



# Frontend Talk

29.09.2015

# PostCSS

# Summary

- Brief history of CSS
- Preprocessors
- What is PostCSS?
- Live code examples
  - a. Autoprefixer
  - b. Lost grid system
  - c. CSSNext
- Comparison
- Things that can only be done with PostCSS

# Brief history of CSS

## W3C Recommendation

CSS 1	- December 1996 -	=>	typeface, emphasis, color, backgrounds, alignment, border, positioning...
CSS 2	- May 1998 -	=>	absolute, relative, and fixed positioning of elements, z-index, media types, shadows...
CSS 2.1	- June 2011 -	=>	fixed CSS2 implementation problems that lasted for 13 years

### CSS 3

- 2012-06-19: Media Queries
- 2011-09-29: Namespaces
- 2011-09-29: Selectors Level 3
- 2011-06-07: Color

CSS 4 - TBA -



# Preprocessors



*CSS preprocessors take code written in the preprocessed language and then convert that code into the same old css we've been writing for years.*

# Preprocessors

What can't be done with preprocessors?

Automatically prefix with vendor prefixes



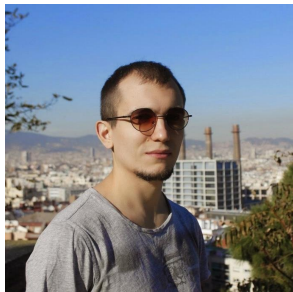
From

```
a {  
  transition: transform 1s  
}
```

To

```
a {  
  -webkit-transition: -webkit-transform 1s;  
  transition: -ms-transform 1s;  
  transition: transform 1s  
}
```

# What is PostCSS?

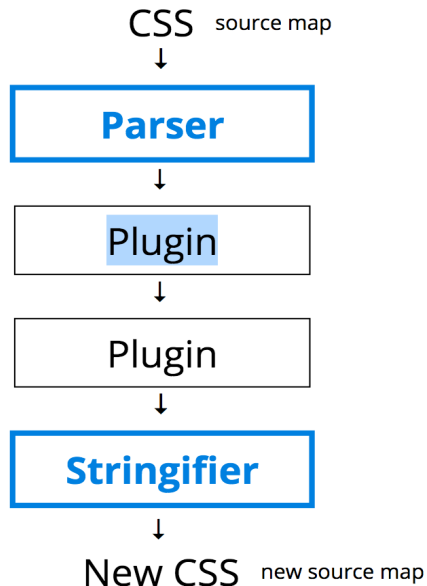


## Andrey Sitnik (@andreysitnik)

- Saint Petersburg (Russia)
- Author of autoprefixer and PostCSS
- Rework by TJ Holowaychuk (@tjholowaychuk) at Stylus Team=> PostCSS

## PostCSS

- Wrapper for CSS files
- Parser => Plugins => Stringifier
- CSS streams and an abstract node tree
- Does nothing without plugins
- What plugins can do? Let's see it!



# Live code examples

1. Autoprefixer
2. Lost
3. CSS Next
4. All together



# Comparison

## Preprocessors

- Code (logic) inside CSS template
- Monolithic
  - Libsass: 110 files, 3000LOC of C++
  - Stylus: 72 files, 7900 LOC
  - LESS: 105 files, 9800LOC
- Hard to code

## PostCSS

- All features by plugins
- JS transforms CSS
- Maintainability
  - postcss-nested: 68LOC
  - postcss-simple-vars: 74LOC
  - postcss-mixins: 147LOC

Enables preprocessor-like syntax

Write a plugin

Mutations



Inheritance

Specification



Selection

Popularity

# PostCSS Magic

## Impossible with Sass autoprefixer

```
:fullscreen a {  
  transition: transform 1s;  
}
```

```
:-webkit-full-screen a {  
  -webkit-transition: -webkit-transform 1s;  
  transition: transform 1s;  
}  
:-moz-full-screen a {  
  transition: transform 1s;  
}  
:-ms-fullscreen a {  
  transition: transform 1s;  
}  
:fullscreen a {  
  -webkit-transition: -webkit-transform 1s;  
  transition: transform 1s;  
}
```

# PostCSS Magic

Impossible with Sass  
cssnext

```
@custom-selector --heading h1, h2, h3, h4, h5, h6;
```

```
.post-article --heading {  
  margin-top: calc(10 * var(--row));  
  color: color( var(--mainColor) blackness(+20%) );  
  font-variant-caps: small-caps;  
}
```



# PostCSS Magic

Impossible with Sass  
[cssgrace](#)

```
.icon {  
  opacity: 0.6;  
  display: inline-block;  
}
```

```
.icon {  
  opacity: 0.6;  
  filter: alpha(opacity=60);  
  display: inline-block;  
  *display: inline;  
  *zoom: 1;  
}
```

# PostCSS Magic

Impossible with Sass  
rtlcss

Mirror styles for Arabic or Hebrew

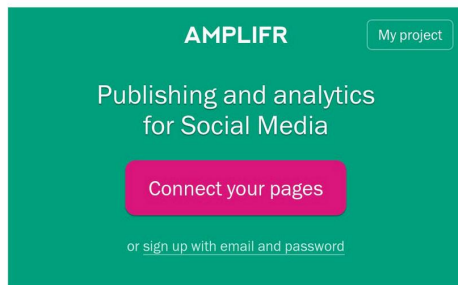
```
a {  
  left: 10px;  
  text-align: left;  
}
```

```
a {  
  right: 10px;  
  text-align: right;  
}
```



# PostCSS Magic

Impossible with Sass  
postcss-colorblind



# PostCSS Magic

Impossible with Sass  
[doiuuse](#)

Lint CSS for browser support against Can I Use database

```
main.css: line 15, col 3 -
```

```
  CSS user-select: none not supported by: IE (8,9)
```

```
main.css: line 32, col 3 -
```

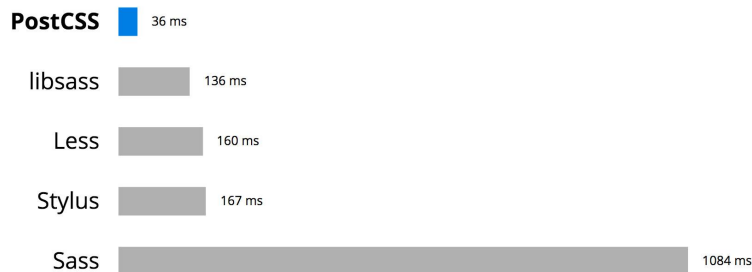
```
  CSS3 Transforms not supported by: IE (8)
```



# Good things about PostCSS

1. Performance
2. Modularity
3. Features that are impossible in SASS
- [...]
4. Customization

## Performance





# References

Homepage: code and plugins

- PostCSS @github ([repository](#))

Videos and conferences

- Andrey Sitnik @cssconf ([video](#))
- Level Up Tuts on PostCSS ([playlist](#))

Blog posts and articles

- [What Will Save Us from the Dark Side of CSS Pre-Processors?](#) by Lyza Danger Gardner
- [Breaking up with Sass: it's not you, it's me](#) by Ben Frain