

**git is hard
but time travel in git is easy.**

PRESENTATION BY MONICA POWELL



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Hi, I'm Monica Powell!

I'm a Full Stack Engineer at Meetup and organizer of the React Ladies Meetup group. I've written about git and other tech adventures in publications such as FreeCodeCamp, Hacker Noon and Code Like A Girl.



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Talk Outline



1. Introduction
2. How to write git commits dated in the future
3. Changing the languages that GitHub auto-detects in a repository
4. Automating git workflow
5. Resources



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What is git?

A distributed version-control system for tracking changes in source code during software development.



What is the relationship between GitHub/BitBucket/GitLab and git??





TIME TRAVEL IN GIT



M0nica committed 11 days from now

It's not a bug! It's a feature.



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nick

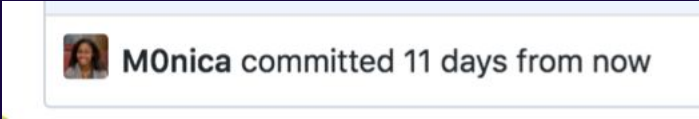
DEBUGGING



CREATE FUTURE COMMIT



- ☑ Checkout new branch
- ☑ Change computer time & replicate issue locally
- ☑ Squash bug and fix issue
- ☑ Commit and push fix
- ☑ Oops! ☐



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The slide features a dark blue background with white text. The corners are decorated with colorful geometric shapes: yellow triangles and circles in the top-left, blue triangles and circles in the top-right, and various colored triangles and circles in the bottom-left and bottom-right. Three small yellow diamonds are arranged horizontally above the text.

◆ ◆ ◆

**Is that the only way
to commit in the
future?**



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OTHER WAYS TO MODIFY COMMIT DATES

```
GIT_AUTHOR_DATE="Wed Mar 20 15:12:30 2019 -0700" GIT_COMMITTER_DATE="Wed Mar 20 15:12:30 2019 -0700" git commit -m "future commit"
```

- The Date format must follow the Git standard RFC 2822 or ISO 8601.
- Can rebase and apply changes commits to the past as well.

What does this look like on GitHub?



committing changes in the future #1 Edit

Open M0nica wants to merge 1 commit into `master` from `women-who-code-demo`

Conversation 0 Commits 1 Checks 0 Files changed 1

Changes from all commits File filter... Jump to... +0 -0 Diff settings Review changes

committing changes in the future

women-who-code-demo (#1)

M0nica committed 11 days from now commit e524a78ef8949aa44cf483ed288a65e0ba299485

BIN +13.9 MB womenwhocodegitpresentation.key Copy path View file 🖨 ✎ ⌵

Binary file not shown.

ProTip! Use `n` and `p` to navigate between commits in a pull request.



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How to Change Repo Language in GitHub

Is GitHub telling you that your repository is 98.9% CSS or HTML when it isn't? Here's how to resolve that issue every time.

You highlighted



Monica Powell

Feb 7, 2017 · 3 min read

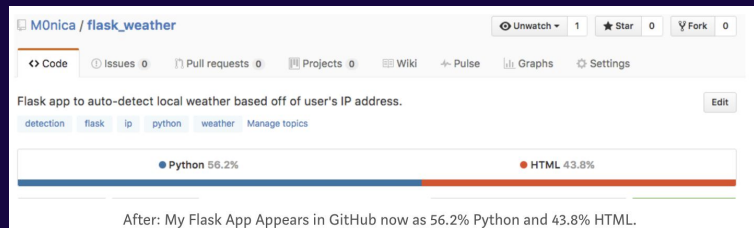
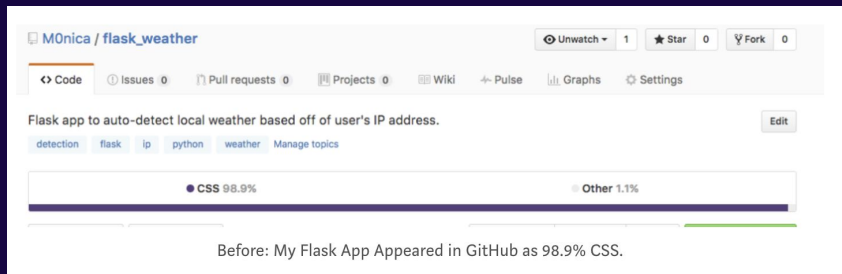


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Reclassify Language With One Line of Code



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Linguist library



Python Application + CSS = 98.9% CSS and 1.1% Other???

Flask Weather App

This is a Flask (Python) application that auto-detects local weather based off of user's external IP address.

Today's Weather Forecast

New York, New York

37° 

Right now it is 37° and there is a slight chance of rain. You might want to grab an umbrella

Made by: Monica Powell | [View on GitHub](#)



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Linguist library



“This library is used on GitHub.com to detect blob languages, ignore binary or **vendored files**, suppress generated files in diffs, and **generate language breakdown graphs.**”

<https://github.com/github/linguist#my-repository-isnt-showing-my-language>



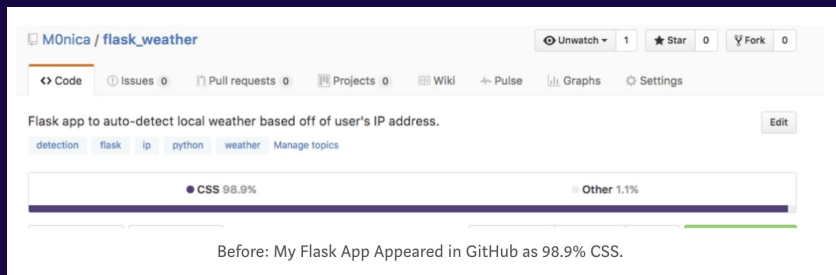
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Linguist library

1

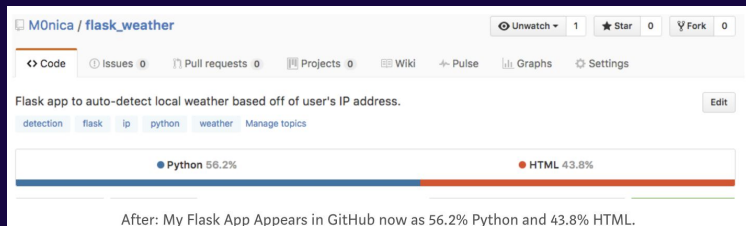


2

```
1 static/* linguist-vendored
```

.gitattributes hosted with ❤️ by GitHub

3



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The slide features a dark blue background with decorative geometric shapes in the corners. The top-left corner has yellow triangles, orange circles, and a blue circle. The top-right corner has a blue triangle, an orange circle, and a cyan circle. The bottom-left corner has yellow and cyan triangles, pink circles, and a yellow circle. The bottom-right corner has yellow and pink triangles, a dashed yellow circle, and a cyan circle.

GIT HOOKS

Automate your git workflow



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if this then that

Trigger Action

Hooks executing during the commit creation process

Hooks

Pre-Commit
Notification

Post-Commit
Notification



User Actions



Stage
Changes

Commit
Changes

Enter Commit
Message

All Done!



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What is a git hook?



- ✔ Bash scripts that are executed at specific points within the git workflow.
- ✔ precommit, postcommit, prepush, postpush, etc....
- ✔ Git Hooks Documentation: <https://git-scm.com/docs/githooks>



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Where do they live?

- ✓ Every Git repository has a hidden `.git/hooks` directory with a script for each hook you can bind to. These can be modified.

```
👑 I got hot sauce in my bag, swag
[👤 monica > 🖥️ Monicas-MBP > 📁 ~/Dev/about-monica-refresh/.git/hooks > 🔄 master ✓]
└─> ls
applypatch-msg.sample      pre-applypatch.sample      pre-rebase.sample          update.sample
commit-msg.sample          pre-commit.sample          pre-receive.sample
post-update.sample         pre-push.sample            prepare-commit-msg.sample
```

How can git hooks be used?

- Warn when committing to master
- Run linting and tests before committing
- Warn or abort when committing code with:
console.logs(), sensitive credentials, merge conflict strings or large files.
- Send notifications after a commit is pushed
- Sending intl objects to be translated
- And 1270824+ other ways.



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Git Hook Package.json Example

```
{
  "pre-commit": "yarn lint",
  "pre-push": "yarn lint"
}
```

```
👑 Gimme my check, put some respek on my check
└─┬─ monica > ☒ Monicas-MBP > 📁 ~/Dev/git-hooks-workshop > 📁 women-who-code-demo +2 ✕
  └─> git commit -m "updated presentation"
husky > pre-commit (node v8.11.3)
yarn run v1.9.4
$ eslint . --ext .js,.jsx --fix
✨ Done in 1.33s.
```



Git Hooks Bash Script Example

```
protected_branch='master'
current_branch=$(git symbolic-ref HEAD | sed -e 's,.*\/(.*)\,,\1,')

# Define colors
yellow='\033[0;33m'
red='\033[0;31m'
green='\033[0;32m'
no_color='\033[0m'

if [ $protected_branch = $current_branch ]; then
  echo "${yellow}You're about to push to $protected_branch, is that what you intended? [y|n]${no_color}"
  read < /dev/tty
  if echo $REPLY | grep -E '^[^Yy]$' > /dev/null; then
    echo "${red}This commit has been aborted.${no_color}"
    exit 1 # push will not execute if there is not explicit 'Y' typed
  else
    echo "${green}This commit is proceeding...${no_color}"
  fi
fi
```



How can git hooks be used?

```

👑 Okay, ladies, now let's get in formation
┌─ monica > ☐ Monicas-MBP > 📁 ~/Dev/git-hooks-workshop > 📄 master ✓
└─ git push
You're about to push to master, is that what you intended? [y|n]
n
This commit has been aborted.
error: failed to push some refs to 'git@github.com:M0nica/git-hooks-workshop.git'

👑 All on Instagram, cake by the pound
┌─ monica > ☐ Monicas-MBP > 📁 ~/Dev/git-hooks-workshop > 📄 master ✓
└─ git push
You're about to push to master, is that what you intended? [y|n]
y
This commit is proceeding...
husky > pre-push (node v8.11.3)
yarn run v1.9.4
$ eslint . --ext .js,.jsx --fix
✨ Done in 1.33s.
Everything up-to-date

👑 'Cause I slay, all day
┌─ monica > ☐ Monicas-MBP > 📁 ~/Dev/git-hooks-workshop > 📄 master ✓
└─ █
```



Limitations of Git Hooks



- Limited enforcement - can easily be overridden —no-verify or forced pushes
- Local hooks != shared hooks as `.git/hooks` not in version control
- Doesn't replace CI, server-side branch protection or code reviews



Helpful Git Resources



- Git Lens Plugin

<https://gitlens.amod.io/>

- git-together — better attribution

<https://github.com/kejadlen/git-together>

- Git Attributes templates

<https://github.com/alexkaratarakis/gitattributes>

Git Hooks 101 Website

<https://githooks.com/>

- Git Books

<https://git-scm.com/book/en/v2>

- Husky

<https://github.com/typicode/husky>

- Git Hook Templates

<https://github.com/pre-commit/pre-commit-hooks>



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Thanks!

Any questions?

Feel free to reach out:

monica@aboutmonica.com

<https://www.meetup.com/React-Ladies>



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