



# Introduction to **Git and GitHub**

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# Agenda

Introduction to Git

Why Git ?

How Git works under the hood ?

Introduction to GitHub

Git Commands

Git Branching Model

Pull Requests and Git Merge

Milestones

Projects Boards and Wiki

Conclusion

# Introduction to Git

- Open-source
- Version Control System
- Collaborative Development



# Why Git ?



## Mission

- Efficient Collaboration
- Enhancing Developer Workflow



## Vision

- Universal Standard
- Continuous Improvement

# How Git works under the hood?

- Snapshots, Not Differences
- Git Objects and Hashing
- Commits
- Branches
- Merging
- Staging Area and Repository



# Introduction to **GitHub**

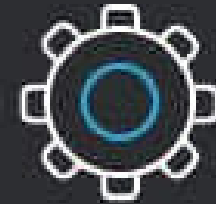
- Web-based platform built around Git
- Collaboration
- Project Management
- Documentation and Showcase



# Git

vs.

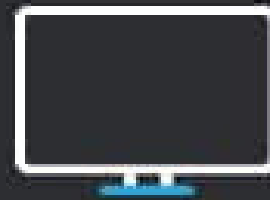
# GitHub



Git is installed and maintained on your local system (rather than in the cloud)



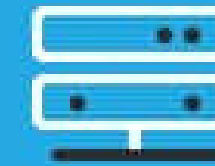
First developed in 2005



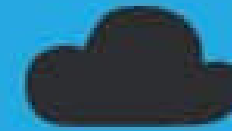
One thing that really sets Git apart is its branching model

Git is a high quality version control system

GitHub is designed as a Git repository hosting service



GitHub is exclusively cloud-based



You can share your code with others, giving them the power to make revisions or edits



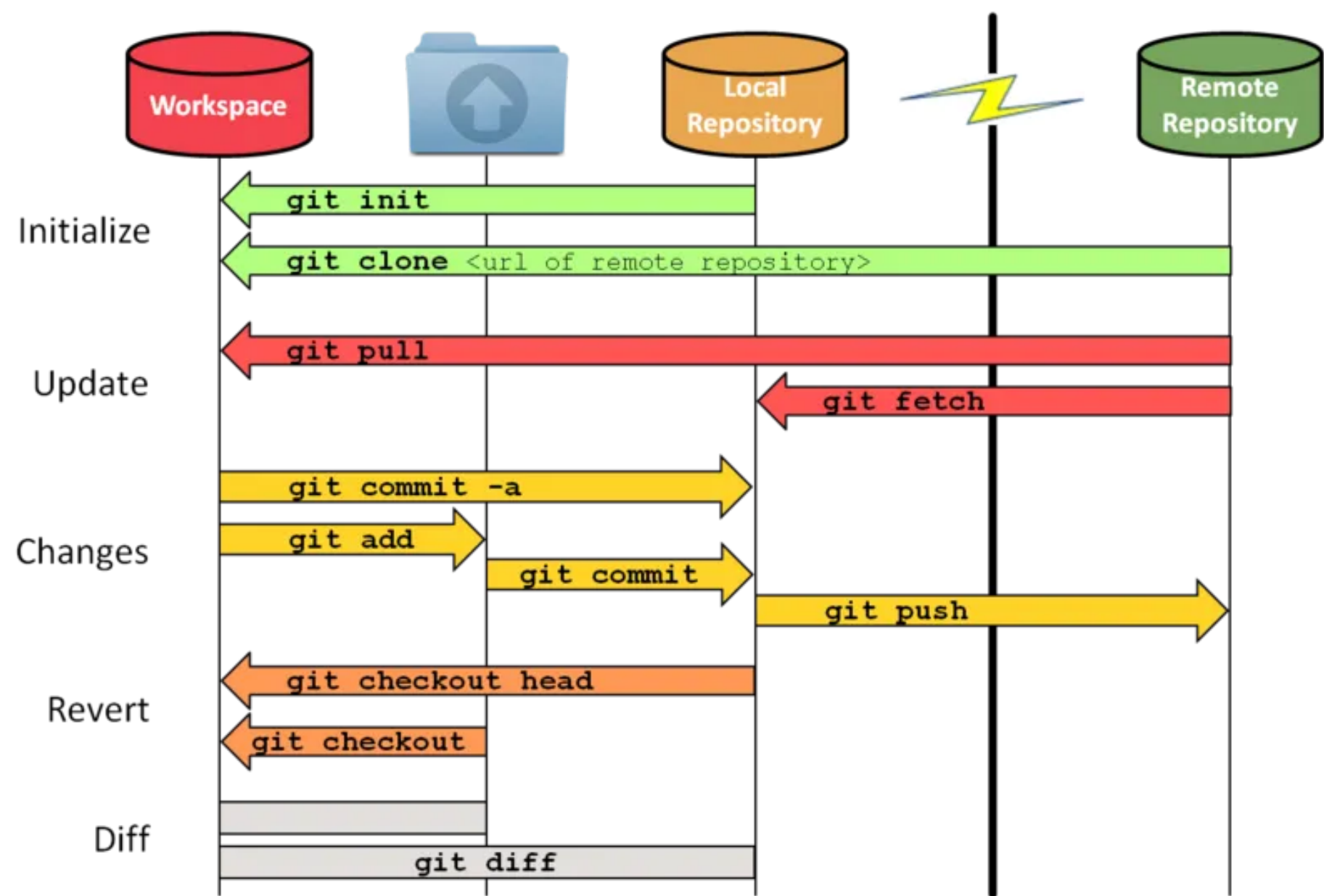
GitHub is a cloud-based hosting service

# Git

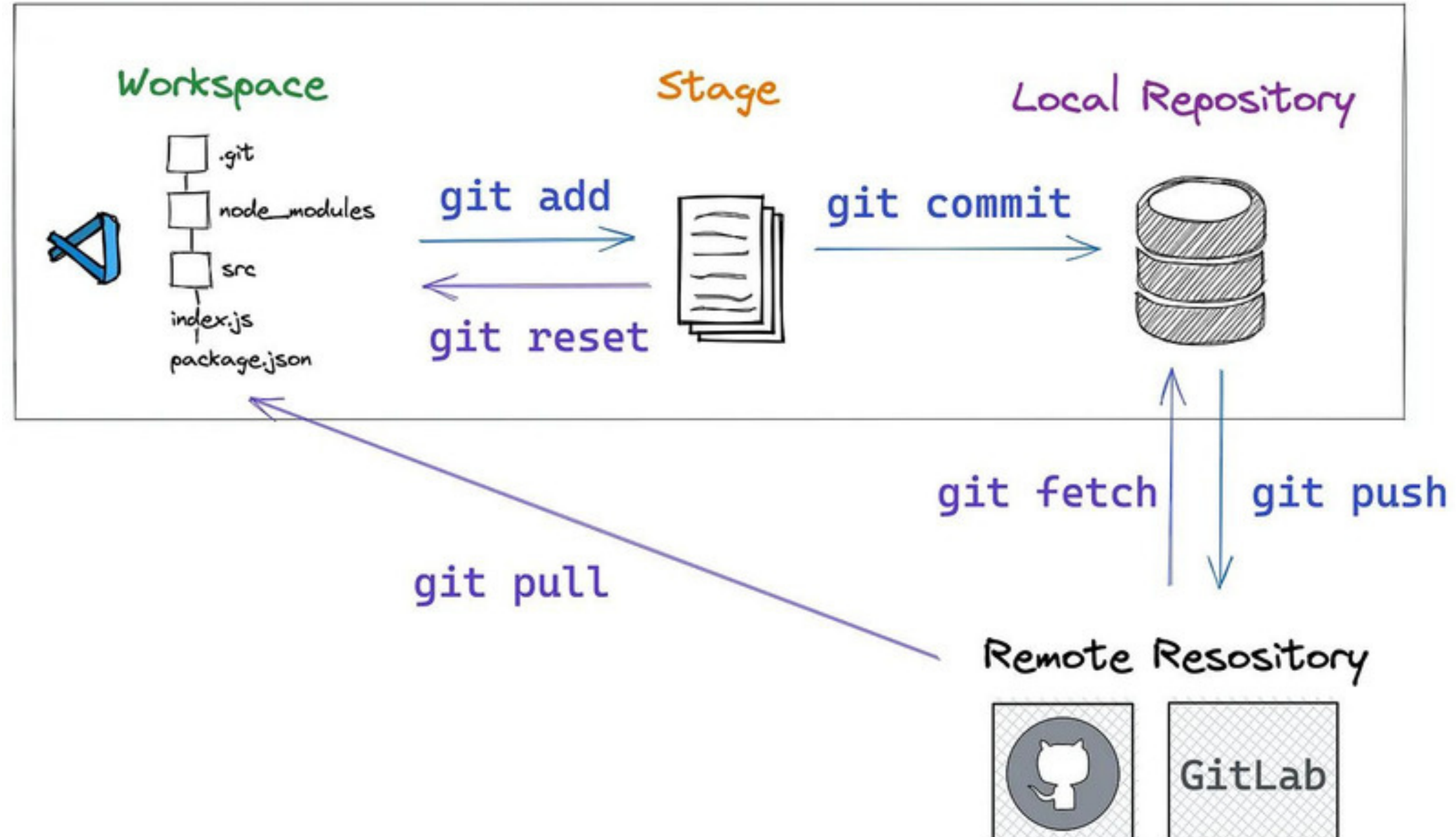
## Commands

- ◆ git init
- ◆ git clone [repository URL]
- ◆ git add [file(s)]
- ◆ git commit -m “message”
- ◆ git status
- ◆ git checkout -b “branch\_name”
- ◆ git merge
- ◆ git pull
- ◆ git push





## Local



# Git Branching Model

## MASTER

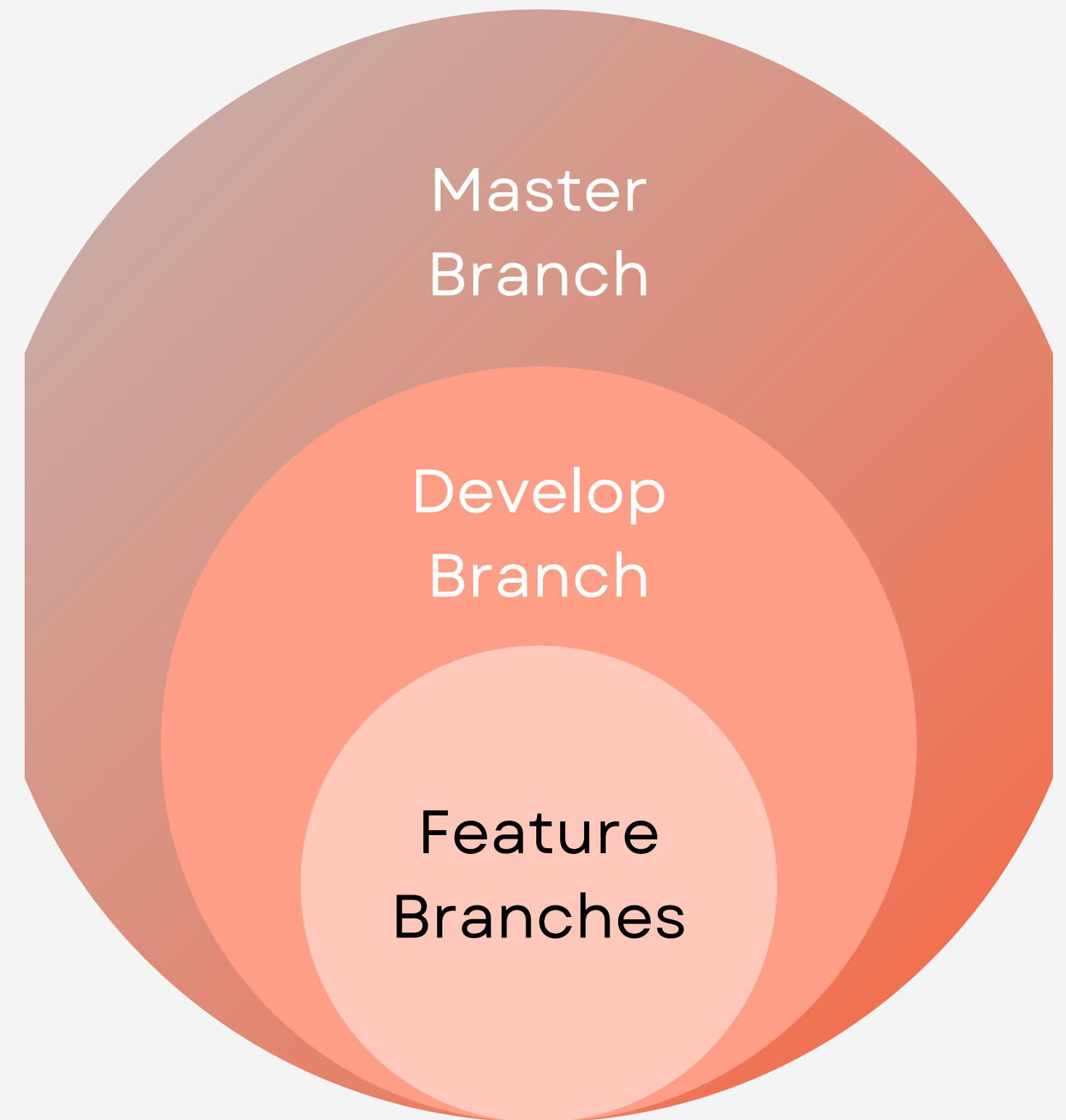
Serves as the foundation for releases and deployment

## DEVELOP

Acts as an integration branch for ongoing development and collaboration

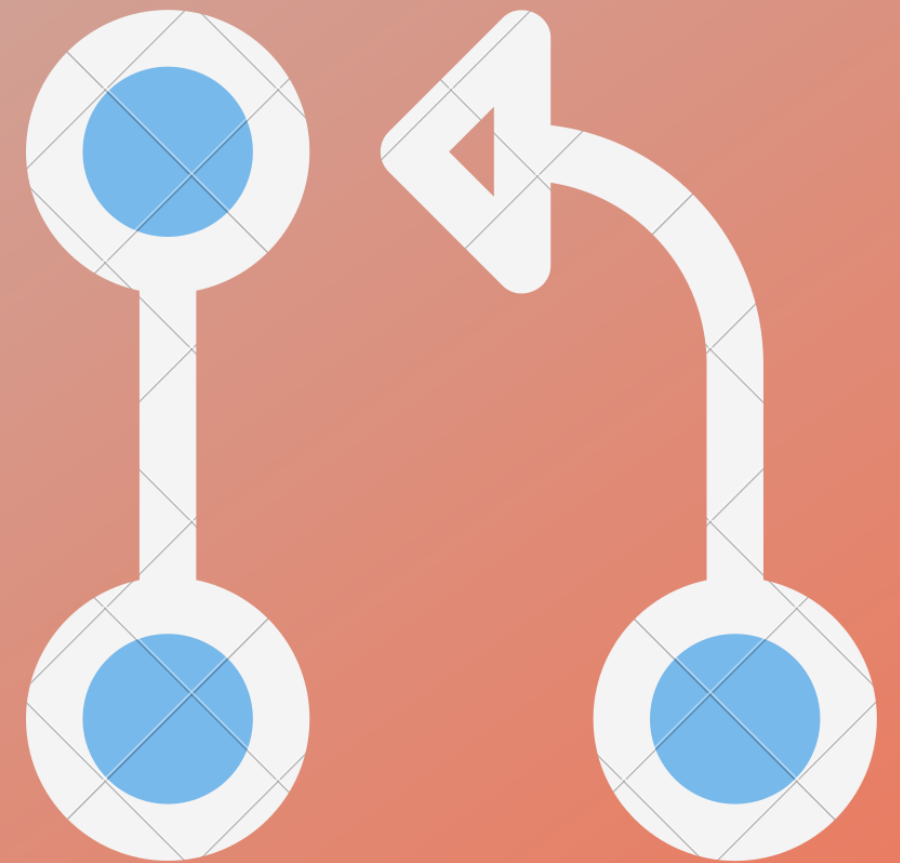
## FEATURE

Each branch is dedicated to specific task or feature



# Pull Requests

- Request for Review
- Faciliates Discussion
- Code Review Process



Label issues and pull requests for new contributors

Dismiss

Now, GitHub will help potential first-time contributors [discover issues](#) labeled with good first issue

Filters ▾

 ispr isopen

 Labels 9

 Milestones 0

New pull request

  **0 Open**  **0 Closed**

Author ▾

Label ▾

Projects ▾

Milestones ▾

Reviews ▾

Assignee ▾

Sort ▾



base: main ▾



compare: readme-edits ▾

✓ **Able to merge.** These branches can be automatically merged.



Updated the readme file

Write

Preview

H

B

*I*

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<>

🔗

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☑

@

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↶

▾

Some long text explaining the changes you made in this new branch ... 🤖

Attach files by dragging & dropping, selecting or pasting them.

ML

Create pull request



Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

# Git Merge

bash




```
## Switch to the branch to which you want to merge into.  
## We will merge feature branch to main branch so switch to main branch  
git checkout main  
  
## Pull the latest changes from remote repo of respective branch  
git pull  
git fetch  
  
## Merge feature branch into main branch  
git merge feature
```

# Milestones


- Measurement of Progress
- Decision Points
- Planning and Coordination
- Risk Management



 [baskauf](#) / [practice](#)

 Unwatch ▾ 1

 Star 0

 Fork 0

 Code

 Issues 5

 Pull requests 1

 Projects 0

 Wiki

 Insights

Labels

Milestones

New milestone

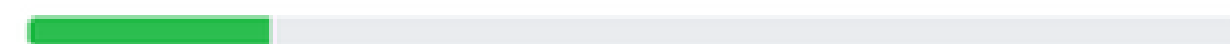
 1 Open ✓ 0 Closed

Sort ▾

## Release poiuyt 1.0

 Due by October 03, 2021  Last updated 6 minutes ago

Complete work on poiuyt development grant



20% complete 4 open 1 closed

[Edit](#) [Close](#) [Delete](#)



baskauf / practice

Unwatch ▾

1

★ Star

0

Fork

0

<> Code

Issues 5

Pull requests 1

Projects 0

Wiki

Insights

## Software user testing #14

Edit

New issue

Open

baskauf opened this issue 29 minutes ago · 0 comments



baskauf commented 29 minutes ago

Owner



We need to have the user group try out our software to make sure it satisfies the use cases.



baskauf added the **dependency** label 29 minutes ago

Assignees



No one—assign yourself

Labels



**dependency**

Projects



None yet

Milestone



Write

Preview

AA B i



Leave a comment

click on the milestone item

Attach files by dragging & dropping, selecting them, or pasting from the clipboard.

Styling with Markdown is supported

Close issue

Set milestone

Filter milestones

Open

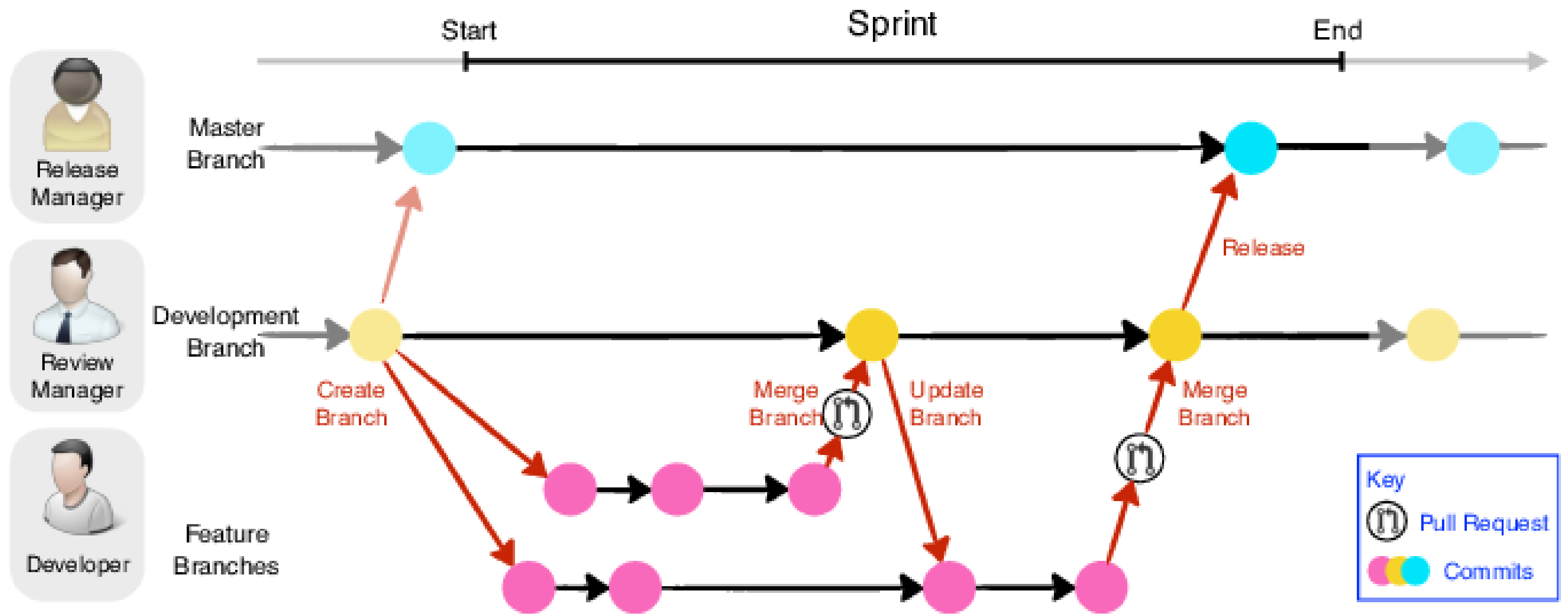
Closed

**Release poiuyt 1.0**

Due by October 03, 2021

select existing milestone from dropdown

1 participant



# Project Board

The screenshot shows a GitHub Project Board for the repository 'andrewvt / github-enhanced-project-board'. The board is organized into five columns: 'To do', 'Ready', 'In progress', 'QA/Conformance', and 'Done'. Each column contains project cards representing issues. The 'To do' column has one card: 'Submit to Webstore' (#5, enhancement). The 'Ready' column has two cards: 'Create Manifest' (#1, enhancement) and 'Fix js error' (#6, bug). The 'In progress' column has three cards: 'Create background js' (#3, enhancement), 'Find the one ring' (#8, enhancement), and 'Fix CSS alignment issue' (#7, bug). The 'QA/Conformance' column has two cards: 'Create github.js' (#4, enhancement) and 'Invent flux capacitor' (#9, good first issue). The 'Done' column has one card: 'Enhance the UI' (#2, enhancement). The board is updated 22 minutes ago. The interface includes a search bar, navigation links for Pull requests, Issues, Marketplace, and Explore, and a bottom bar with 'Automated as' and 'Manage' links for each column.

Search or jump to... Pull requests Issues Marketplace Explore

andrewvt / github-enhanced-project-board Private

Unwatch 1 Star 0 Fork 0

<> Code Issues 8 Pull requests 0 Projects 1 Insights Settings

ToDo's Updated 22 minutes ago Filter cards + Add cards Fullscreen Menu + Add column

**1 To do** + ...

- 1 Submit to Webstore #5 opened by andrewvt enhancement

Automated as To do Manage

**2 Ready** + ...

- 1 Create Manifest #1 opened by andrewvt enhancement
- 1 Fix js error #6 opened by andrewvt bug

Automated as Ready Manage

**3 In progress** + ...

- 1 Create background js #3 opened by andrewvt enhancement
- 1 Find the one ring #8 opened by andrewvt enhancement
- 1 Fix CSS alignment issue #7 opened by andrewvt bug

Automated as In progress Manage

**2 QA/Conformance** + ...

- 1 Create github.js #4 opened by andrewvt enhancement
- 1 Invent flux capacitor #9 opened by andrewvt good first issue

Automated as QA/Conformance Manage

**1 Done** + ...

- 1 Enhance the UI #2 opened by andrewvt enhancement

Automated as Done Manage

# Wiki

- ◆ Accessible Documentation Platform
- ◆ Versioned Content
- ◆ List your company's services/products.
- ◆ Collaborative Editing
- ◆ Linking and Navigation

## Home

Ricardo Fearing edited this page on Jul 14 · 2 revisions

Edit New Page

## SparkBox Pokedex

This project was first created as part of the interview process at [Sparkbox](#) and has continued to be utilized as an example project for Wiki CircleCI implementation.



Developer Documentation

[NPM Packages & Tools Used](#)

[Coding Decisions & Standards](#)

[Building & Running the App](#)

[How to Contribute](#)

Pages 5

Find a Page...

[Home](#)

[How To Contribute](#)

[Packages](#)

[Running The App](#)

[Standards](#)

+ Add a custom sidebar

Clone this wiki locally

<https://github.com/rfearing/gotta-spark-em-all>

# Summary

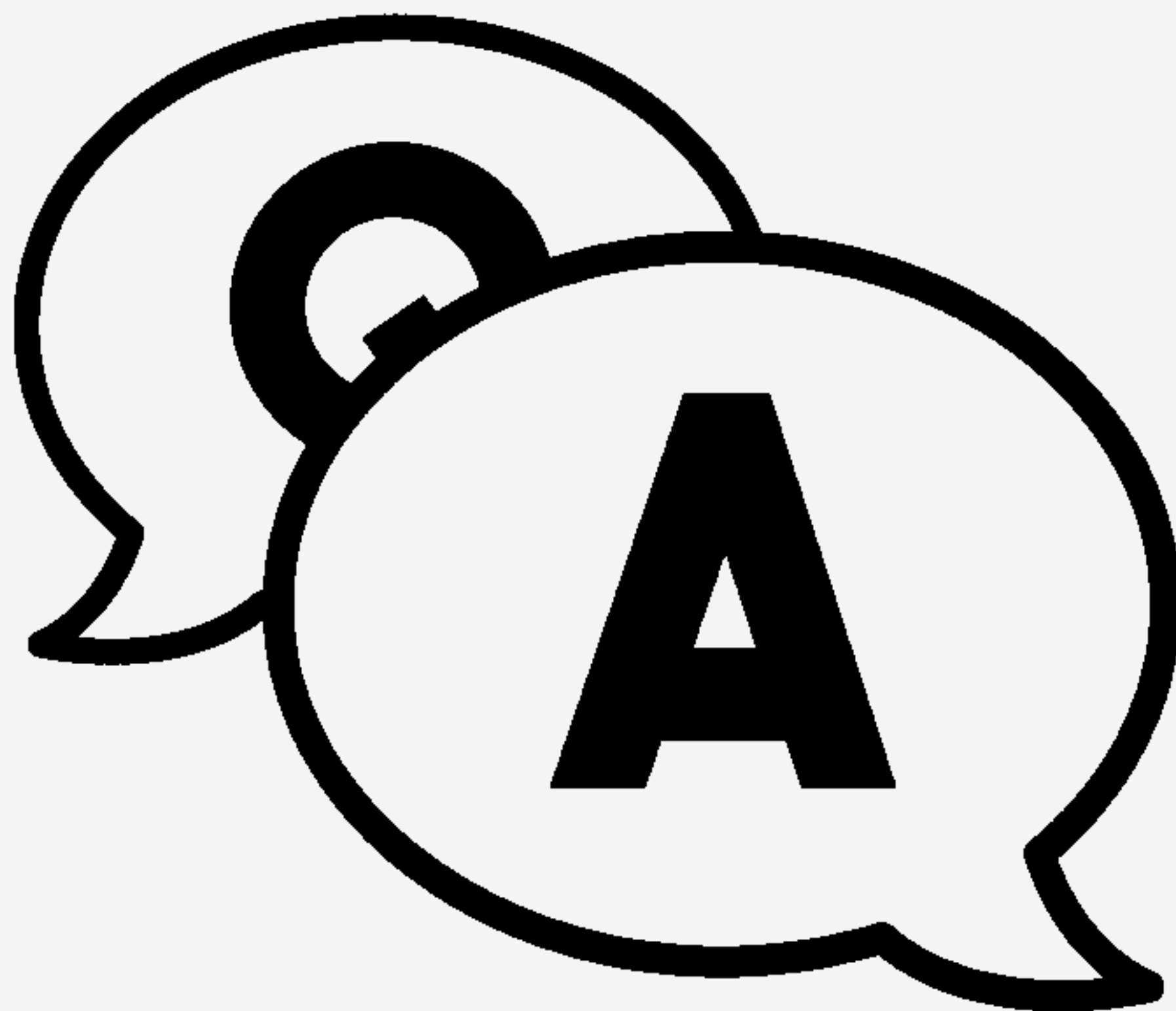
- ◆ GitHub as a platform
- ◆ Project Documentation and Collaboration
- ◆ Open Source Community
- ◆ Learning Resources



# Demo

[Github demo](#)





Thank  
you!