

FEDAY 北京  
2017

# 第三届 FEDAY(前端开发日)

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Breadview

图灵教育

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StuQ

CSDN  
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plus

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前端早读课

中生代技术

segmentfault

码云  
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# Robots Must Suffer

linters and tools for front-end development



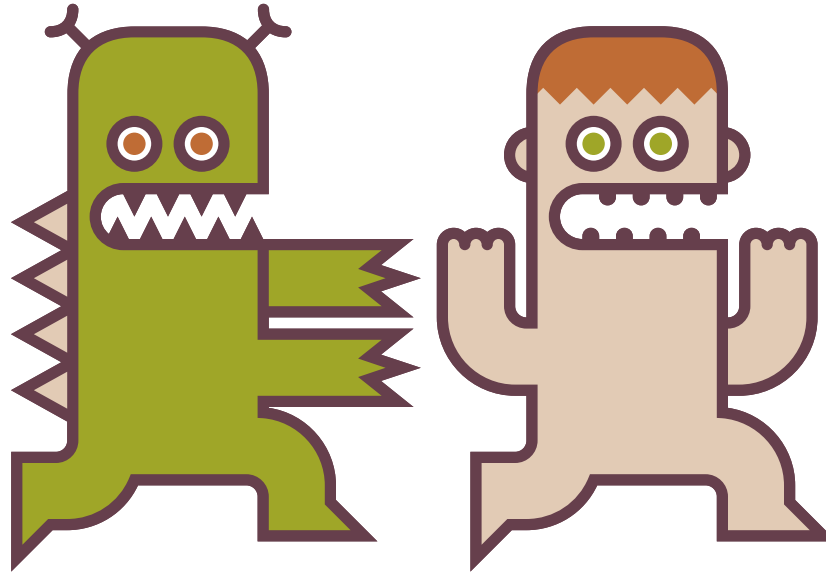
Andrey Sitnik  
Evil Martians



# I am from Russia



# Lead front-end developer at



## EVIL MARTIANS

# Author of

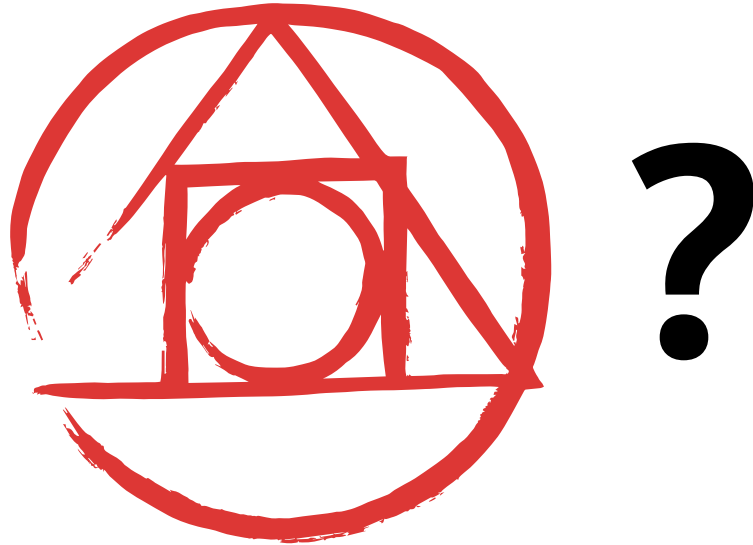


Autoprefixer



PostCSS

# Why did I create PostCSS



# Two types of tasks



Creative tasks

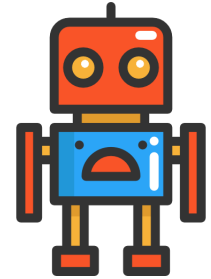


Boring tasks

# Humans vs. robots



Humans



Robots



Creative tasks

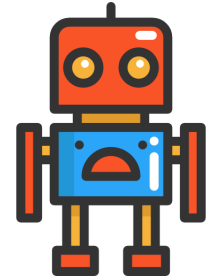
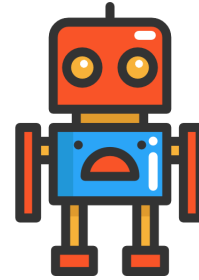
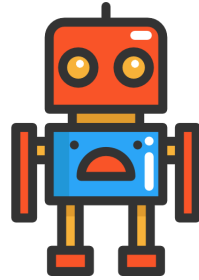
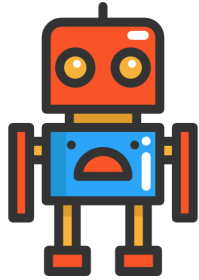
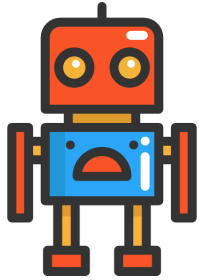
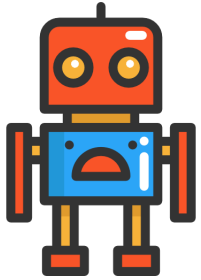


Boring tasks

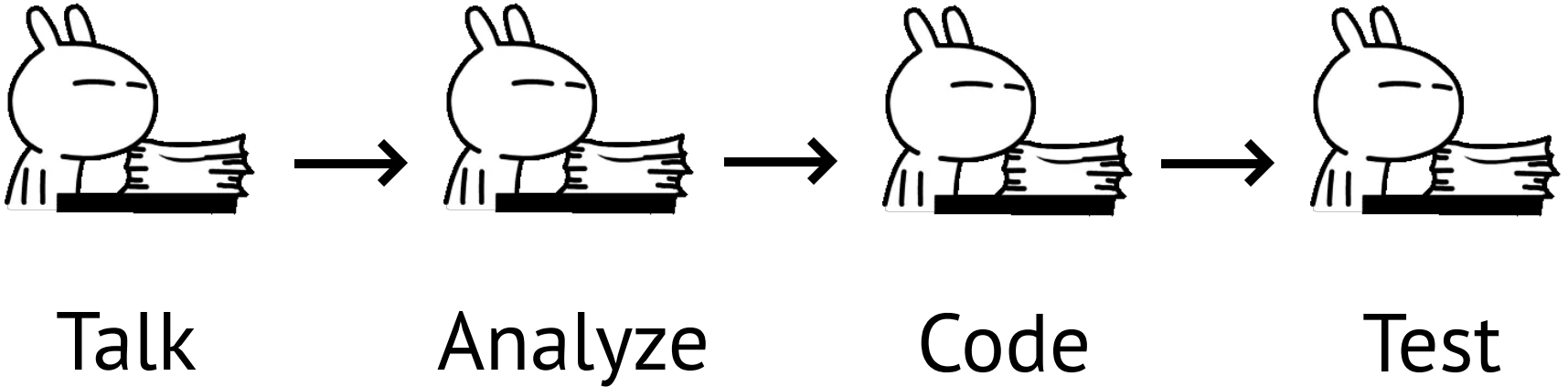




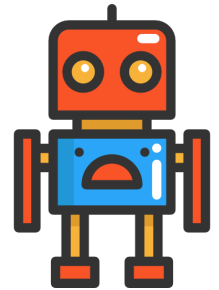
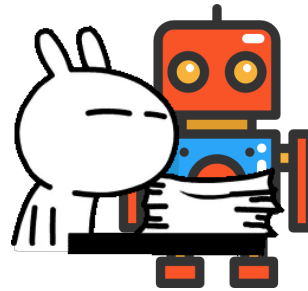
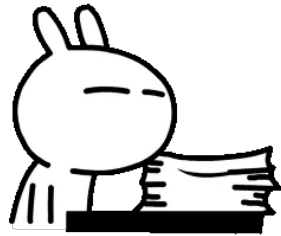
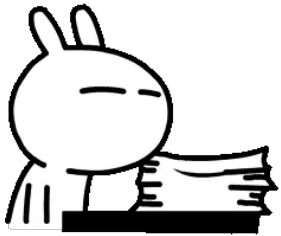
# Robots don't make mistakes



# Work process



# Robots!

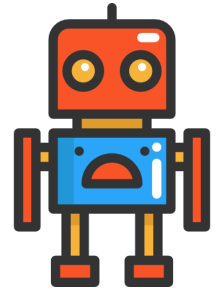
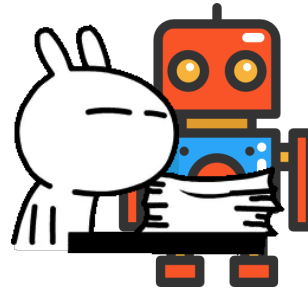
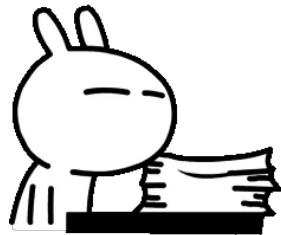
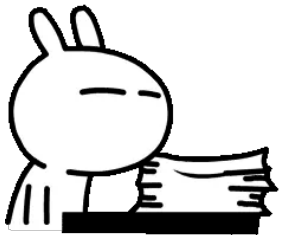


Talk

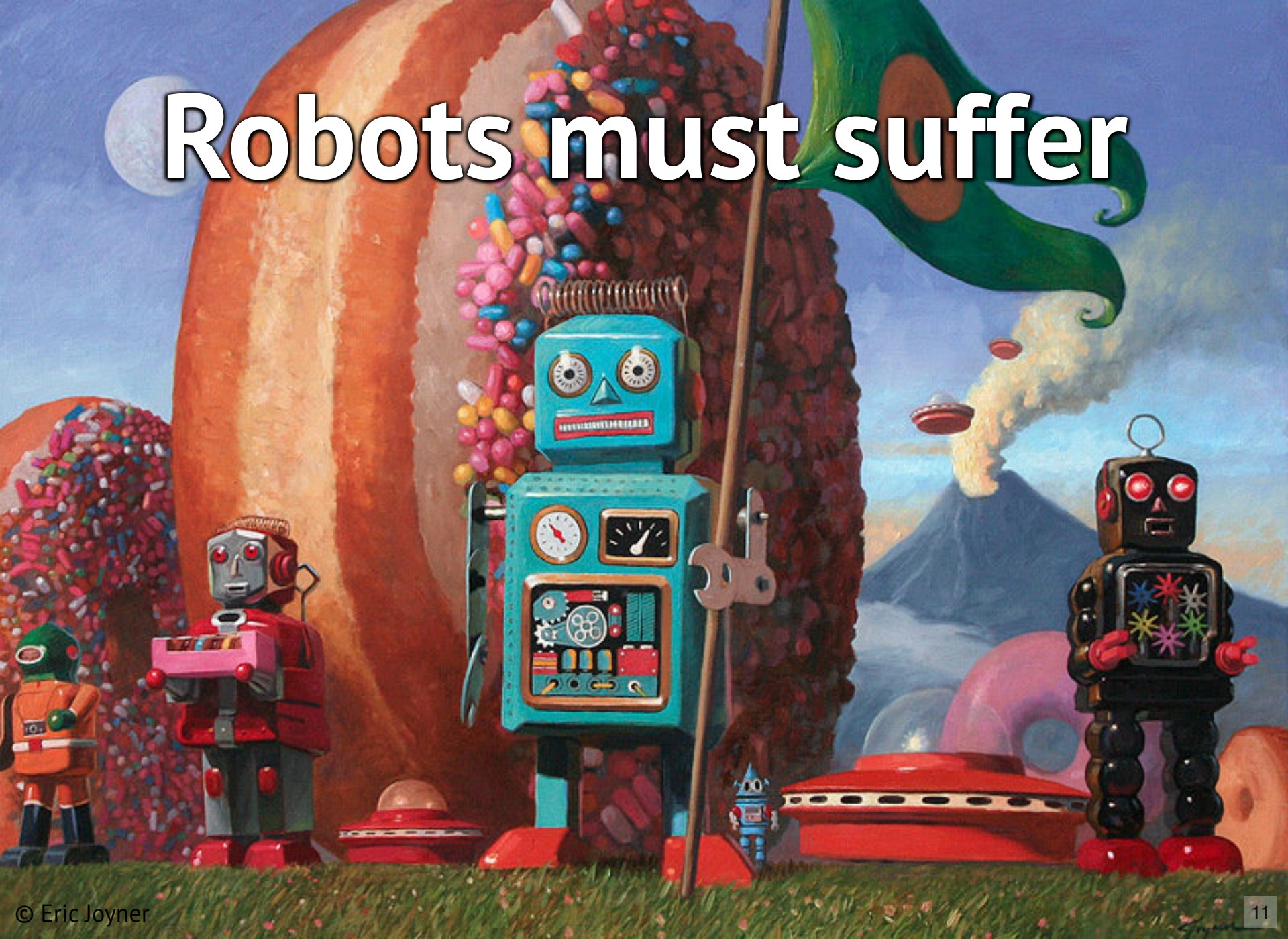
Analyze

Code

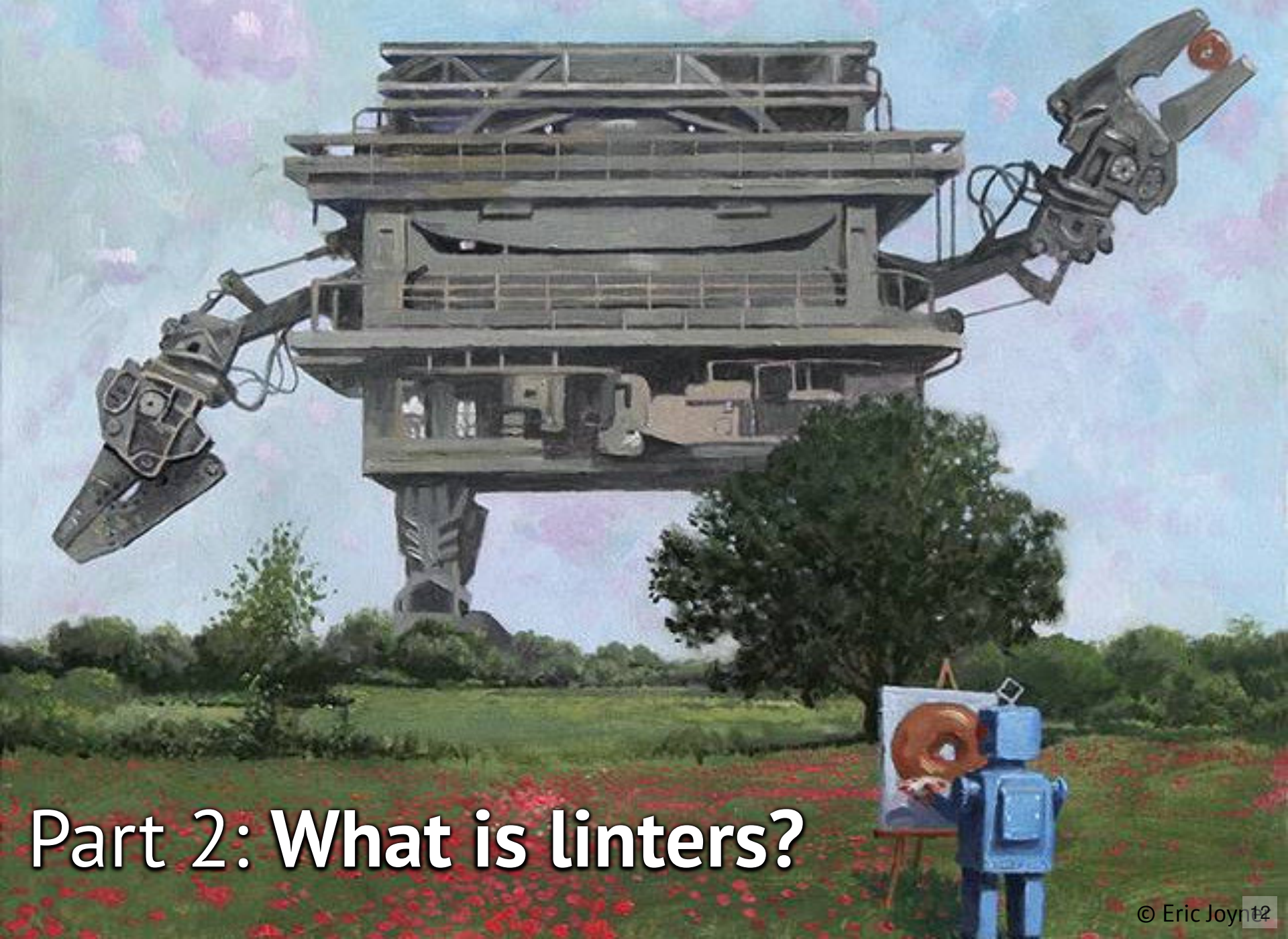
Test



# Robots must suffer

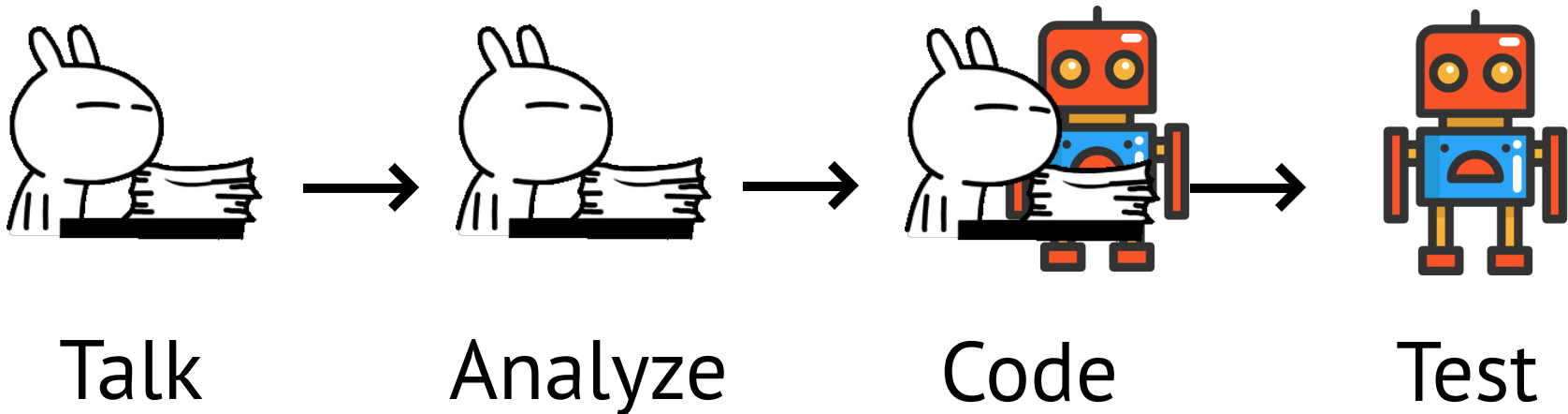






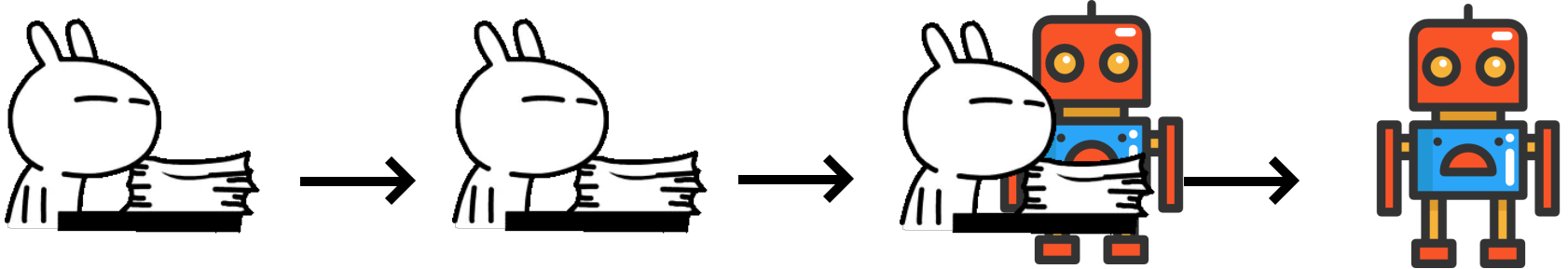
## Part 2: What is linters?

# Test



1. **Lint**
2. **Unit tests**
3. **Integration tests**
4. **Benchmarks**
- ↙

# This talk is about linters



Talk

Analyze

Code

Test

1. Lint

2. Unit tests

3. Integration tests

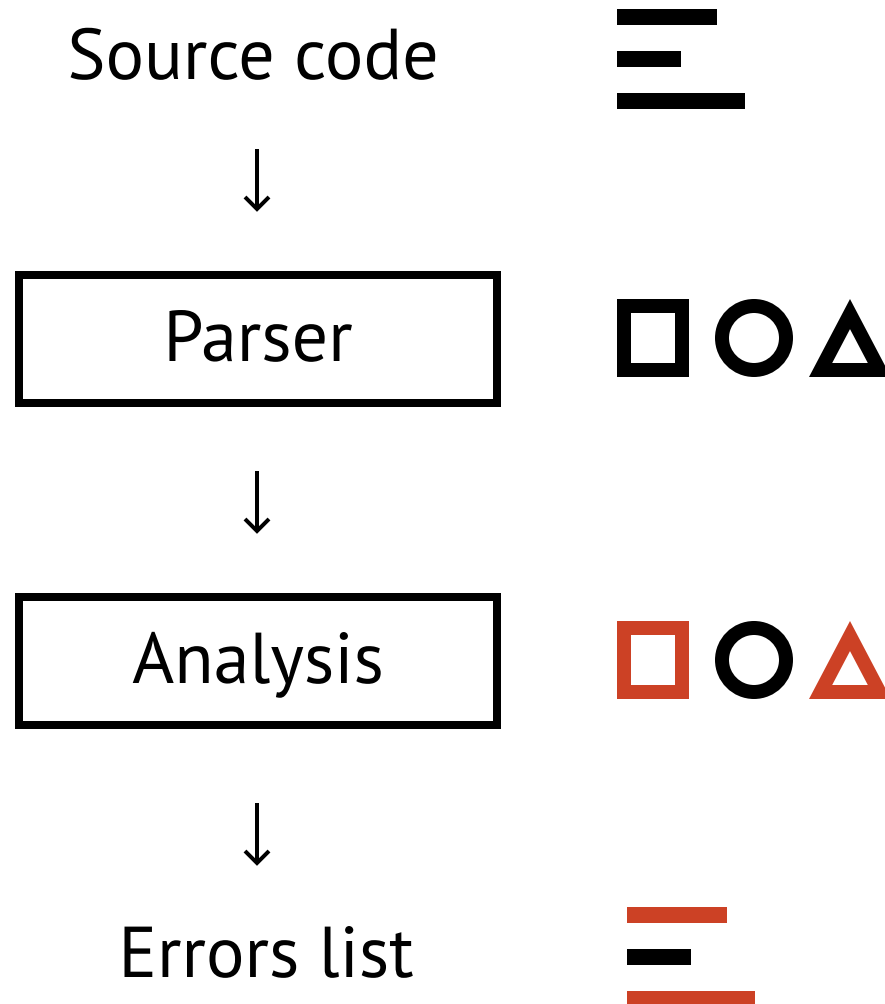
4. Benchmarks

# What are linters?

Linters find **mistakes** in **source code**



# Linting process



# Unit tests vs. linters

$$y = 2 - (-x)$$

Unit tests

in: 2 out: 0  
 $y(2) = 4, \text{!}== 0$

Linters

$-(-n) \rightarrow +n$

# Unit tests vs. linters

## Unit tests

Check input and output

Don't find an error

## Linters

Check source code

Tell exact line

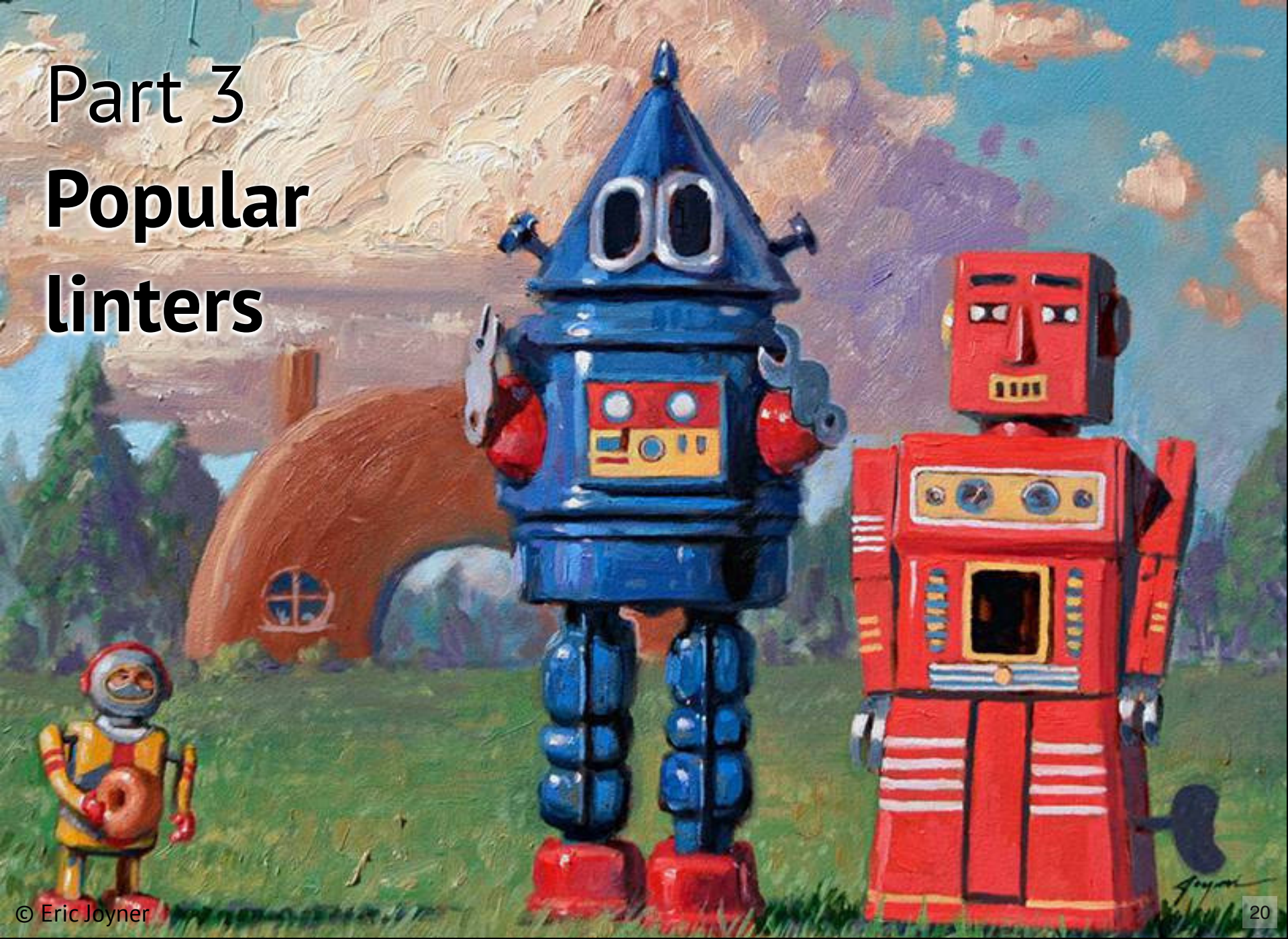
# Unit tests + linters =

```
"scripts": {  
  "test": "npm run lint && npm run unit-test"
```



# Part 3

## Popular linters



# Node.js app

```
app.all('/apps/:user_id', request => {  
  initial = extract(request.body)  
})
```

# After 4 hours of debugging



```
app.all('/apps/:user_id', request => {  
  initial = extract(request.body)  
})
```

```
app.all('/apps/:user_id', request => {  
  var initial = extract(request.body)  
})
```

**var**

# Real story. Tests didn't help.

## How One Missing ``var`` Ruined our Launch



# ESLint could fix it

```
app.all('/apps/:user_id', request => {  
  initial = extract(request.body)  
})
```

**ESLint:** initial is not defined **app.js:2:3**

# The most popular dependencies

1. mocha
2. chai
3. **eslint**
4. babel-preset-es2015
5. lodash

# JS linters evolution



JSLint



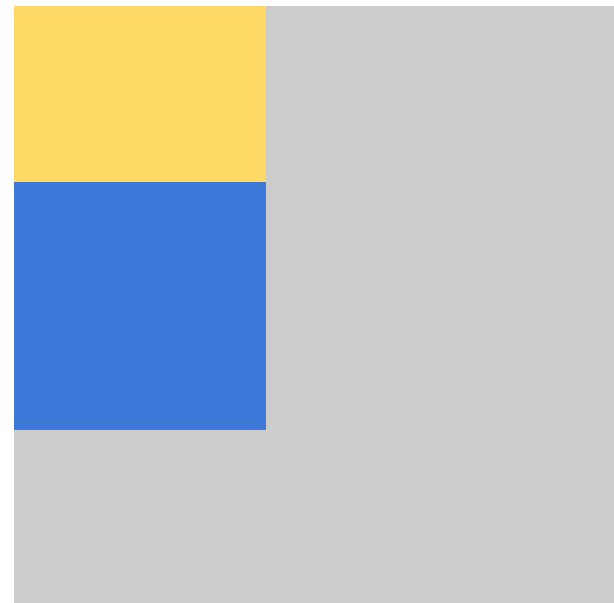
JSHint



ESLint

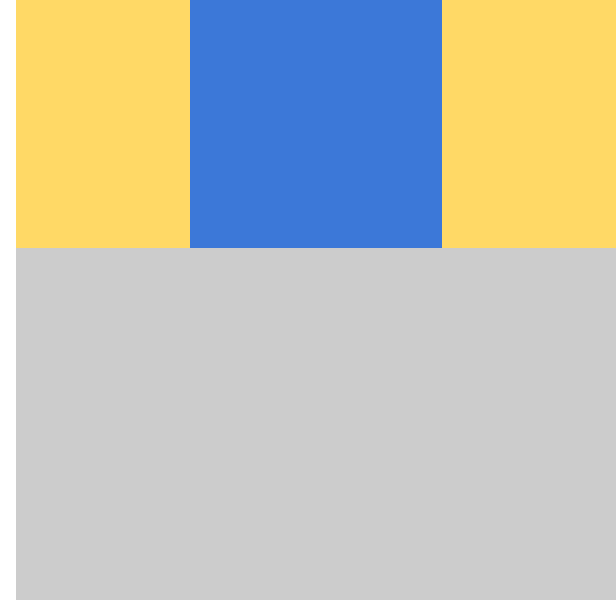
# CSS

```
.foo {  
  margin-top: 20px;  
  width: 100px;  
  height: 100px;  
}
```



# Horizontal centering

```
.foo {  
  margin-top: 20px;  
  width: 100px;  
  height: 100px;  
  margin: 0 auto;  
}
```





# After 5 min of debugging

```
.foo {  
  margin-top: 20px;  
  width: 100px;  
  height: 100px;  
  margin: 0 auto;  
}
```



# Stylelint could fix it

```
.foo {  
  margin-top: 20px;  
  width: 100px;  
  height: 100px;  
  margin: 0 auto;  
}
```

**Stylelint:** this overrides the longhand property  
before it **app.css:5:3**

# Stylelint languages



**\*.pcss**



**\*.scss**

postcss-scss



**\*.less**

postcss-less

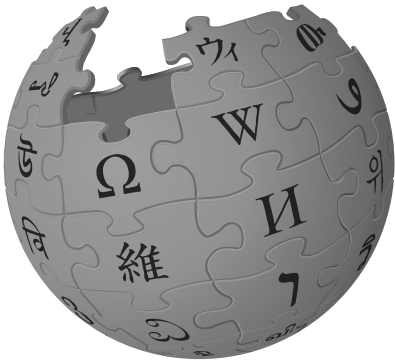


**\*.vue**

postcss-html

# Stylelint users

facebook



**WIKIPEDIA**  
The Free Encyclopedia







## Part 4 Why

*Joyner*



# Writing code vs. debug time

Normal

10 min

30 min

Dev

Debug

# #1 Linters reduce debug time

**Normal**

10 min

30 min

Dev

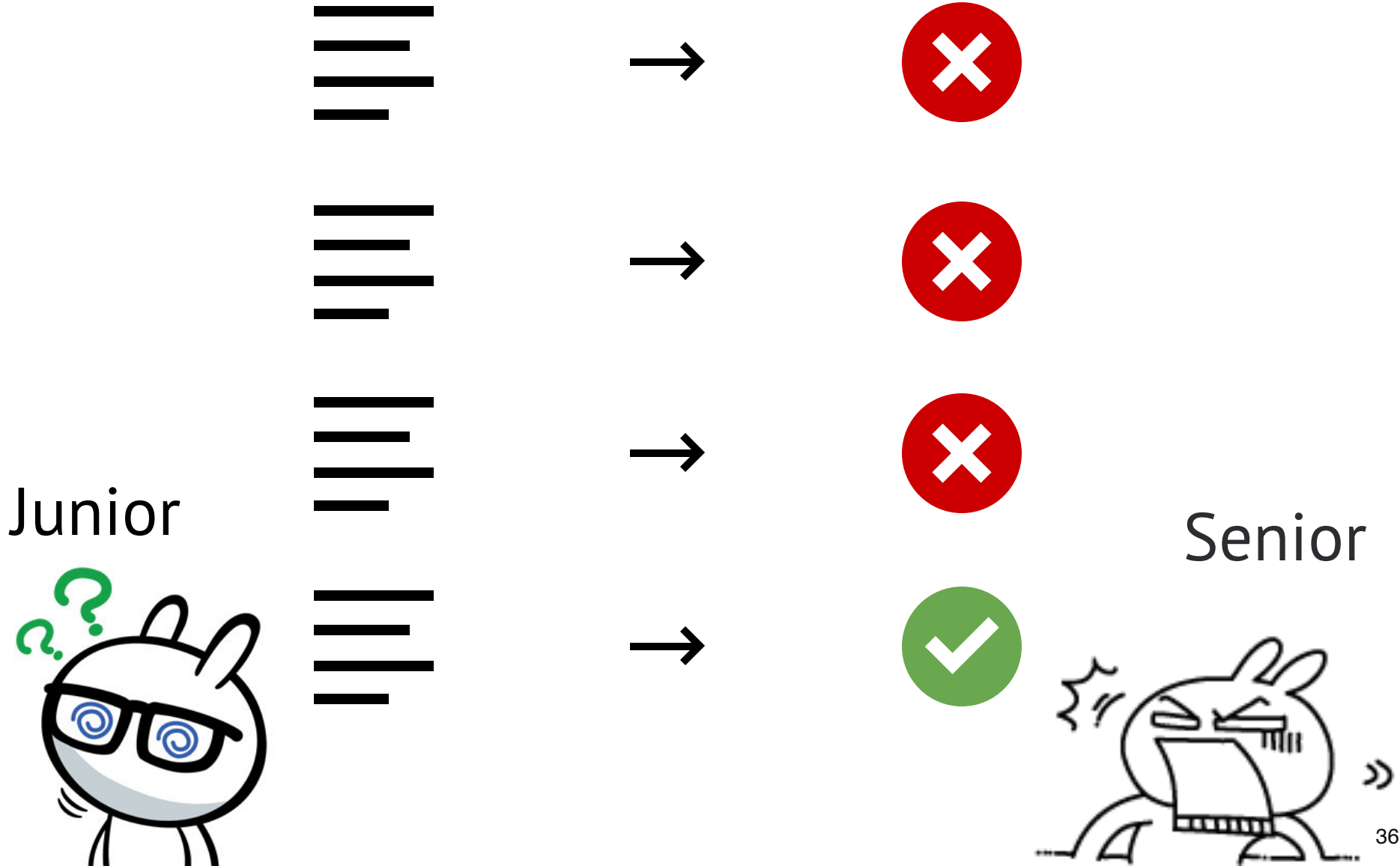
Debug

10 min

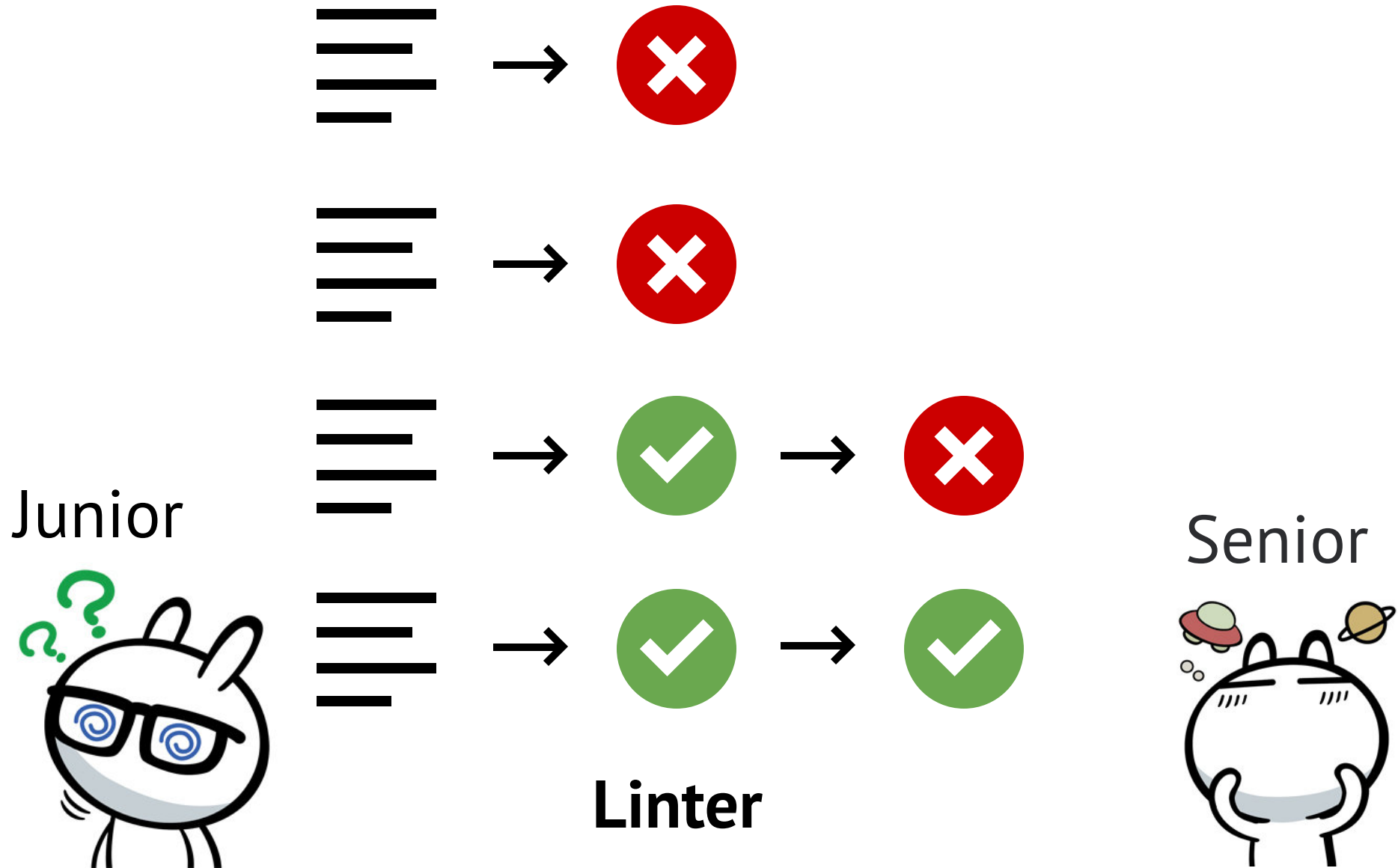
25 min

**With linters**

# Code reviews



# #2 Linters reduce code reviews



# It is hard to be a junior



Senior

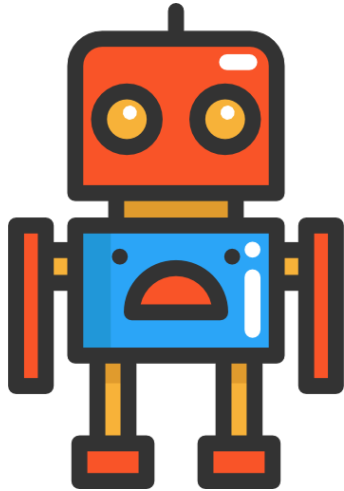
Fixes



Junior



# #3 Linters make juniors happy



Linters

Fixes



Junior

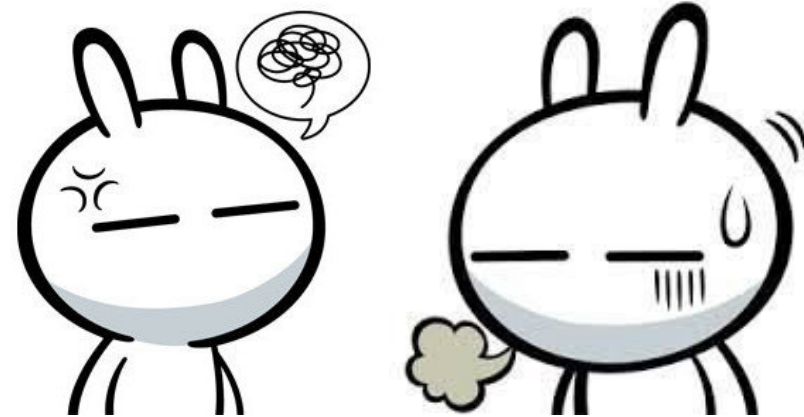
# Big companies → multiple teams

Idea



Team 1

?



Team 2

# #4 Sharing ideas

Idea

Lintar config

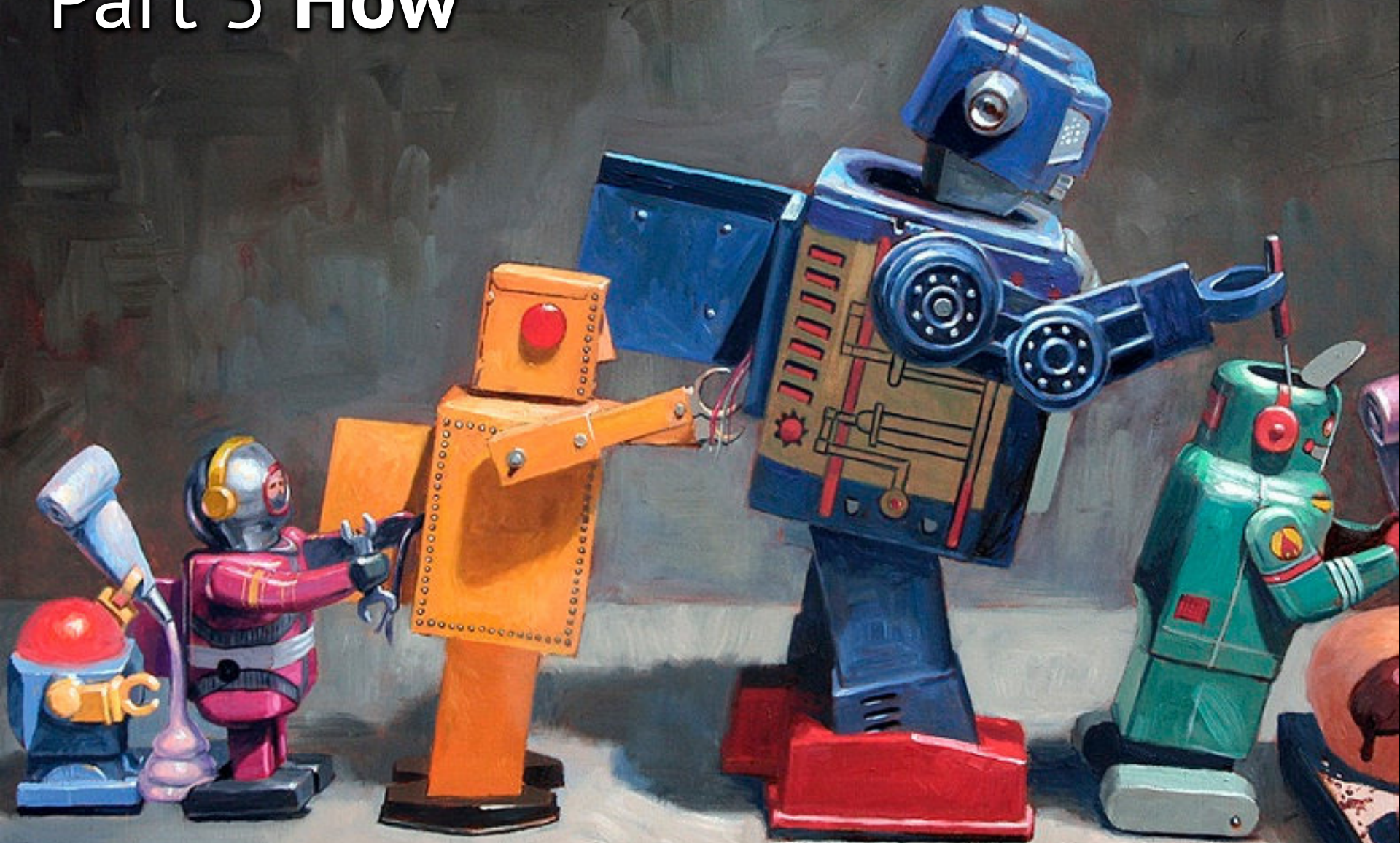


Team 1



Team 2

# Part 5 How



# Step 1 Install linters via npm

```
npm install --save-dev eslint stylelint
```

# Step 2 Create a config

**.eslintrc**

**.stylelintrc**

```
{  
  "rules": {  
    "no-console": "error"  
  }  
}
```



# Too many rules

ESLint: **300** rules

Stylelint: **161** rules



# Step 3 Extend shareable config

```
npm install --save-dev eslint-config-standard
```

```
{  
  "extends": "standard",  
  "rules": {  
    "no-console": "error"  
  }  
}
```

# Popular configs

## ESLint

`eslint-config-standard`

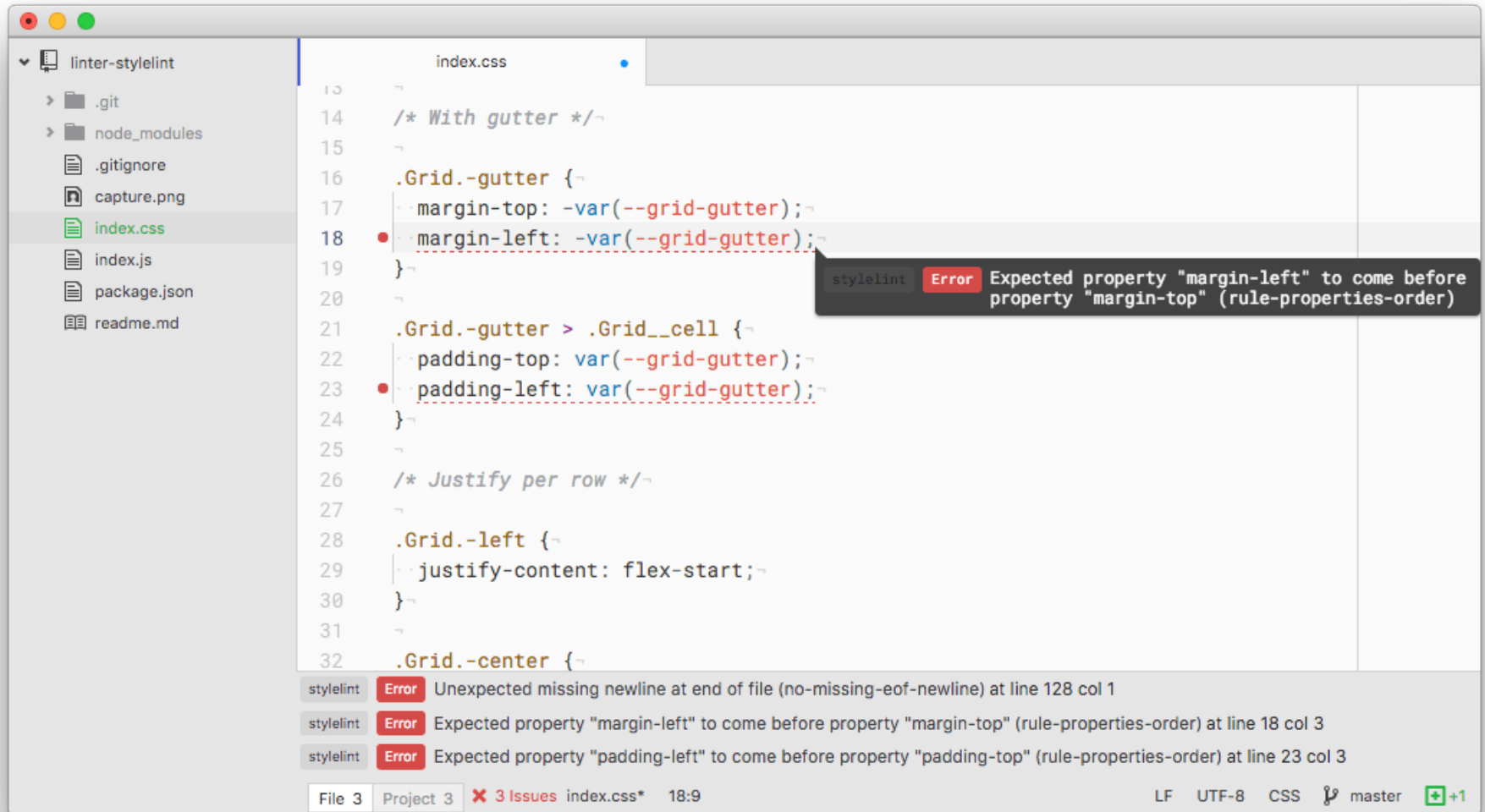
`eslint-config-airbnb`

## Stylelint

`stylelint-config-recommended`

`stylelint-config-wikimedia`

# Step 4 Linter plugins for text editors



# Linters plugins text editor

## Sublime Text

SublimeLinter-contrib-eslint

SublimeLinter-contrib-stylelint

## VS Code

vscode-eslint

vscode-stylelint

# Too many errors?

**ESLint:** 250 errors in 100 files





# Step 5 Fix automatically

```
eslint --fix src/**/*.js
```

```
stylelint --fix src/**/*.css
```



# Other developers ignore linter

## Good developer

```
git commit ...
```

```
npm run test
```

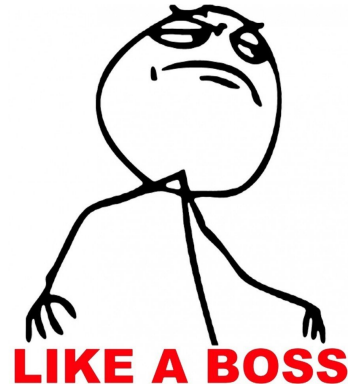
```
npm run lint
```

```
git push ...
```

## Bad developer

```
git commit ...
```

```
git push ...
```



# Step 6 lint-staged



```
git add a.css
```

```
git commit ...
```

```
run pre-commit hook
```

```
run stylelint a.css
```



```
Stylelint: 1 error
```



```
git: commit canceled
```

# Install lint-staged

```
npm install --save-dev lint-staged pre-commit
```

# lint-staged config

```
"scripts": {  
  "lint-staged": "lint-staged",  
},  
"lint-staged": {  
  "*.css": "stylelint"  
},  
"pre-commit": [ "lint-staged" ]
```

# Step 6 **Write custom plugins**

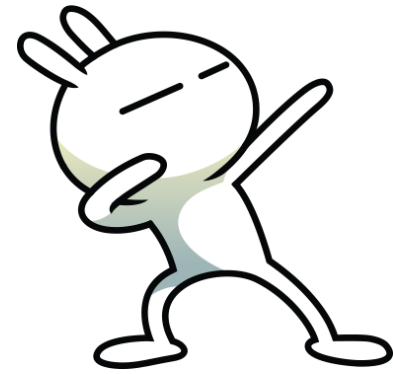
Stylelint rule = simple PostCSS plugin

# Facebook custom rules

- `slow-css-properties`
- `filters-with-svg-files`
- `use-variables`
- `mobile-flexbox`



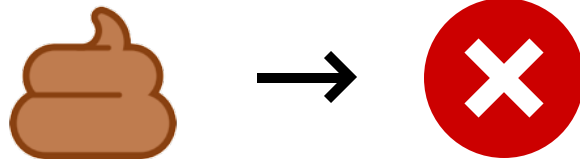
# Happened twice → write custom rule



Custom rule ←

Junior

Senior



Lint



# Part 6

## Other linters



# dustinspecker/awesome-eslint

## The best ESLint plugins

### Frameworks and Libraries

- [Angular](#) - Linting rules to adhere to the [John Papa's Angular Styleguide](#)
- [AVA](#) - Linting rules for AVA
- [Backbone](#) - Linting rules for Backbone
- [Jasmine](#) - Linting rules for Jasmine
- [JSDoc](#) - Linting rules for JSDoc comments
- [Lodash](#) - Lodash specific linting rules
- [Lodash/fp](#) - Lodash/fp specific linting rules
- [Meteor](#) - Meteor specific linting rules
- [Mocha](#) - Linting rules for Mocha
- [Mongodb](#) - Mongodb native nodejs driver linting rules
- [React](#) - Linting rules for React and JSX
- [React Native](#) - React Native specific linting rules

# My favorite ESLint plugins

- `eslint-config-import`
- `eslint-plugin-security`
- `eslint-plugin-node`



## The best Stylelint plugins

### Plugins

---

- [stylelint-declaration-block-order](#) – stylelint plugin which specifies the order of content within declaration blocks.
- [stylelint-order](#) – A collection of order related linting rules for stylelint.
- [stylelint-property-groups-structure](#) – stylelint plugin which requires or disallow an empty line before property groups.
- [stylelint-scss](#) – A collection of SCSS specific linting rules for stylelint.
- [stylelint-selector-bem-pattern](#) – A stylelint plugin that incorporates [postcss-bem-linter](#).
- [stylelint-declaration-use-variable](#) – A stylelint plugin to check the use of variables on declaration in (less/scss/css).

# postcss-sorting

## Sort CSS properties

```
div {  
  -moz-box-sizing: border-box;  
  width: 100%;  
  box-sizing: border-box;  
  position: absolute;  
  -webkit-box-sizing: border-box;  
}
```

```
div {  
  position: absolute;  
  -webkit-box-sizing: border-box;  
  -moz-box-sizing: border-box;  
  box-sizing: border-box;  
  width: 100%;  
}
```

# yaspeller

## Lint English

```
$ yaspeller /home/ai/Dev/postcss/README.md  
X /home/ai/Dev/postcss/README.md 453 ms
```

```
-----  
Typos: 1  
1. transorming (suggest: transforming, transporting)  
-----
```



# Check security in Node.js dependencies

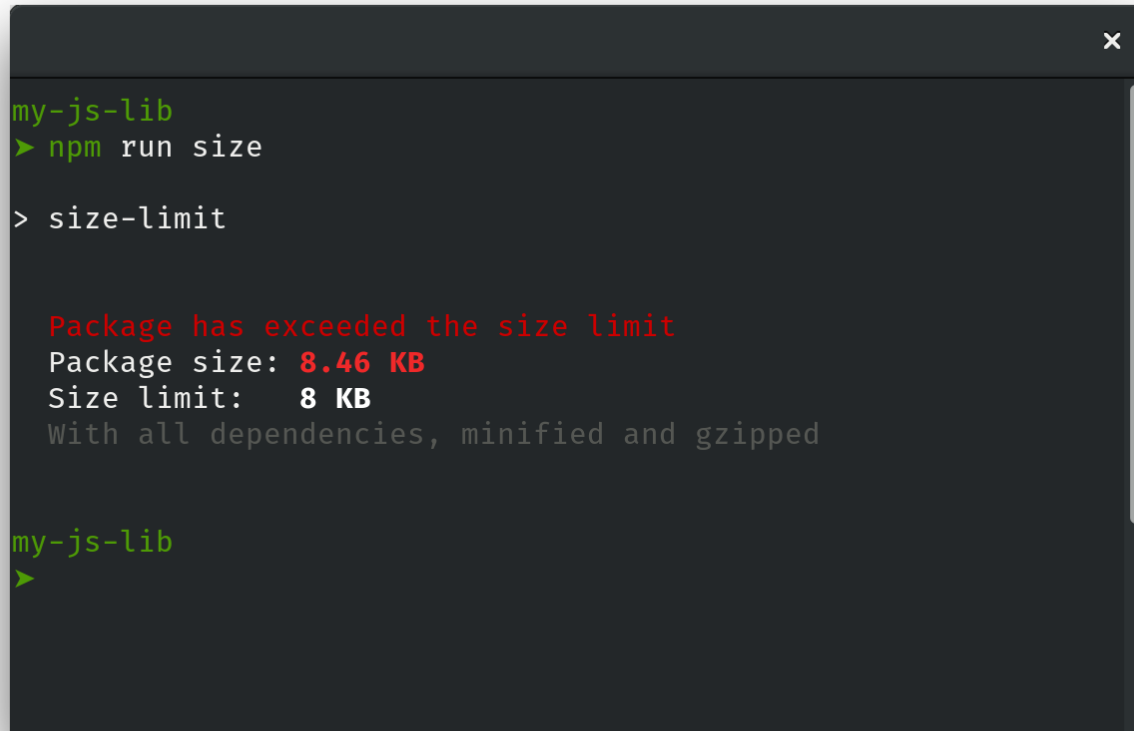
```
> nsp check
```

```
(+) 1 vulnerabilities found
```

	ReDoS via long string of semicolons
Name	tough-cookie
Installed	2.2.2
Vulnerable	>=0.9.7 <=2.2.2
Patched	>=2.3.0
Path	my-test-project@undefined > honeybadger@1.1.2 > requ...
More Info	<a href="https://nodesecurity.io/advisories/130">https://nodesecurity.io/advisories/130</a>

# size-limit

## Check webpack bundle size



```
my-js-lib
> npm run size

> size-limit

Package has exceeded the size limit
Package size: 8.46 KB
Size limit: 8 KB
With all dependencies, minified and gzipped

my-js-lib
>
```

# pa11y

## Check accessibility

```
pa11y --config ./path/to/config.json http://example.com
```





The end

# Links

[slides.com/ai/linters](https://slides.com/ai/linters)

[@andreysitnik](#) VPN 😊

[@evilmartians](#) VPN 😊

[evl.ms/blog](https://evl.ms/blog)

