More

Activity overview

Contributed to [rstudio/renv](#), [rstudio/rsconnect](#), [r-lib/testthat](#) and 286 other repositories



Contribution activity

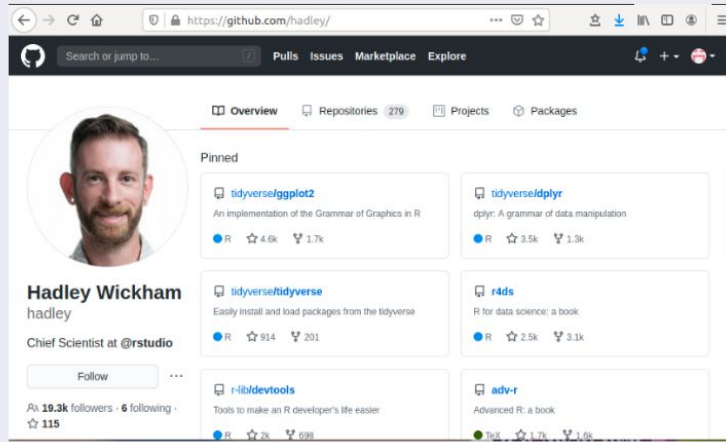
October 2023

- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
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- 2014
- 2013
- 2012
- 2011
- 2010
- 2009

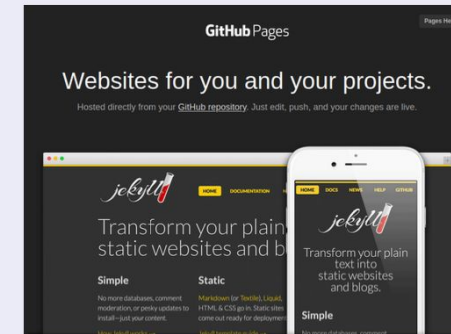
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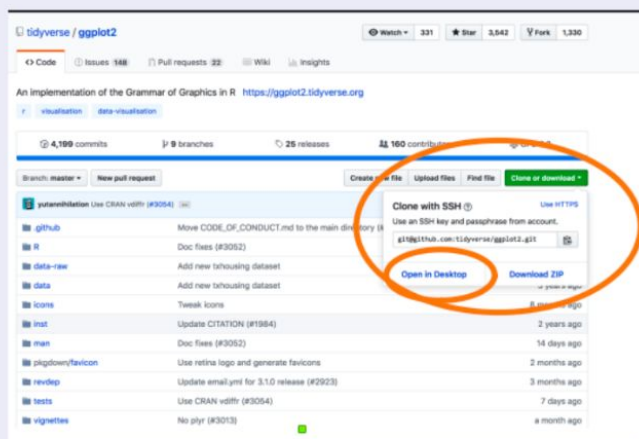
a social network ✓



a tool to create websites ✓

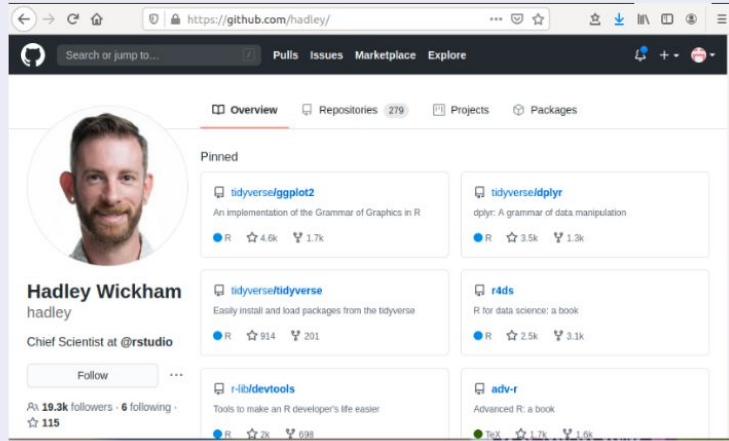


a desktop application ✓

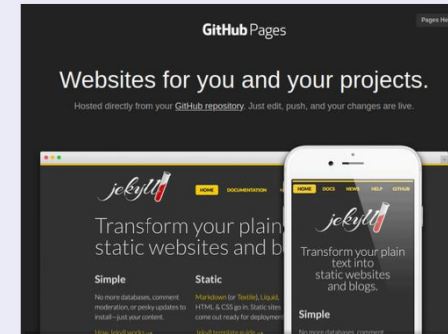




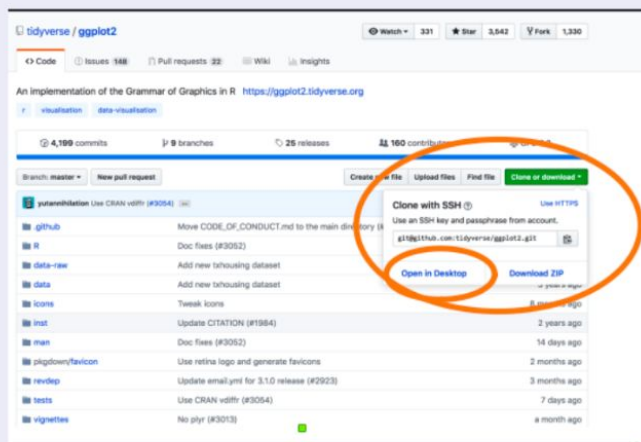
a social network ✓



a tool to create websites ✓



a desktop application ✓



a stable repository ...

Popularity [edit]

Name	Users	Projects	Alexa rank (lower = more popular)
Assembla	Unknown	526,581 ^[44]	35,454 as of 28 July 2020 ^[47]
Bitbucket	5,000,000 ^[48]	Unknown	1,341 as of 28 July 2020 ^[49]
Buddy	Unknown	Unknown	39,857 as of 28 July 2020 ^[50]
CloudForge	Unknown	Unknown	402,884 as of 28 July 2020 ^[51]
Gitea	Unknown	Unknown	236,332 as of 28 July 2020 ^[52]
GitHub	31,000,000 ^[53]	100,000,000 ^[53]	78 as of 28 July 2020 ^[54]
GitLab	100,000 ^[55]	546,000 ^[56]	2,710 as of 28 July 2020 ^[57]
GNU Savannah	93,346 ^[58]	3,848 ^[58]	162,054 as of 28 July 2020 ^[59]
Launchpad	3,965,288 ^[60]	40,881 ^[61]	11,533 as of 28 July 2020 ^[62]
OSDN	54,826 ^[63]	6,294 ^[63]	8,708 as of 28 July 2020 ^[64]
Ourproject.org	6,353 ^[65]	1,846 ^[65]	1,083,012 as of 28 July 2020 ^[66]
OW2 Consortium	Unknown	Unknown	1,509,677 as of 28 July 2020 ^[67]
Rosetta code	Unknown	Unknown	66,029 as of 28 July 2020 ^[68]
SEUL	Unknown	Unknown	1,602,812 as of 28 July 2020 ^[69]
SourceForge	3,700,000 ^[70]	500,000 ^[70]	470 as of 28 July 2020 ^[71]
Name	Users	Projects	Alexa rank (lower = more popular)

https://en.wikipedia.org/wiki/Comparison_of_source-code-hosting_facilitiesen.wikipedia,

Microsoft to acquire GitHub for \$7.5 billion

June 4, 2018 | Microsoft News Center



Acquisition will empower developers, accelerate GitHub's growth and advance Microsoft services with new audiences



lions3 > Patrick Lucas Austin

6/04/18 11:44am



14

So many issues with MS buying GitHub.

First, now you have one of the big software companies that SELLS software owning the site where all the open source companies store their free software. Plus how many of their competitors store code there too. Even if their intentions are good.. do you WANT the Googles, Apples, Microsofts of the world owning these servers?

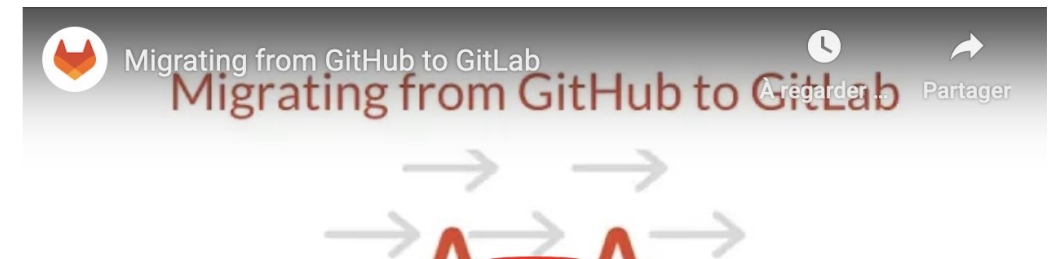
Anyone like what MS did to LinkedIn?

Microsoft has a history of ignoring software standards and just creating their own.

These guys created Sharepoint. Just saying.

I'm already seeing my developer friends moving their libraries off of GitHub. While others are trying to decide which other service to use. Such as BitBucket and GitLab.

HAHA.. look at this training video GitLab just posted.



<https://gizmodo.com/microsoft-buys-github-and-some-people-are-pisse-d-1826533362>



Microsoft to acquire GitHub for \$7.5 billion

June 4, 2018 | Microsoft News Center



Acquisition will empower developers, accelerate GitHub's growth and advance Microsoft services with new audiences



Enterprise

Four years after being acquired by Microsoft, GitHub keeps doing its thing

Frederic Lardinois @fredericl / 8:32 PM GMT+2 • October 26, 2022

Comment



Image Credits: GitHub

<https://techcrunch.com/2022/10/26/four-years-after-being-acquired-by-microsoft-github-keeps-doing-its-thing/>

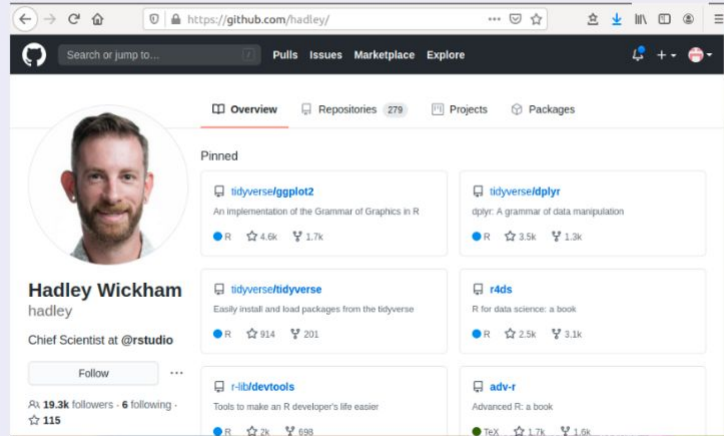


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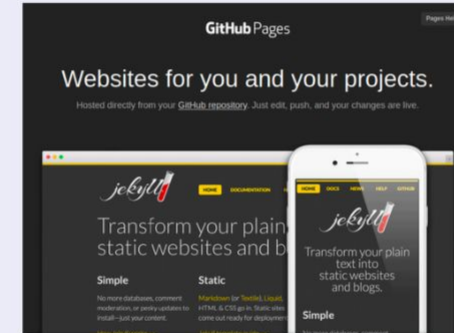
https://en.wikipedia.org/wiki/Comparison_of_source-code-hosting_facilities (08/10/2023)



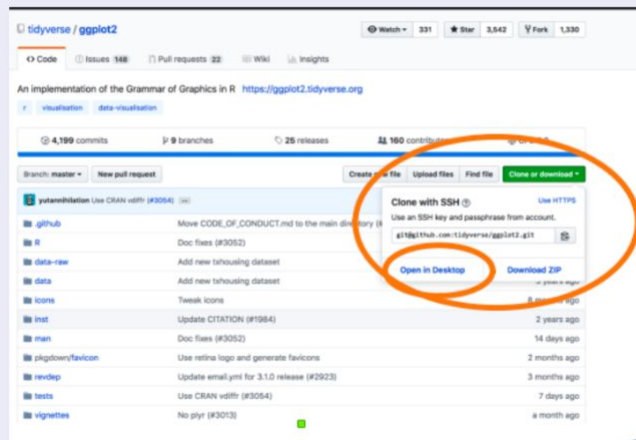
a social network ✓



a tool to create websites ✓



a desktop application ✓



... to publish any file ✓ ✗

Files for which git can calculate the difference between versions. Usually txt files of reasonable size:

- R script: ✓
- Python script: ✓
- pdf file: ✗
- fastq file: ✗



DOI?



GitHub



Archive?



Software Heritage

Archive



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RIP Google code... (2006-2016)



Google Code Archive

Welcome! The Google Code Archive contains the data found on the Google Code Project Hosting Service, which was turned down in early 2016.

This archive contains over 1.4 million projects, 1.5 million downloads, and 12.6 million issues. You can learn more about the data served from Google Cloud Storage [here](#).

Google Code offered open-source project hosting on other domains besides just code.google.com, too. Explore the projects Google Code hosted below:

Google Code



Eclipse Labs



Apache Extras



<https://code.google.com/archive/>

Sharing is not archiving

unesco "Building peace in the minds of men and women"

IN BRIEF WHAT WE DO WHERE WE WORK PARTNERS JOIN US RESOURCES

Home > Software Heritage


Software Heritage

Software Heritage

"Part of our Heritage, Pillar of our Present, Enabler of our Future" Paris Call on Software Source Code as Heritage for Sustainable Development

In today's digital world, software is everywhere: it allows our phones and computers to run, it powers our industries, it represents the basis of scientific research, it interfaces citizens with their states and enables the access to public services, among many other applications. In one word, software shapes every aspect of our lives.

However, software is often disregarded, and its preservation is at stake. Until recently, software source code was not stored in a reliable archive, but was either offline and not available to the public or it was stored on working platforms which may one day disappear. The lack of recognition that

This common understanding and the resolve to protect software source code constitutes the essence of the collaboration between UNESCO and Inria, the French national research institute for the digital sciences. Inria first incubated the project **Software Heritage** , which safely collects, curates and archives software source code and is the first worldwide archive of software. UNESCO collaborates to the project through its programs on documentary heritage preservation and access, including the Memory of the World programme and the Free and Open Source Software programme.

These were the key moments of the collaboration between Inria and UNESCO within the Software Heritage Project:

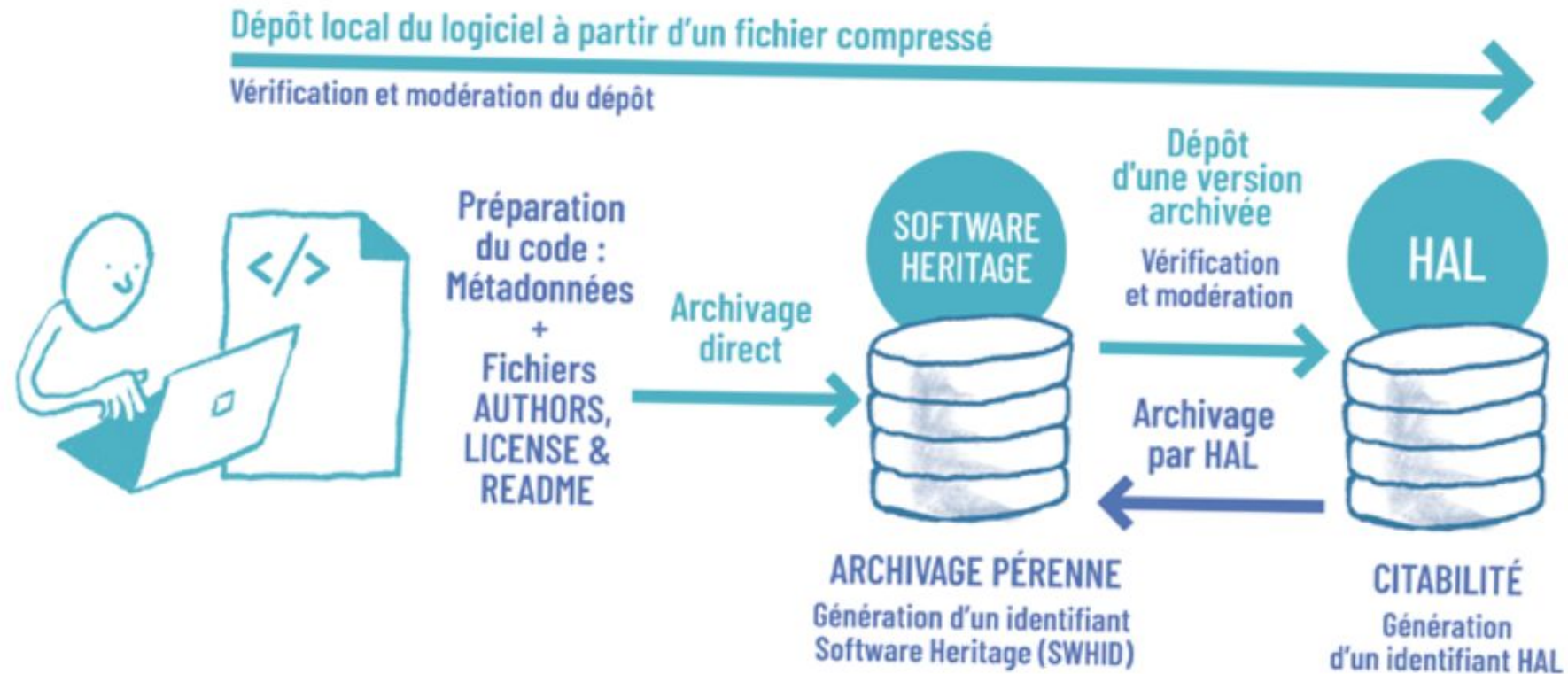
April, 2017: Agreement signed between UNESCO and Inria

June, 2018: Software Heritage launch ceremony at UNESCO

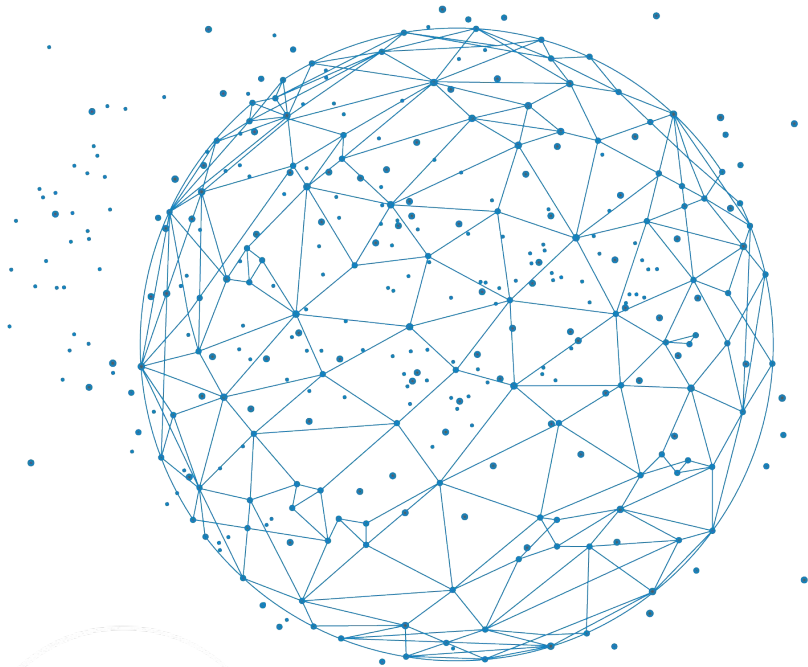
November, 2018: The Paris Call. Software Source Code as Heritage for Sustainable Development

October, 2019: Software Heritage Acquisition Process

La plateforme Software Heritage permet de s'assurer très simplement de l'archivage et du référencement des logiciels disponibles publiquement et sans embargo. Le dépôt peut être fait aussi directement sur ▼HAL. L'archive ouverte HAL permet, en collaboration avec ▼Software Heritage, de gérer la description et la citation des logiciels de recherche [↗](#).



GitHub (bis)

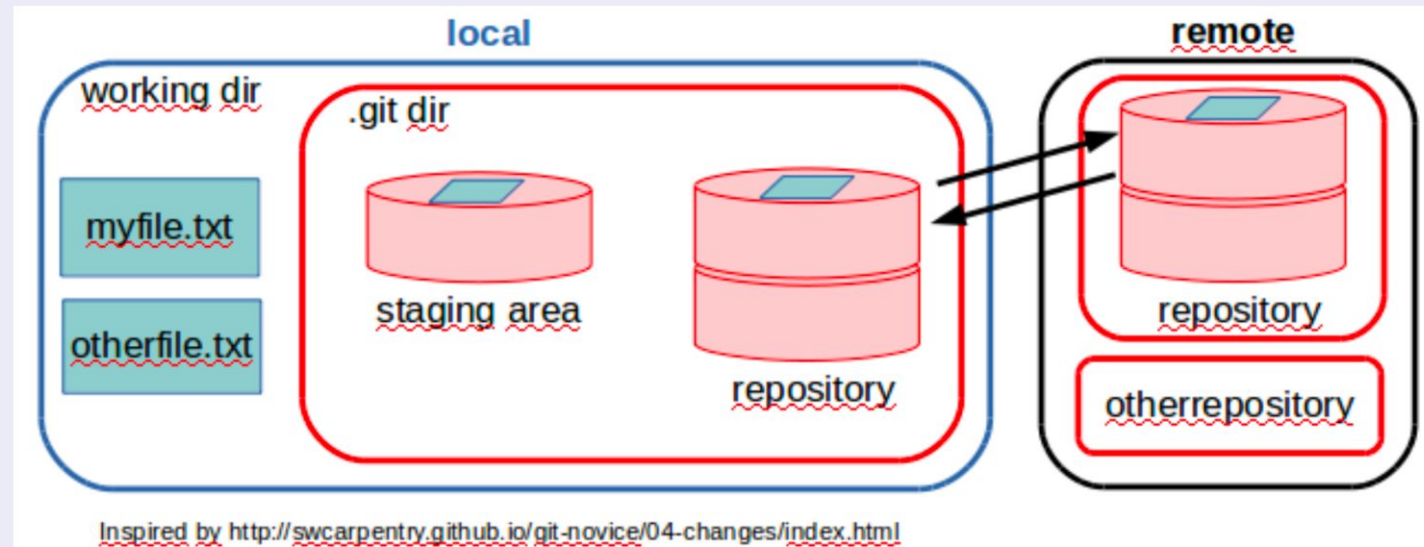


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GitHub:

- so used that Microsoft was interested in it (bought in june 2018)
- web-based: graphical interface + many more features than git
- git-based: git concepts and commands are retained
- commands for "sharing": `git push origin master` (local to remote) and `git pull origin master` (remote to local):





Concepts, objects

- user: your account on GitHub (unlimited for academics)
- organization: account for one or more user (e.g., swcarpentry)
- local GitHub: copies of GitHub files located your computer
- remote GitHub: your GitHub files located on <https://github.com>
- fork: a copy of a GitHub repository to your own GitHub account
- push: send changes on the working repository to your remote GitHub repository
- pull: copy changes on the remote GitHub repository to your local GitHub repository (useful when multiple people make changes)
- pull request: propose your changes to the initial forked GitHub repository. Also a place to compare and discuss the differences introduced on a branch with reviews, comments, integrated tests, etc



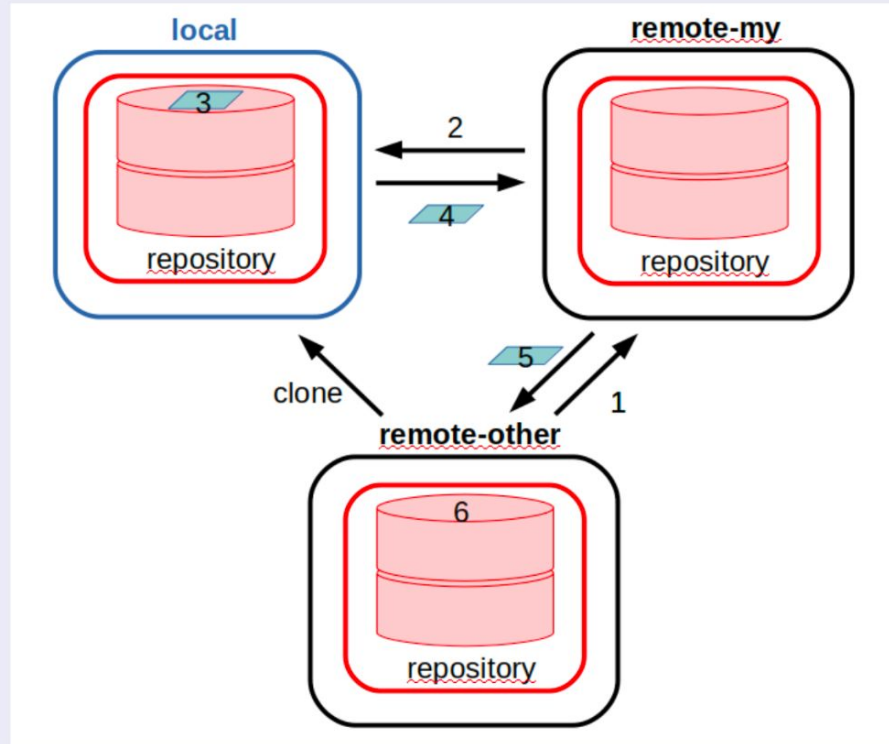
Clone vs. Fork?

- clone is git, fork is github
- all 2 copy a .git repository: clone copy it in your local machine, fork in your github account (do a clone)
- good practice: work (change files) in the local copy, not in the github copy (only for minor changes)
- to share your changes with the original repository, need a fork (by the way of a pull request)

<https://opensource.com/article/17/12/fork-clone-difference>



Recommended flow to collaborate



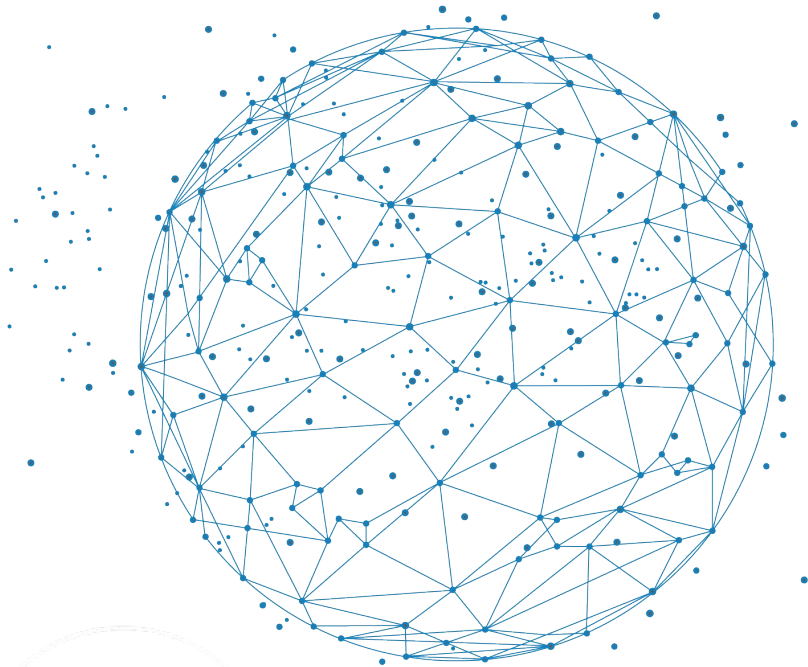
(direct clone from github don't allow to collaborate)

- 1: fork a repository of interest in your github account
- 2: clone from your github account to your local place
- 3: make change (branch, add, commit, merge)
- 4: push change to your github account
- 5: pull request to propose your change to the initial project
- 6: wait (discuss) for integrating your change or not

Event & date

Title

Authors / speakers



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