Using Git Hooks to Help Your Engineering Teams Work Autonomously

Europython 2015
Quick Facts About Zalando Tech

● Tech HQ in Berlin
● Other tech offices in Dublin, Helsinki, Dortmund, Mönchengladbach, Erfurt
● +700 technologists
● Nearly everything produced in-house
Why?

Why do we need hooks and rules?
How?

How should the rules be enforced?
Dark Ages of SVN
Dark Ages of SVN

- Bash script
Dark Ages of SVN

- Bash script
- Python Hook
The Age of the Git Hook
The Age of the Git Hook - First Plan

- A common code base for git and svn
The Age of the Git Hook - First Plan

- A common code base for git and svn
- Pre-receive hook
The Age of the Git Hook - First Feedback

- Git is not SVN
The Age of the Git Hook - First Feedback

- Git is not SVN
- People don't use Git the same way
The Age of the Git Hook - Plan B

● A dedicated hook for Git
The Age of the Git Hook - Plan B

- A dedicated hook for Git
- Allow teams to tailor the hooks to their needs
The Age of the Git Hook - Customization

"*playground-*":
  check_from: 9999-01-01T00:00
TEAM1/*/:
  check_from: 2014-01-08T00:00
  allowed_projects: [PROJECT1]
  extra_on_push: [jira.fix_version]
  merge_to_feature: [live, master]
TEAM1/repository42:
  allowed_projects: [PROJECT1, PROJECT2]
TEAM2/*/:
  allowed_projects: [PROJECT3]
  check_from: 2014-03-31T12:30
  disable_on_push: [git.is_feature_or_bugfix_branch]
The Age of the Git Hook - Problems

- Centralized configuration
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- Trying to check commits on a push
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  1. Git history is not linear
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- Checking code style is slow
The Age of the Git Hook - Problems

- Centralized configuration
- Trying to check commits on a push
  1. Git history is not linear
  2. Merging to/from a long lived branch
- Checking code style is slow
- Inflexible
The Age of the Git Hook - Problems

- Centralizing Git
The Age of Autonomy
The Age of the Autonomy

- Local git hooks
The Age of the Autonomy

- Local git hooks
- **Optional**, a helper not a blocker
The Age of the Autonomy

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- **Extensible**, one size doesn't fit all
The Age of the Autonomy

- Local git hooks
- Optional, a helper not a blocker
- Extensible, one size doesn't fit all
- **Open Source**
The Age of the Autonomy - Turnstile

https://github.com/zalando/turnstile

https://pypi.python.org/pypi/turnstile-core
Turnstile - How to install it

$ pip install turnstile-core
Turnstile - How to use it

- Add a .turnstile.yml file to your repository
Turnstile - How to use it

- Add a `.turnstile.yml` file to your repository

```yaml
checks:
  - specification
  - branch-release
  - protect-master

specification:
  allowed_schemes: ['https']

branch-release:
  pattern: '^v(?::\d||_.)+$'
```
Turnstile - How to use it

- Add a `.turnstile.yml` file to your repository
- Install the hooks on your repository:

```bash
$ turnstile install
```
Turnstile - More than a hook

- **Core subcommands:**
  - config
  - install
  - remove
  - specification
  - upgrade
  - version
setup(
    name='turnstile-codevalidator',
    ...
    entry_points={
        'turnstile.commands':
            ['codevalidator = turnstile_cv.command'],
        'turnstile.pre_commit':
            ['codevalidator = turnstile_cv.check']}
)
Turnstile - Extending Turnstile

● Entry points
  ○ turnstile.commands
  ○ turnstile.commit_msg
  ○ turnstile.pre_commit
What we learned

● Don't get stuck in the past
What we learned

- Don't get stuck in the past
- Develop in the open
What we learned

- Don't get stuck in the past
- Develop in the open
- Build tools not barriers
Ask Questions

https://pypi.python.org/pypi/turnstile-core

https://github.com/zalando/turnstile

https://turnstile.readthedocs.org

@joaomcsantos
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