# 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

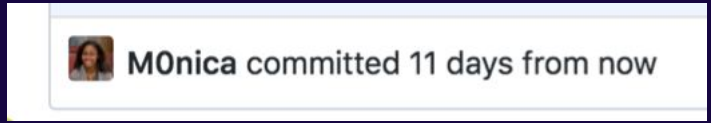
1. Introduction
2. How to write git commits dated in the future
3. Changing the languages that GitHub auto-detects in a repository
4. Automating git workflow
5. Resources

# 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




It’s not a bug! It’s a feature.

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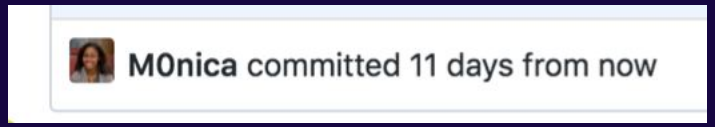
# DEBUGGING

# CREATE FUTURE COMMIT

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



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

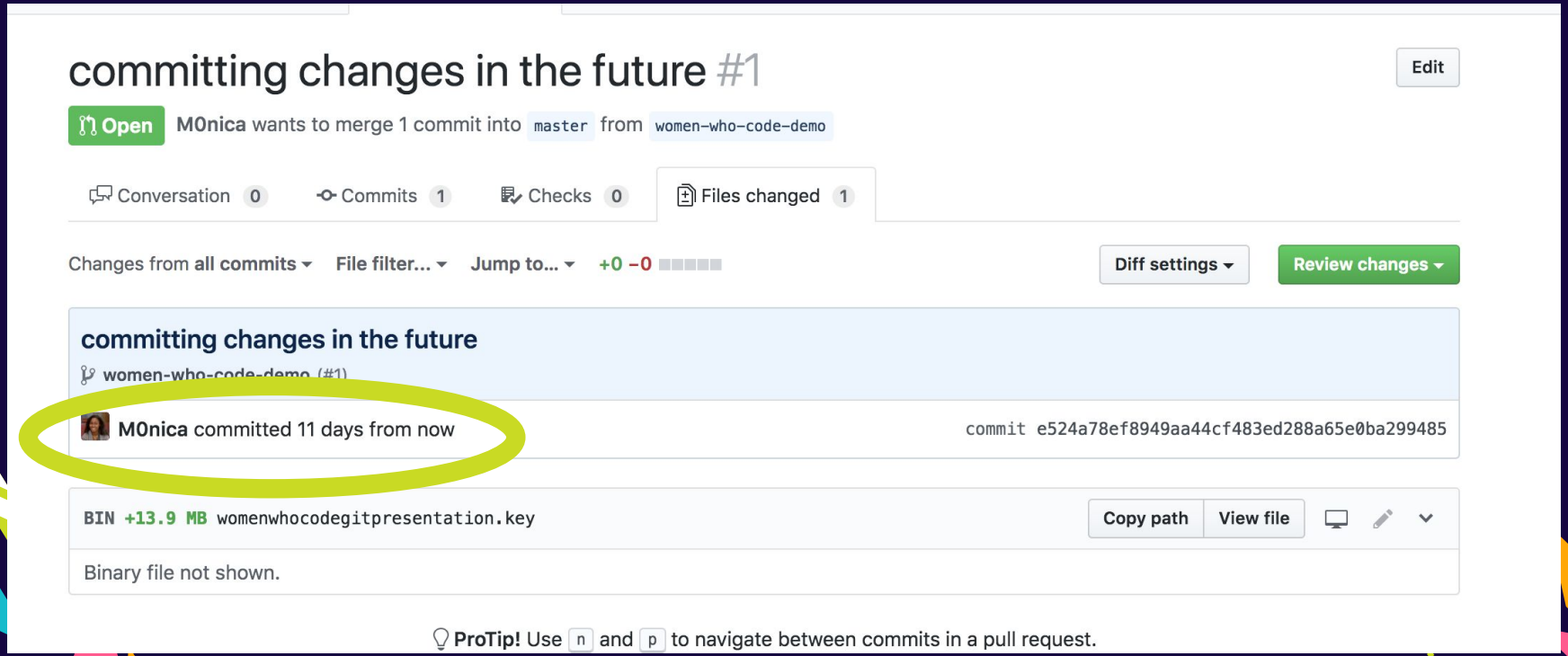
# OTHER WAYS TO MODIFY COMMIT DATES

```
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?



# How to Change Repo Language in GitHub

1K

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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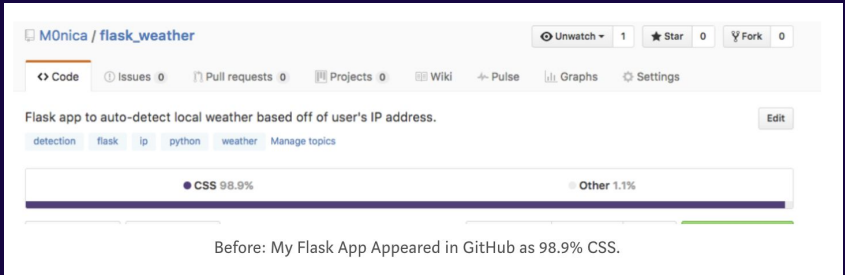
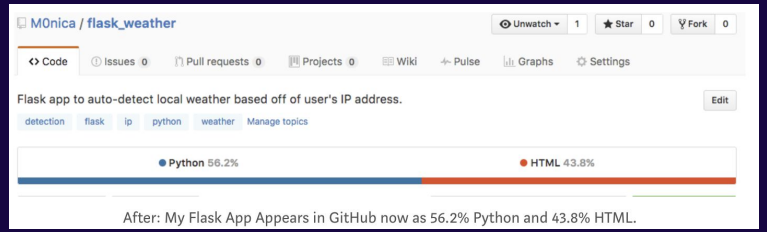
# Reclassify Language With One Line of Code




Before: My Flask App Appeared in GitHub as 98.9% CSS.




After: My Flask App Appears in GitHub now as 56.2% Python and 43.8% HTML.

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# Linguist library

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

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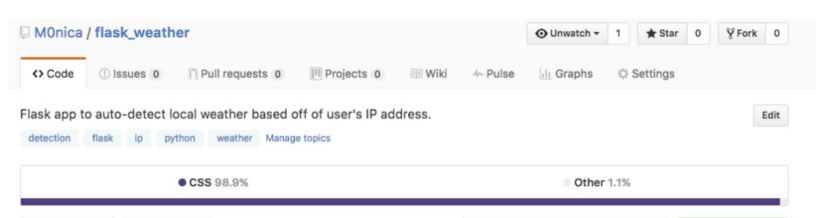
# Linguist library

"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

# Linguist library

1



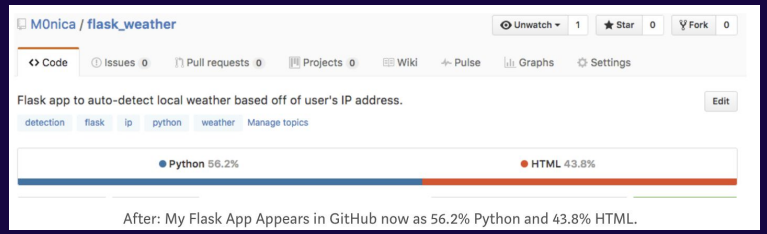

Before: My Flask App Appeared in GitHub as 98.9% CSS.

2

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

.gitattributes hosted with ❤ by GitHub

3




After: My Flask App Appears in GitHub now as 56.2% Python and 43.8% HTML.

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# GIT HOOKS

Automate your git workflow

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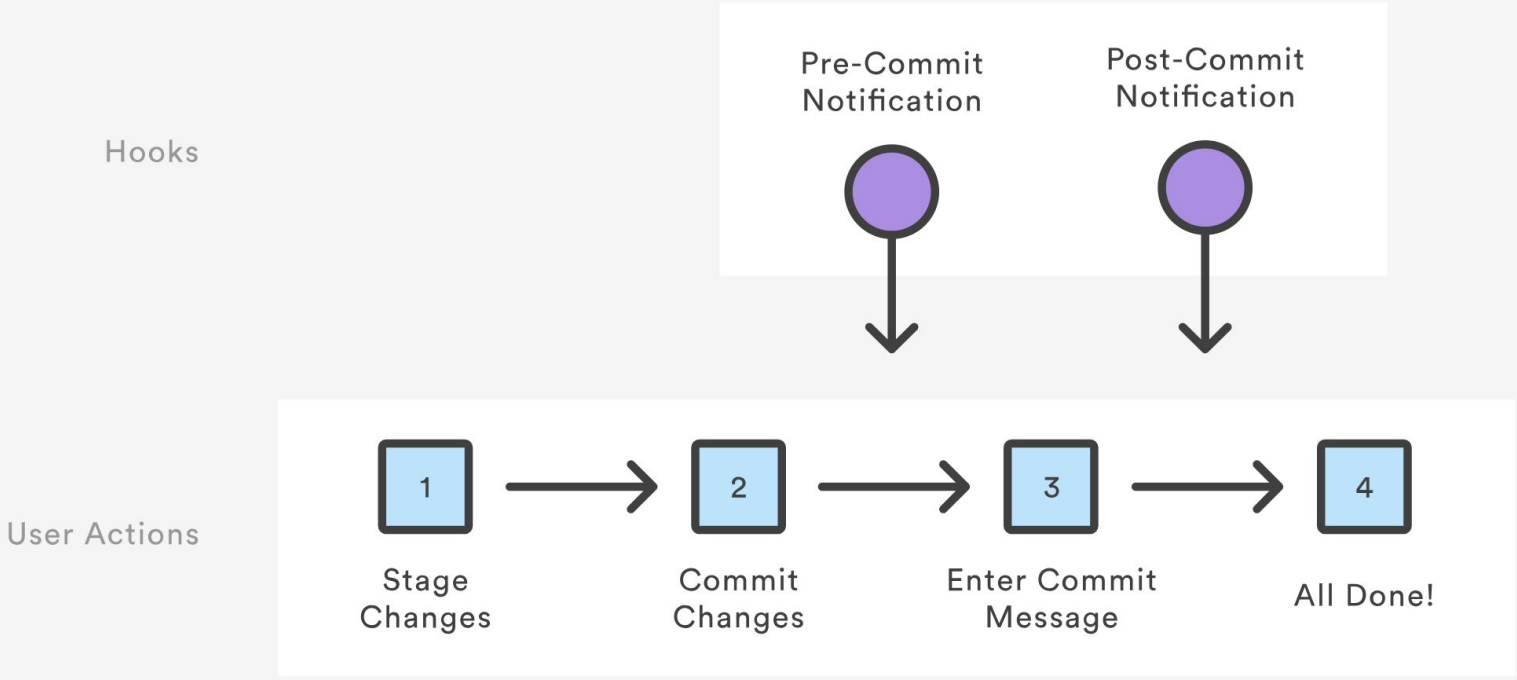
if this then that
Trigger
Action

Hooks executing during the commit creation process



# 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

# 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
```

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# 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

# Thanks!

## Any questions?

Feel free to reach out:

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

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