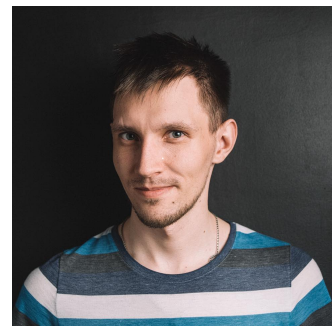
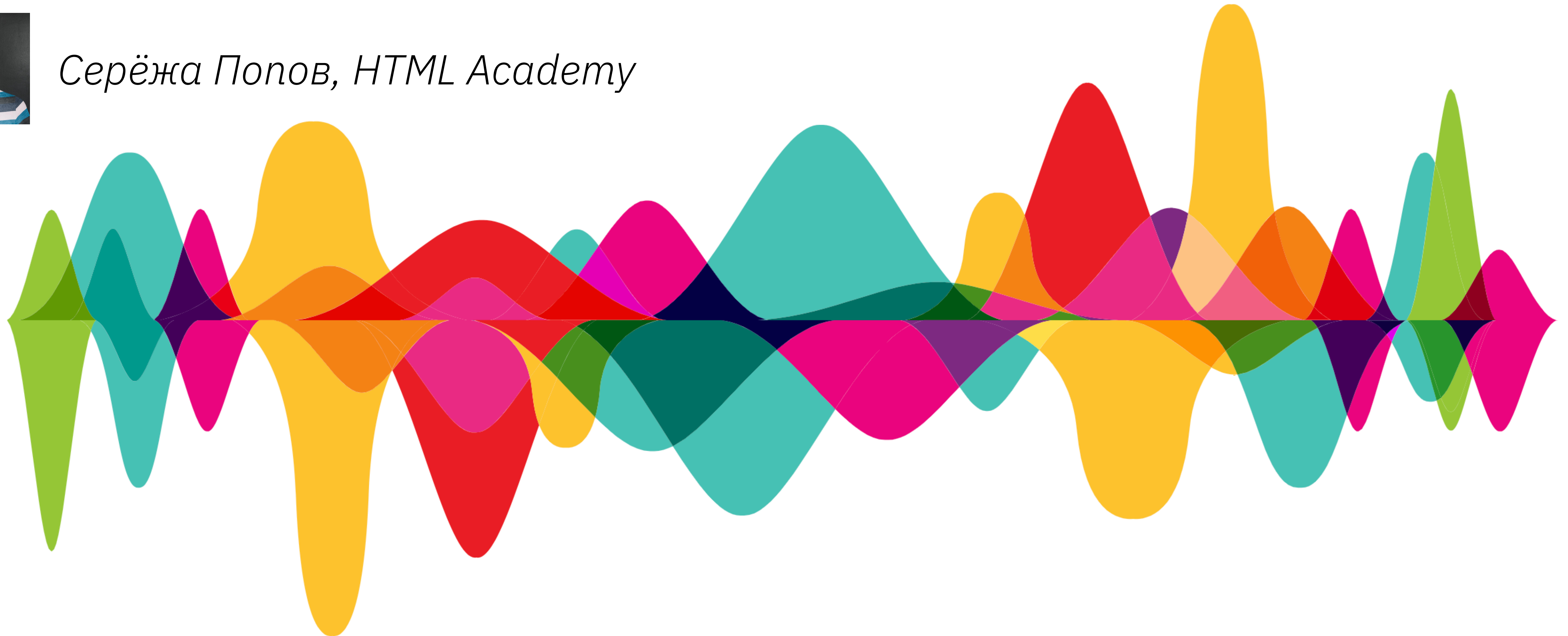


# CSS vs Preprocessors — Назад в будущее!



*Серёжа Попов, HTML Academy*



**Кто использует CSS, а кто  
использует препроцессоры?**

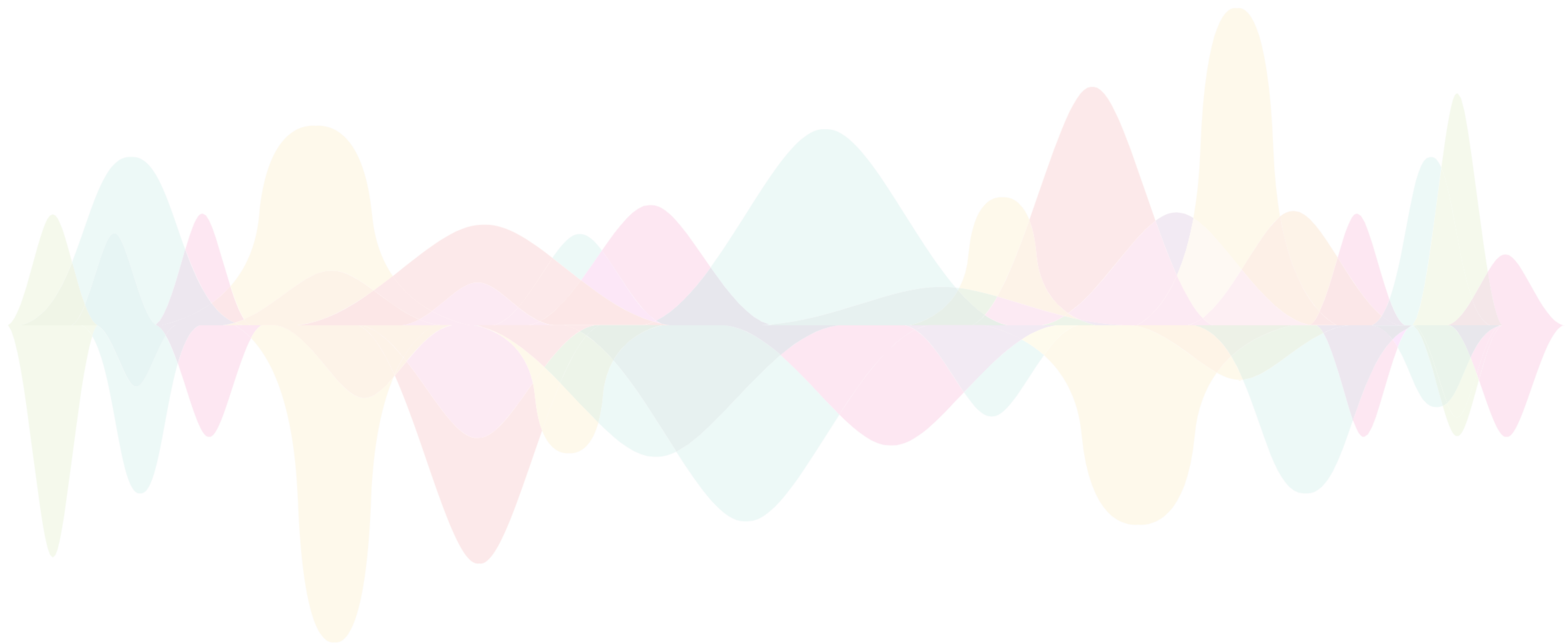


The background features a series of overlapping, semi-transparent, organic shapes in shades of yellow, teal, pink, and light blue. These shapes are arranged in a horizontal, wave-like pattern across the slide.

**Ничего личного —  
это CSS**

**Готов ли CSS заменить  
препроцессоры? 🤔**

# О себе



**ЛИГА**



ФРОНТЕНД  
АУТСОРС

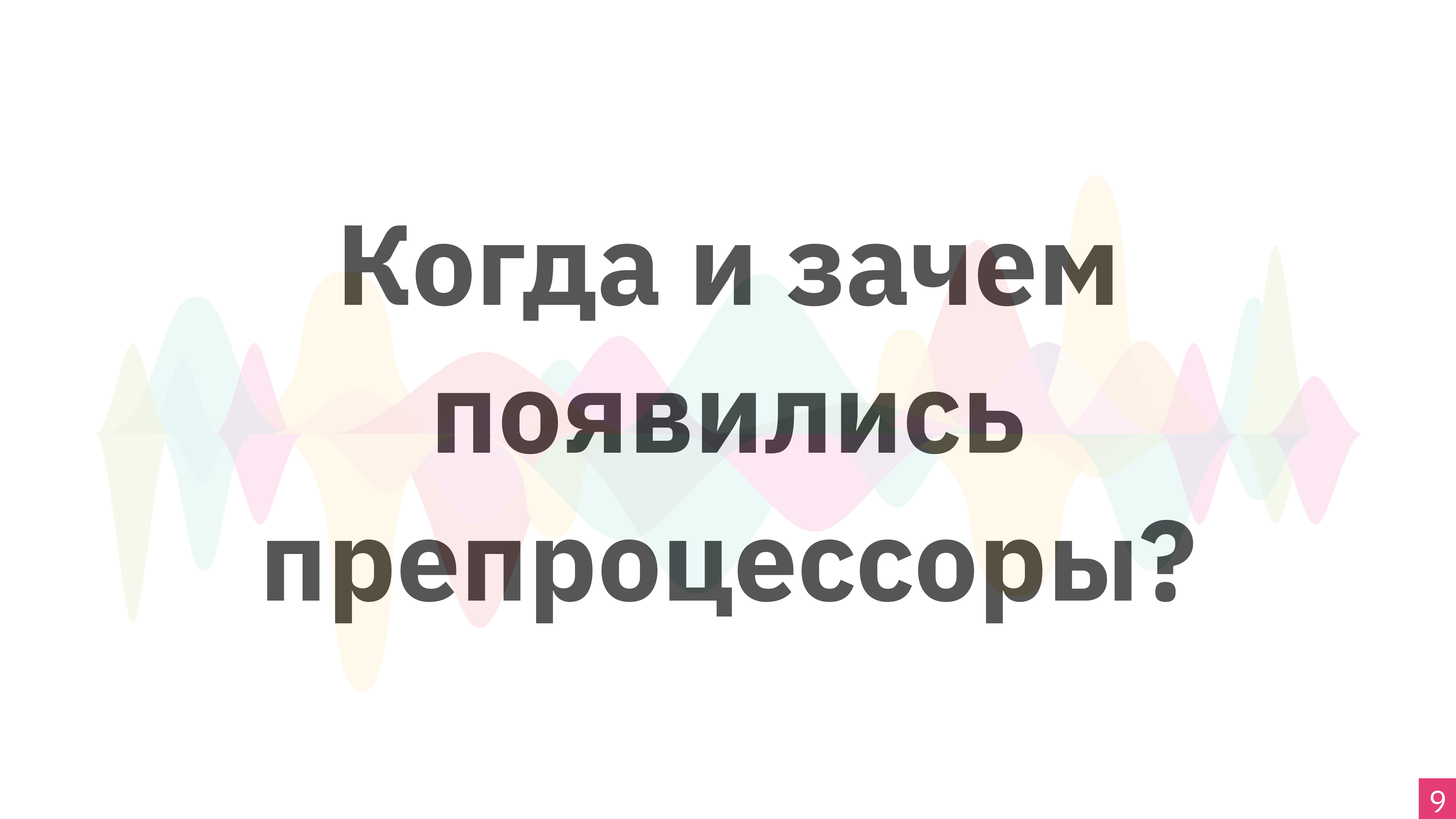
# О себе

- Верстальщик
- Использовал препроцессоры
- Переходил на CSS изучая спеки

# Разбираемся с препроцессорами





The background features a series of overlapping, semi-transparent, organic shapes in shades of teal, yellow, pink, and light green, creating a layered, abstract effect.

**Когда и зачем  
появились  
препроцессоры?**

Sass

2006 год.

**В контакте**

*Sass*



Windows Vista™

2006 год.

```
nav
```

```
ul
```

```
margin: 0
```

```
padding: 0
```

```
list-style: none
```

```
li
```

```
display: inline-block
```

```
a
```

```
display: block
```

```
padding: 6px 12px
```

```
text-decoration: none
```



2009 год.





2009 год.

```
#menu a {  
  color: #111;  
  .bordered;  
}
```

```
.post a {  
  color: red;  
  .bordered;  
}
```

Sass

2000N год.



```
nav {  
  ul {  
    margin: 0;  
    padding: 0;  
    list-style: none;  
  }
```

```
li { display: inline-block; }
```

```
a {  
  display: block;  
  padding: 6px 12px;  
  text-decoration: none;  
}
```

```
nav  
  ul  
    margin: 0  
    padding: 0  
    list-style: none
```

```
li  
  display: inline-block
```

```
a  
  display: block  
  padding: 6px 12px  
  text-decoration: none
```

*stylus*

2009 год.

*The Future of Earth & Space*

**2nd Edition**

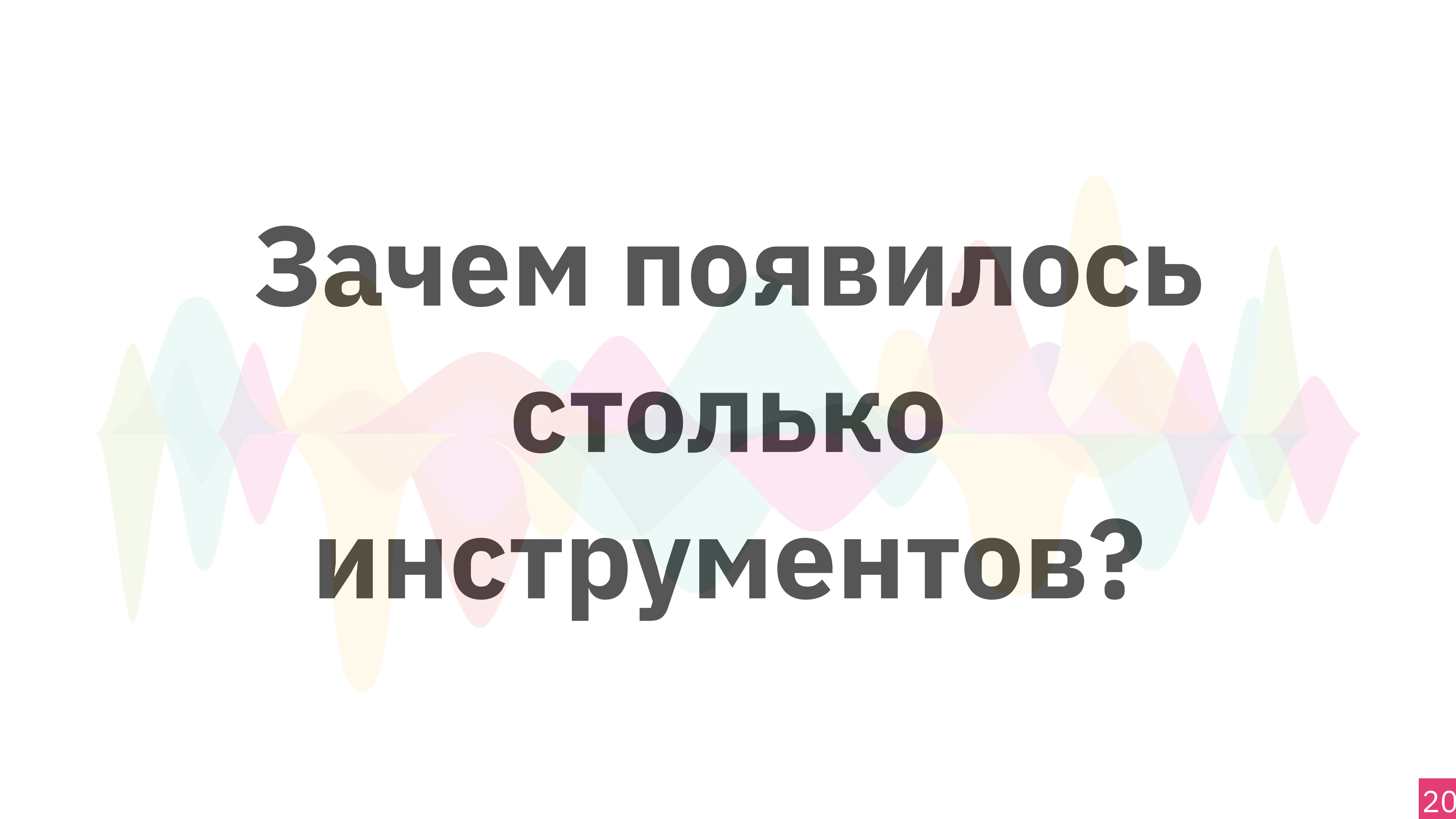


PostCSS

O,REALLY?

*Andrey Sitnik & Someone Else*

2013 год.

The background features a series of overlapping, semi-transparent, organic shapes in shades of teal, yellow, pink, and light green, creating a layered, abstract effect.

**Зачем появилось  
столько  
инструментов?**



...s  
The Definitive Guide



Eric A. Meyer

O'REILLY®

...eets

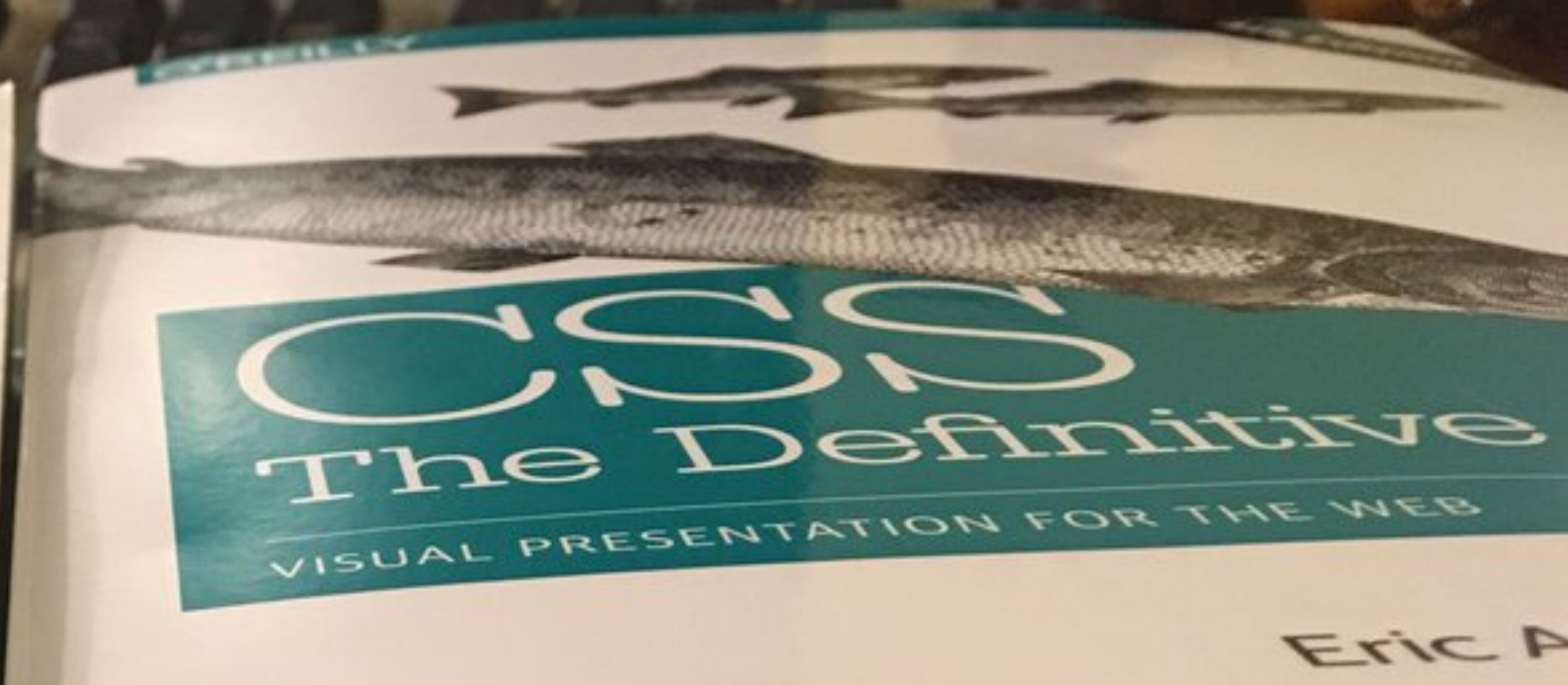
Meyer

O'REILLY®

...nitive Guide

Meyer

O'REILLY®



CSS  
The Definitive  
VISUAL PRESENTATION FOR THE WEB

Eric A. Meyer



# Что мы сделали с CSS?



```
53  .landing-hero > .container
54    > .brand-logo
55      width: 64px
56      height: 64px
57
58    @media (max-width: 768px)
59      width: 48px
60      height: 48px
61
62    > .tagline
63      margin: 64px 0 128px 0
64      +heading-type
65      font-size: ms(5)
66      color: white
67      line-height: 1.2
68
69      padding-right: 100% * 1/8
70
71    @media (max-width: 768px)
72      font-size: ms(3)
73      margin-bottom: 0
74      margin-top: 16px
75      br
76      display: none
```





```
58  .so-listing-tabs .ltabs-tabs-container .ltabs-tabs .tab-all .cat-all {  
59      margin-top:0px;  
60  }  
61  .so-listing-tabs .ltabs-tabs-container .ltabs-tabs .tab-sel .cat-all {  
62      margin-top:-48px;  
63  }  
64  .so-listing-tabs .ltabs-tabs-container .ltabs-tabs li.tab-sel{  
65      background-color:#0088cc  
66  }
```






```
.before_rss, .discount_page .discount-list,          app.min.css?151...059051026397:1
.eventsCalendar-daysList, .home-twitter__tags, .m-
data>.mobile-sezon-table__column, .m-data>.sezon-table__column,
.newsitem__comments .comments-list__answer>form>textarea,
.newsitem__comments>.comment__form>form>textarea, .newslist__item.media-old,
.photoalbum__attributes, .photoalbum_stream .photoalbum__pagination
ul.photos__pages, .pt-sans, .represent-rus .text-sm, .shop-item__price .prev,
.simple-form .subtitle, .simple-form input, .simple-form textarea, .team-
block__name.m-small, .text-block-col .text, .ws-blocktag {
  font-family: "PT Sans","Helvetica Neue",Helvetica,Arial,sans-serif;
}
```

```
.m-total>.m-avg_rating.mobile-sezon-table__column,.m-
total>.m-avg_rating.sezon-table__column,.m-total>.m-
avg_rating.stats-page-table__column,.m-total>.m-
avg_rating.tablescore__column,.m-total>.m-
avg_rating.team-table__column-mobile,.m-total>.m-
last.mobile-sezon-table__column,.m-total>.m-last.sezon-
table__column,.m-total>.m-last.stats-page-
table__column,.m-total>.m-last.tablescore__column,.m-
total>.m-last.team-table__column-mobile,.m-total>.team-
table__column.m-avg_rating,.m-total>.team-
table__column.m-last{
  border-right:1px solid #B3CFE0
}
```



The background features a series of overlapping, semi-transparent, organic shapes in various colors including light green, yellow, pink, and light blue. These shapes are arranged in a horizontal, wave-like pattern across the slide.

**Что нужно  
от препроцессоров?**



**ЧТО ТЕБЕ**

**ОТ МЕНЯ НУЖНО**

# Импорты

```
// _reset.scss
```

```
html,  
body,  
ul,  
ol {  
    margin: 0;  
    padding: 0;  
}
```

```
// base.scss
```

```
@import 'reset';  
  
body {  
    font: 100% Helvetica, sans-serif;  
    background-color: #efefef;  
}
```

# Переменные

```
$font-stack:    Helvetica, sans-serif;  
$primary-color: #333;
```

```
body {  
    font: 100% $font-stack;  
    color: $primary-color;  
}
```

# Математические операции

```
article {  
  float: left;  
  width: 600px / 960px * 100%;  
}
```

```
aside {  
  float: right;  
  width: 300px / 960px * 100%;  
}
```

# Цветовые функции

`lighten($color, $amount)` : Makes a color lighter.

`darken($color, $amount)` : Makes a color darker.

# МИКСИНЫ

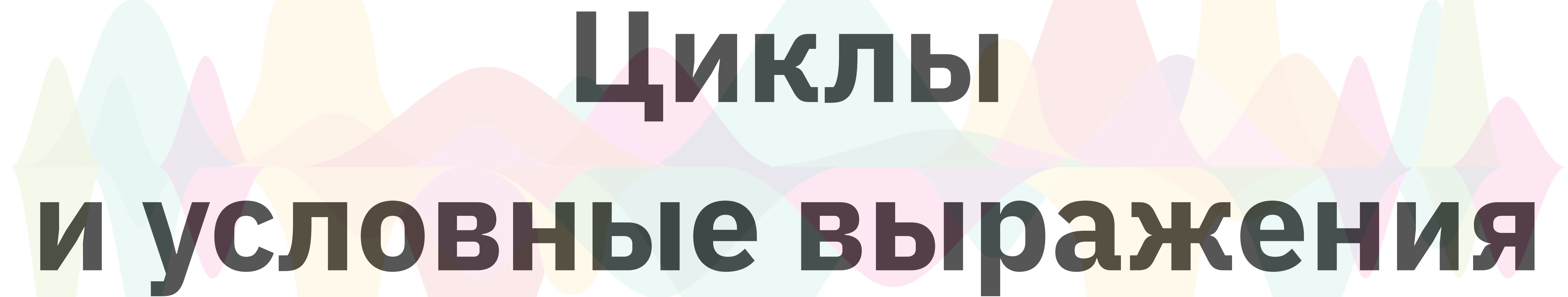
```
@mixin border-radius($radius) {  
    -webkit-border-radius: $radius;  
    -moz-border-radius: $radius;  
    -ms-border-radius: $radius;  
    border-radius: $radius;  
}
```

```
.box {  
    @include border-radius(10px);  
}
```



# Вложенности

```
nav {  
  ul {  
    margin: 0;  
    padding: 0;  
    list-style: none;  
  }  
  
  a {  
    display: block;  
    padding: 6px 12px;  
    text-decoration: none;  
  }  
}
```



# **Циклы и условные выражения**

**ЧТО ЕСЛИ**



**МНЕ ЭТО НЕ НУЖНО?**





**@extend**



```
.before_rss, .discount_page .discount-list,          app.min.css?151...059051026397:1
.eventsCalendar-daysList, .home-twitter__tags, .m-
data>.mobile-sezon-table__column, .m-data>.sezon-table__column,
.newsitem__comments .comments-list__answer>form>textarea,
.newsitem__comments>.comment__form>form>textarea, .newslist__item.media-old,
.photoalbum__attributes, .photoalbum_stream .photoalbum__pagination
ul.photos__pages, .pt-sans, .represent-rus .text-sm, .shop-item__price .prev,
.simple-form .subtitle, .simple-form input, .simple-form textarea, .team-
block__name.m-small, .text-block-col .text, .ws-blocktag {
  font-family: "PT Sans","Helvetica Neue",Helvetica,Arial,sans-serif;
}
```

```
.m-total>.m-avg_rating.mobile-sezon-table__column,.m-
total>.m-avg_rating.sezon-table__column,.m-total>.m-
avg_rating.stats-page-table__column,.m-total>.m-
avg_rating.tablescore__column,.m-total>.m-
avg_rating.team-table__column-mobile,.m-total>.m-
last.mobile-sezon-table__column,.m-total>.m-last.sezon-
table__column,.m-total>.m-last.stats-page-
table__column,.m-total>.m-last.tablescore__column,.m-
total>.m-last.team-table__column-mobile,.m-total>.team-
table__column.m-avg_rating,.m-total>.team-
table__column.m-last{
  border-right:1px solid #B3CFE0
}
```



Фичи	Необходимость
Импорты	
Переменные	
Математические операции	
Цветовые функции	
Миксины	
Вложенности	
Циклы	
Условные выражения	
@extend	



# Чем хуже нативный CSS?



# Импорты

```
@import url("fineprint.css") print;  
@import url("bluish.css") projection, tv;  
@import 'custom.css';  
@import url("chrome://communicator/skin/");  
@import "common.css" screen, projection;  
@import url('landscape.css') screen and  
(orientation:landscape);
```



# Переменные

```
:root {  
  --main-bg-color: brown;  
}
```

```
.one {  
  color: white;  
  background-color: var(--main-bg-color);  
  margin: 10px;  
}
```

# Переменные



	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android *	Blackberry	Opera Mobile *	Chrome Android	Firefox Android	IE Mobile	UC for Android	Samsung Internet	QQ
		52	58	7.1	43	8		2.3								
		53	59	8	44	8.4		3								
6		54	60	9	45	9.2		4								
7	12	55	61	9.1	46	9.3		4.1								
8	13	56	62	10	47	10.2		4.3								
9	14	57	63	10.1	48	10.3		4.4		12					4	
10	<sup>2</sup> 15	58	64	11	49	11.2		4.4.4	7	12.1			10		5	
11	16	59	65	11.1	50	11.3	all	62	10	37	64	57	11	11.8	6.2	1.2
	17	60	66	TP	51											
	18	61	67		52											
			68													

# Математические операции

```
width: calc(100% - 80px);  
width: calc(100% - 1em);
```

# Математические операции

IE	Edge <sup>*</sup>	Firefox	Chrome	Safari	Opera	iOS Safari <sup>*</sup>	Opera Mini <sup>*</sup>	Android <sup>*</sup>	Blackberry	Opera Mobile <sup>*</sup>	Chrome Android	Firefox Android	IE Mobile	UC for Android	Samsung Internet	QQ
		51	57	7	42	7.1		2.2								
		52	58	7.1	43	8		2.3								
		53	59	8	44	8.4		3								
6		54	60	9	45	9.2		4								
7	12	55	61	9.1	46	9.3		4.1								
8	13	56	62	10	47	10.2		4.3								
<sup>2</sup> 9	14	57	63	10.1	48	10.3		<sup>1</sup> 4.4		12					4	
10	15	58	64	11	49	11.2		<sup>1</sup> 4.4.4	7	12.1			10		5	
11	16	59	65	11.1	50	11.3	all	62	10	37	64	57	11	11.8	6.2	1.2
	17	60	66	TP	51											
	18	61	67		52											

# Цветовые функции

# Цветовые функции

CSS Color Module level 4 — <https://drafts.csswg.org/css-color/>

```
[hue( | h( [ '+' | '-' | '*' ]? <angle> )  
[saturation( | s( [ '+' | '-' | '*' ]? <percentage> )  
[lightness( | l( [ '+' | '-' | '*' ]? <percentage> )  
[whiteness( | w( [ '+' | '-' | '*' ]? <percentage> )  
[blackness( | b( [ '+' | '-' | '*' ]? <percentage> )
```

# HSLA()

```
a {  
  display: inline-block;  
  padding: 10px 20px;  
  text-decoration: none;  
  background-color: hsla(0, 0%, 0%, 1);  
  color: #fff;  
  transition: all 0.3s ease;  
}
```

```
a:hover {  
  background-color: hsla(0, 0%, 20%, 1);  
}
```



# HSLA()



Hue - оттенок (0 - 360)



Saturation - насыщенность (0% - 100%)

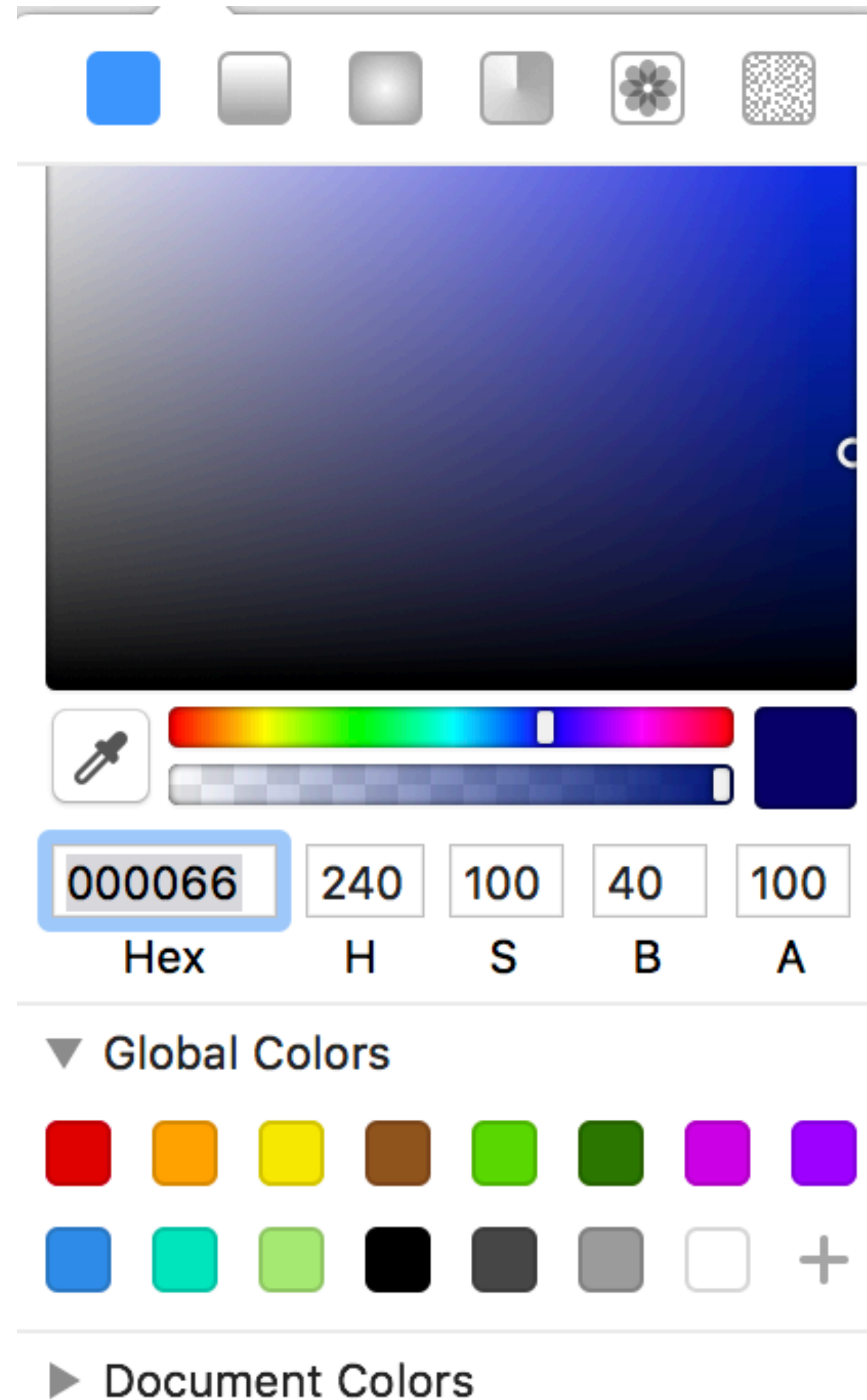


Lightness - осветление (0% - 100%)

IE	Edge	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android	Blackberry	Opera Mobile	Chrome Android	Firefox Android	IE Mobile	UC for Android	Samsung Internet	QQ	Baidu
		42	48		33												
		43	49		34												
		44	50	3.1	35												
		45	51	3.2	36												
		46	52	4	37	3.2											
		47	53	5	38	4.1											
		48	54	5.1	39	4.3											
		49	55	6	40	5.1											
		50	56	6.1	41	6.1		2.1									
		51	57	7	42	7.1		2.2									
		52	58	7.1	43	8		2.3									
		53	59	8	44	8.4		3									
6		54	60	9	45	9.2		4									
7	12	55	61	9.1	46	9.3		4.1									
8	13	56	62	10	47	10.2		4.3									
9	14	57	63	10.1	48	10.3		4.4	<div>IE Mobile 11</div> <div> <div>Support info</div> <div>Browser version</div> <div> <div>✓ Supported</div> <div>Released Nov 21, 2012</div> <div>Usage</div> <div>Global: <b>0.18%</b></div> </div> </div>						4		
10	15	58	64	11	49	11.2		4.4.4					10		5		
11	16	59	65	11.1	50	11.3	all	62					11	11.8	6.2	1.2	7.12
	17	60	66	TP	51												
	18	61	67		52												
			68														



# HSLA()



# HWB (Hue, Whiteness, Blackness)

```
body {  
  color: hwb(90, 0%, 0%, 0.5);  
}
```

<https://drafts.csswg.org/css-color/#the-hwb-notation>

# HWB (Hue, Whiteness, Blackness)

## HWB Calculator



`hwb(348, 22%, 0%)`

`rgb(255, 56, 96)`

`#ff3860`

`hsl(348, 100%, 61%)`

H: 348



W: 22



B: 0



# МИКСИНЫ

```
img {  
  --some-length-styles: {  
    height: 32px;  
    width: 32px;  
  }
```

```
@apply --some-length-styles;  
}
```

<http://tabatkins.github.io/specs/css-apply-rule/>


















# Вложенности

```
a, b {  
  color: red;
```

```
  & c, & d {  
    color: white;  
  }  
}
```

<http://tabatkins.github.io/specs/css-nesting/>

**Готов ли CSS заменить  
препроцессоры? 🤔**

Фичи	Препроцессоры	CSS
Импорты		
Переменные		  TOP
Математические операции		  TOP
Цветовые функции		  SOON
Миксины		
Вложенности		

 Поддержка.
   TOP Поддержка лучше.
   SOON частичная или в скором времени

The background features a series of overlapping, organic, wave-like shapes in various colors including light green, teal, yellow, pink, and light blue. These shapes are layered to create a sense of depth and movement across the horizontal axis.

**В одиночку — нет**







The background features a series of overlapping, semi-transparent, organic shapes in shades of teal, yellow, pink, and light green, creating a layered, abstract effect.

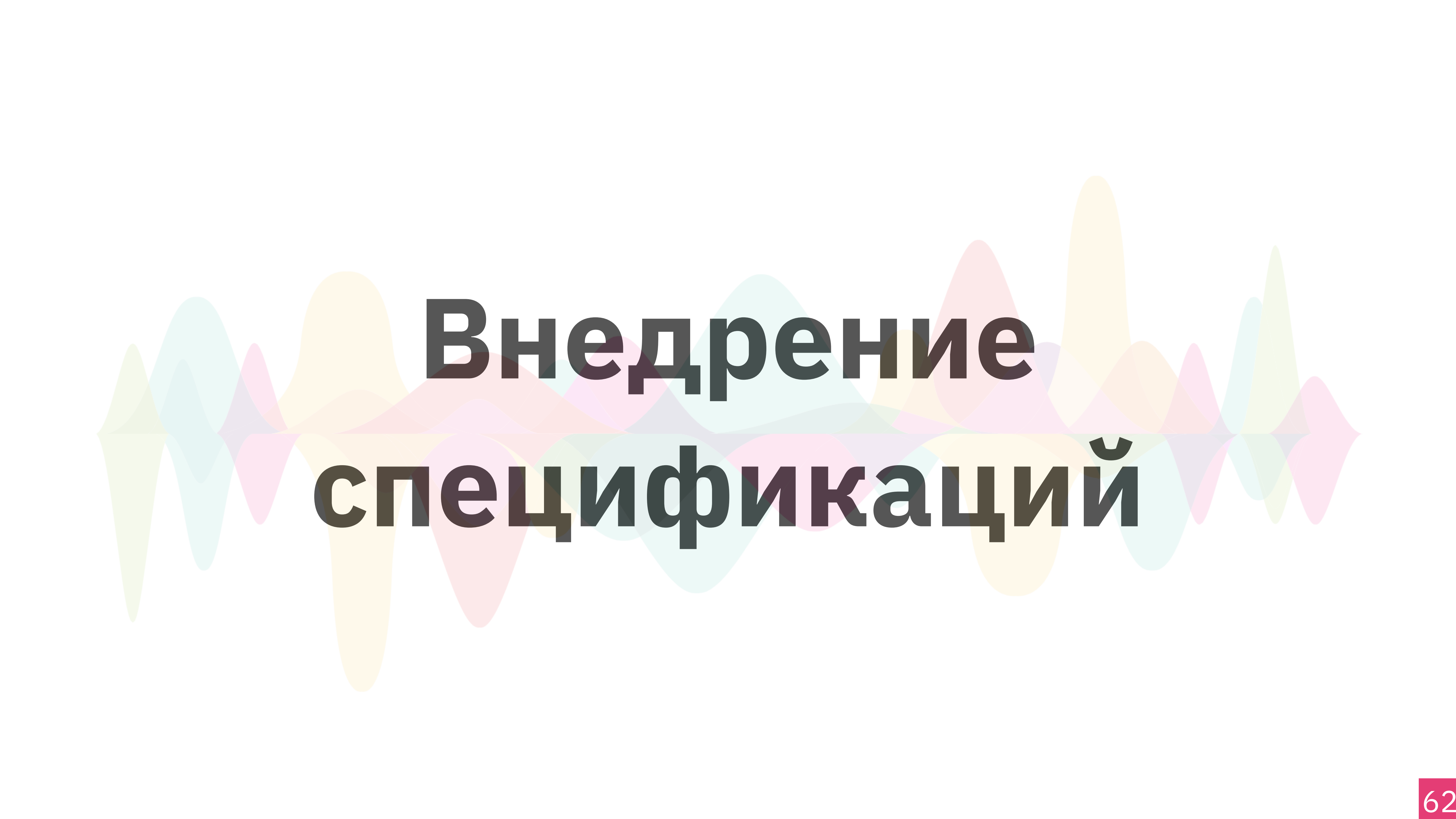
# Как можно помочь CSS?

# В чём проблемы CSS?





**Поддержка  
браузерами**

The background features a series of overlapping, semi-transparent, organic shapes in various colors including light green, yellow, pink, and light blue. These shapes are arranged in a horizontal, wave-like pattern across the slide.

# **Внедрение спецификаций**





# Мысленный барьер

The background features a series of overlapping, organic, blob-like shapes in various colors including light green, teal, yellow, pink, and light blue. These shapes are layered to create a sense of depth and movement across the slide.

**А что там с JavaScript?**



*CoffeeScript*

# Проблема с поддержкой браузерами?

# Проблема с внедрением спецификаций?



BRABE

# Чем CSS хуже?



*The Future of Earth & Space*

2nd Edition



# PostCSS

O,REALLY?

*Andrey Sitnik & Someone Else*





PostCSS

= =

BABEL





Фичи	CSS	+ postCSS
Импорты	⚠	✅ ⚠
Переменные	✅ ⬆ TOP	✅ ⚠
Математические операции	✅ ⬆ TOP	✅ ⬆ TOP
Цветовые функции	⚠ ➡ SOON	✅
Миксины	🛑	✅ ⚠
Вложенности	🛑	✅ ⚠

✅ Поддержка.
 ✅ ⬆ TOP Поддержка лучше.
 ✅ ⚠ поддержка не совсем так

**В итоге получаем  
полную поддержку**





The background features a series of overlapping, semi-transparent shapes in various colors including yellow, teal, pink, and light blue. These shapes are arranged in a way that creates a layered, organic effect, resembling a stylized floral or abstract pattern. The text is centered over this background.

**Чем это отличается  
от препроцессоров?**

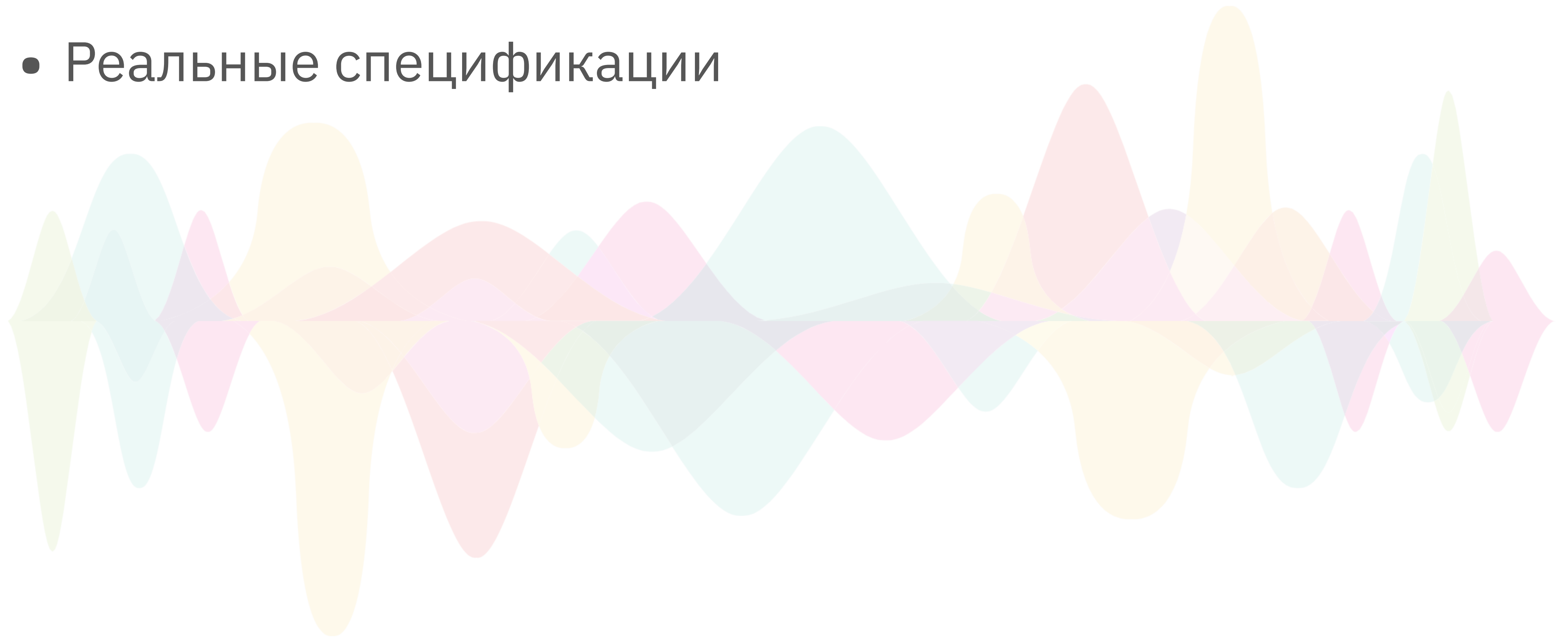
The background features a series of overlapping, organic, blob-like shapes in various pastel colors including light blue, yellow, pink, and light green. These shapes are layered to create a sense of depth and movement across the slide.

**Близость к CSS лучше?**



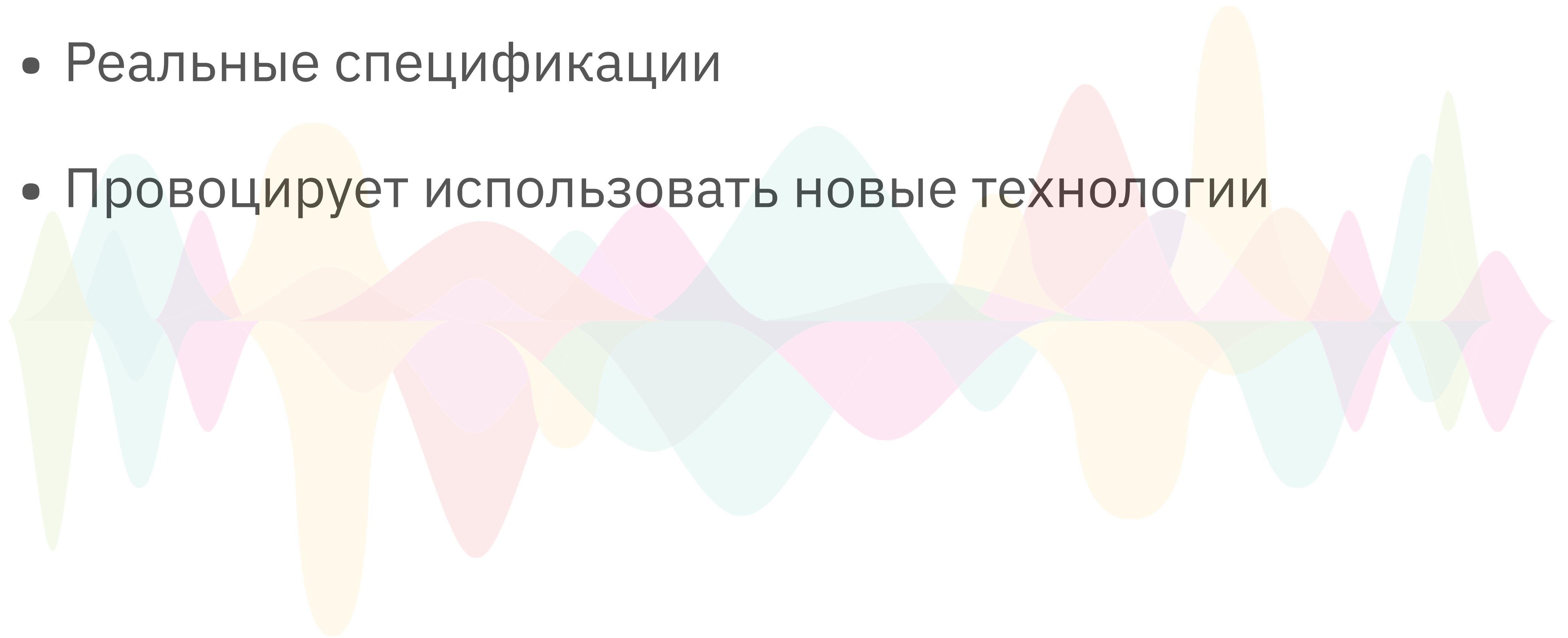
# Близость к CSS

- Реальные спецификации



# Близость к CSS

- Реальные спецификации
- Провоцирует использовать новые технологии



# Близость к CSS

- Реальные спецификации
- Провоцирует использовать новые технологии
- CSS ❤️

**Если вам не нравится  
такой подход?**



Фичи	Препроцессоры	CSS	+ PostCSS
Импорты	✓	!	✓!
Переменные	✓	✓↑ TOP	✓!
Математические операции	✓	✓↑ TOP	✓↑ TOP
Цветовые функции	✓	!→ SOON	✓
Миксины	✓	⛔	✓!
Вложенности	✓	⛔	✓!



Фичи	Препроцессоры	CSS	+ PostCSS
Импорты	✓	!	✓!
Переменные	✓	✓↑TOP	✓!
Математические операции	✓	✓↑TOP	✓↑TOP
Цветовые функции	✓	!→SOON	✓
Миксины	✓	⛔	✓!
Вложенности	✓	⛔	✓!

Фичи	Препроцессоры	CSS	+ PostCSS
Импорты	✓	!	✓!
Переменные	✓	✓↑TOP	✓!
Математические операции	✓	✓↑TOP	✓↑TOP
Цветовые функции	✓	!→SOON	✓
Миксины	✓	⛔	✓!
Вложенности	✓	⛔	✓!

The background features a series of overlapping, organic, wave-like shapes in various colors including teal, yellow, pink, and light green. These shapes are layered to create a sense of depth and movement. In the center, the word "Итоги" is written in a bold, dark, sans-serif font.

**Итоги**

**Готов ли CSS заменить  
препроцессоры? 🤔**

The background features a series of overlapping, organic, wave-like shapes in various colors including light green, teal, yellow, pink, and light blue. These shapes are layered to create a sense of depth and movement across the slide.

**В одиночку — нет**









PostCSS

= =

BABEL



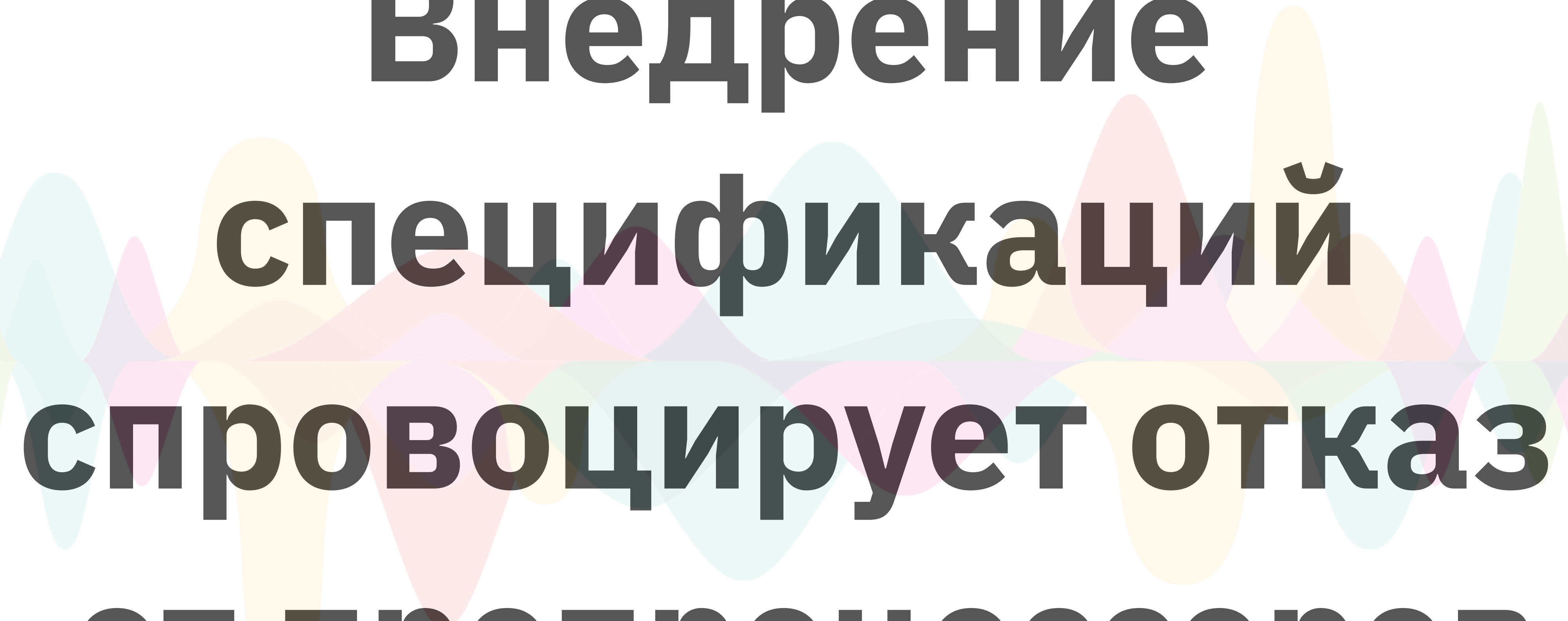




# Итоги

- CSS Custom Properties > Preprocessors Variables
- CSS calc() > Preprocessors math
- PostCSS !== Babel
- Подход с PostCSS лучше тем, что он сразу приучает к реальному синтаксису новых спецификаций



The background features a series of overlapping, semi-transparent shapes in various colors including yellow, teal, pink, and light green. These shapes are arranged in a way that creates a layered, organic effect, resembling a stylized flower or a cluster of leaves. The text is overlaid on this background.

**Внедрение  
спецификаций  
спровоцирует отказ  
от препроцессоров**

The background features a series of overlapping, semi-transparent, organic shapes in various colors including teal, yellow, pink, and light green. These shapes are arranged in a horizontal, wave-like pattern across the center of the page. In the middle of this pattern, the word "Или" is written in a bold, dark grey, sans-serif font.

**Или**

The background features a series of overlapping, semi-transparent, organic shapes in various colors including teal, yellow, pink, and light green. These shapes are arranged horizontally, creating a layered, wave-like effect. The text 'css-in-js?' is centered over this pattern.

**css-in-js?**





The background features a series of overlapping, organic, blob-like shapes in various colors including light blue, yellow, pink, and green. These shapes are layered to create a sense of depth and movement, framing the central text.

**Будущее — это  
не CSS vs Preprocessors**



# Будущее — это CSS vs CSS-in-JS

# Спасибо за внимание

[fb.com/sergeytovarov](https://fb.com/sergeytovarov)

[t.co/sergeytovarov](https://t.co/sergeytovarov)

[sergeypopov.site](https://sergeypopov.site)

# Все ссылки

<https://htmlacademy.ru> — HTML Academy

<https://htmlacademy.ru/production> — Лига А.

<https://drafts.csswg.org/css-color/#the-hwb-notation>

<http://tabatkins.github.io/specs/css-apply-rule/>

<http://tabatkins.github.io/specs/css-nesting/>