

VERZIONIRANJE IZVORNOG KODA

U slučaju požara



1. git commit



2. git push



3. napusti zgradu

In case of fire



1. git commit



2. git push



3. leave the building

Sustavi za verzioniranje koda

Definicije

Skup alata koji imaju sposobnost praćenja različitih verzija izvornog koda

Jon Loeliger, Matthew McCullough (2012)

Kategorija programskih alata koji pomažu razvojnim timovima praćenje promjena na kodu tijekom vremena

<https://www.atlassian.com/git/tutorials/what-is-version-control>

Varijacije na temu

VCS: Version Control System

SCM: Source Code Manager

RCS: Revision Control System

Kalkulator -> Digitron | Sustav za verzioniranje koda -> Git

Git is an Open Source project covered by the GNU General Public License version 2 (some parts of it are under different licenses, compatible with the GPLv2). It was originally written by Linus Torvalds with help of a group of hackers around the net.

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

Povijest

**M.J. Rochkind. “The Source Code Control System”
IEEE Transactions on Software Engineering 1(4) (1975): 364-370**



Marc J. Rochkind was born in Baltimore, Md., on June 12, 1948. He received the B.S.M.E. degree from the University of Maryland, College Park, and the M.S.M.E. degree from Rutgers University, New Brunswick, N.J., in 1970 and 1972, respectively.

Since 1970 he has been a member of the Technical Staff at Bell Laboratories, Murray Hill, N.J. He is currently engaged in the development of software systems for use by Bell Telephone companies.

Walter F. Tichy. “RCS: A System from Version Control” Software Practice and Experience 15(7) (1985): 637-654

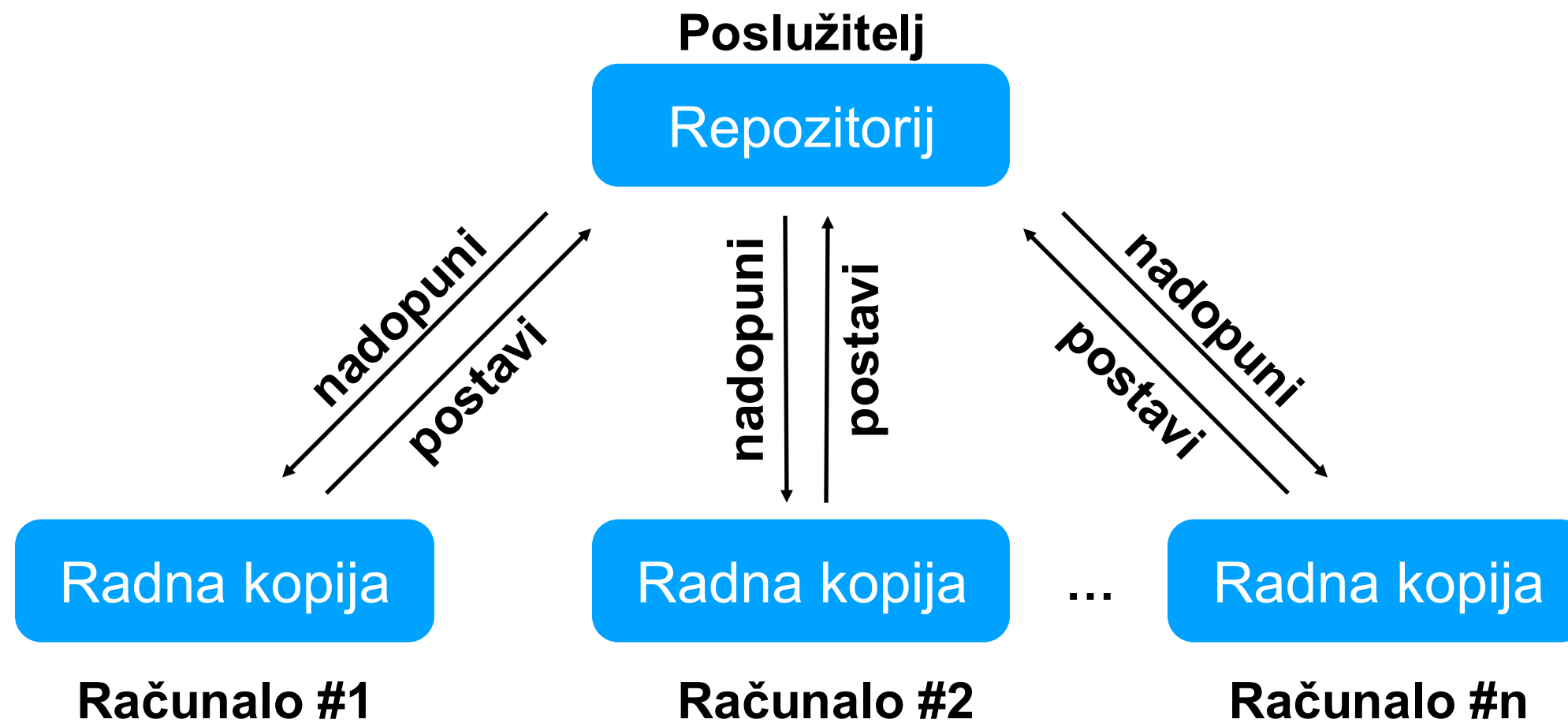
Walter F. Tichy

Department of Computer Sciences
Purdue University
West Lafayette, Indiana 47907

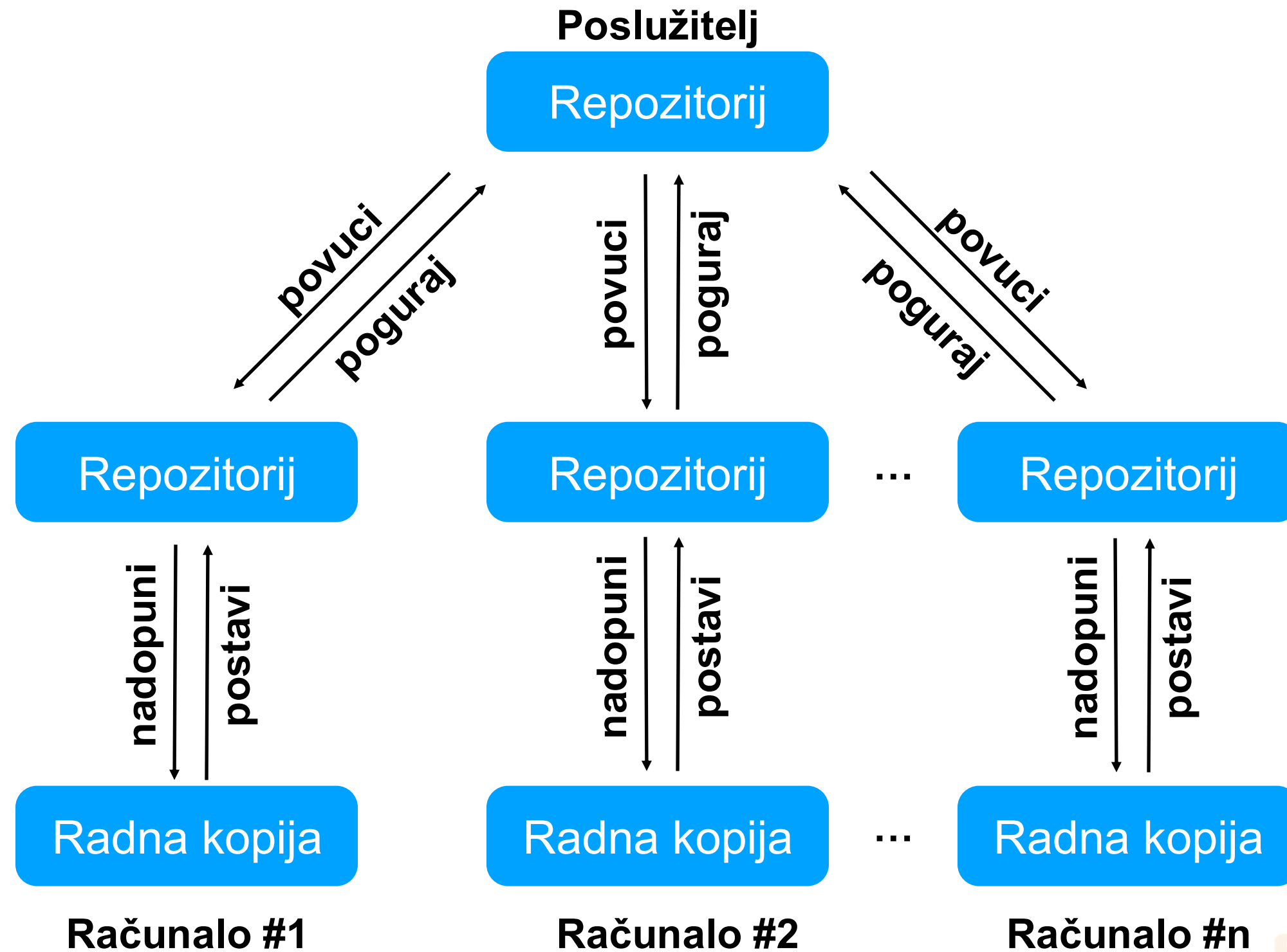
<http://www-public.imtbs-tsp.eu/~gibson/Teaching/Teaching-ReadingMaterial/Rochkind75.pdf>
<http://www.gnu.org/software/rcs/tichy-paper.pdf>

Vrste sustava za verzioniranje izvornog koda

Centralizirani sustav



Distribuirani sustav



Sustavi za verzioniranje koda

- PVCS Version Manager (1985)

- CVS (1986)

- IBM Relational ClearCase (1986)

- SourceSave (1991)

- CMVC (1994)

- Microsoft Delta (1994)

- Borland StarTeam (1995)

- Perforce (1995)

- Sun Workshop TeamWare (1996)

- BitKeeper (1998)

- CVSNT (1998)

- BitKeeper (2000)

- Subversion (2000)

- GNU Arch (2001)

- AcuRev (2002)

- Darcs (2002)

- DCVS (2002)

- Monotone (2003)

- SVK (2003)

- SourceGear Valt (2003)














- mercurial (2005)

- Microsoft TFVC (2005)

- git (2005)

- Fossil (2006)

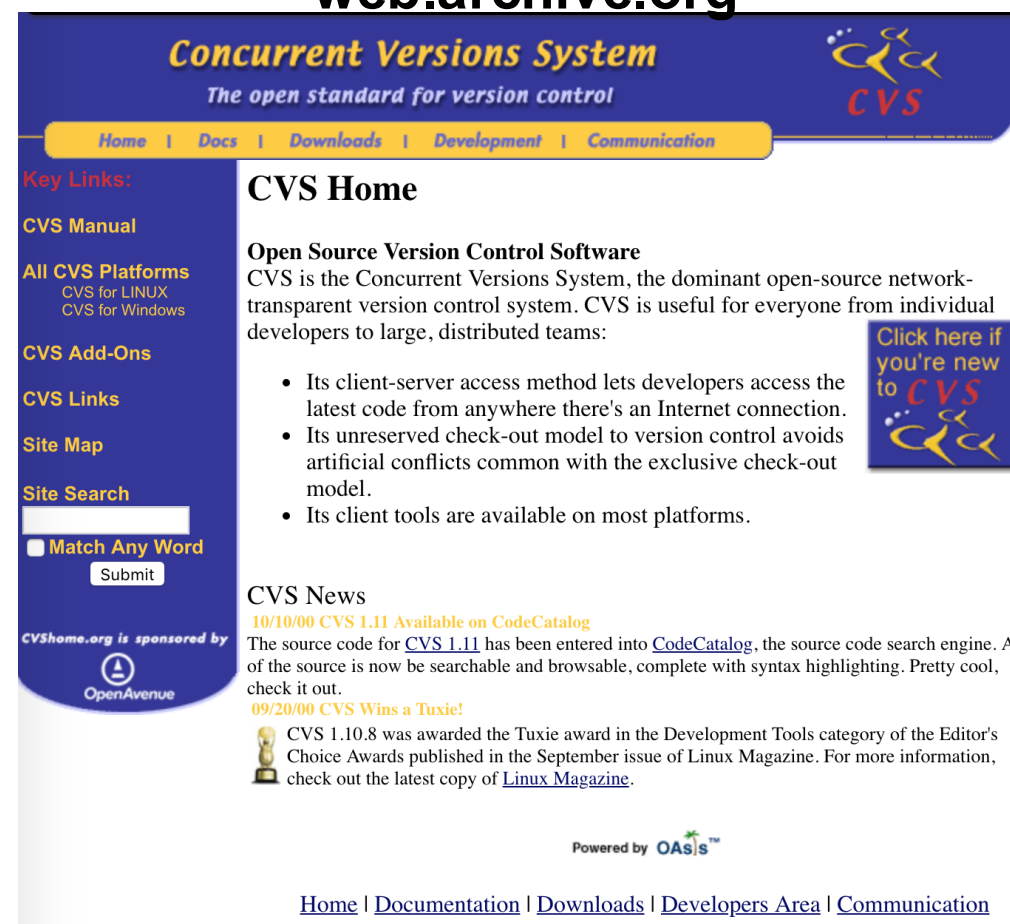
- Bazaar (2007)

	Git by Git ★★★★★ (36 reviews) Distributed source control system that helps software developers to track and manage multiple revisions of the same project. Learn more about Git	View Profile
	Team Foundation Server by Microsoft ★★★★☆ (26 reviews) Store and share code, capture and track work, and automate CI processes with these collaboration tools for software development teams. Learn more about Team Foundation Server	View Profile
	FundView Permits by Fund Accounting Solution Technologies ★★★★★ (19 reviews) FundView Permits streamlines the permitting process with simplified tools. Learn more about FundView Permits	View Profile
	Apache Subversion by Apache Software Foundation ★★★★★ (2 reviews) Open-source revision control system that provides interactive conflict resolution, merge tracking, file locking, and more. Learn more about Apache Subversion	View Profile
	IBM Rational ClearCase by IBM ★★★★☆ (2 reviews) Configuration management solution designed to track changes and control access to enterprise software assets. Learn more about IBM Rational ClearCase	View Profile
	CA Harvest SCM by CA Technologies ★★★★★ (1 review) Software change management solution for development teams to simplify change merging and review, source code versioning, and more. Learn more about CA Harvest SCM	View Profile
	SourceAnywhere by Dynamsoft ★★★★★ (1 review) This software allows multiple users to work on code from many operating systems. It is simple and secure. Learn more about SourceAnywhere	View Profile
	SourceGear Vault by SourceGear ★★★★☆ (1 review) Bug tracking and source control software that automates code versioning, build management, work item tracking, and more. Learn more about SourceGear Vault	View Profile
	Mercurial by Mercurial ★★★★☆ (1 review) Distributed revision control tool with advanced committing, merging, and branching capabilities for software developers. Learn more about Mercurial	View Profile
	BitKeeper by BitKeeper ★★★★☆ (0 reviews) Distributed SCM system with simple-to-use command line interface and auto-merging capability for projects of any size. Learn more about BitKeeper	View Profile
	Kallithea by Kallithea ★★★★☆ (0 reviews) Source code management solution that includes web editor, code review, access management, and issue tracking capabilities. Learn more about Kallithea	View Profile
	Plastic SCM by Codice Software ★★★★☆ (0 reviews) Distributed version control solution that comes with GUI, built-in semantic diffs, branching and merging for big projects. Learn more about Plastic SCM	View Profile
	RhodeCode by RhodeCode ★★★★☆ (0 reviews) Distributed version control solution that comes with GUI, built-in semantic diffs, branching and merging for big projects. Learn more about RhodeCode	View Profile

CVS

“CVS started out as a bunch of shell scripts written by Dick Grune, posted to the newsgroup comp.sources.unix in the volume 6 release of July, 1986.”

05. prosinca 2000 via web.archive.org

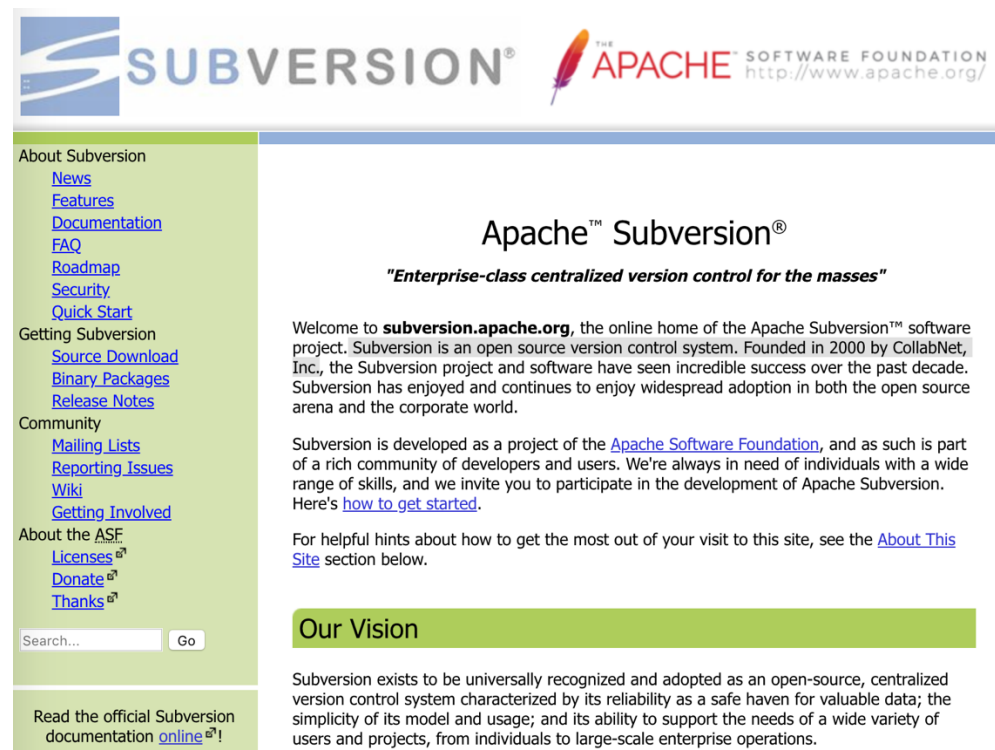


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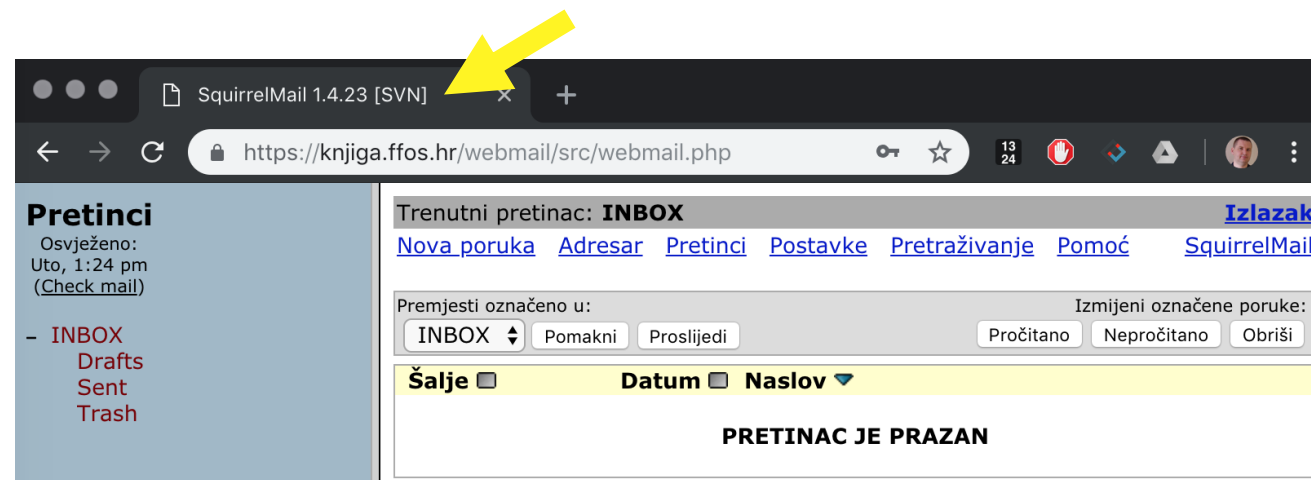
Apache™ Subversion®

“Subversion is an open source version control system. Founded in 2000 by CollabNet, Inc.”

<https://subversion.apache.org/>



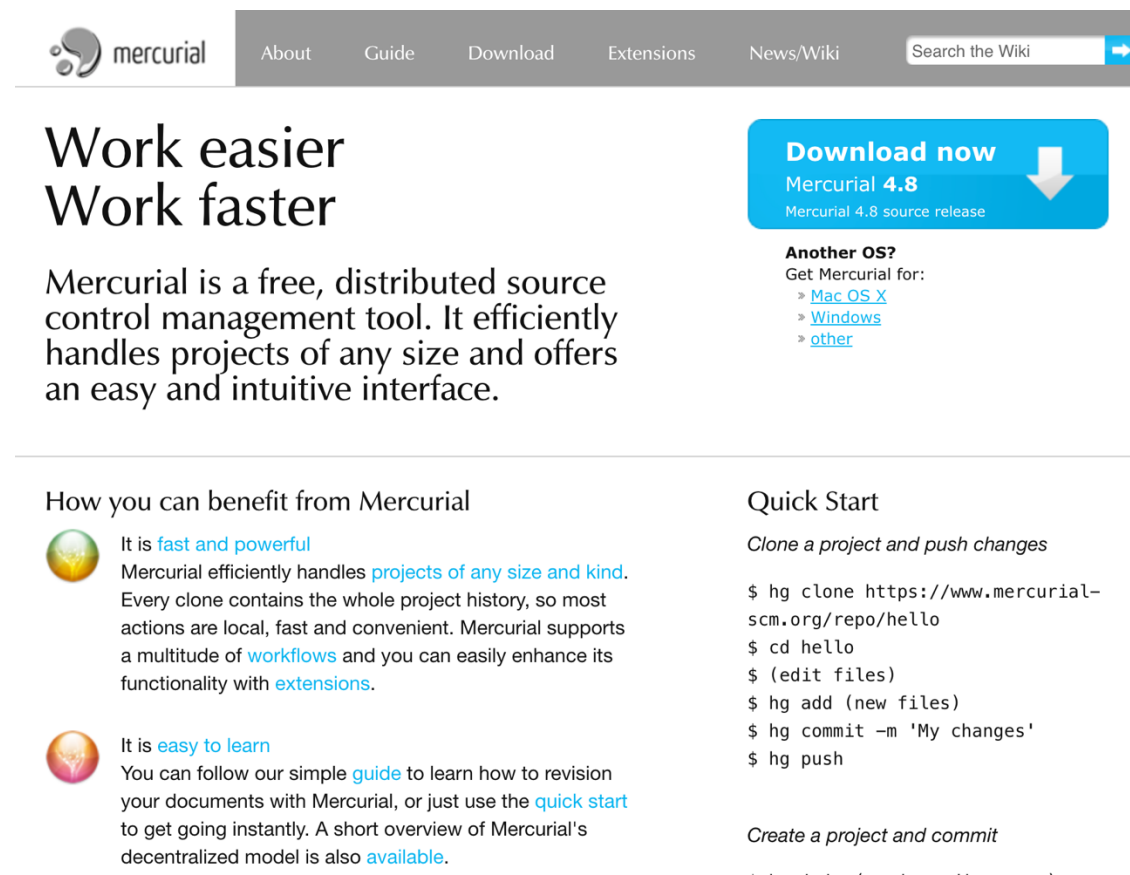
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mercurial

“Mercurial is a free, distributed source control management tool.
It efficiently handles projects of any size and offers an easy and intuitive interface.”

<https://www.mercurial-scm.org/>



The screenshot shows the Mercurial website homepage. At the top is a navigation bar with the Mercurial logo and links for About, Guide, Download, Extensions, and News/Wiki. A search bar is also present. The main content area features a large heading "Work easier Work faster" followed by a paragraph describing Mercurial as a free, distributed source control management tool. To the right of this text is a blue "Download now" button for Mercurial 4.8, with links for "Mac OS X", "Windows", and "other". Below the main text, there are two sections: "How you can benefit from Mercurial" and "Quick Start". The "How you can benefit from Mercurial" section has two items: "It is fast and powerful" and "It is easy to learn". The "Quick Start" section includes the command "Clone a project and push changes" and a list of terminal commands: "\$ hg clone https://www.mercurial-scm.org/repo/hello", "\$ cd hello", "\$ (edit files)", "\$ hg add (new files)", "\$ hg commit -m 'My changes'", and "\$ hg push".

mercurial

About Guide Download Extensions News/Wiki Search the Wiki

Work easier Work faster

Mercurial is a free, distributed source control management tool. It efficiently handles projects of any size and offers an easy and intuitive interface.

Download now
Mercurial 4.8
Mercurial 4.8 source release

Another OS?
Get Mercurial for:
» [Mac OS X](#)
» [Windows](#)
» [other](#)

How you can benefit from Mercurial

It is [fast and powerful](#)
Mercurial efficiently handles [projects of any size and kind](#). Every clone contains the whole project history, so most actions are local, fast and convenient. Mercurial supports a multitude of [workflows](#) and you can easily enhance its functionality with [extensions](#).

It is [easy to learn](#)
You can follow our simple [guide](#) to learn how to revision your documents with Mercurial, or just use the [quick start](#) to get going instantly. A short overview of Mercurial's decentralized model is also [available](#).

Quick Start

Clone a project and push changes

```
$ hg clone https://www.mercurial-scm.org/repo/hello
$ cd hello
$ (edit files)
$ hg add (new files)
$ hg commit -m 'My changes'
$ hg push
```

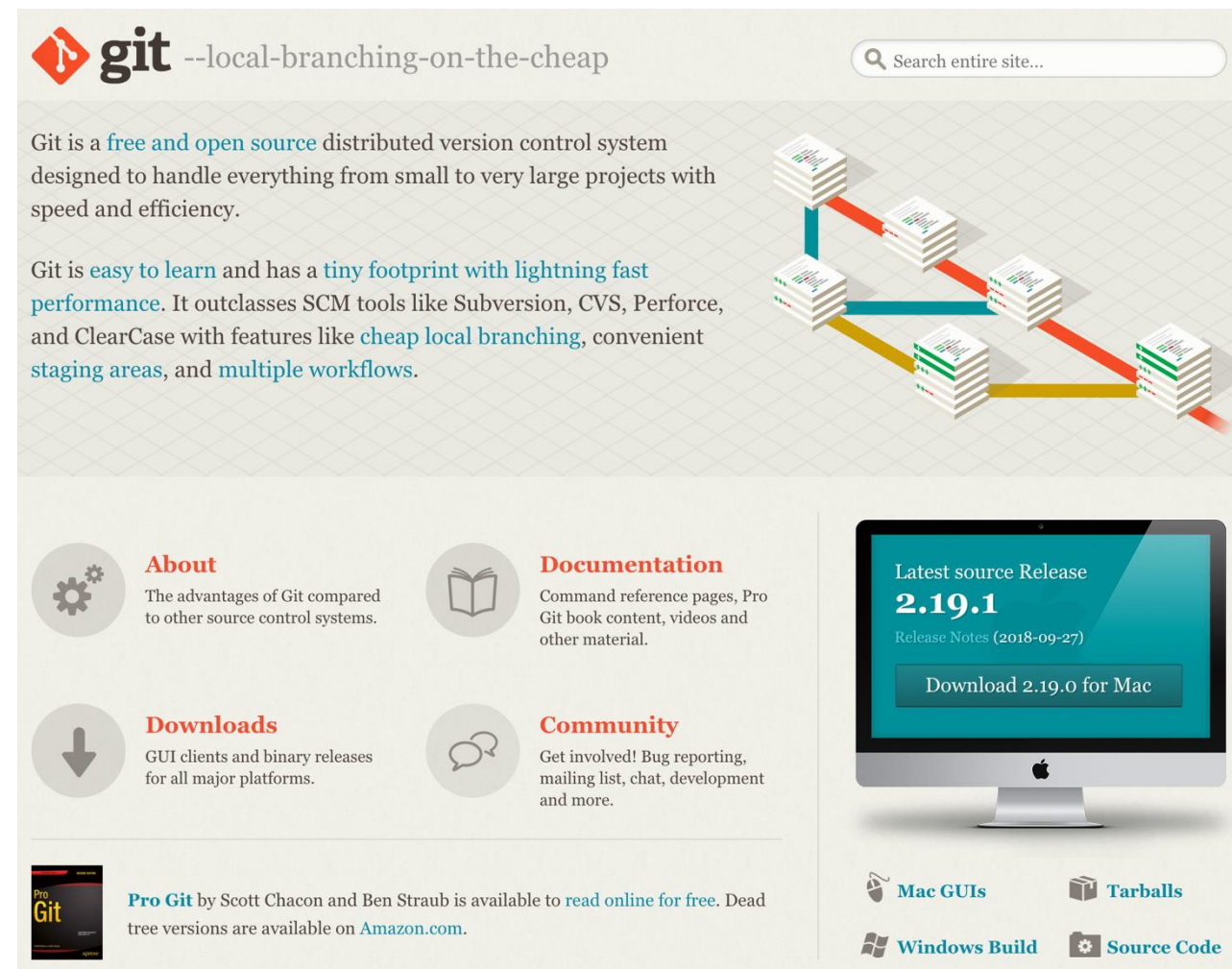
Create a project and commit

Distribuirani sustav

git

“Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.”

<https://git-scm.com/>



The screenshot shows the Git website homepage. At the top left is the Git logo (a red diamond with a white 'g') followed by the text 'git --local-branching-on-the-cheap'. To the right is a search bar with the placeholder text 'Search entire site...'. Below the logo, there is a paragraph describing Git as a 'free and open source distributed version control system' and another paragraph highlighting its 'easy to learn' nature and 'tiny footprint with lightning fast performance'. To the right of these paragraphs is a diagram illustrating Git's branching model with stacks of code and colored lines representing branches. Below the main text area, there are four sections: 'About' (advantages of Git), 'Documentation' (command reference, Pro Git book, etc.), 'Downloads' (GUI clients, binary releases), and 'Community' (bug reporting, mailing list, etc.). On the right side, there is a section for the 'Latest source Release' (2.19.1) with a 'Download 2.19.0 for Mac' button. At the bottom left, there is a section for 'Pro Git' by Scott Chacon and Ben Straub, available for free online or on Amazon. At the bottom right, there are links for 'Mac GUIs', 'Tarballs', 'Windows Build', and 'Source Code'.

git --local-branching-on-the-cheap

Search entire site...

Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**.

About
The advantages of Git compared to other source control systems.

Documentation
Command reference pages, Pro Git book content, videos and other material.

Downloads
GUI clients and binary releases for all major platforms.

Community
Get involved! Bug reporting, mailing list, chat, development and more.

Latest source Release
2.19.1
Release Notes (2018-09-27)
Download 2.19.0 for Mac

Pro Git by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Mac GUIs **Tarballs**
Windows Build **Source Code**

Distribuirani sustav

git

Timeline

With the stage set, a bit of external impetus, and a dire VCS crisis imminent, **Git** sprang to life in April 2005.

Git became self-hosted on April 7 with this commit:

```
commit e83c5163316f89bfbde7d9ab23ca2e25604af29
Author: Linus Torvalds <torvalds@ppc970.osdl.org>
Date:   Thu Apr 7 15:13:13 2005 -0700
```

Initial revision of "**git**", the information manager from hell

Shortly thereafter, the first Linux commit was made:

```
commit 1da177e4c3f41524e886b7f1b8a0c1fc7321cac2
Author: Linus Torvalds <torvalds@ppc970.osdl.org>
Date:   Sat Apr 16 15:20:36 2005 -0700
```

Linux-2.6.12-rc2

Initial **git** repository build. I'm not bothering with the full history, even though we have it. We can create a separate "historical" **git** archive of that later if we want to, and in the meantime it's about 3.2GB when imported into **git** - space that would just make the early **git** days unnecessarily complicated, when we don't have a lot of good infrastructure for it.

Let it rip!

That one commit introduced the bulk of the entire Linux Kernel into a **Git** repository.⁴ It consisted of

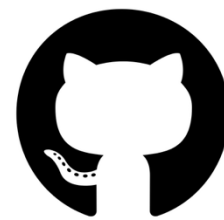
17291 files changed, 6718755 insertions(+), 0 deletions(-)

What's in a Name?

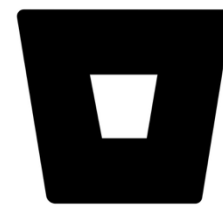
Linus himself rationalizes the name “**Git**” by claiming “I’m an egotistical bastard, and I name all my projects after myself. First Linux, now **git**.”⁵ Granted, the name “Linux” for the kernel was sort of a hybrid of Linus and Minix. The irony of using a British term for a silly or worthless person was not missed, either.

Since then, others had suggested some alternative and perhaps more palatable interpretations: the Global Information Tracker seems to be the most popular.

git repozitoriji i klijenti



github

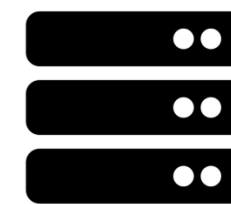


Bitbucket

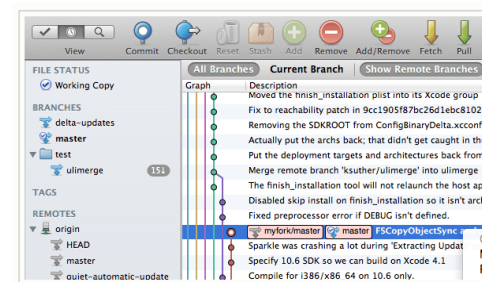
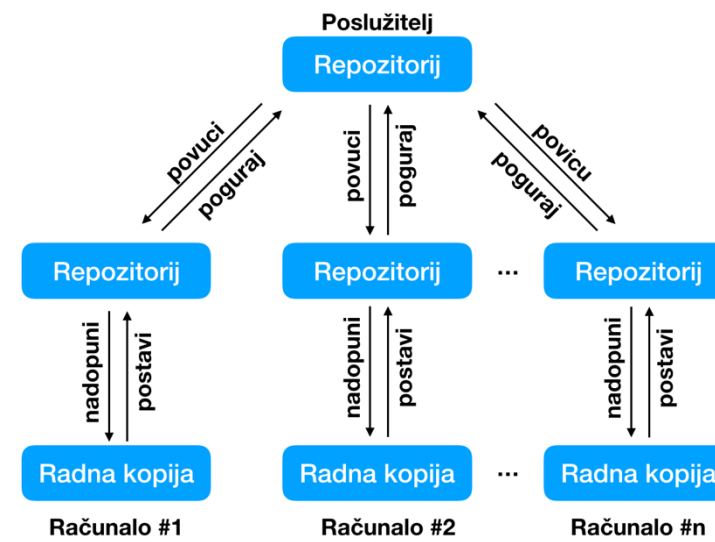


gitlab

...



vlastiti repozitorij

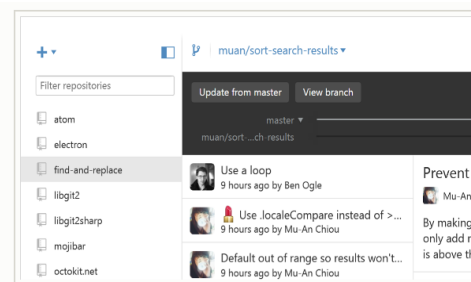


SourceTree

Platforms: Mac, Windows

Price: Free

License: Proprietary

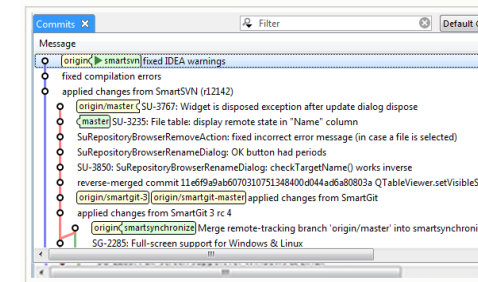


GitHub Desktop

Platforms: Mac, Windows

Price: Free

License: MIT

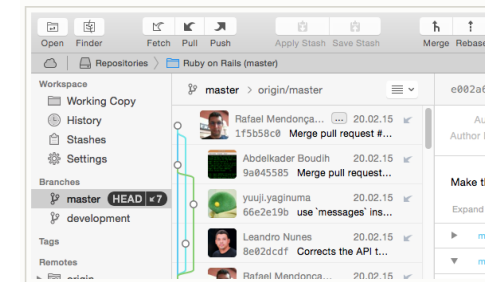


SmartGit

Platforms: Linux, Mac, Windows

Price: \$79/user / Free for non-commercial use

License: Proprietary



Tower

Platforms: Mac, Windows

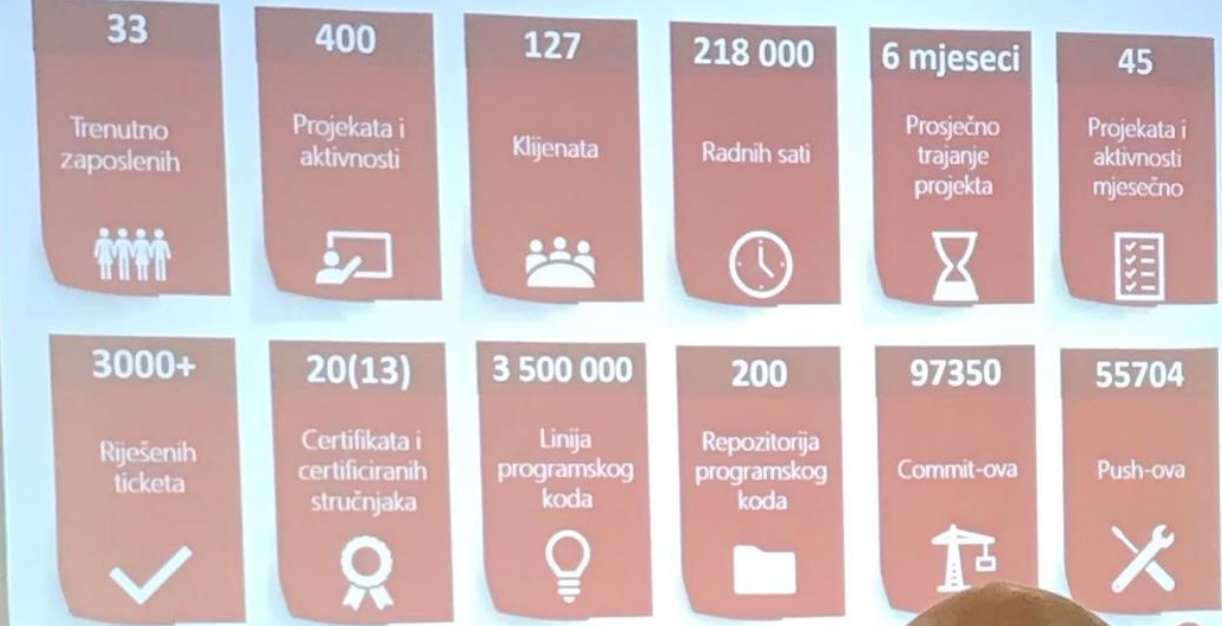
Price: \$79/user (Free 30 day trial)

License: Proprietary

<https://git-scm.com/downloads/guis>

Što smo od tada napravili?

5 godina kroz brojke



github -> dev CV



Fabien Potencier

fabpot


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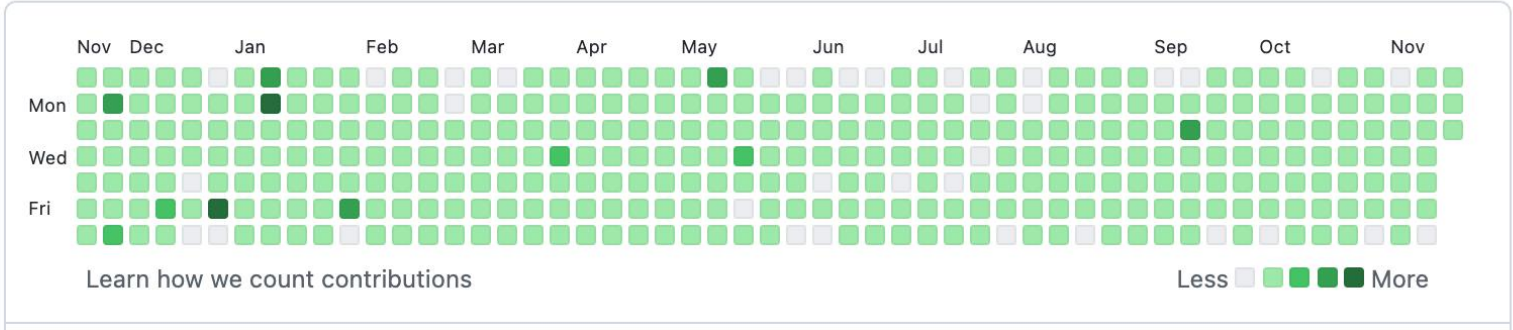
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 [symfony/symfony](#)
[Public](#)
The Symfony PHP framework
● PHP ☆ 26k 🔗 8.4k

 [twigphp/Twig](#)
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Twig, the flexible, fast, and secure template language for PHP
● PHP ☆ 7.3k 🔗 1.1k

 [splitsh/lite](#)
[Public](#)
Split a repository to read-only standalone repositories
● Go ☆ 1.4k 🔗 61

10,802 contributions in the last year



- 2021
- 2020
- 2019
- 2018
- 2017