Introduction to open-Source Software (OSS)

Concepts, strategies, and methodologies related to open-source software development

Week 04 – Lecture 04

- Vibe Coding and Getting start the OSS project

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Recap

- Licenses in a Nutshell
- Software license categories
- Aspects of Licenses
- The GPL and License Compatibility
- Choosing a License
- The community and its structure
- Why contribute to open source?

Today, Agenda

- ◯ What is Vibe Coding
- ◯ Getting start the OSS project
- ◯ Ingredients for starting new project

01

What is Vibe Coding Coding

The Impact of AI-Assisted Development on OSS Communities

What is Vibe Coding?

- **Vibe coding** is an AI-driven development paradigm where **natural language prompts generate** functional code. This shifts the developer's role from **writing every line to guiding, refining, and architecting** the AI's output, **fundamentally changing the software creation process.**

At its core, Vibe Coding is a style of AI-assisted programming where you describe what you want in natural language, and AI agents translate your request into functioning code. Instead of typing line-by-line instructions, yo set the direction and let AI handle the details.

Using **natural language prompts** to generate code via AI/LLMs

Origins and Philosophy

- Coined by AI researcher **Andrej Karpathy in 2025**, vibe coding embraces a philosophy of **minimal manual coding**.
- It encourages developers to **trust AI** with **implementation details**, **allowing humans to focus on high-level intent**, creative direction, and rapid iteration.

- **Approach**
  - **Code first, refine later"** with human oversight
- **Philosophy**
  - Focus on **iterative experimentation** rather than code correctness

Traditional vs Vibe Mindset

🧱Traditional Coding

- 📋 Task-driven, roadmap-heavy
- 🏗️ Structured processes & rigid workflows
- ⏳ Focus on deadlines & stability
- 📄 Heavy documentation upfront

🎉 Vibe Coding

- 🌊 Flow-driven, intuitive
- 🎨 Playful exploration & creativity
- 🚀 Rapid prototyping & iteration
- 💬 Lightweight docs, community-driven feedback

Vibe Coding Manifesto

01

Creative Flow

Vibe Coding channels creative flow, allowing developers to work in a rhythm that feels natural and intuitive. This state of flow makes coding feel effortless and joyful, enhancing productivity.

02

Intuition-Driven Development

It emphasizes intuition over rigid planning. Developers let their ideas guide the direction of their projects, fostering a more spontaneous and innovative approach to coding.

03

Community Energy

Vibe Coding thrives on the energy of the community. Open-source environments provide a collaborative space where developers can draw inspiration from and contribute to a shared vision.

Flow State Power

- 🎧 **Deep Focus** – coding feels effortless, time disappears
- ⚡ **Creative Sparks** – ideas connect naturally, solutions “click”
- 🚀 **High Productivity** – rapid progress without feeling forced
- 💖 **Joy in Coding** – coding becomes play, not just work

02

Principles & Ecosystem

Core Principles a

- Vibe Coding is guided by four **core principles:**
  - Freedom to explore,
  - Community-driven creativity,
  - Playful experimentation, and
  - Shared ownership of outcomes.
- These principles substitute an inclusive and innovative environment.

Open Source Meets Vibe Coding

🌐 Open Source = The Natural Home for Vibe Coding 🌐

Open source is the perfect catalyst for vibe coding, providing the transparency, flexibility, and community-driven innovation needed to build powerful, customizable AI development platforms.

Transparency + Flexibility = Accelerated Innovation

Vibe Coding Communities

Groups like the Vibe Coding Community are crucial hubs. They unite innovators to share best practices, create educational resources, and collaboratively build open tools that lower the barriers to software creation for everyone.

Share Practices

Build Tools

- [Vibe Coding Community]
- [Vibe Coding]
- [VibeSchool.org - Community Vibe Coding Education]

The Power of Collaborative Development

Collective Prompt Libraries → Shared Templates → Peer Review of AI

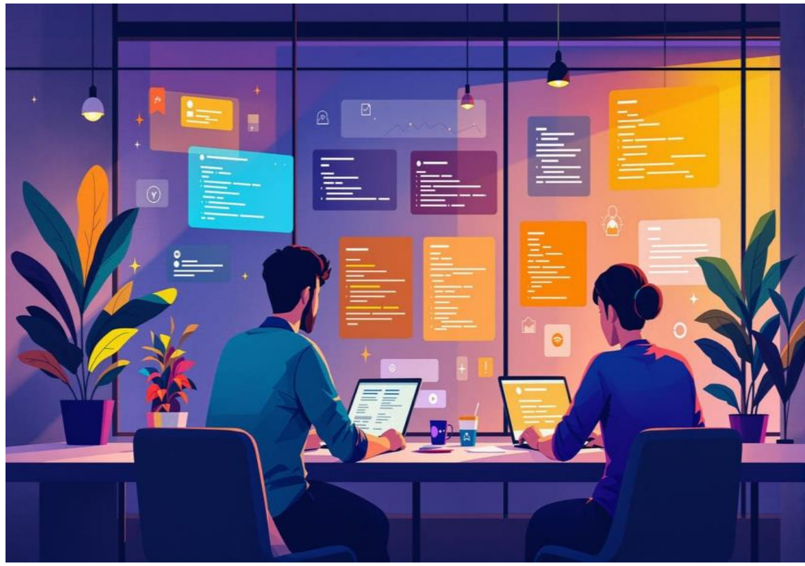
Result: Faster Prototyping & Higher Code Quality

03

Workflow & Tooling

How Vibe Coding Works

- **Choose AI Platform**
  - Select AI coding assistant (Replit, Cursor, GitHub Copilot)
- **Define Requirements**
  - Create clear, specific prompts describing your project goals
- **Code Refinement**
  - Iterative prompting to improve and adjust generated code
- **Review & Deploy**
  - Final human review before shipping to production



A Structured Vibe Workflow

To maintain control over AI-generated full-stack apps, an effective vibe coding process is essential.

Explicit Rules
Define clear guidelines for the AI to follow.

Vertical Feature Slicing
Break down projects into manageable, full-stack pieces.

Continuous Documentation
Keep docs updated as the AI evolves the code.

Iterative Refinement
Use a cycle of prompting, reviewing, and refining.

The Vibe Coding Journey: From Prompt to Deploy

The Vibe Coding Journey: From Prompt to Deploy

1. Describe Goal
Use plain English

2. AI Generates
Code is created

3. Test & Review
Run in sandboxes

4. Deploy
Export to GitHub

Democratizing Development

Vibe coding empowers a new generation of builders. By lowering the technical barrier, it allows non-engineers to create functional software, reducing dependency on specialized teams.

- Landing Pages
- Internal Tools
- MVPs & Prototypes

Quality and Security Gaps

Blindly trusting AI output is a major risk. It can introduce subtle bugs, security vulnerabilities, and significant technical debt.

Human oversight, rigorous testing, and thorough code review remain non-negotiable for production-ready software.

Benefits, Challenges, and Recommendations

Benefits

- **Quick prototyping** from concept to functional code
- **Problem-first** approach over rigid coding
- **Reduced risk** through cheap experimentation
- Lower barrier to **entry** for new developers

Challenges

- **Technical complexity** limitations
- Poor **code quality** and performance
- Difficult **debugging** due to lack of structure
- Challenging **maintenance** and updates
- Potential **security** vulnerabilities

Recommendations

Junior Developers

- Learn what you publish
- Take feedback seriously
- Use AI as stepping stone

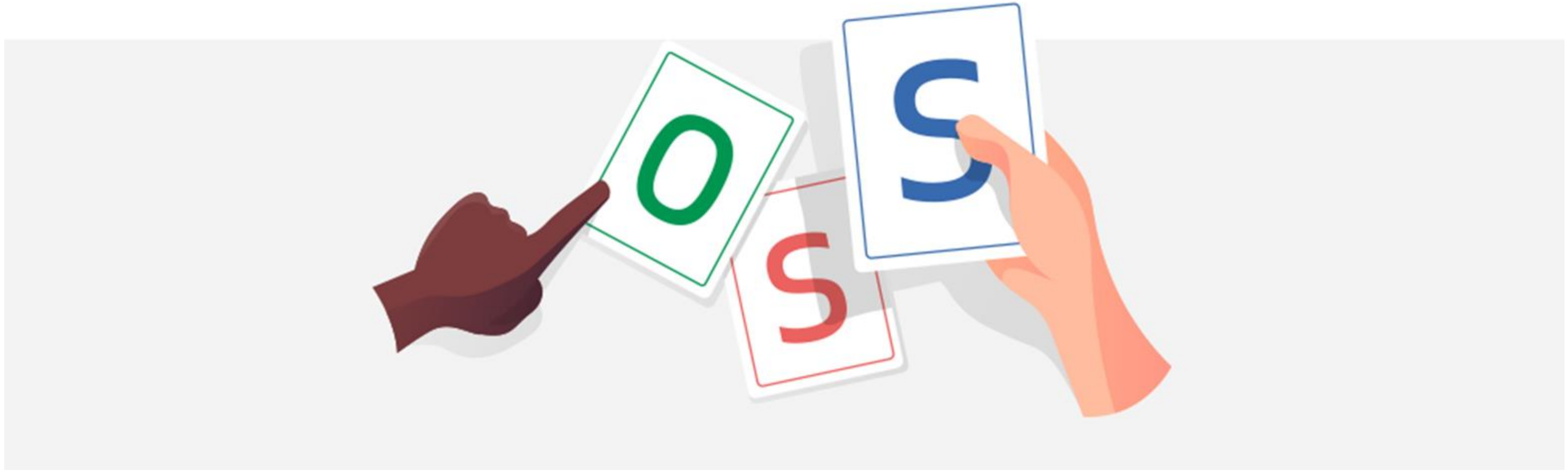
Maintainers

- Lead by example
- Offer guidance, not gatekeeping
- Build community trust

Teams

- Vet dependencies carefully
- Check licenses & tests
- Don't trust READMEs blindly

Starting an Open Source Project



https://opensource.guide/starting-a-project/

First, Look Around for same problem

- **Don't Reinvent the Wheel**
  - **Start by searching**: Someone may have already solved your problem.
  - **Leverage existing work**: Saves time, effort, and avoids duplication.
  - **Huge payoff**: Adopting proven solutions can accelerate progress.
  - **Go beyond Google**: If search engines fail, try domain-specific sites, GitHub, academic repositories, or community forums.

GitHub https://github.com/

fresh(code) https://freshcode.club

SYNOPSYS® https://openhub.net

FSF FREE SOFTWARE DIRECTORY https://directory.fsf.org

First, Look Around for same problem

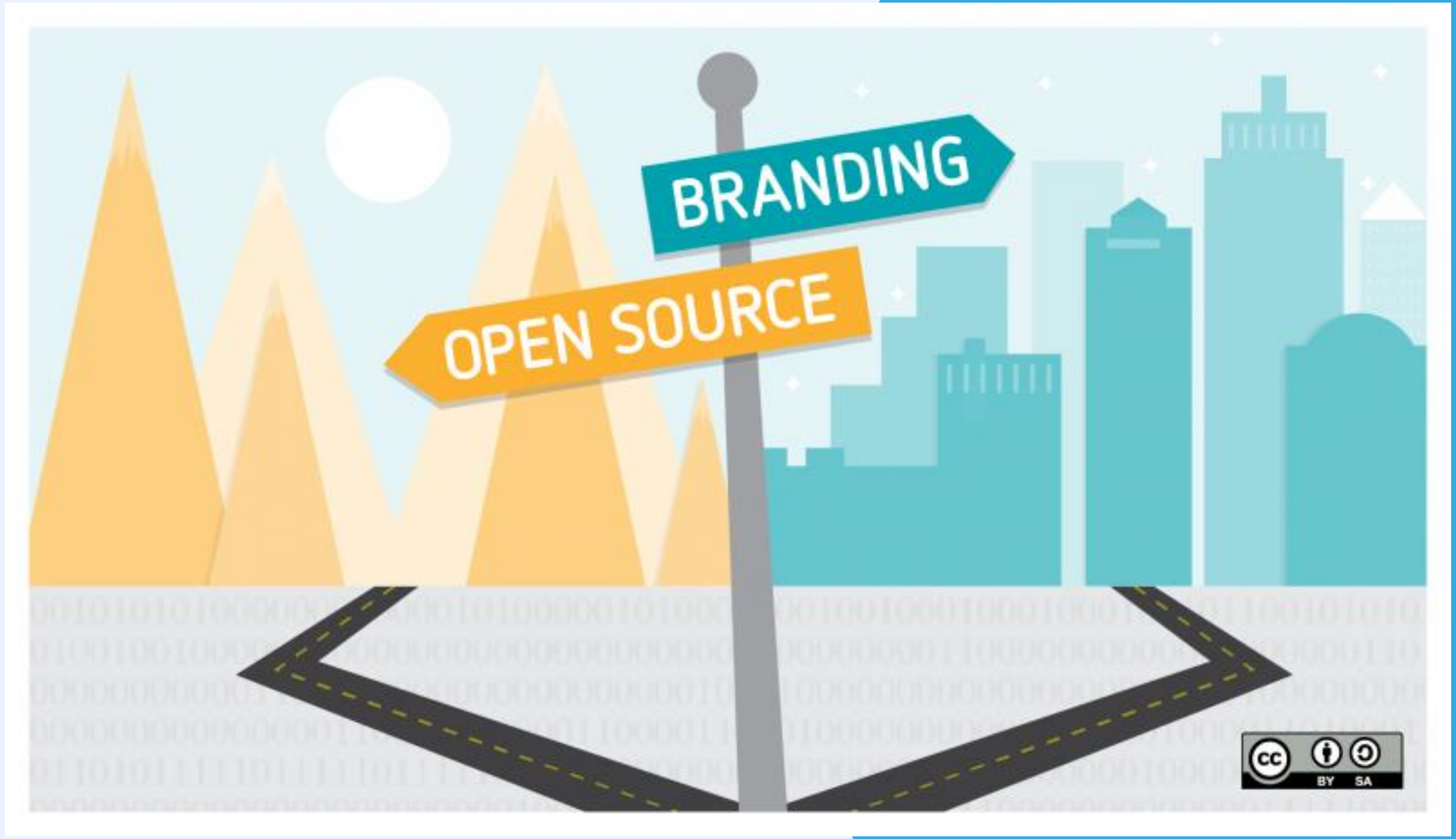
- You don’t need to start from scratch.
- Even if it’s not an exact match, you may find something close enough to build on.
- Often, it’s smarter to **join and extend an existing project** than reinvent the wheel.

Starting From What You Have

- **Turn vision into reality**: Transform your private idea into something others can understand.
- **Clarify scope**: Define not only what the project will do, but also what it won't.
- **Mission statement**: Write a clear statement that captures the project's purpose and boundaries.
- **Document shared knowledge**: Formalize what the founding team already knows for newcomers.

FOSS project key items list

- ✓Naming and branding your project
- ✓Have a clear mission statement
- ✓State that the project is free
- ✓Features and requirements list
- ✓Development status
- ✓Downloads
- ✓Version control and bug tracker access
- ✓Communications channels
- ✓Developer guidelines
- ✓Documentation
- ✓Choosing a license and applying it



Naming and branding your project

Naming and branding your project

- **Choosing the right name**
  - Memorable, simple, and hints at what it does
    Example: Thin – a fast and simple Ruby web server
  - Check availability as a **.com / .net / .org** domain
  - Check availability on **social platforms** (e.g., Twitter, GitHub)
  - If building on another project, use their name as a **prefix** for clarity
    Example: node-fetch → brings fetch to Node.js

Naming and branding your project

- **Avoiding Name Conflicts**
  - Ensure your name is **unique** and doesn’t infringe on trademarks.
  - Check for existing **open-source projects** with similar names, especially in the same language or ecosystem.
  - Overlapping with a popular project can **confuse users** and hurt adoption.

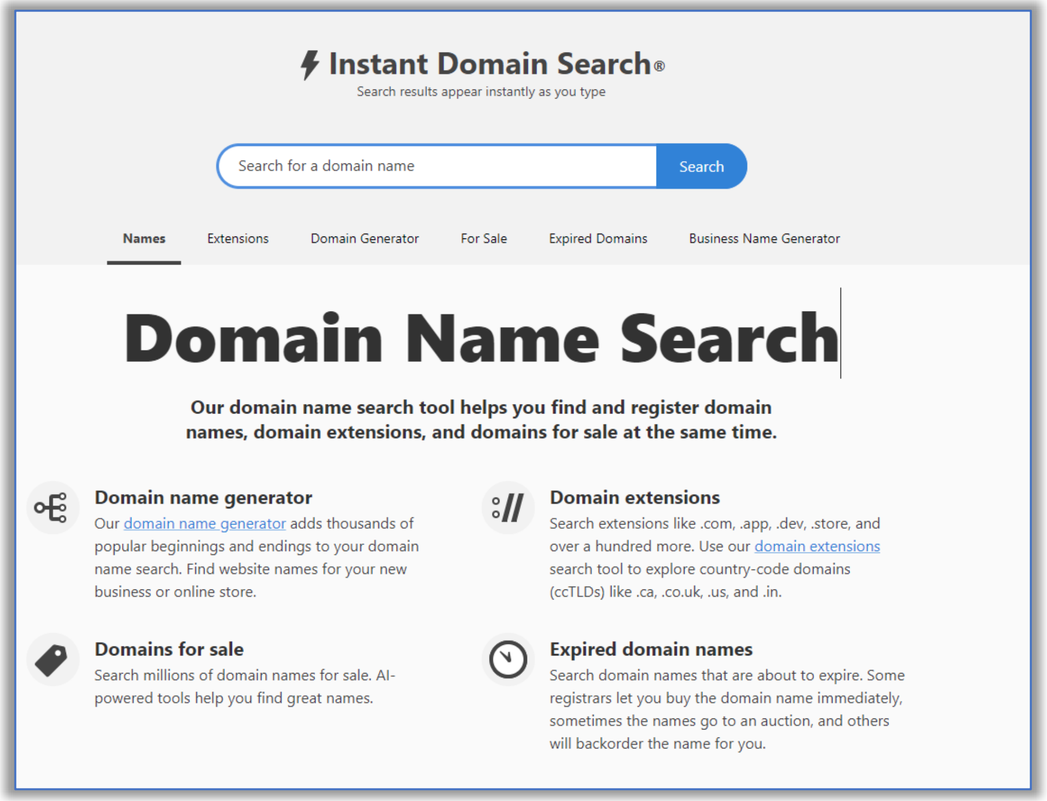
Q3: The “UXMastermind” name exists (not available) as an OSS project?

A Yes **B** No

Multiple Choice

Own the Name in the Important Namespaces

- For larger projects, secure your project's name across **relevant domains and platforms**.
- Consistent naming across websites, social media, and repositories builds **trust and recognition**.
- Makes it easier for people to **find, follow, and stay engaged** with your project.
- Tools like **Instant Domain Search** help check availability quickly.



Domain Name Search

Our domain name search tool helps you find and register domain names, domain extensions, and domains for sale at the same time.

Domain name generator
Our domain name generator adds thousands of popular beginnings and endings to your domain name search. Find website names for your new business or online store.

Domain extensions
Search extensions like .com, .app, .dev, .store, and over a hundred more. Use our domain extensions search tool to explore country-code domains (ccTLDs) like .ca, .co.uk, .us, and .in.

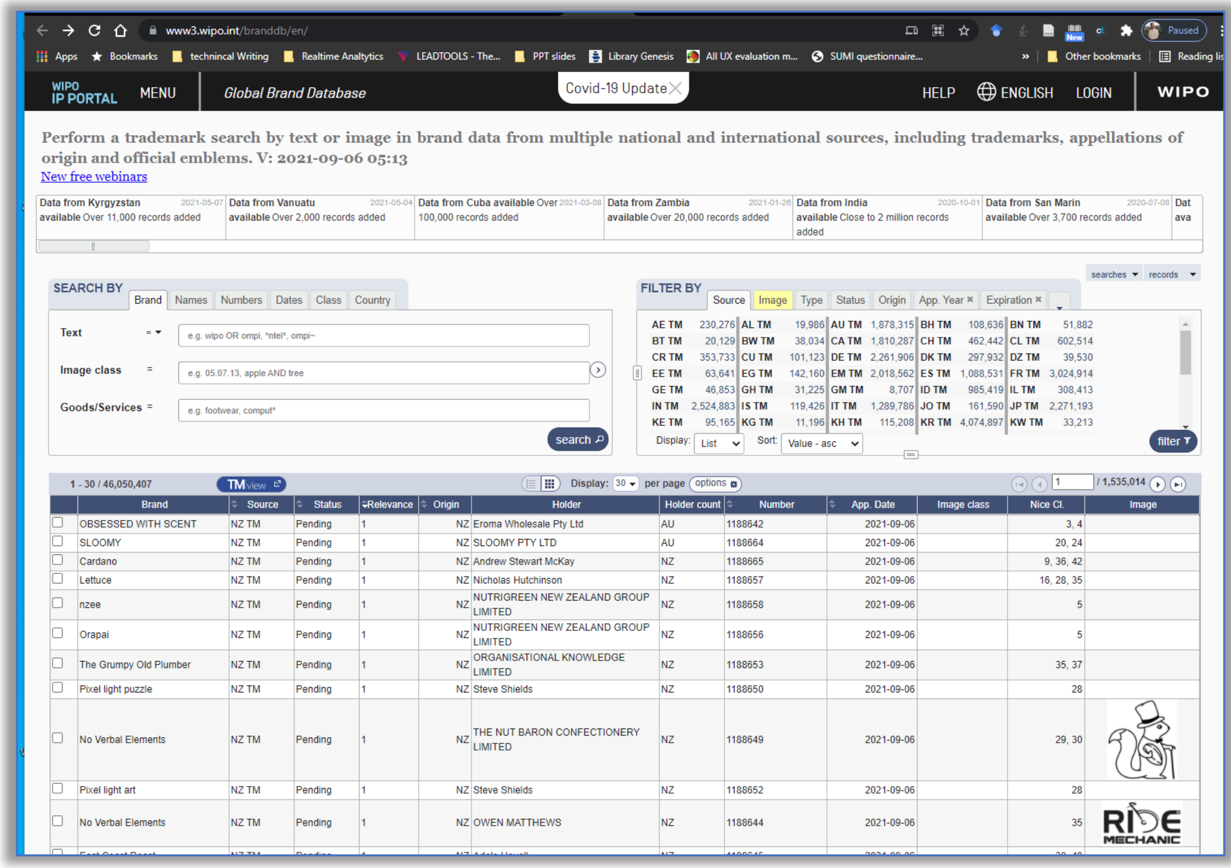
Domains for sale
Search millions of domain names for sale. AI-powered tools help you find great names.

Expired domain names
Search domain names that are about to expire. Some registrars let you buy the domain name immediately, sometimes the names go to an auction, and others will backorder the name for you.

https://instantdomainsearch.com/

Trademark Search

- Ensure your project's name **does not infringe on trademarks**.
  - Risk: companies may demand removal or take legal action.
- Always check for **trademark conflicts** before launch.
- Use the [WIPO Global Brand Database](http://www.wipo.int/branddb/en/) or local trademark offices for trademark conflicts.
- If working at a company, consult the **legal team** for guidance.



Perform a trademark search by text or image in brand data from multiple national and international sources, including trademarks, appellations of origin and official emblems. V: 2021-09-06 05:13

New free webinars

Data from Kyrgyzstan available Over 11,000 records added 2021-05-07	Data from Vanuatu available Over 2,000 records added 2021-05-04	Data from Cuba available Over 100,000 records added 2021-03-08	Data from Zambia available Over 20,000 records added 2021-01-26	Data from India available Close to 2 million records added 2020-10-01	Data from San Marin available Over 3,700 records added 2020-07-08

SEARCH BY: Brand | Names | Numbers | Dates | Class | Country

Text = e.g. wipo OR ompi, *ntel*, ompi~

Image class = e.g. 05.07.13, apple AND tree

Goods/Services = e.g. footwear, comput*

search

FILTER BY: Source | Image | Type | Status | Origin | App. Year | Expiration

AE TM	230,276	AL TM	19,986	AU TM	1,878,315	BH TM	108,636	BN TM	51,882
BT TM	20,129	BW TM	38,034	CA TM	1,810,287	CH TM	462,442	CL TM	602,514
CR TM	353,733	CU TM	101,123	DE TM	2,261,906	DK TM	297,932	DZ TM	39,530
EE TM	63,641	EG TM	142,160	EM TM	2,018,562	ES TM	1,088,531	FR TM	3,024,914
GE TM	46,853	GH TM	31,225	GM TM	8,707	ID TM	985,419	IL TM	308,413
IN TM	2,524,883	IS TM	119,426	IT TM	1,289,786	JO TM	161,590	JP TM	2,271,193
KE TM	95,165	KG TM	11,196	KH TM	115,208	KR TM	4,074,897	KW TM	33,213

Display: List   Sort: Value - asc   filter

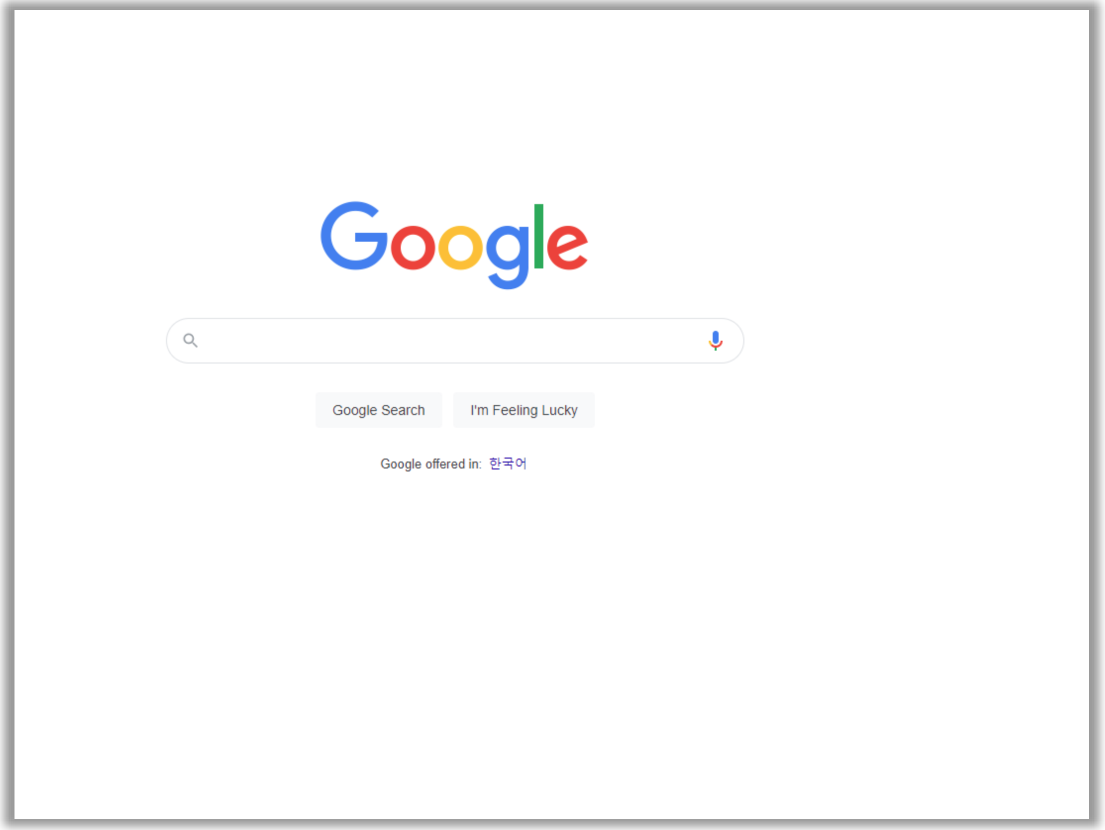
1 - 30 / 46,050,407   TMview   Display: 30 per page   options   1 / 1,535,014

Brand	Source	Status	Relevance	Origin	Holder	Holder count	Number	App. Date	Image class	Nice Cl.	Image
OBSESSED WITH SCENT	NZ TM	Pending	1	NZ	Eroma Wholesale Pty Ltd	AU	1188642	2021-09-06		3, 4	
SLOOMY	NZ TM	Pending	1	NZ	SLOOMY PTY LTD	AU	1188664	2021-09-06		20, 24	
Cardano	NZ TM	Pending	1	NZ	Andrew Stewart McKay	NZ	1188665	2021-09-06		9, 36, 42	
Lettuce	NZ TM	Pending	1	NZ	Nicholas Hutchinson	NZ	1188657	2021-09-06		16, 28, 35	
nzee	NZ TM	Pending	1	NZ	NUTRIGREEN NEW ZEALAND GROUP LIMITED	NZ	1188658	2021-09-06		5	
Orapai	NZ TM	Pending	1	NZ	NUTRIGREEN NEW ZEALAND GROUP LIMITED	NZ	1188656	2021-09-06		5	
The Grumpy Old Plumber	NZ TM	Pending	1	NZ	ORGANISATIONAL KNOWLEDGE LIMITED	NZ	1188653	2021-09-06		35, 37	
Pixel light puzzle	NZ TM	Pending	1	NZ	Steve Shields	NZ	1188650	2021-09-06		28	
No Verbal Elements	NZ TM	Pending	1	NZ	THE NUT BARON CONFECTIONERY LIMITED	NZ	1188649	2021-09-06		29, 30	
Pixel light art	NZ TM	Pending	1	NZ	Steve Shields	NZ	1188652	2021-09-06		28	
No Verbal Elements	NZ TM	Pending	1	NZ	OWEN MATTHEWS	NZ	1188644	2021-09-06		35	RIDE MECHANIC

http://www.wipo.int/branddb/en/

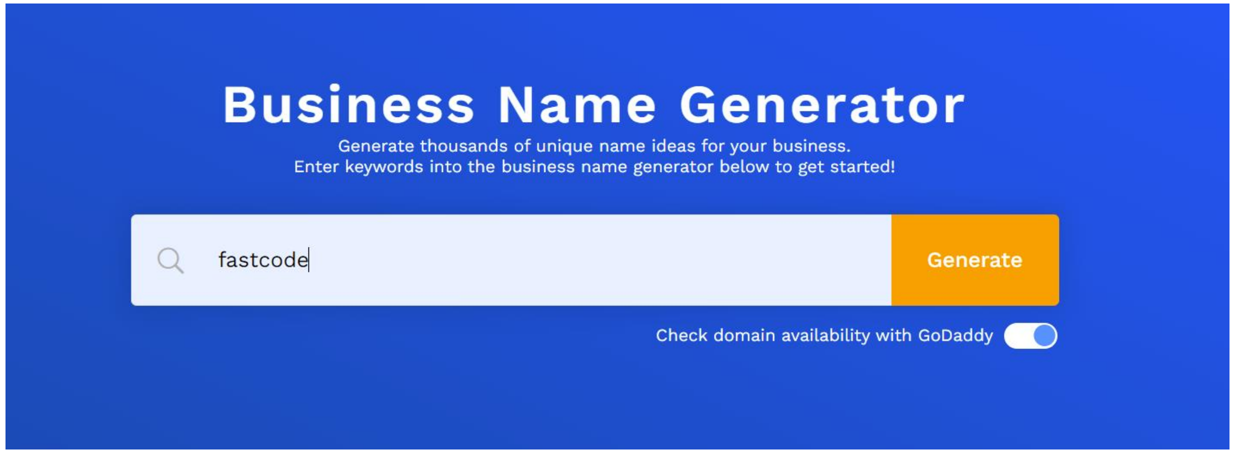
Google search for name

- Finally, do a quick Google search for your project name.
- Will people be able to easily find your project?
- Does something else appear in the search results that you wouldn't want them to see?



Auto Generate Name

- Generate thousands of unique name ideas for your open source project.
- Enter keywords into the business name generator below to get started!
- **LLM-based tools** (ChatGPT, Claude, Gemini) → generate creative, contextual, and domain-checked names with prompts like: *"Suggest 10 catchy, domain-available names for an open-source data visualization library."*



Business Name Generator

Generate thousands of unique name ideas for your business.
Enter keywords into the business name generator below to get started!

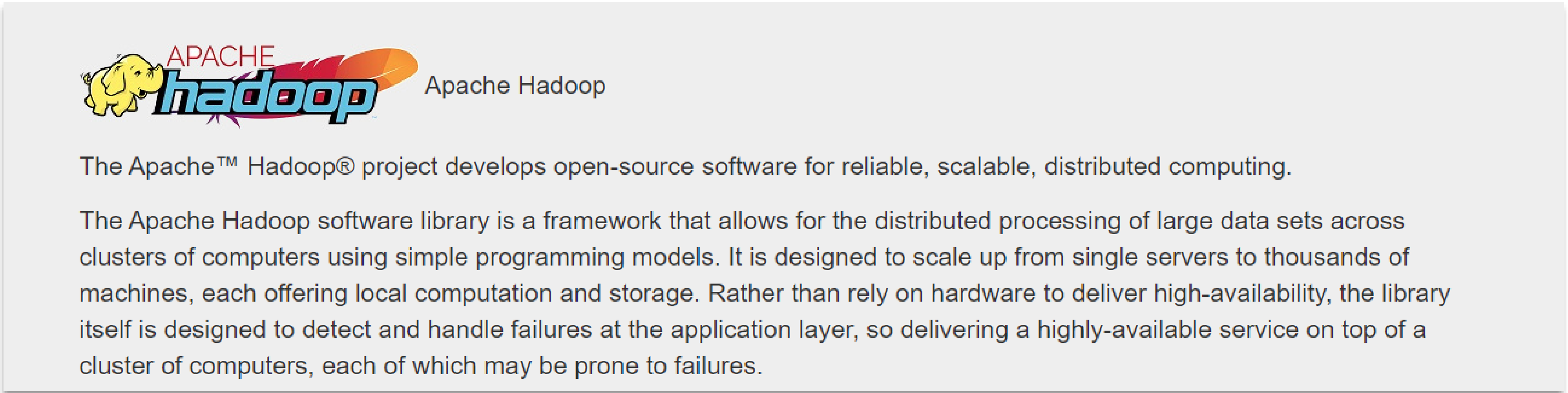
fastcode

https://businessnamegenerator.com/

Q4: If the “UXMastermind” name is not available, generate another good using auto-generate name tools and share the suggested name

Have a Clear Mission Statement

- Once they've found the project's home site, the next thing people will look for is a quick description or mission statement, so
- they can decide (within 30 seconds) whether or not they’re


Apache Hadoop

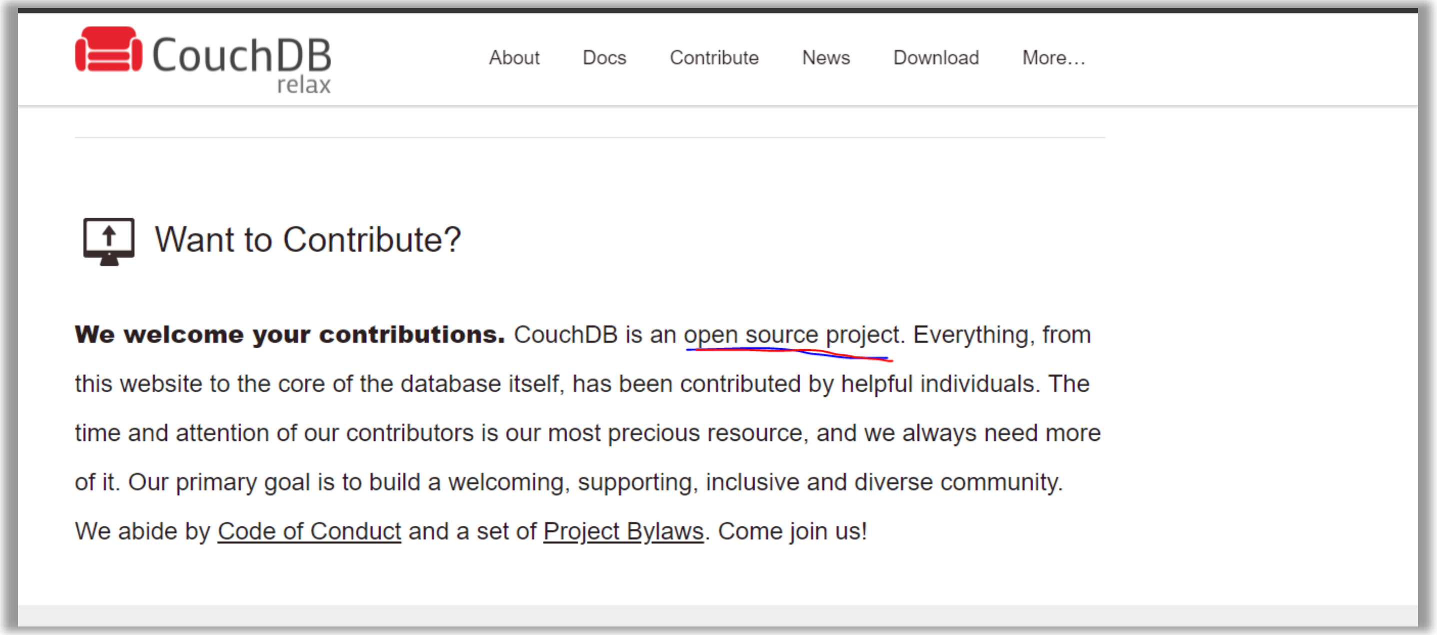
The Apache™ Hadoop® project develops open-source software for reliable, scalable, distributed computing.

The Apache Hadoop software library is a framework that allows for the distributed processing of large data sets across clusters of computers using simple programming models. It is designed to scale up from single servers to thousands of machines, each offering local computation and storage. Rather than rely on hardware to deliver high-availability, the library itself is designed to detect and handle failures at the application layer, so delivering a highly-available service on top of a cluster of computers, each of which may be prone to failures.

https://hadoop.apache.org

State That the Project is Free

- The front page must make it unambiguously clear that the project is open source



Want to Contribute?

We welcome your contributions. CouchDB is an open source project. Everything, from this website to the core of the database itself, has been contributed by helpful individuals. The time and attention of our contributors is our most precious resource, and we always need more of it. Our primary goal is to build a welcoming, supporting, inclusive and diverse community. We abide by Code of Conduct and a set of Project Bylaws. Come join us!

http://couchdb.apache.org/

Features and Requirements List

- There should be a brief list of the features the software supports
  - (if something isn't completed yet, you can still list it, but put "planned" or "in progress" next to it), and
  - the kind of computing environment required to run the software
- Think of the features/requirements list as what you would give to someone asking for a quick summary of the software
- It is often just a logical expansion of the mission statement.
- The features and requirements list would give the details, clarifying the mission statement's scope
- With this information, readers can quickly get a feel for whether this software
  - has any hope of working for them, and
  - they can consider getting involved as developers too.

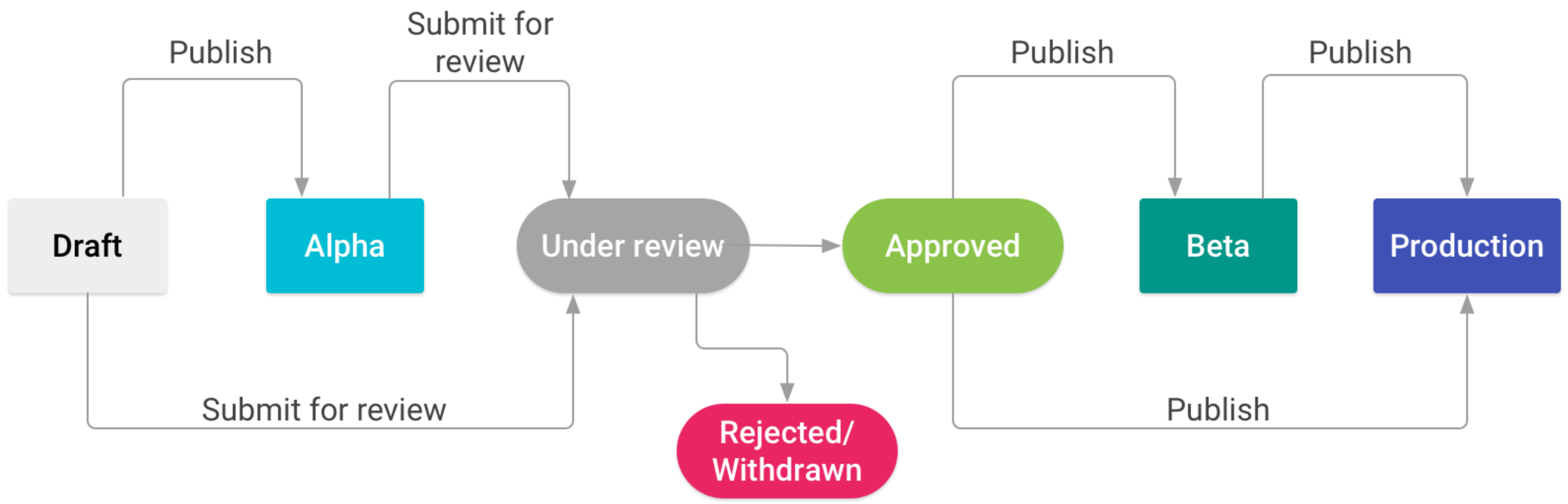
Features and Requirements List

- Features:
  - Searches plain text, HTML, and XML
  - Word or phrase searching
  - (planned) Fuzzy matching
  - (planned) Incremental updating of indexes
  - (planned) Indexing of remote web sites
- Requirements:
  - Python 3.2 or higher
  - Enough disk space to hold the indexes (approximately 2x original data size)

Development Status

- Visitors usually want to know how a project is doing. For new projects, they want to know the gap between the project’s promise and current reality.
- For mature projects, they want to know how actively it is maintained, how often it puts out new releases, how responsive it is likely to be to bug reports, etc.
- Development Status Should Always Reflect Reality
  - Alpha and Beta

Alpha and Beta



Downloads

- The software should be downloadable as source code in standard formats
- When a project is first getting started, binary (executable) packages are not necessary, unless the software has such complicated build requirements or dependencies that merely getting it to run would be a lot of work for most people.
- (But if this is the case, the project is going to have a hard time attracting developers anyway!)

Version Control and Bug Tracker Access

- Downloading source packages is fine for those who just want to install and use the software, but it's not enough for those who want to debug or add new features.
- People need real-time access to the latest sources, and a way to submit changes based on those sources.
- The solution is to use a version control system
  - Specifically, an online, publicly-accessible version controlled repository, from which anyone can check out the project's materials and subsequently get updates.

Communications Channels

- Visitors usually want to know how to reach the human beings involved with the project
- Provide the addresses of mailing lists, chat rooms, IRC channels and any other forums where others involved with the software can be reached.
- Make it clear that you and the other authors of the project are subscribed to these mailing lists, so people see there's a way to give feedback that will reach the developers.
- Your presence on the lists does not imply a commitment to answer all questions or implement all feature requests.

Developer Guidelines

- If someone is considering contributing to the project, she'll look for developer guidelines.
- Developer guidelines are not so much technical as social:
  - they explain how the developers interact with each other and with the users, and ultimately how things get done.

Documentation

- Documentation is essential. There needs to be something for people to read, even if it's rudimentary and incomplete.
- Documentation should be available from two places: online (directly from the web site), and in the downloadable distribution of the software
- For online documentation, make sure that there is a link that brings up the entire documentation in one HTML page
  - (put a note like "monolithic" or "all-in-one" or "single large page" next to the link, so people know that it might take a while to load).
  - This is useful because people often want to search for a specific word or phrase across the entire documentation.

Documentation

- But this is not necessarily the most common way documentation is accessed.
- Often, someone who is basically familiar with the software is coming back to search for a specific word or phrase, and to fail to provide them with a single, searchable document would only make their lives harder.

Hosting

- Where on the Internet should you put the project's materials?
- A web site, obviously — but the full answer is a little more complicated than that.

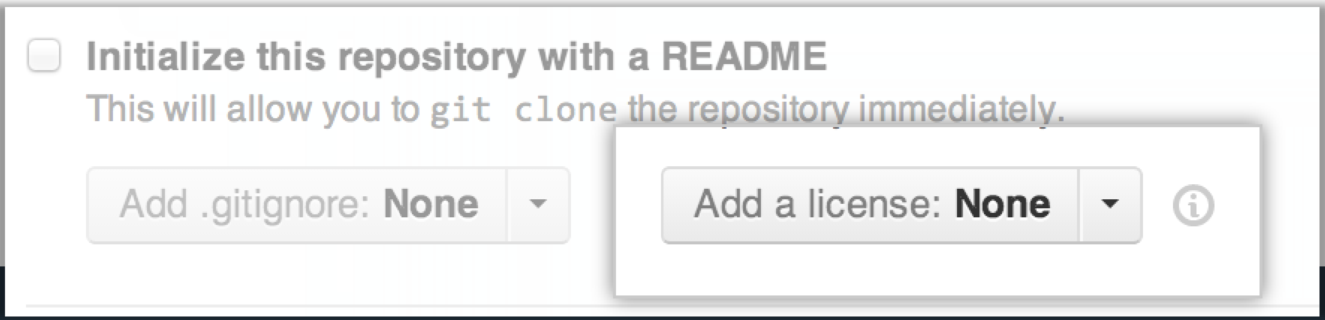
Previous web hosting experience ?

A Yes **B** No

Multiple Choice

Choosing a License and Applying It

- An open source license guarantees that others can use, copy, modify, and contribute back to your project without repercussions. It also protects you from sticky legal situations. You must include a license when you launch an open source project.
- MIT, Apache 2.0, and GPLv3 are the most popular open source licenses, but there are other options to choose from.
- When you create a new project on GitHub, you are given the option to select a license. Including an open source license will make your GitHub project open source.



Initialize this repository with a README

This will allow you to `git clone` the repository immediately.

Add .gitignore: **None**

Add a license: **None**

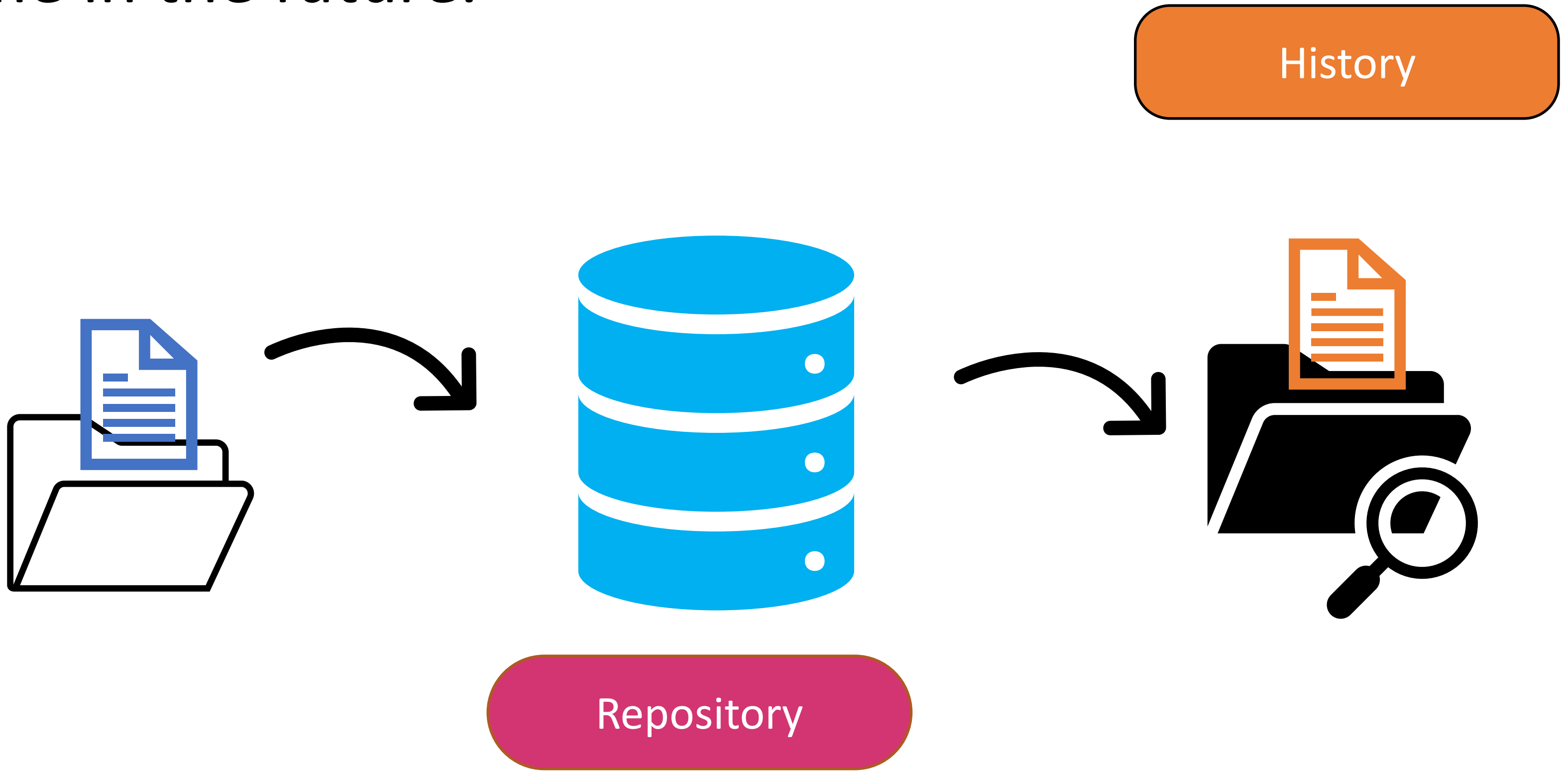
Version Control Systems

What is Version Control?

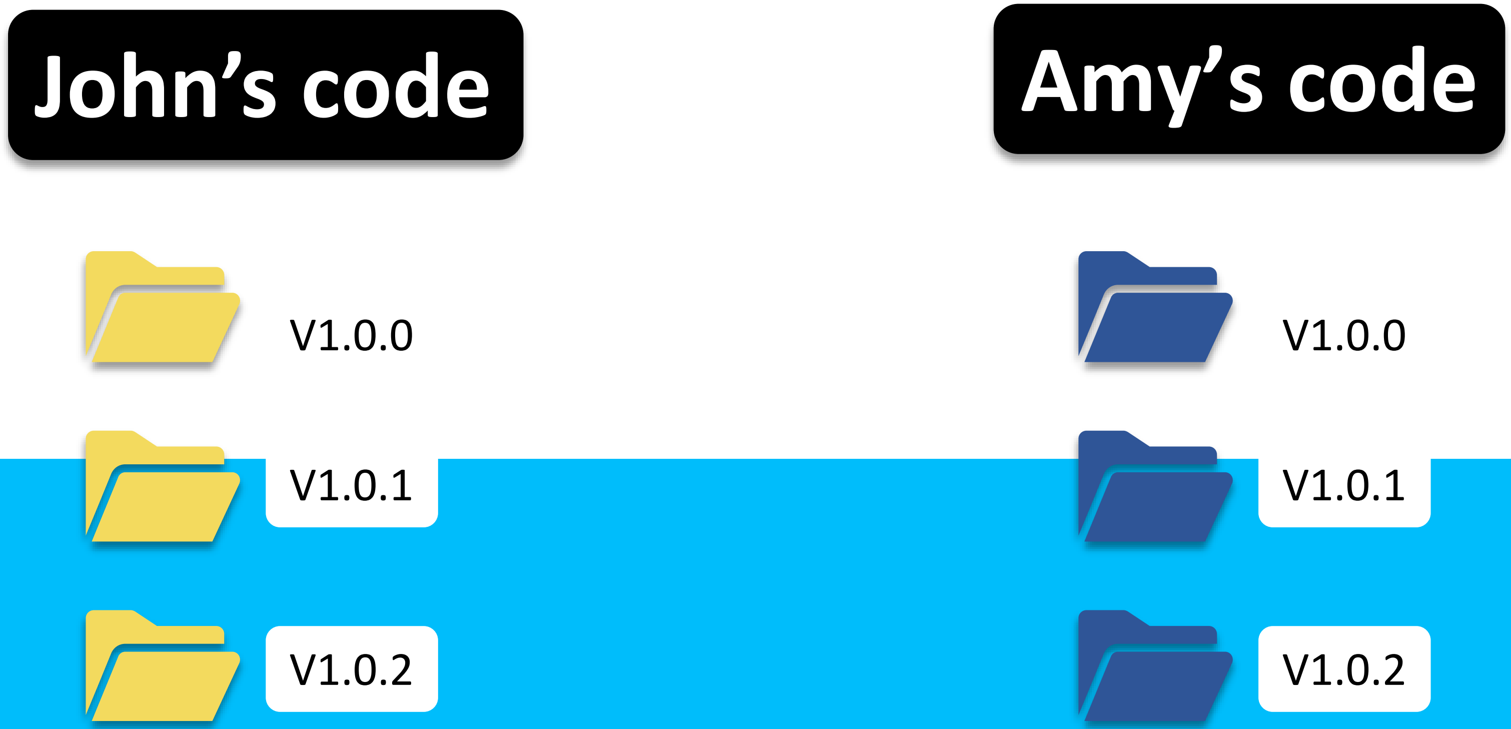
- Your Daily Tasks
  - Creating things
  - Save things
  - Edit things
  - Save the thing again and again

What is Version Control?

- That saving the **thing repeatedly is the goal and where version control helps, providing** clarity as to when you did it, why you did it, and what the contents of the change were, open for review at any time in the future.



What is Version Control?



What is Version Control?

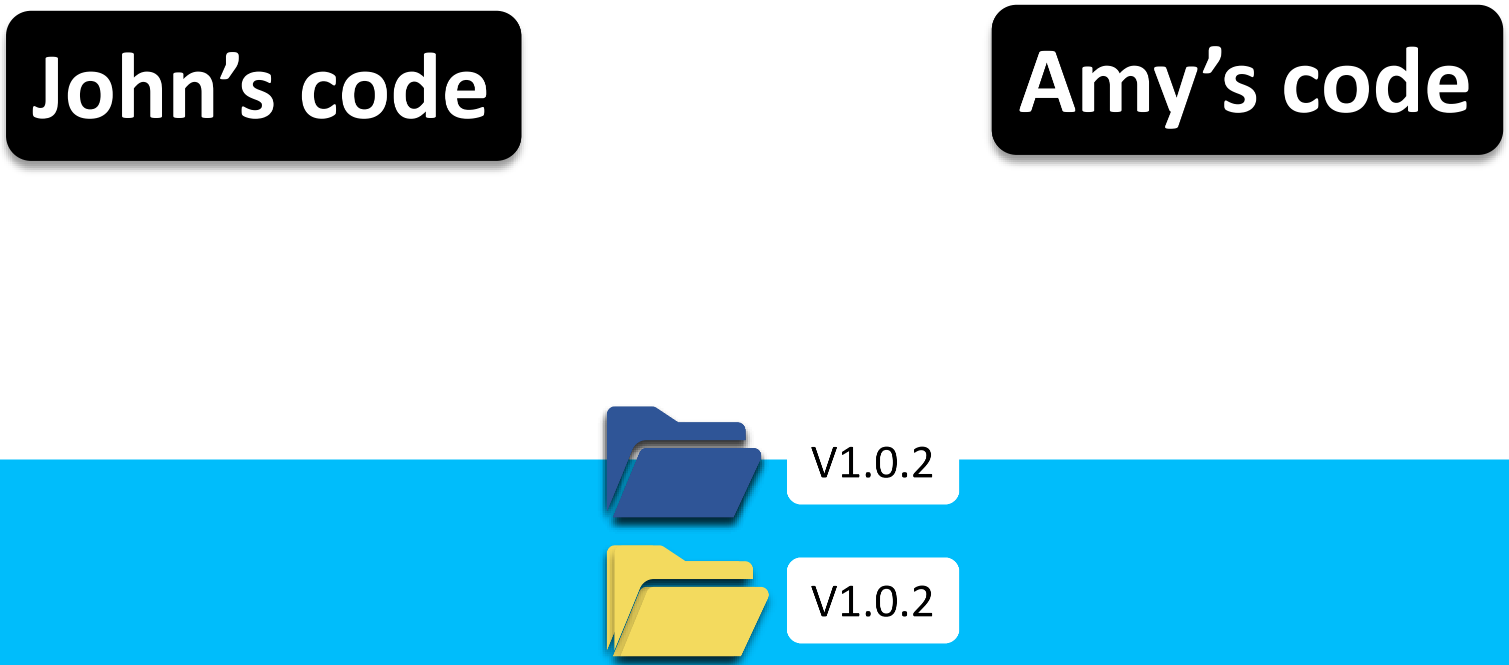
John's code

Amy's code

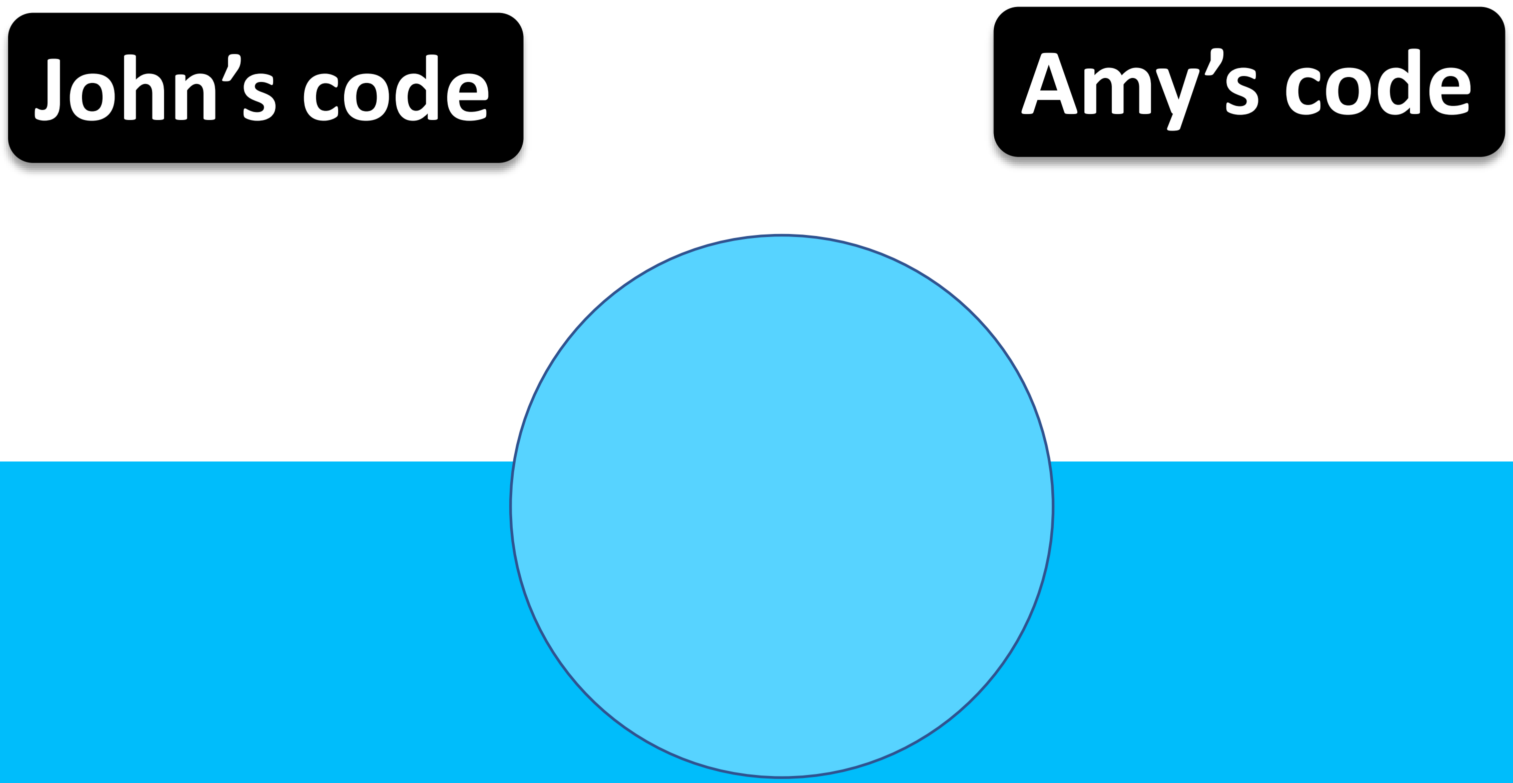
V1.0.2

V1.0.2

What is Version Control?



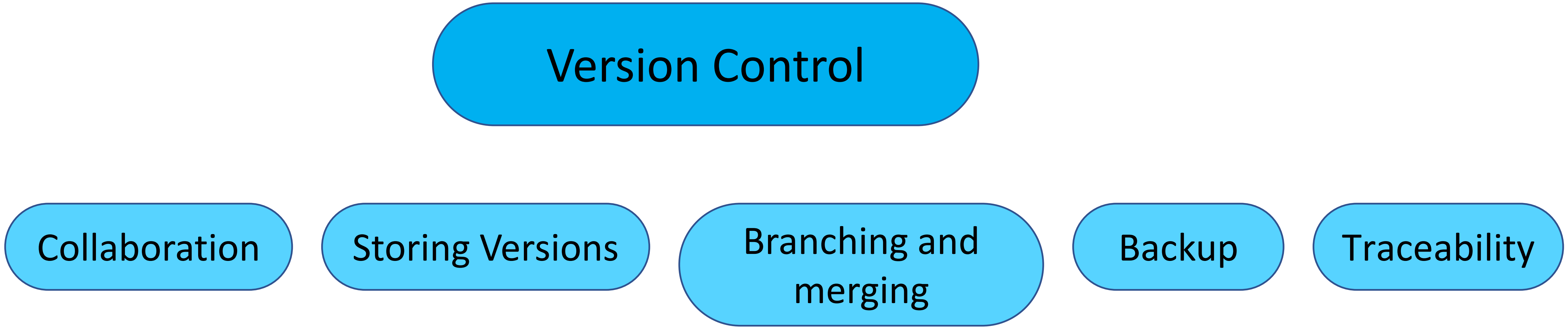
What is Version Control?



Version Control System (VCS)

- **A *version control system*** is a system that records changes to a set of **one or more files** so that **earlier versions** of any of these files can be **restored at a later time**.
- It is often used **for managing software**, but it can be used for any **types of files,** such as **documentation**, **web pages**, **graphics**, **artwork in general**, and **chapters of a book**.

Benefits of Version Control Systems

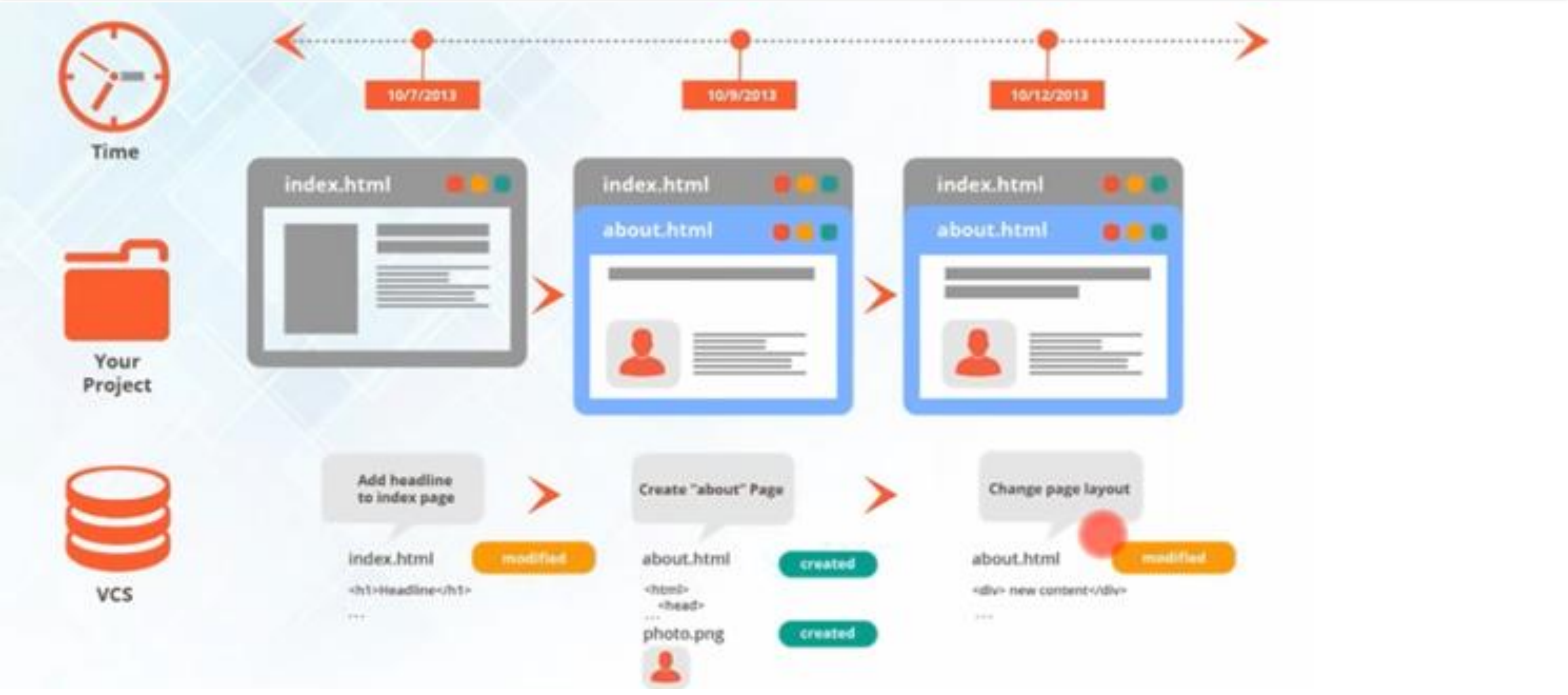


- Which helps us to know which change was made when and by who made it
- If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.

Benefits of Version Control Systems

- **Long-term change history**
  - The changes made by developers, including the creating, modification, and deletion of files **over the years**, can be seen in history. It will allow going back to the **previous version for analyzing bugs** and **fixing problems**.
- **Branching and merging**
  - Branching helps work in **an independent manner** and **not interfere with each other's work**. Merging brings the works together and allows seeing if there are conflicts between those works.
- **Traceability**
  - Ability to **trace each change** and connect it to project management and bug tracking software, as well as to annotate each change with a message describing the purpose of the change.

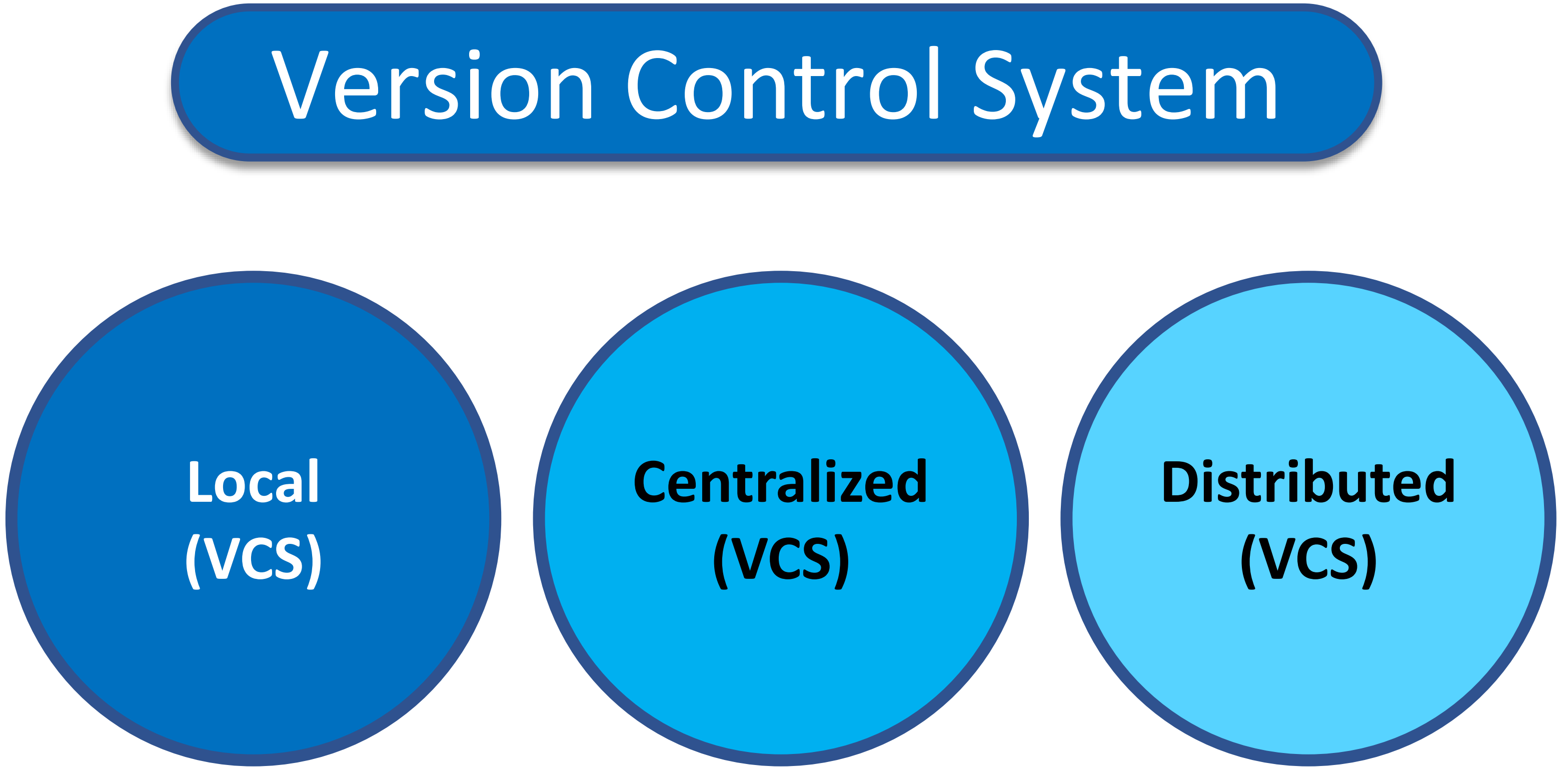
Version Control System (VCS)



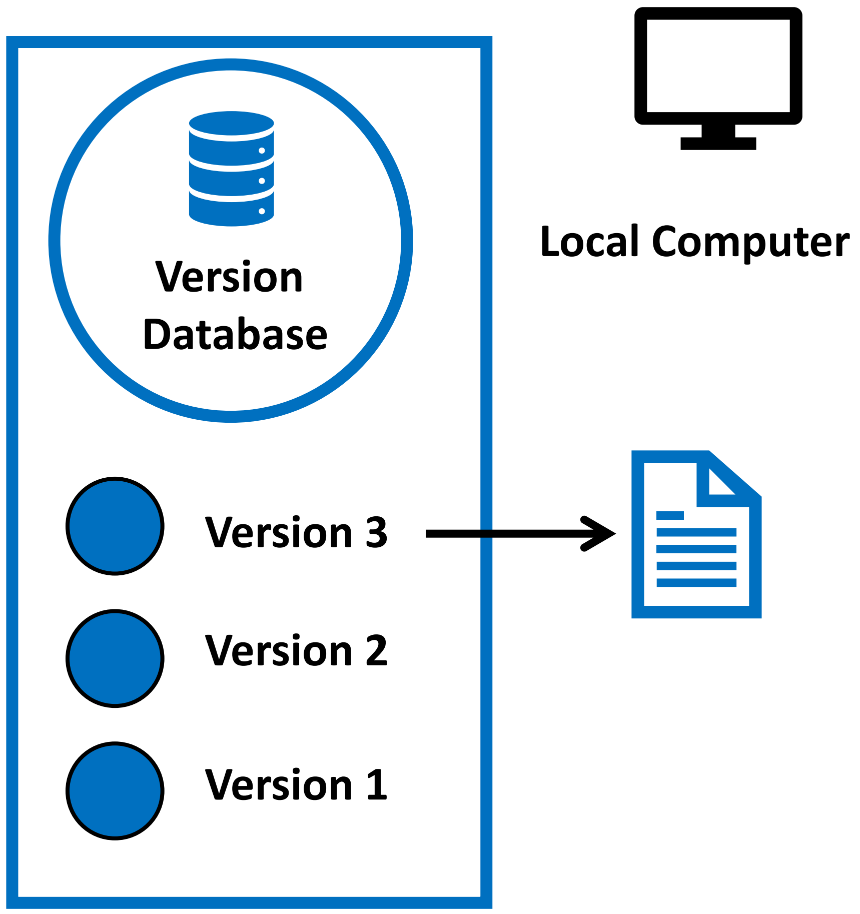
Why do we need version control system?

- Software is a **precious asset**. You spend hours working on it and need to make sure you do not lose important work.
- Sometimes **you make mistakes**, **overwrite things**, replace **good ideas with bad ones**, and so on.
- Version control allows us to safely go back to different versions.
- Also, when groups of people work on the same project files, a version control system helps prevent lost or **conflicting work.**
- It tracks every individual change by each **contributor**.

Version Control System Type

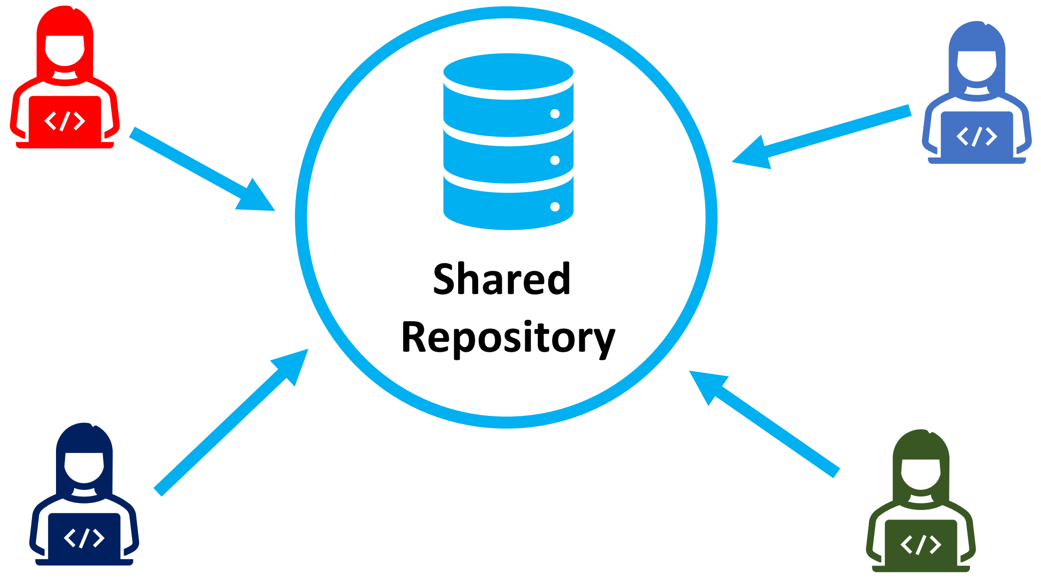


Local Version Control Systems



- This approach is very common because it is so simple, but it is also **extremely error prone**.
- It is easy to forget which directory you're in and accidentally write to the wrong file or copy over files you don't mean to.
- To deal with this issue, programmers long ago developed local VCSs that had a simple database that kept all the changes to files under revision control.
- Just a Local Database
  - RCS (https://www.gnu.org/software/rcs/)

Centralized Version Control Systems



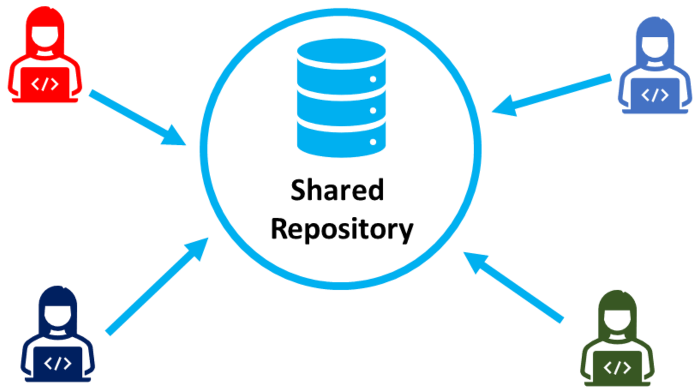
Subversion

Team Foundation Server

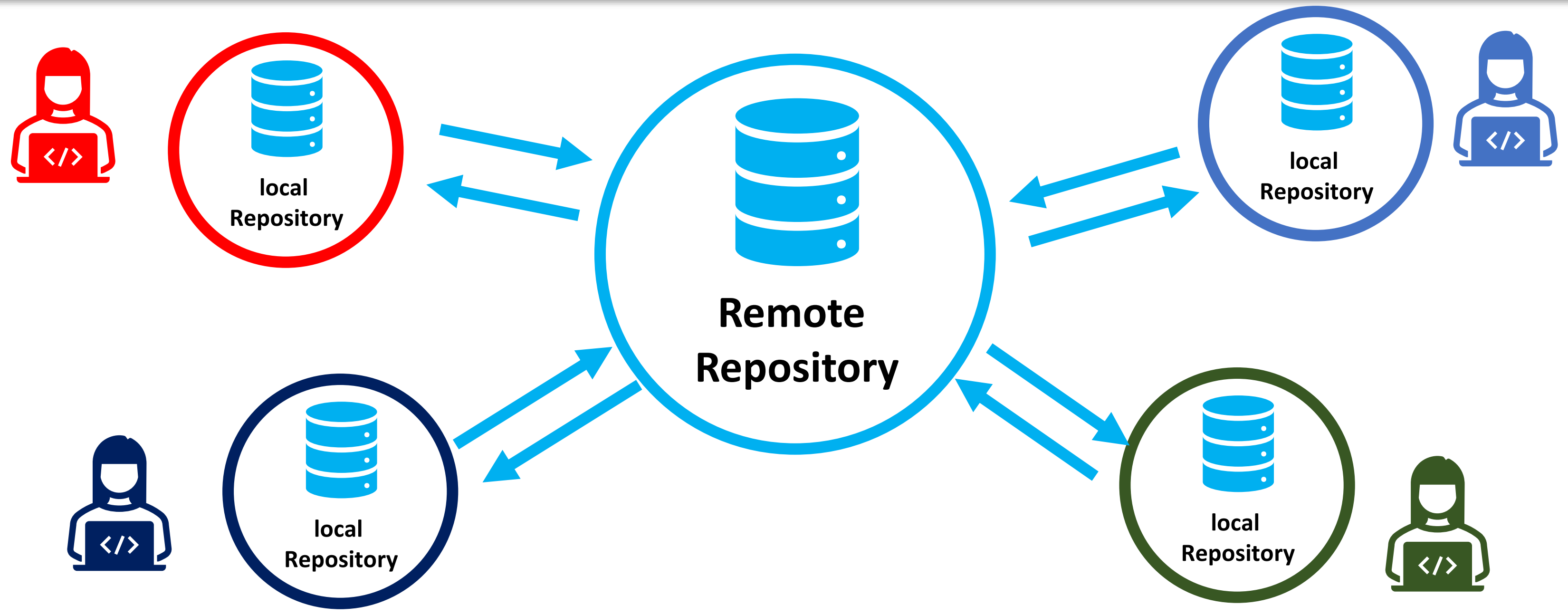
- The next major issue that people encounter is that they need to collaborate with developers on other systems ,
- To deal with this problem, Centralized Version Control Systems (CVCSs) were developed.

Centralized Version Control Systems

- However, this setup also has some serious downsides.
- The most obvious is the **single point of failure** that the centralized server represents. If that server **goes down** for an hour, then during that hour nobody can collaborate at all or save versioned changes to anything they're working on.
- If the **hard disk the central database is on becomes corrupted**, and proper backups haven't been kept, you **lose absolutely everything** — the entire history of the project except whatever single snapshots people happen to have on their local machines.



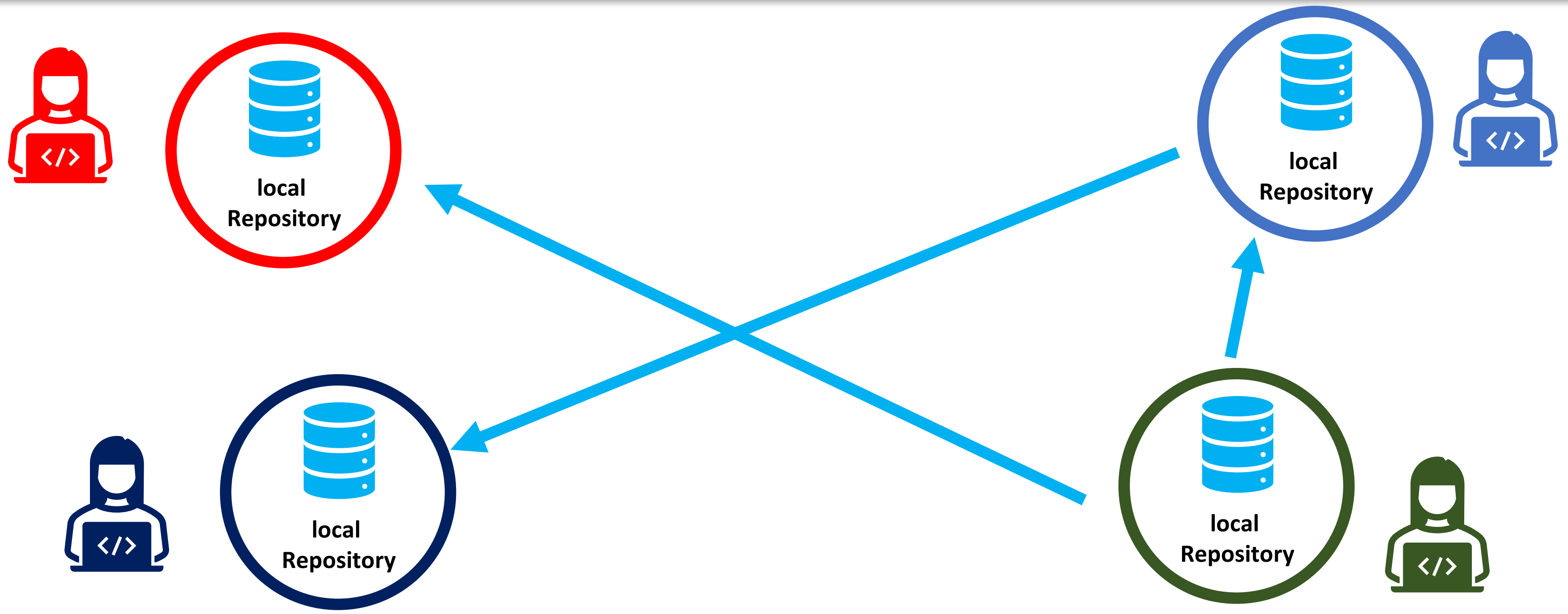
Distributed Version Control Systems (DVCSs)



- Git
- Mercurial
- Bazaar or Darcs

- In DVCS, clients don't just check out the latest snapshot of the files; rather, they fully mirror the repository, including its full history.
- Thus, if any server dies, and these systems were collaborating via that server, any of the client repositories can be copied back up to the server to restore it.

Distributed Version Control Systems (DVCSs)



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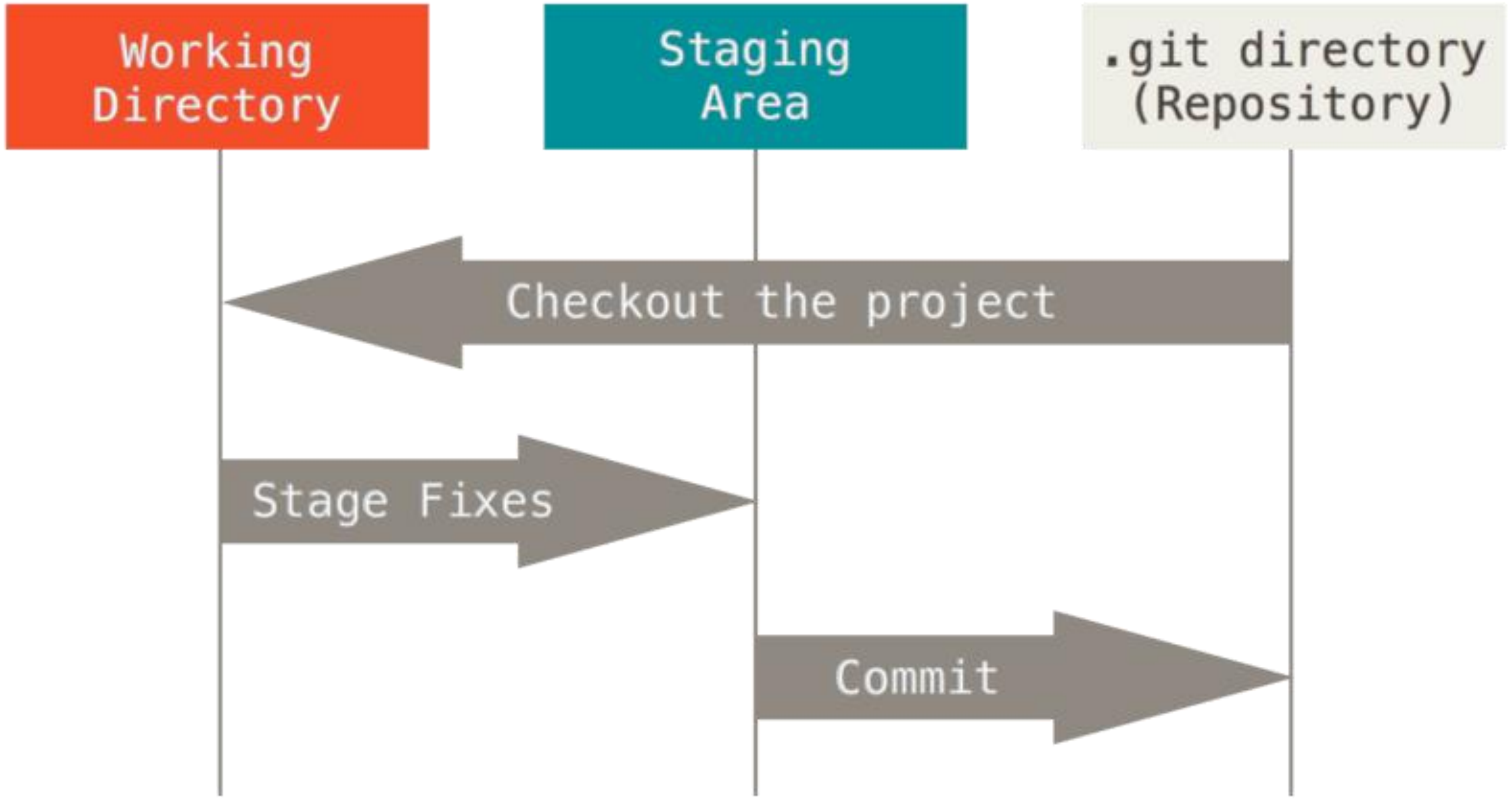
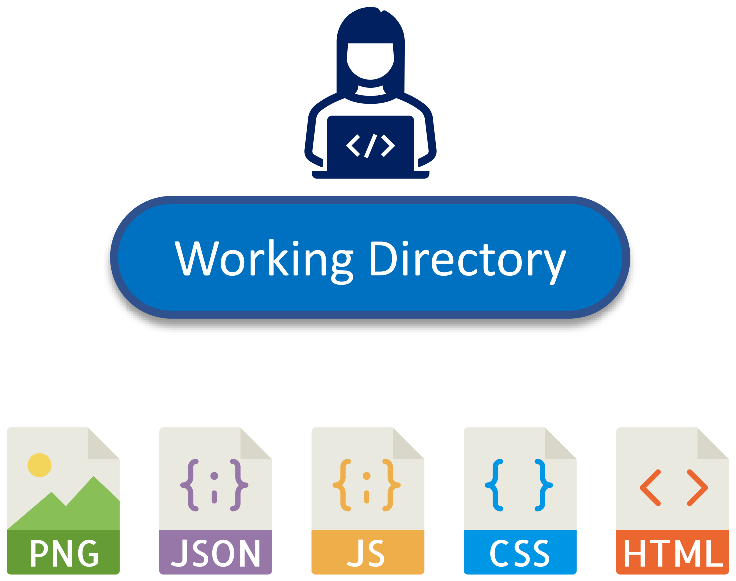
Why Git

- **Free and Open Source**
- **Git** is a fast and modern implementation of Version control
- Git provide a **history** of content changes
- Git facilitates **collaborative changes** to files
- Git is easy to use for any type of **knowledge worker**
- Fully distributed

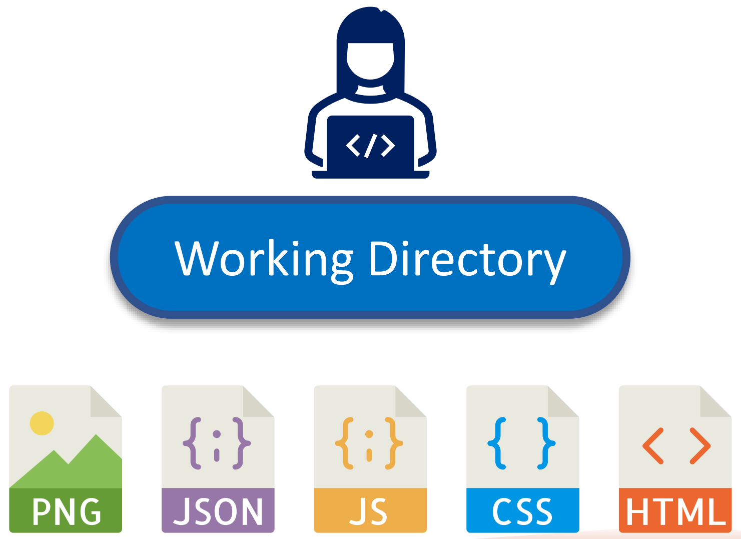
How Git Works



How Git Works

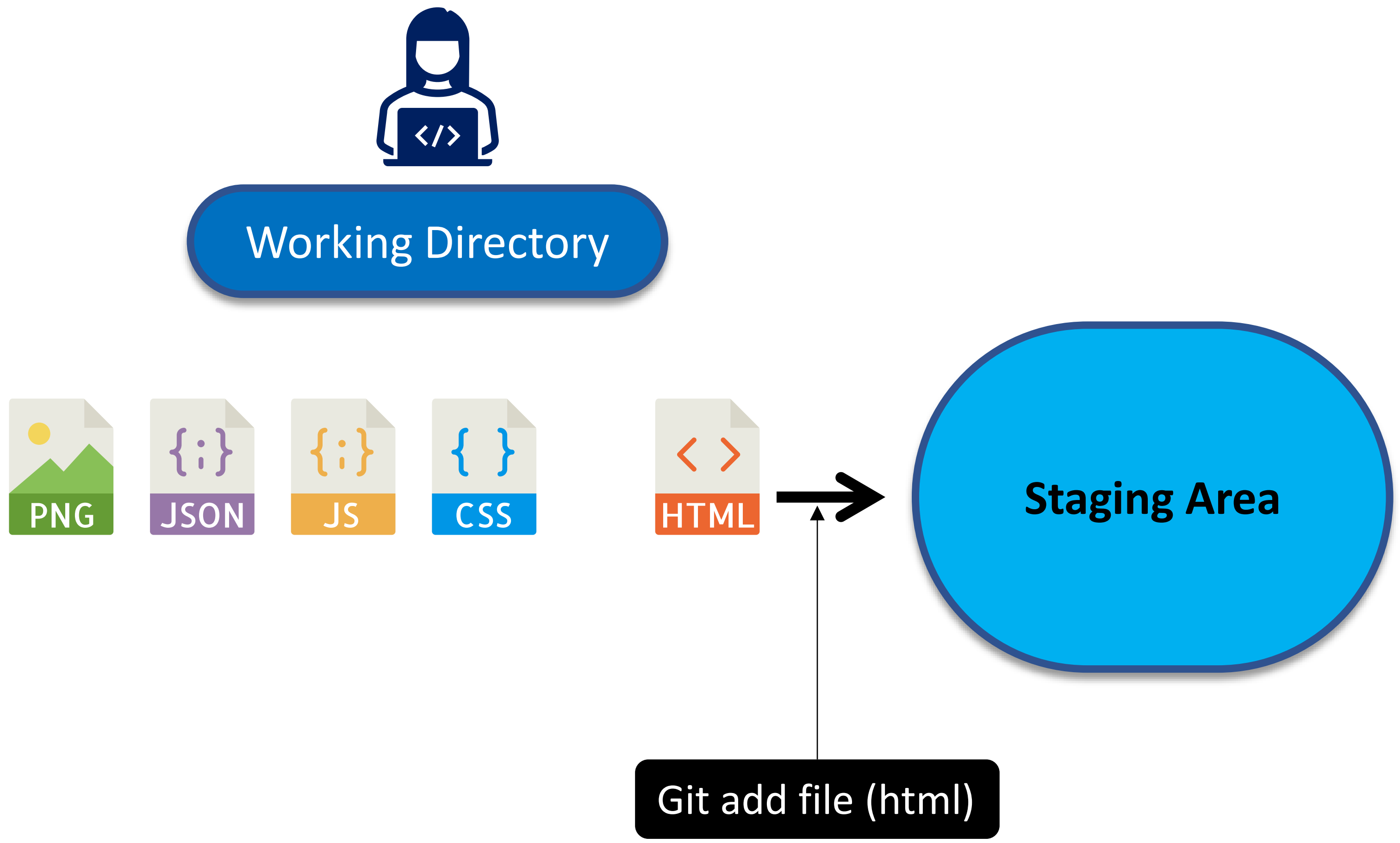


How Git Works

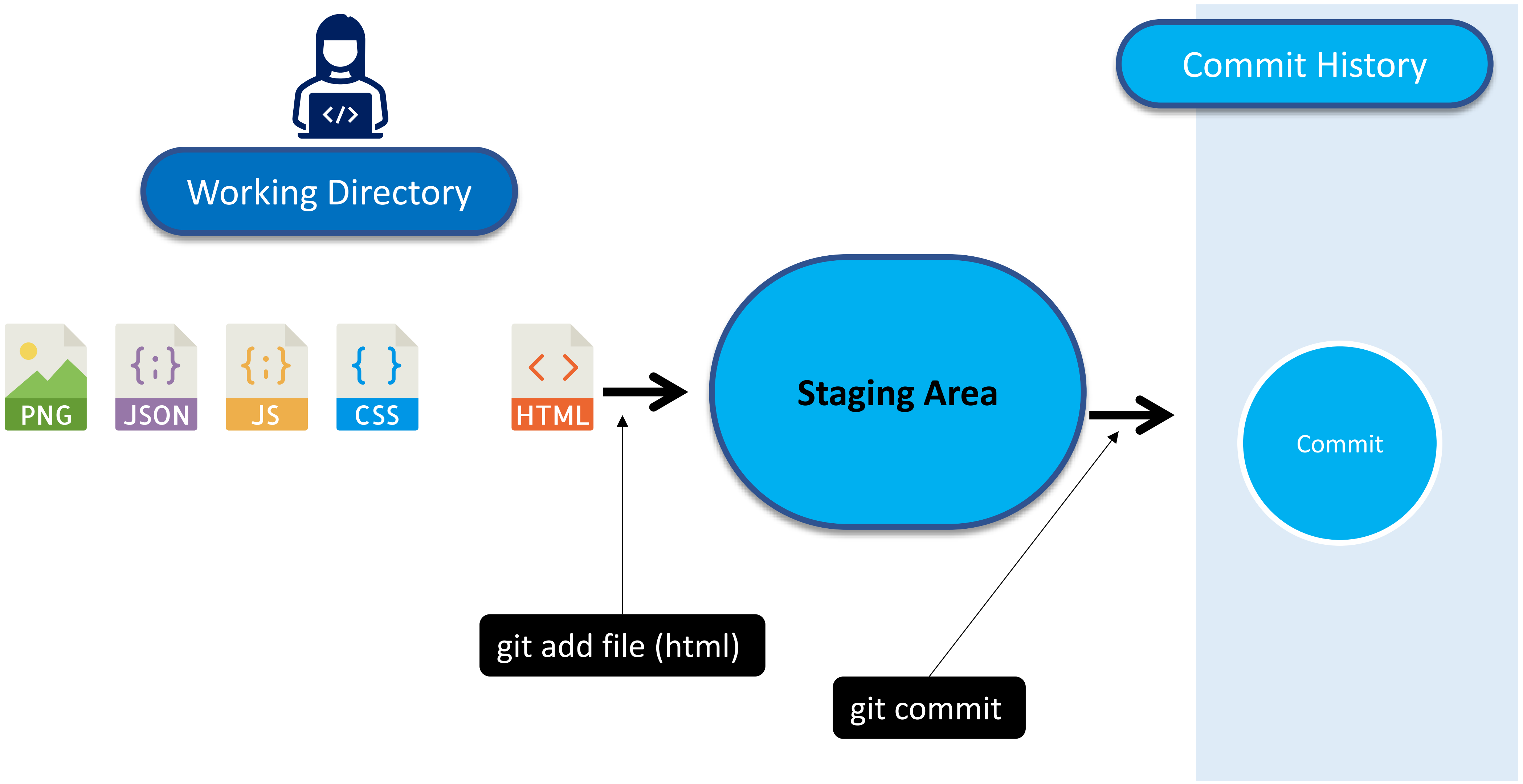


```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
</body>
</html>
```

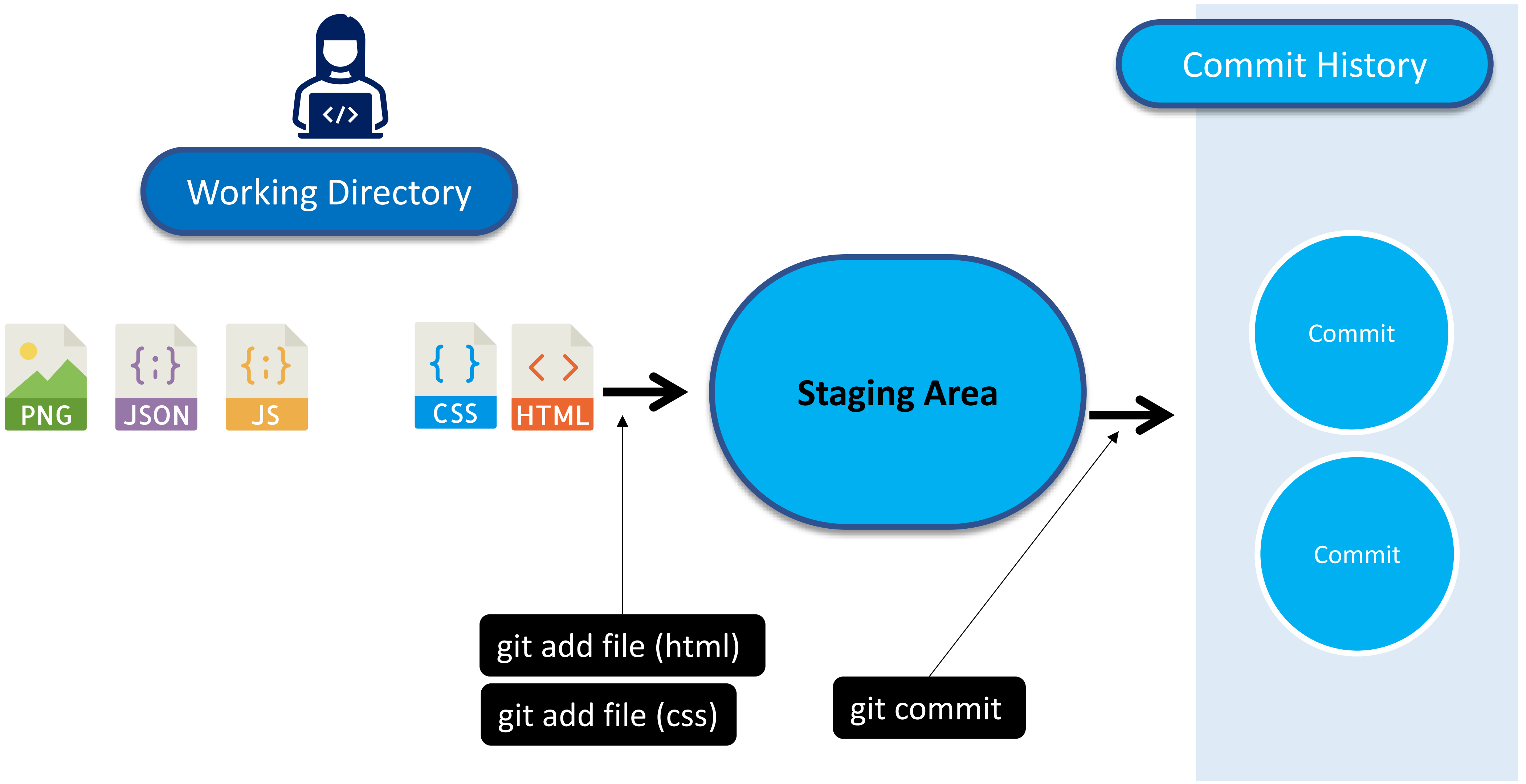
How Git Works



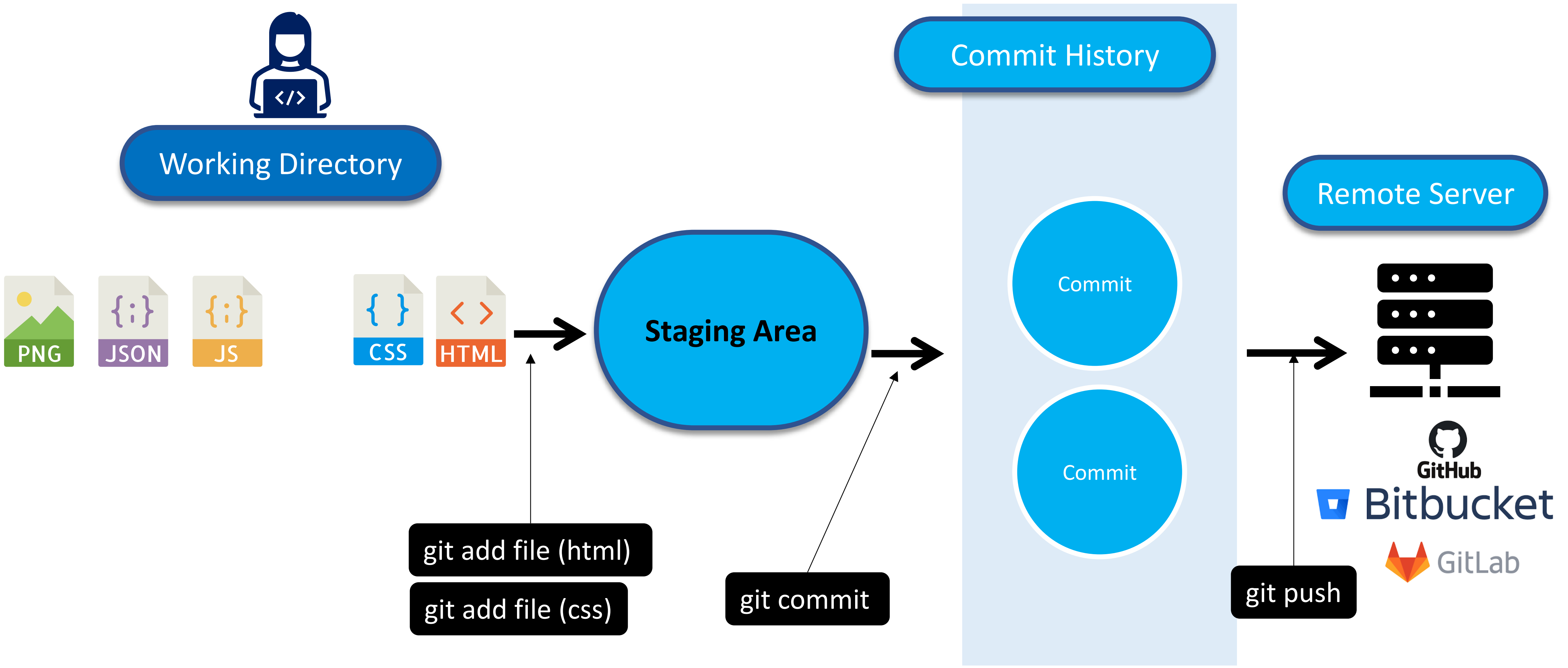
How Git Works



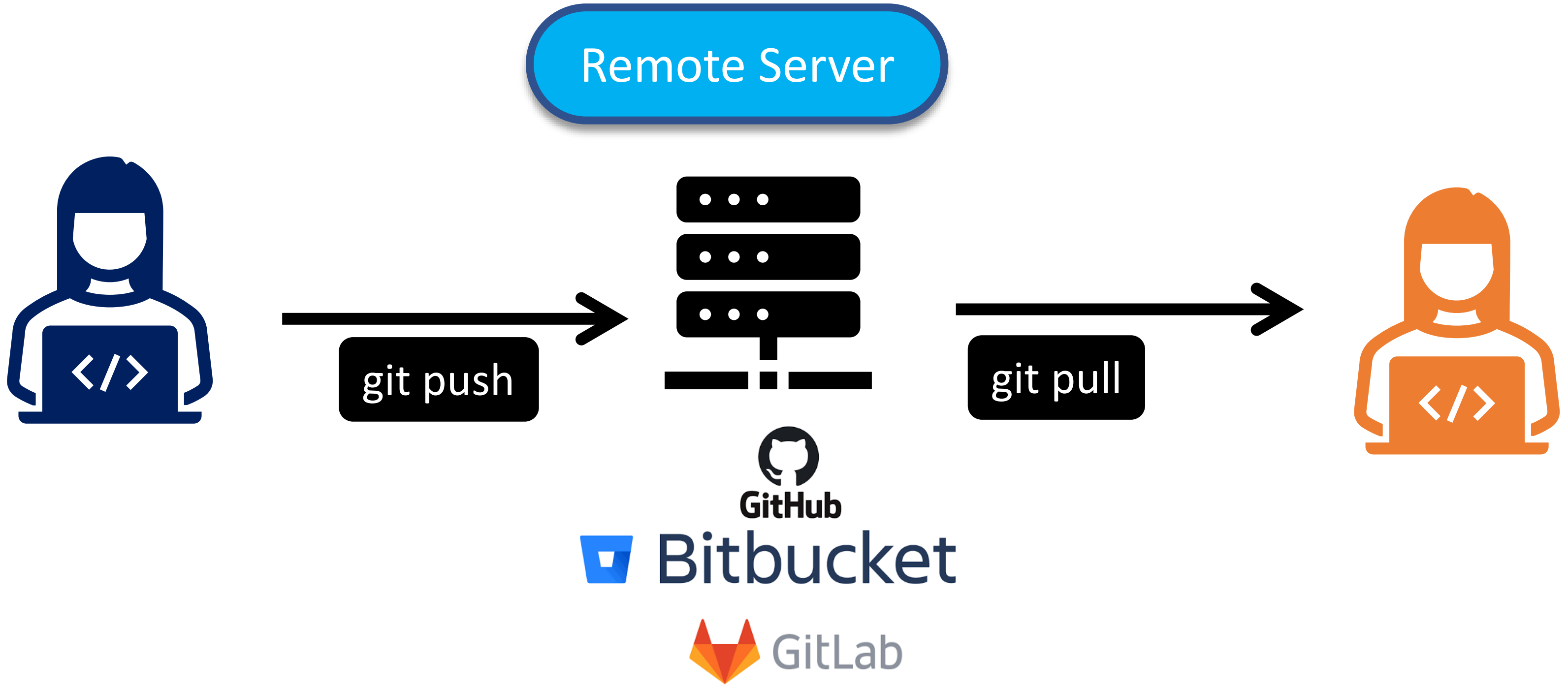
How Git Works



How Git Works

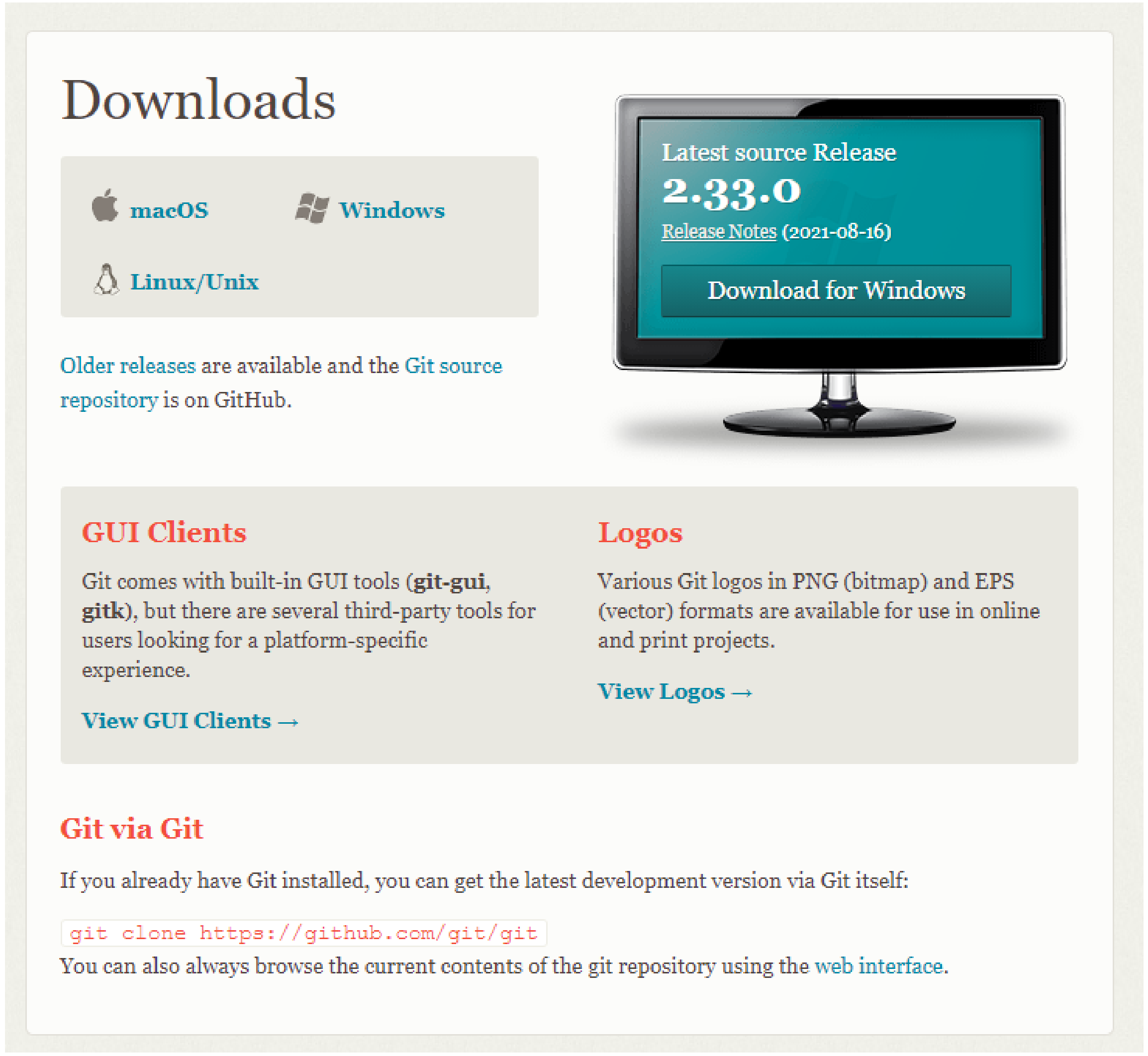


Git Push & Clone



Git Installing

- Installing Git
  - This depends on your particular system. It can be downloaded from https://git-scm.com/downloads
  - It can usually be installed by the package manager in Linux systems.


Downloads

macOS Windows Linux/Unix

Older releases are available and the Git source repository is on GitHub.

Latest source Release
2.33.0
Release Notes (2021-08-16)
Download for Windows

GUI Clients

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

View GUI Clients →

Logos

Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.

View Logos →

Git via Git

If you already have Git installed, you can get the latest development version via Git itself:

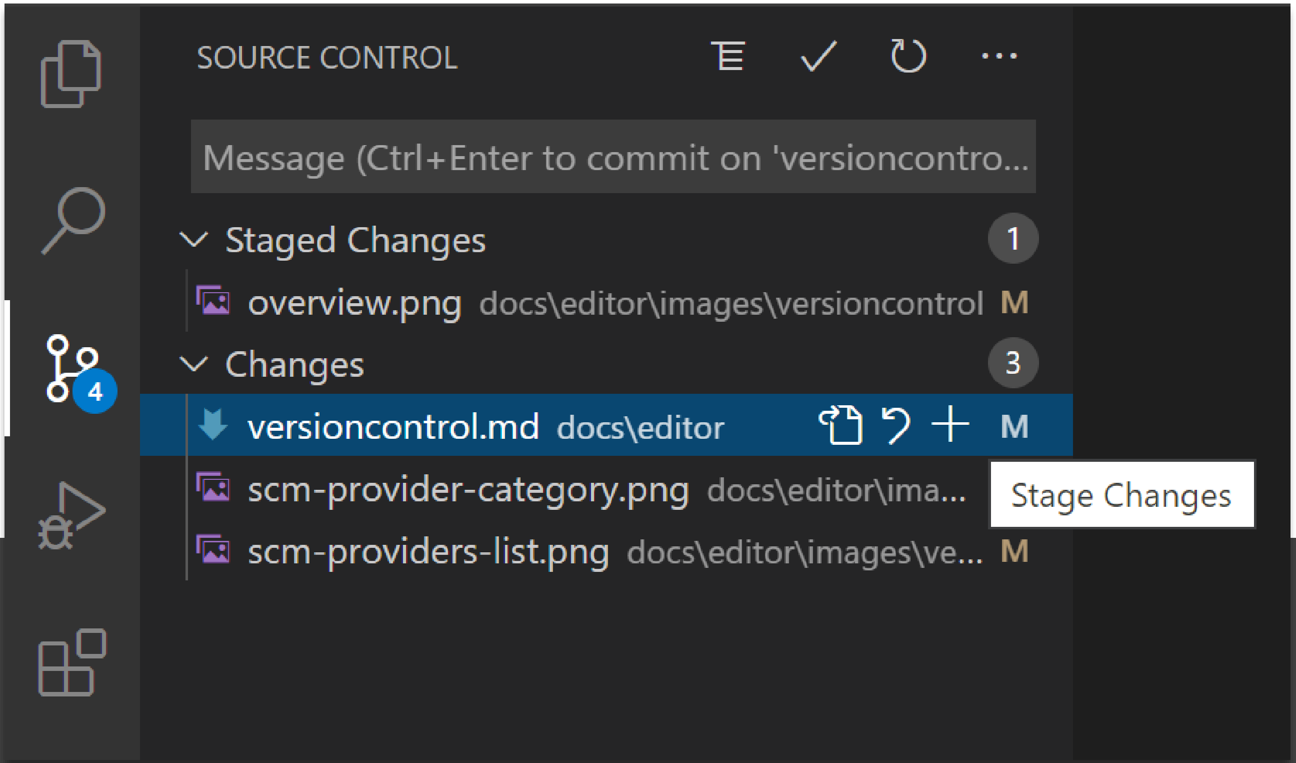
```
git clone https://github.com/git/git
```

You can also always browse the current contents of the git repository using the web interface.

Using Git

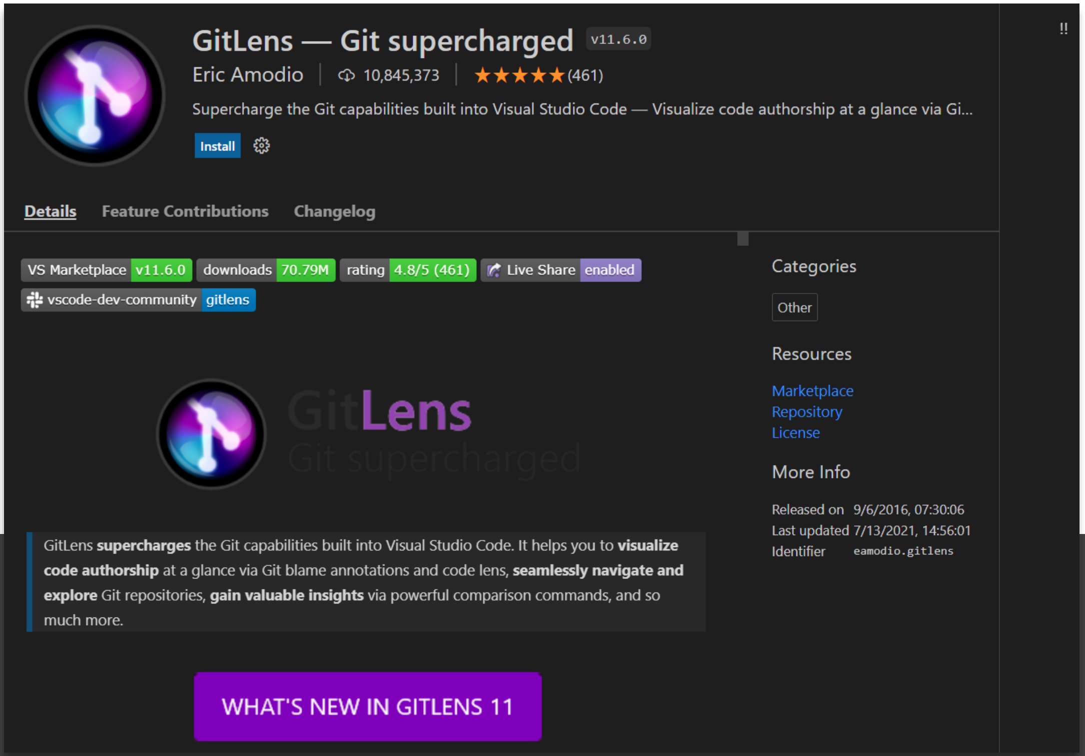
- The command line
- Code Editors & IDEs
- Graphical User Interfaces

Code Editors & IDEs



Message (Ctrl+Enter to commit on 'versioncontro...

- overview.png docs\editor\images\versioncontrol M
- versioncontrol.md docs\editor M
- scm-provider-category.png docs\editor\ima...
- scm-providers-list.png docs\editor\images\ve... M



GitLens — Git supercharged v11.6.0

Eric Amodio | 10,845,373 | ★★★★★(461)

Supercharge the Git capabilities built into Visual Studio Code — Visualize code authorship at a glance via Gi...

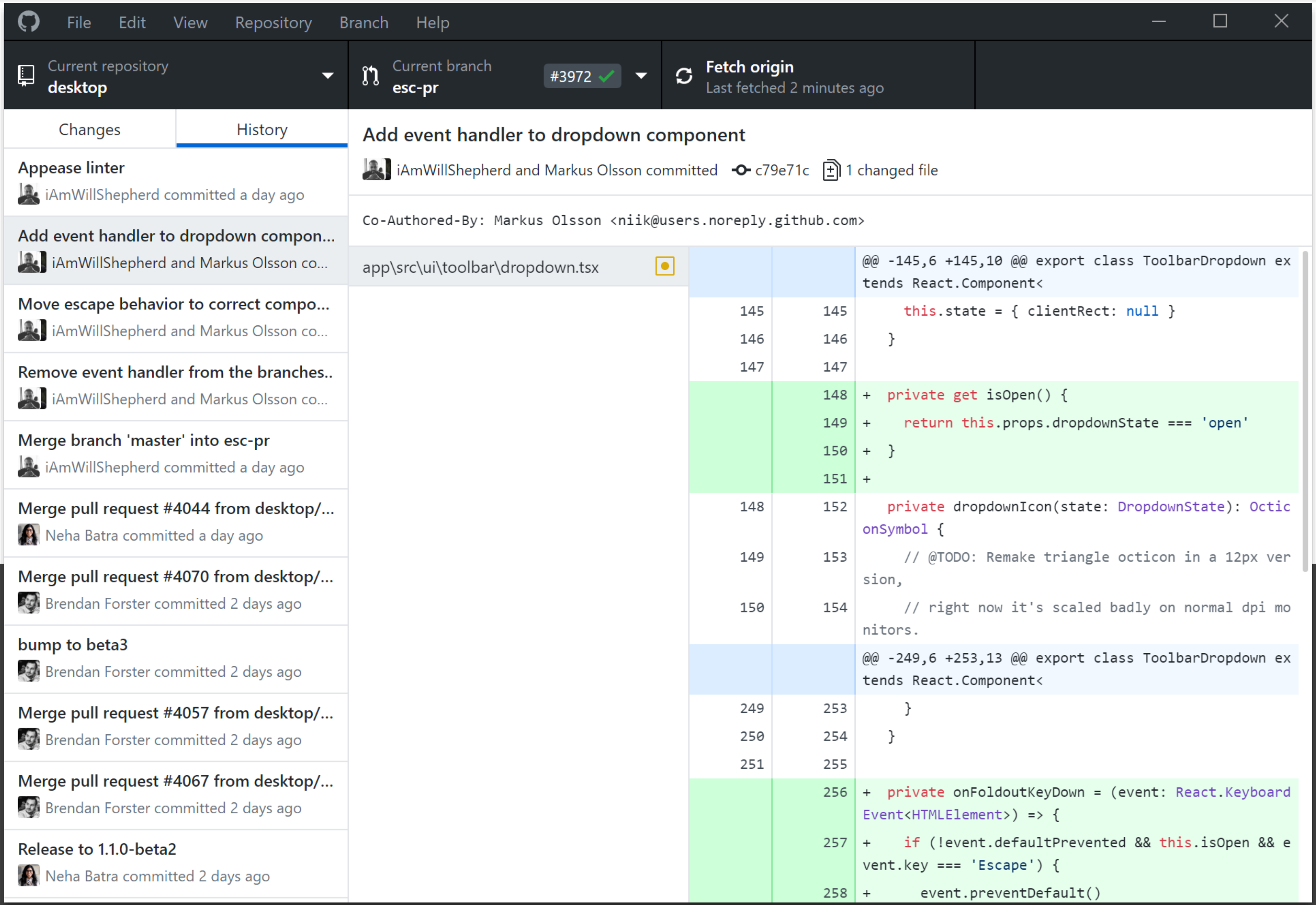
VS Marketplace v11.6.0 | downloads 70.79M | rating 4.8/5 (461) | Live Share enabled | vscode-dev-community gitlens

GitLens **supercharges** the Git capabilities built into Visual Studio Code. It helps you to **visualize code authorship** at a glance via Git blame annotations and code lens, **seamlessly navigate and explore** Git repositories, **gain valuable insights** via powerful comparison commands, and so much more.

Released on	9/6/2016, 07:30:06
Last updated	7/13/2021, 14:56:01
Identifier	`eamodio.gitlens`

https://code.visualstudio.com/docs/editor/versioncontrol

Graphical User Interfaces



Appease linter
iAmWillShepherd committed a day ago

Add event handler to dropdown compon...
iAmWillShepherd and Markus Olsson co...

Move escape behavior to correct compo...
iAmWillShepherd and Markus Olsson co...

Remove event handler from the branches..
iAmWillShepherd and Markus Olsson co...

Merge branch 'master' into esc-pr
iAmWillShepherd committed a day ago

Merge pull request #4044 from desktop/...
Neha Batra committed a day ago

Merge pull request #4070 from desktop/...
Brendan Forster committed 2 days ago

bump to beta3
Brendan Forster committed 2 days ago

Merge pull request #4057 from desktop/...
Brendan Forster committed 2 days ago

Merge pull request #4067 from desktop/...
Brendan Forster committed 2 days ago

Release to 1.1.0-beta2
Neha Batra committed 2 days ago

Add event handler to dropdown component

iAmWillShepherd and Markus Olsson committed c79e71c 1 changed file

```
Co-Authored-By: Markus Olsson <niik@users.noreply.github.com>
```

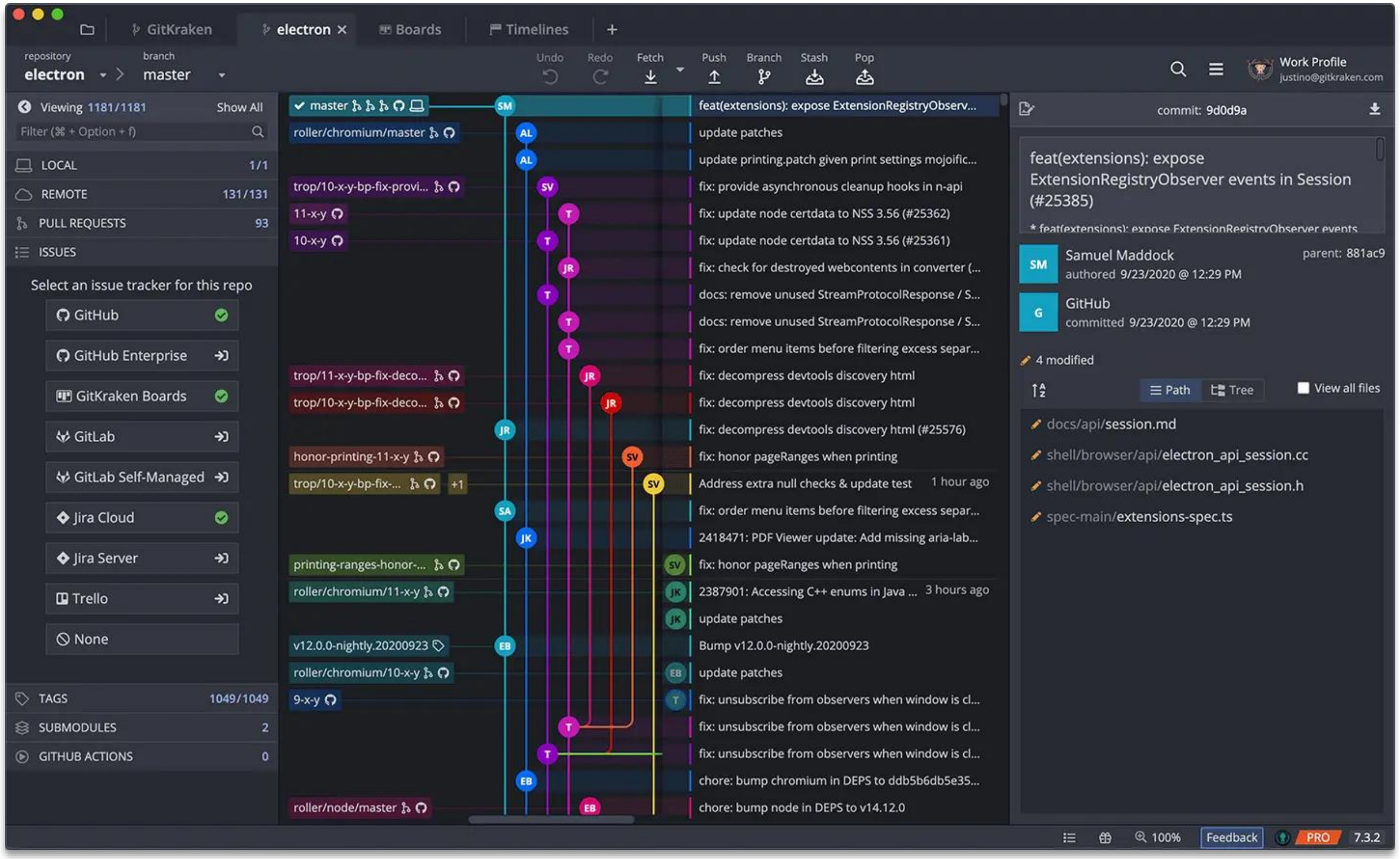
app\src\ui\toolbar\dropdown.tsx

```
@@ -145,6 +145,10 @@ export class ToolbarDropdown extends React.Component<
      this.state = { clientRect: null }
    }

+   private get isOpen() {
+     return this.props.dropdownState === 'open'
+   }
+
    private dropdownIcon(state: DropdownState): OcticonSymbol {
      // @TODO: Remake triangle octicon in a 12px version,
      // right now it's scaled badly on normal dpi monitors.
@@ -249,6 +253,13 @@ export class ToolbarDropdown extends React.Component<
      }
    }

+   private onFoldoutKeyDown = (event: React.KeyboardEvent<HTMLElement>) => {
+     if (!event.defaultPrevented && this.isOpen && event.key === 'Escape') {
+       event.preventDefault()
```

https://desktop.github.com/

세종대학교 SEJONG UNIVERSITY

Graphical User Interfaces



Branch / tag	Commit message
master	feat(extensions): expose ExtensionRegistryObserv...
roller/chromium/master	update patches
	update printing.patch given print settings mojofic...
trop/10-x-y-bp-fix-provi...	fix: provide asynchronous cleanup hooks in n-api
11-x-y	fix: update node certdata to NSS 3.56 (#25362)
10-x-y	fix: update node certdata to NSS 3.56 (#25361)
	fix: check for destroyed webcontents in converter (...
	docs: remove unused StreamProtocolResponse / S...
	docs: remove unused StreamProtocolResponse / S...
	fix: order menu items before filtering excess separ...
trop/11-x-y-bp-fix-deco...	fix: decompress devtools discovery html
trop/10-x-y-bp-fix-deco...	fix: decompress devtools discovery html
	fix: decompress devtools discovery html (#25576)
honor-printing-11-x-y	fix: honor pageRanges when printing
trop/10-x-y-bp-fix-... +1	Address extra null checks & update test — 1 hour ago
	fix: order menu items before filtering excess separ...
	2418471: PDF Viewer update: Add missing aria-lab...
printing-ranges-honor-...	fix: honor pageRanges when printing
roller/chromium/11-x-y	2387901: Accessing C++ enums in Java ... — 3 hours ago
	update patches
v12.0.0-nightly.20200923	Bump v12.0.0-nightly.20200923
roller/chromium/10-x-y	update patches
9-x-y	fix: unsubscribe from observers when window is cl...
	fix: unsubscribe from observers when window is cl...
	fix: unsubscribe from observers when window is cl...
	chore: bump chromium in DEPS to ddb5b6db5e35...
roller/node/master	chore: bump node in DEPS to v14.12.0

commit: 9d0d9a

feat(extensions): expose ExtensionRegistryObserver events in Session (#25385)

* feat(extensions): expose ExtensionRegistryObserver events

Samuel Maddock — parent: 881ac9
authored 9/23/2020 @ 12:29 PM

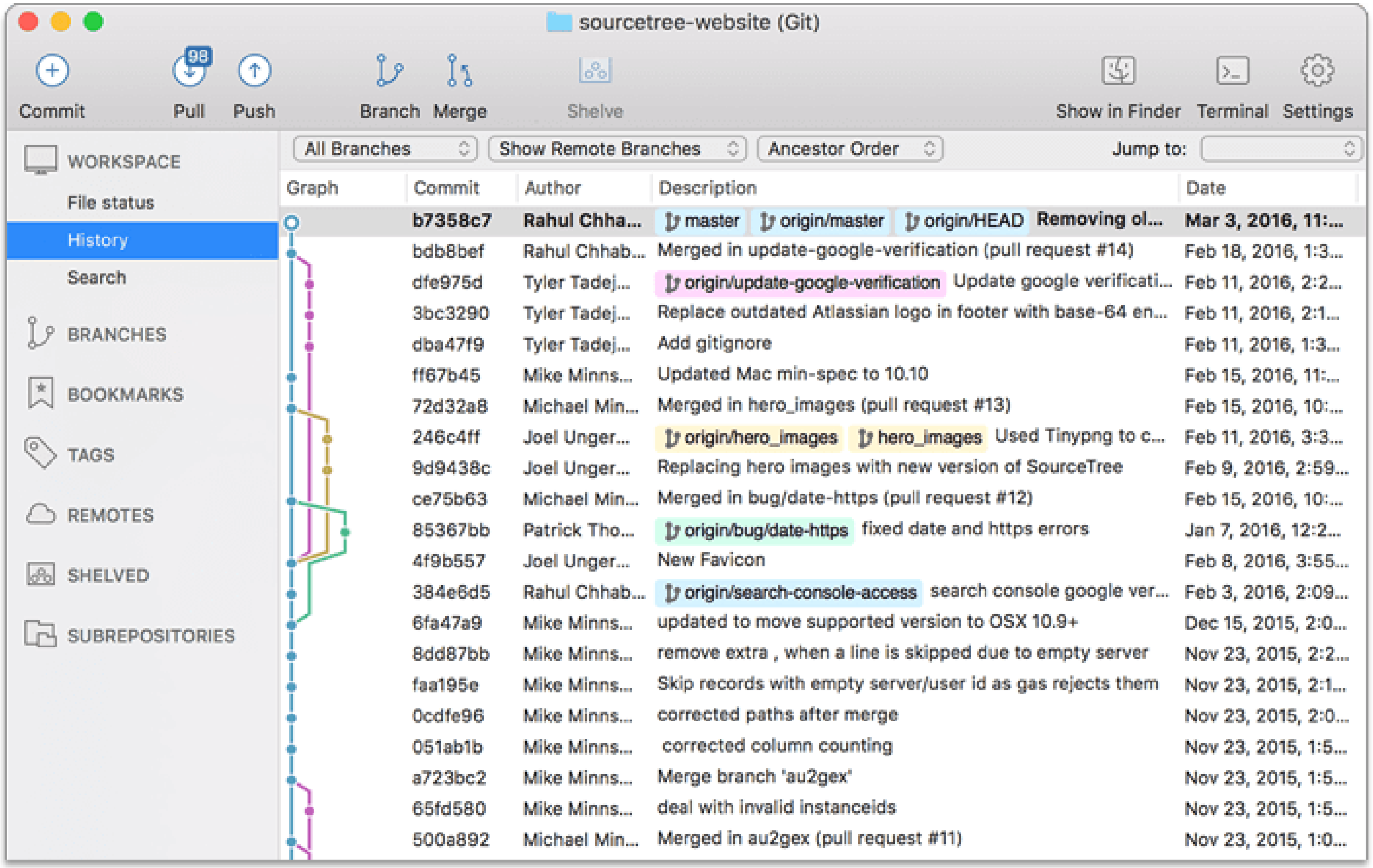
GitHub
committed 9/23/2020 @ 12:29 PM

4 modified — Path — Tree — View all files

- docs/api/session.md
- shell/browser/api/electron_api_session.cc
- shell/browser/api/electron_api_session.h
- spec-main/extensions-spec.ts

https://www.gitkraken.com/

Graphical User Interfaces



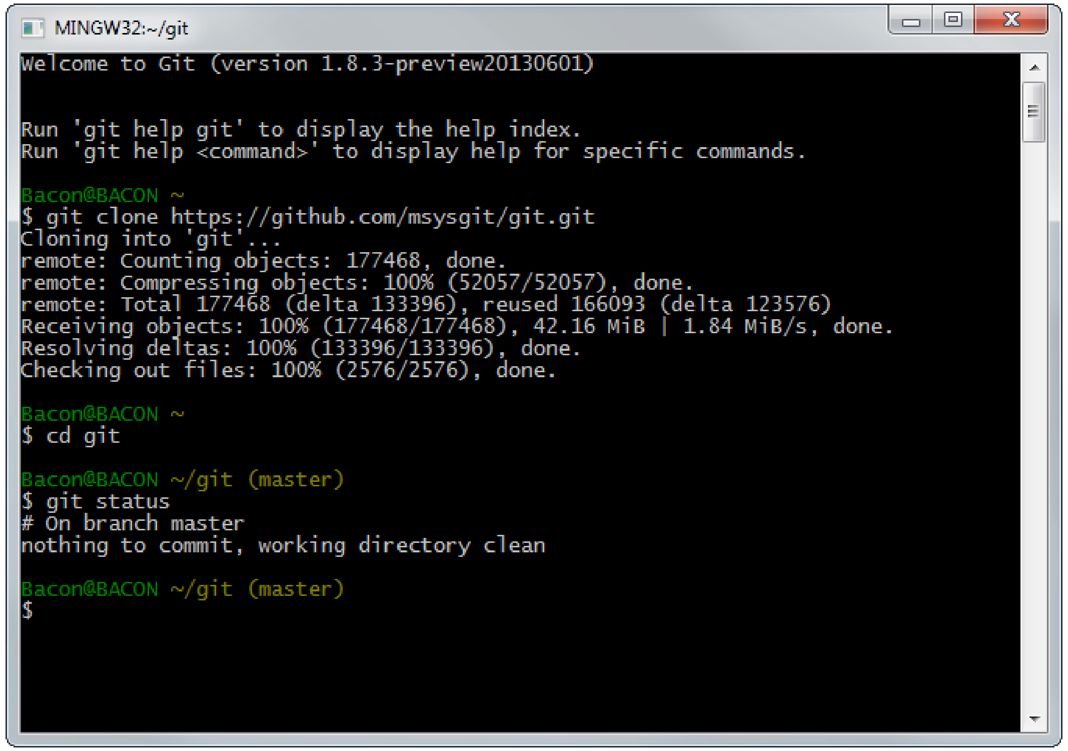
Graph	Commit	Author	Description	Date
	b7358c7	Rahul Chha...	master origin/master origin/HEAD Removing ol...	Mar 3, 2016, 11:...
	bdb8bef	Rahul Chhab...	Merged in update-google-verification (pull request #14)	Feb 18, 2016, 1:3...
	dfe975d	Tyler Tadej...	origin/update-google-verification Update google verificati...	Feb 11, 2016, 2:2...
	3bc3290	Tyler Tadej...	Replace outdated Atlassian logo in footer with base-64 en...	Feb 11, 2016, 2:1...
	dba47f9	Tyler Tadej...	Add gitignore	Feb 11, 2016, 1:3...
	ff67b45	Mike Minns...	Updated Mac min-spec to 10.10	Feb 15, 2016, 11:...
	72d32a8	Michael Min...	Merged in hero_images (pull request #13)	Feb 15, 2016, 10:...
	246c4ff	Joel Unger...	origin/hero_images hero_images Used Tinypng to c...	Feb 11, 2016, 3:3...
	9d9438c	Joel Unger...	Replacing hero images with new version of SourceTree	Feb 9, 2016, 2:59...
	ce75b63	Michael Min...	Merged in bug/date-https (pull request #12)	Feb 15, 2016, 10:...
	85367bb	Patrick Tho...	origin/bug/date-https fixed date and https errors	Jan 7, 2016, 12:2...
	4f9b557	Joel Unger...	New Favicon	Feb 8, 2016, 3:55...
	384e6d5	Rahul Chhab...	origin/search-console-access search console google ver...	Feb 3, 2016, 2:09...
	6fa47a9	Mike Minns...	updated to move supported version to OSX 10.9+	Dec 15, 2015, 2:0...
	8dd87bb	Mike Minns...	remove extra , when a line is skipped due to empty server	Nov 23, 2015, 2:2...
	faa195e	Mike Minns...	Skip records with empty server/user id as gas rejects them	Nov 23, 2015, 2:1...
	0cdfe96	Mike Minns...	corrected paths after merge	Nov 23, 2015, 2:0...
	051ab1b	Mike Minns...	corrected column counting	Nov 23, 2015, 1:5...
	a723bc2	Mike Minns...	Merge branch 'au2gex'	Nov 23, 2015, 1:5...
	65fd580	Mike Minns...	deal with invalid instanceids	Nov 23, 2015, 1:5...
	500a892	Michael Min...	Merged in au2gex (pull request #11)	Nov 23, 2015, 1:0...

https://www.sourcetreeapp.com/

Why Command Line

- GUI Tools have limitations
- GUI tools are not always available

- Git SCM to Window
  - https://gitforwindows.org/
  - Git BASH



```
Welcome to Git (version 1.8.3-preview20130601)


Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

Bacon@BACON ~
$ git clone https://github.com/msysgit/git.git
Cloning into 'git'...
remote: Counting objects: 177468, done.
remote: Compressing objects: 100% (52057/52057), done.
remote: Total 177468 (delta 133396), reused 166093 (delta 123576)
Receiving objects: 100% (177468/177468), 42.16 MiB | 1.84 MiB/s, done.
Resolving deltas: 100% (133396/133396), done.
Checking out files: 100% (2576/2576), done.

Bacon@BACON ~
$ cd git

Bacon@BACON ~/git (master)
$ git status
# On branch master
nothing to commit, working directory clean

Bacon@BACON ~/git (master)
$
```

Terminal

- **macOS**
  - Press **Command** + **Space** and type **terminal**
- **Window**
  - Click the search icon and type **cmd**

Reading Materials

- Karl Fogel, *Producing Open Source Software: How to Run a Successful Free Software Project*, O'Reilly Media, 2009.
- https://choosealicense.com/
- https://opensource.guide/starting-a-project/
- Book : Pro Git Scott Chacon, Ben Straub

Thanks

Office Time: Monday-Friday (1000 - 1800)

You can send me an email for meeting, or any sort of discussion related to class matters.

jamil@sejong.ac.kr

세종대학교 SEJONG UNIVERSITY