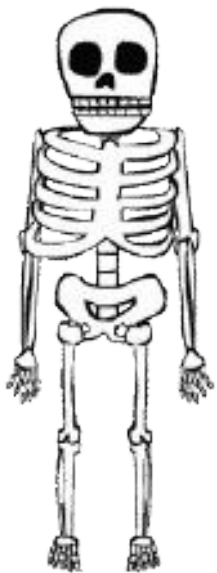


Откройте <https://www.menti.com/> (код скажу позже)



Скелетоны

Пусть всем кажется, что всё
грузится быстро, — улучшаем
ощущение от загрузки



Виктор Русакович,
Минск, GP Solutions

Откройте <https://www.menti.com/> (код скажу позже)



[Redacted text]

- [Redacted text]
- [Redacted text]
- [Redacted text]
- [Redacted text]
- [Redacted text]
- [Redacted text]

Оглавление

Оглавление

1. Зачем нам нужны были скелетоны?

[Redacted text]

[Redacted text]

[Redacted text]

[Redacted text]

Оглавление

1. Зачем нам нужны были скелетоны?
2. Как скелетоны работают?



Оглавление

1. Зачем нам нужны были скелетоны?
2. Как скелетоны работают?
3. Создаем скелетоны



Оглавление

1. Зачем нам нужны были скелетоны?
 2. Как скелетоны работают?
 3. Создаем скелетоны
 4. Поддержка скелетонов
- 

Оглавление

1. Зачем нам нужны были скелетоны?
2. Как скелетоны работают?
3. Создаем скелетоны
4. Поддержка скелетонов
5. Скелетоны картинок



Зачем нам скелетоны?



Helsinki–Tallinn Connection



Helsinki
City Center

Ferry • 2h 30m

 \$30 →

Fly • 2h 23m

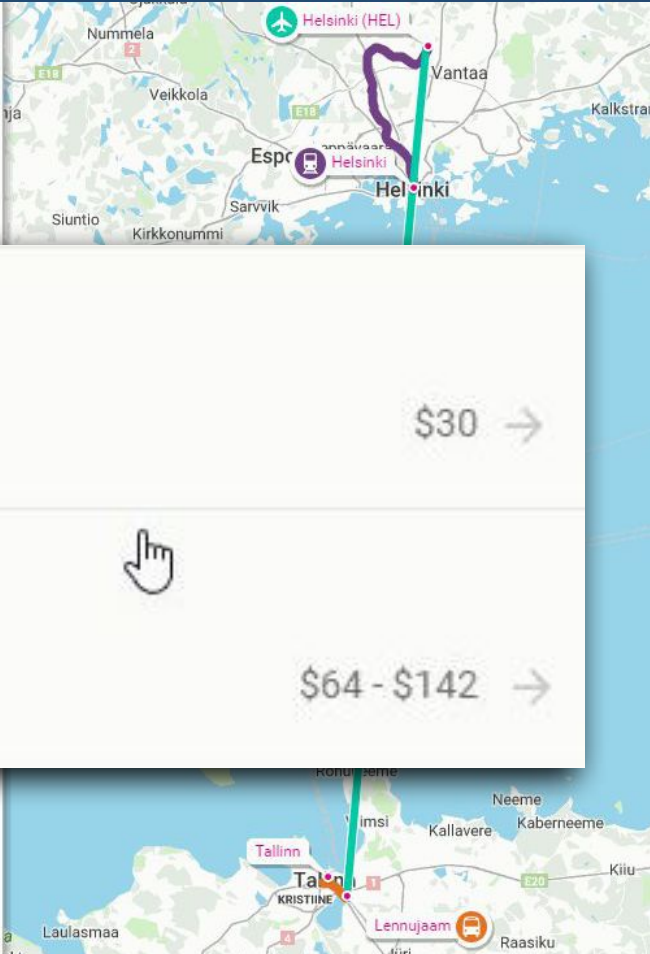
 \$64 - \$142 →

Ferry • 2h 30m

 \$30 →

Fly • 2h 23m

 \$64 - \$142 →



Tallinn
Ülemiste

[Home](#) - [Company Info](#) - [Contact us](#) - [Sales Agents](#) - [Club One](#) - [Cargo](#) - [Press](#) - [Good to know](#)[Timetables & Routes](#) [Products & Prices](#) [Highlights](#) [Destinations](#) [Ships & Terminals](#) [Shopping & Entertainment](#)**Online
BOOKING****STEP 1
VOYAGE
SELECTION****STEP 2
ONBOARD
SERVICES****STEP 3
ONSHORE
SERVICES****STEP 4
ORDER
DETAILS****STEP 5
OVERVIEW
AND PAYMENT****Voyage type:**☐ Cruise☒ Return☐ One way

DEPARTURE

Helsinki

DESTINATION

Mariehamn

OUTWARD

08.09.2010

RETURN

09.09.2010

Return on different route? [Choose return](#)

ADULTS

1

18-... years

CHILDREN

0

Please select age for each child

VEHICLE

0

Type will be chosen in the order details page

Club One Member? [Insert numbers here](#)**Search****Login**

USERNAME

PASSWORD

[Registration](#)
[Forgot password?](#)**Sign-in**[Old reservation system](#)

2013

↑

🕒

🚗

📞

👤

👁

LÄHTÖPAIKA

2019

MA

TI

KE

TO

PE

LA

SU

SYYSKUU 2019

30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

LOKAKUU 2019

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

AIKUISISET 1

LAPSET 0-5V 6-11V 12-17V

☐ AJONEUVO MUKANA

NISTÄ **HELSINKI** MINNE **TALLINNA** TURKOLMA AHVENANMAA RIKA VISEY

REITTIMATKAT

PÄIVÄMATKAT

MEGASTARIN OSTOSREITIT

EUROOPAN REITIT

HOTELLIMATKAT

1 x Взрослый →
1 x Star class →

ИТОГО К ОПЛАТЕ

31€

Лучшая цена!

[% ПРОМОКОД ДЛЯ ПОЛУЧЕНИЯ СКИДКИ →](#)

БРОНИРУЙ

🕒 LÄHTÖVAIHTOEHDOT

☐ YKSI SUDUTA

HELSINKI → TALLINNA

TALLINNA → HELSINKI

LDH45	Kiota		Per50	LDH45	Kiota		Per50
Ka 25.0.				Ka 25.0.			
07:00	2 h	23 €	08:00	07:00	2 h	23 €	08:00
10:00	2 h	20 €	10:00	10:00	2 h	23 €	10:00
13:00	2 h	20 €	13:00	12:00	1,5 h	17 €	14:00
16:00	2 h	27 €	16:00	13:00	2 h	23 €	15:00
19:00	2,5 h	17 €	22:00	16:00	2 h	23 €	18:00
19:00	1 h	20 €	19:00	19:00	2 h	23 €	21:00
19:30	2 h	25 €	21:00	22:00	2 h	21 €	00:00
22:30	2 h	21 €	00:00	22:30	1 h	79 €	06:00
To 26.0.				To 26.0.			

CLUB ONE - 45 MINAS

YBITYSALUKAS

Swift Club One - numero

MELKAN WHITEHARTO

HELSINKI → TALLINNA

Ke 25.9.2019 klo 19:30

 Decor

१. संविधानसंशोधन →

7 = Star-luckies (kam zipa 6/ka) →

BUCKMILIT →

Listed nucleotides: 4

TALLINNA → HELSINKI

To 26.9.2019 klo 22:30

 Small icon of a boat, likely representing a maritime or nautical theme.
$$1 = \mu_{\text{rel}}(f) \Rightarrow$$

1 = 5 Star-Verleihen (Konsequenz) →

🕒 LÄHTÖVAIHTOEHDOT

☐ YKSI SUUNTA

HELSINKI → TALLINNA

TALLINNA → HELSINKI

Lähtö	Kesto		Perillä	Lähtö	Kesto		Perillä
Ma 14.10.				Ma 14.10.			
07:30	2 h	27 €	09:30	07:30	2 h	33 €	09:30
10:30	2 h	41 €	12:30	10:30	2 h	27 €	12:30
13:30	2 h	27 €	15:30	12:30	3,5 h	21 €	16:00
16:30	2 h	27 €	18:30	13:30	2 h	27 €	15:30
18:30	3,5 h	17 €	22:00	16:30	2 h	27 €	18:30
18:30		20 €	08:00	19:30	2 h	27 €	21:30
19:30	2 h	27 €	21:30	22:30	2 h	27 €	00:30
22:30	2 h	27 €	00:30	22:30		89 €	06:00

Ti 15.10.

Ti 15.10.









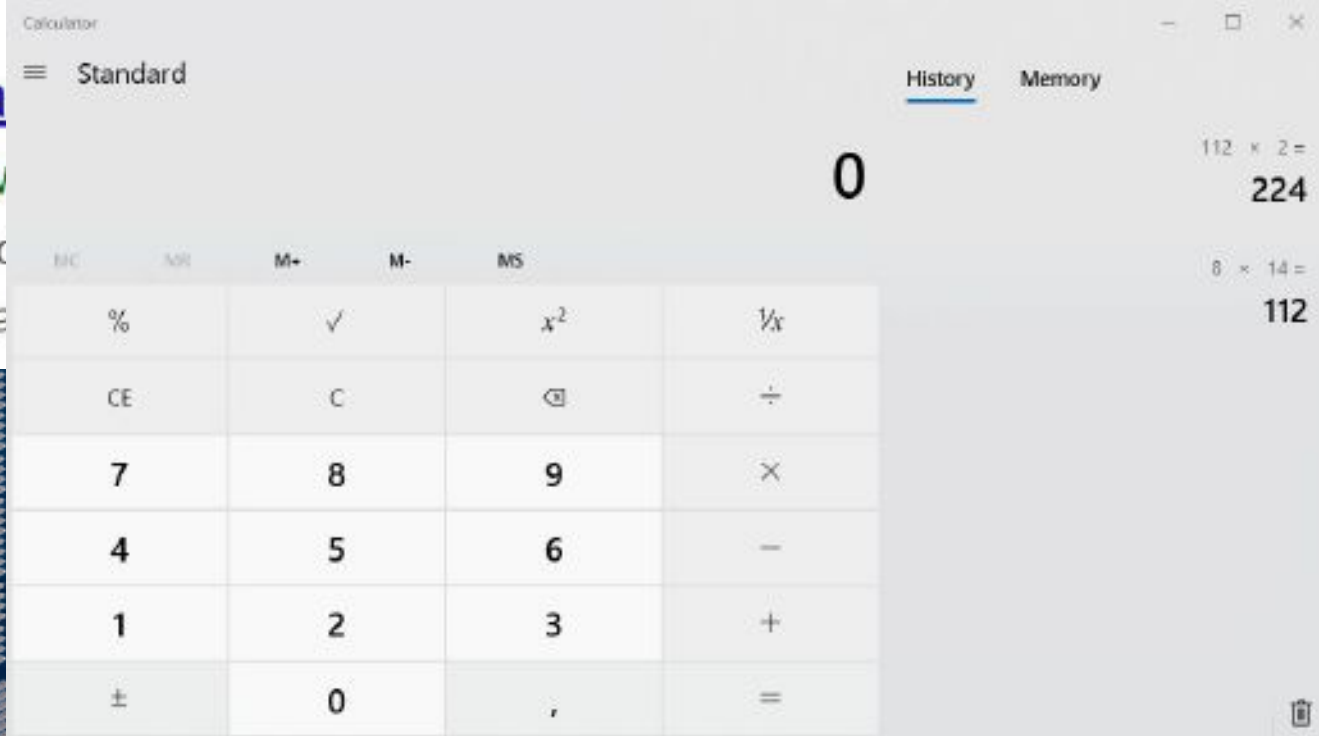
SO?

Megasta

<https://www>

Megastar co

борту места



ый день. На





Как скелетоны работают?



$< 100\text{ms}$



Якоб Нильсен, 1993

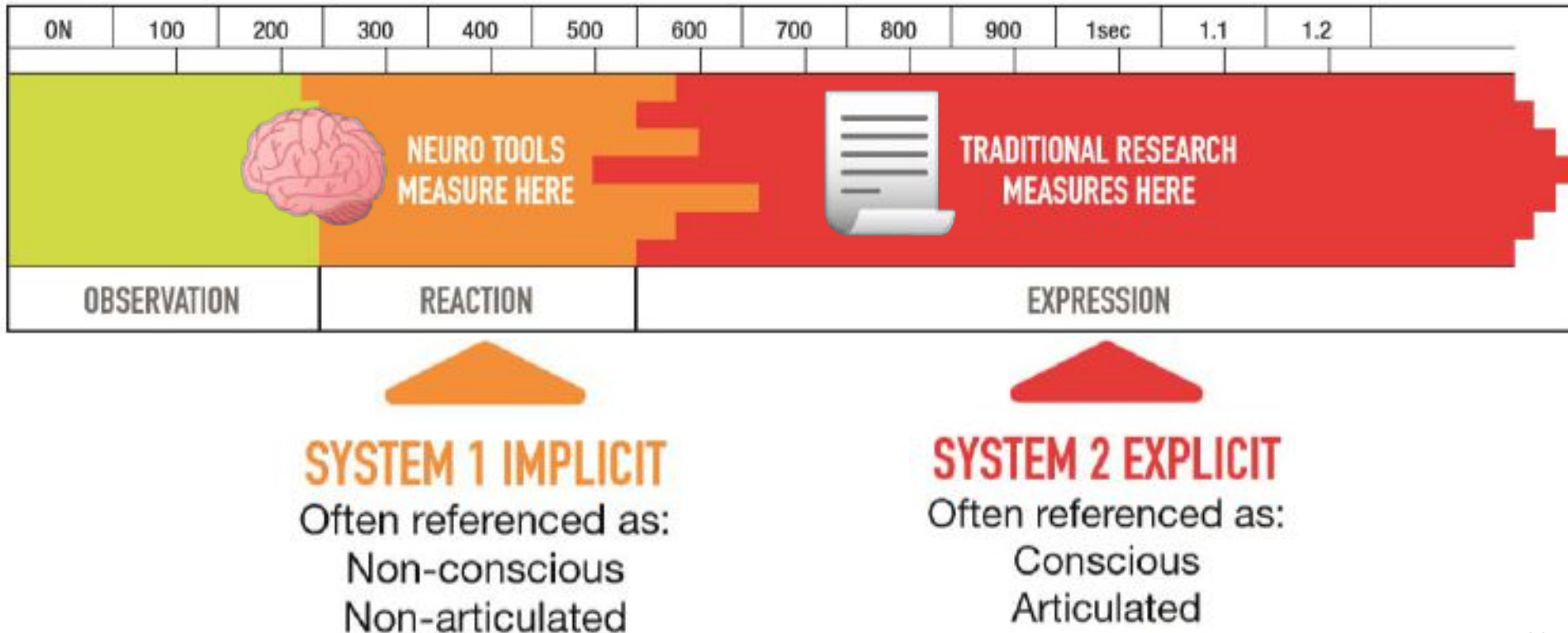
до 0.1 сек – пользователь не заметит

0.1 - 1 сек – пользователь заметит "паузу"

1 - 10 сек – внимание пользователя потеряно



Упрощенная схема когнитивной реакции



Якоб Нильсен, 1993

до 0.1 сек – пользователь не заметит

0.1 - 1 сек – пользователь заметит "паузу"

1 - 10 сек – внимание пользователя потеряно



Якоб Нильсен, 1993

до 0.1 сек – пользователь не заметит

0.1 - 1 сек – пользователь заметит "паузу"

1 - 10 сек – внимание пользователя потеряно



Якоб Нильсен, 1993

до 0.1 сек – пользователь не заметит

0.1 - 1 сек – пользователь заметит "паузу"

1 - 10 сек – внимание пользователя потеряно



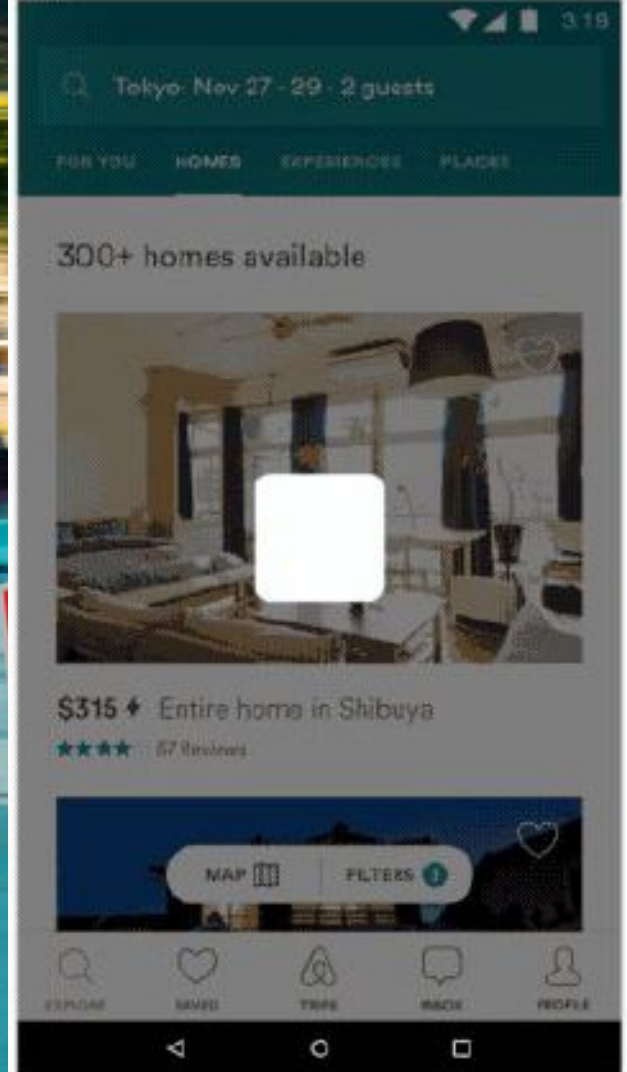
Якоб Нильсен, 1993

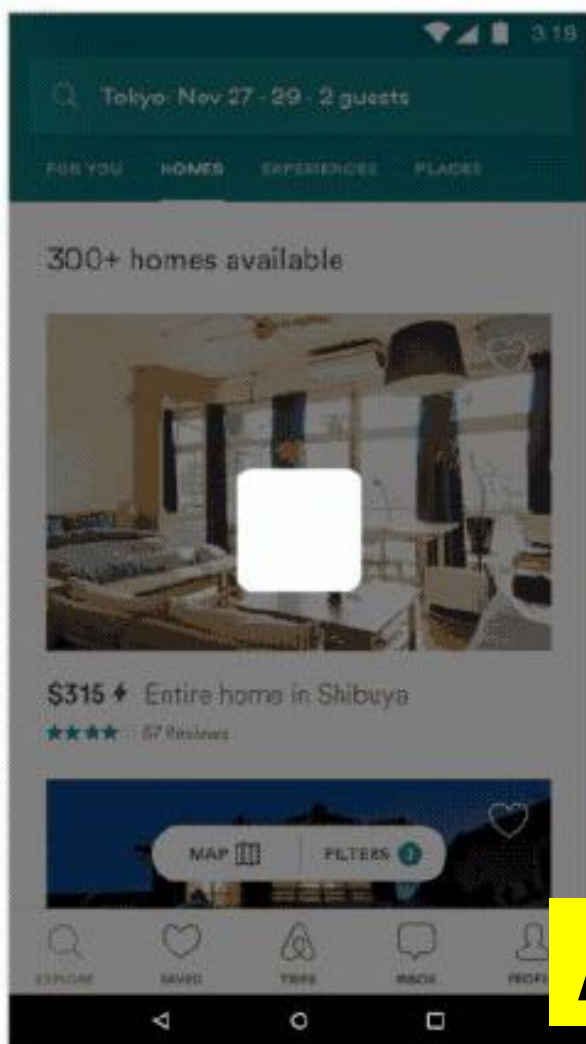
до 0.1 сек – пользователь не заметит

0.1 - 1 сек – пользователь заметит "паузу"

1 - 10 сек – внимание пользователя потеряно

10 сек и более - займите пользователя





Airbnb's "Lottie"

Ожидание



Mobile Design Details: Avoid The Spinner

by Luke Wroblewski

September 17, 2013

With a skeleton screen, the focus is on content being loaded not the fact that its loading and that's real progress.

<https://www.lukew.com/ff/entry.asp?1797>





Go to **www.menti.com** and use the code

?? ?? ??



1

Grab your phone

www.menti.com|

2

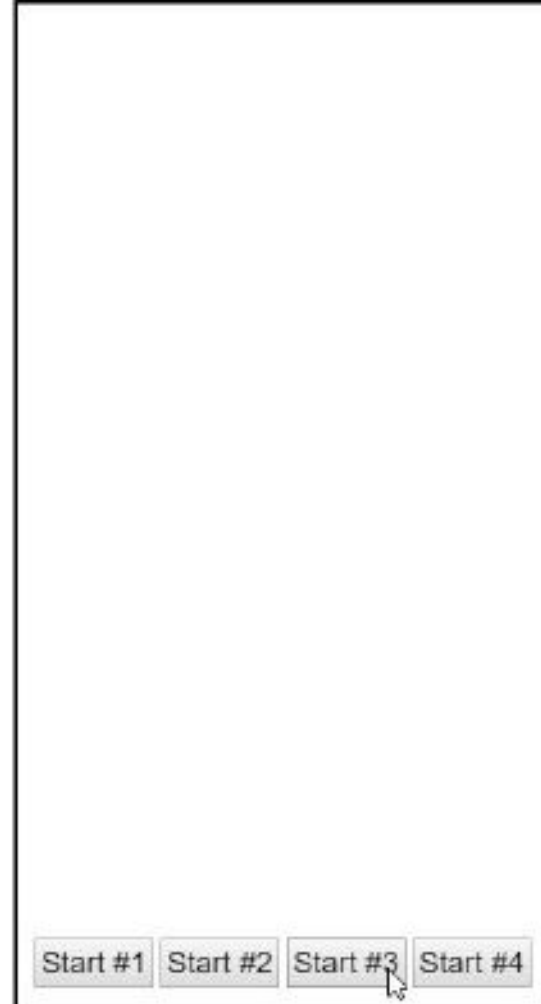
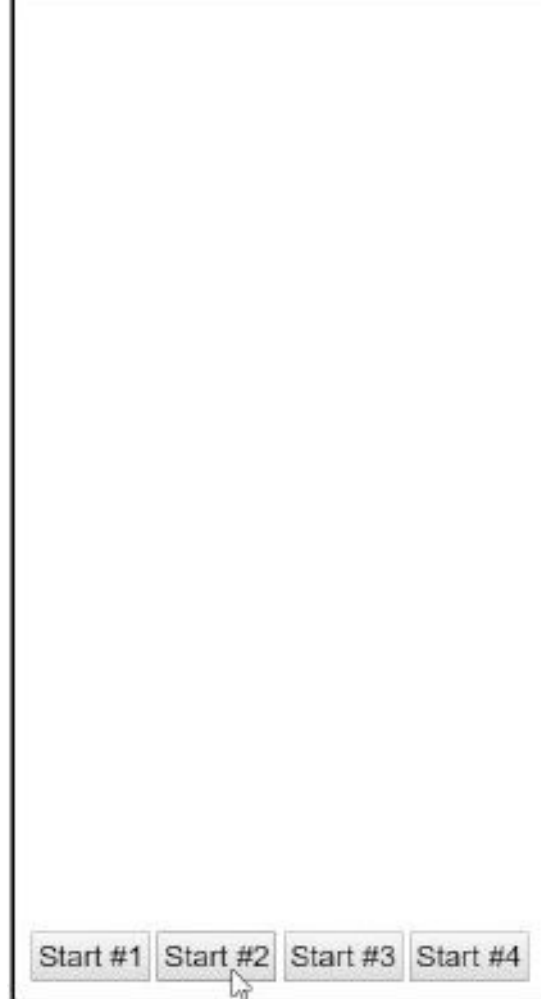
Go to **www.menti.com**



3

Enter the code **??** and vote!

??
??
??



Анимации в скелетонах

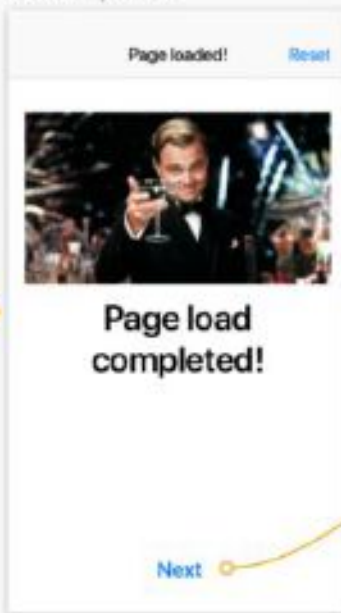
01c. Test Gate



02. Skeleton Transition

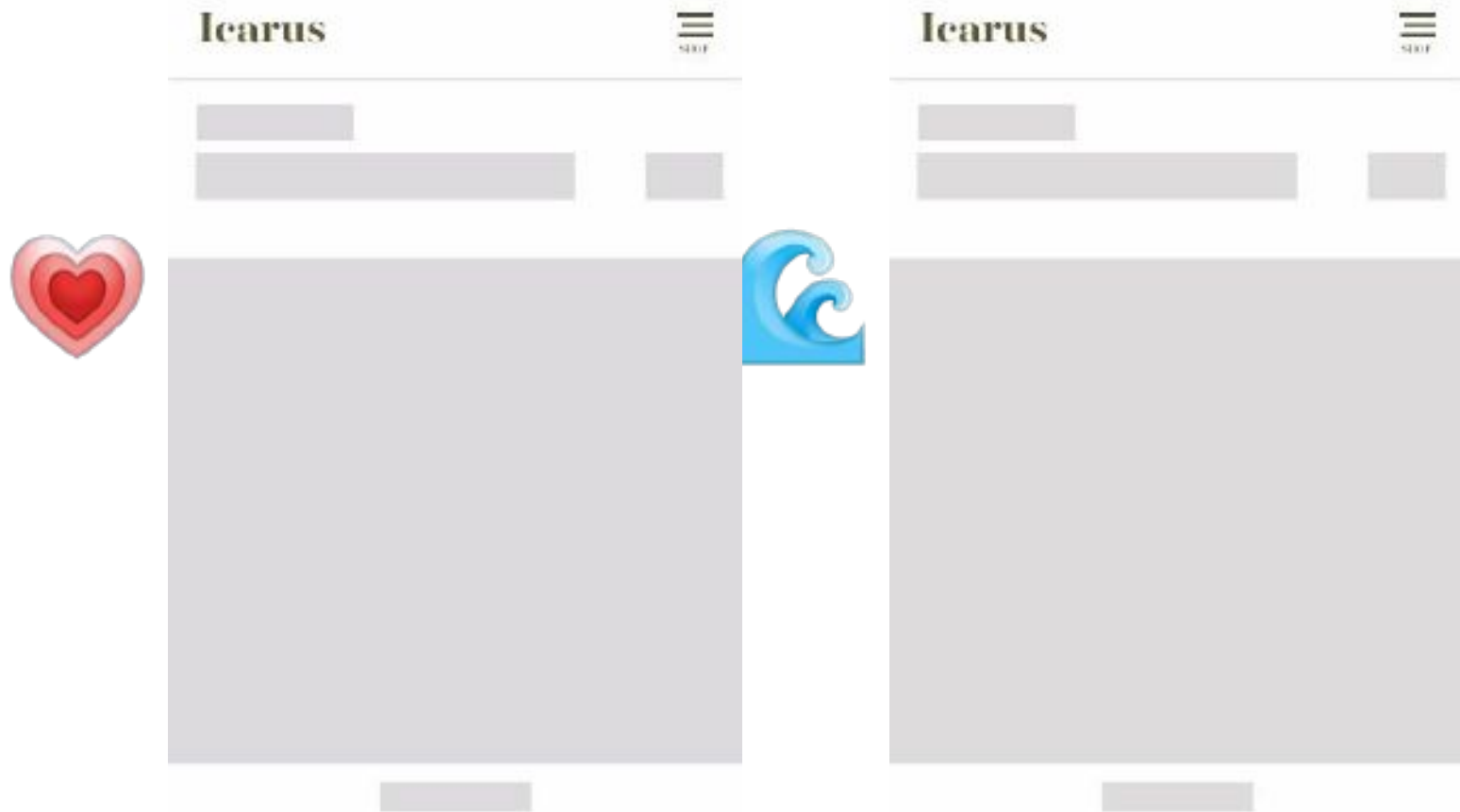


03. Completion



04. Data Collection





Results: Perceived Duration

Skeleton vs Spinner (vs blank control)

Sample size: 80 individuals

LOADING METHOD		ACTUAL DURATION		
		1.5S	5.5S	10.5S
	Skeleton	1.74s	4.67s	8.55s
	Spinner	1.90s	5.05s	8.59s
	Blank (control)	2.15s	5.43s	9.11s

Results: Emotional Reaction

Skeleton vs Spinner (vs blank control)

Sample size: 80 individuals

Interpretation: lower numbers means users are happier

		ACTUAL DURATION		
LOADING METHOD		1.5S	5.5S	10.5S
	Skeleton	0.82	2.00	2.58
	Spinner	1.68	2.01	2.74
	Blank (control)	1.28	2.53	3.10

Результаты тестов

<https://uxdesign.cc/what-you-should-know-about-skeleton-screens-a820c45a571a>

- 60% считает, что **анимированные скелетоны** быстрее статичных
- 65% думает, что  быстрее, чем 
- 60% показалось, что **медленная**  быстрее быстрой 
- 68% показалось, что  слева направо быстрее  справа налево

Идеальный скелетон:

медленная  слева направо (можно с )





Время создавать SVG



TALLINK | SILJA LINE

KIRJAUTU SISÄÄN

↑

🕒

🚗

🚰

👤

LÄHTÖPAIKKA

SYYSKUU 2019

MA	TU	KE	TO	PE	LA	SU
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25

LOKAKUU 2019

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

AJOKUSET

1

LAPSET

0-5V

5-14V

15-17V

☐ AJONEUVO MUKANA 🚗

SIITÄ

HELSINKI

MINNE

TALLINNA

TURKOLMA

AHVENANMAA

RIKA

VISBY

REITTIMATKAT

PÄIVÄMATKAT

MEGASTARIN OSTOSRISTEILYT

EUROOPAN RISTEILYT

HOTELIMATKAT

🕒 LÄHTÖVAIHTOEHDOT

☐ YKSI SUUNTA

HELSINKI → TALLINNA

TALLINNA → HELSINKI

LOUAT	Kuuk	👤	Pu/80	LOUAT	Kuuk	👤	Pu/80
Ke 25.9.				Ke 25.9.			
07:00	2 h	23 €	00:00	07:00	2 h	23 €	00:00
10:30	2 h	20 €	00:00	10:30	2 h	23 €	00:00
13:30	2 h	25 €	00:00	13:30	2,5 h	17 €	00:00
16:30	2 h	27 €	00:00	13:00	2 h	23 €	00:00
18:00	2,5 h	17 €	00:00	16:00	2 h	20 €	00:00
18:30	2 h	20 €	00:00	18:30	2 h	23 €	00:00
19:30	2 h	25 €	01:00	22:30	2 h	21 €	00:00
22:30	2 h	21 €	00:00	22:30	2 h	79 €	00:00
To 26.9.				To 26.9.			

CLUB ONE -ASIKAS

YRITYSASIKAS

👤 Syötä Club One -numero

MSTKAN YHTEEINVETO

HELSINKI → TALLINNA

Ke 25.9.2019 klo 19:30

🚗 Star

1 x Ääninen →

1 x Star-luokka (konsipalkka) →

[RUOKAILUT →](#)

[Lisää ruokailut →](#)

TALLINNA → HELSINKI

To 26.9.2019 klo 22:30

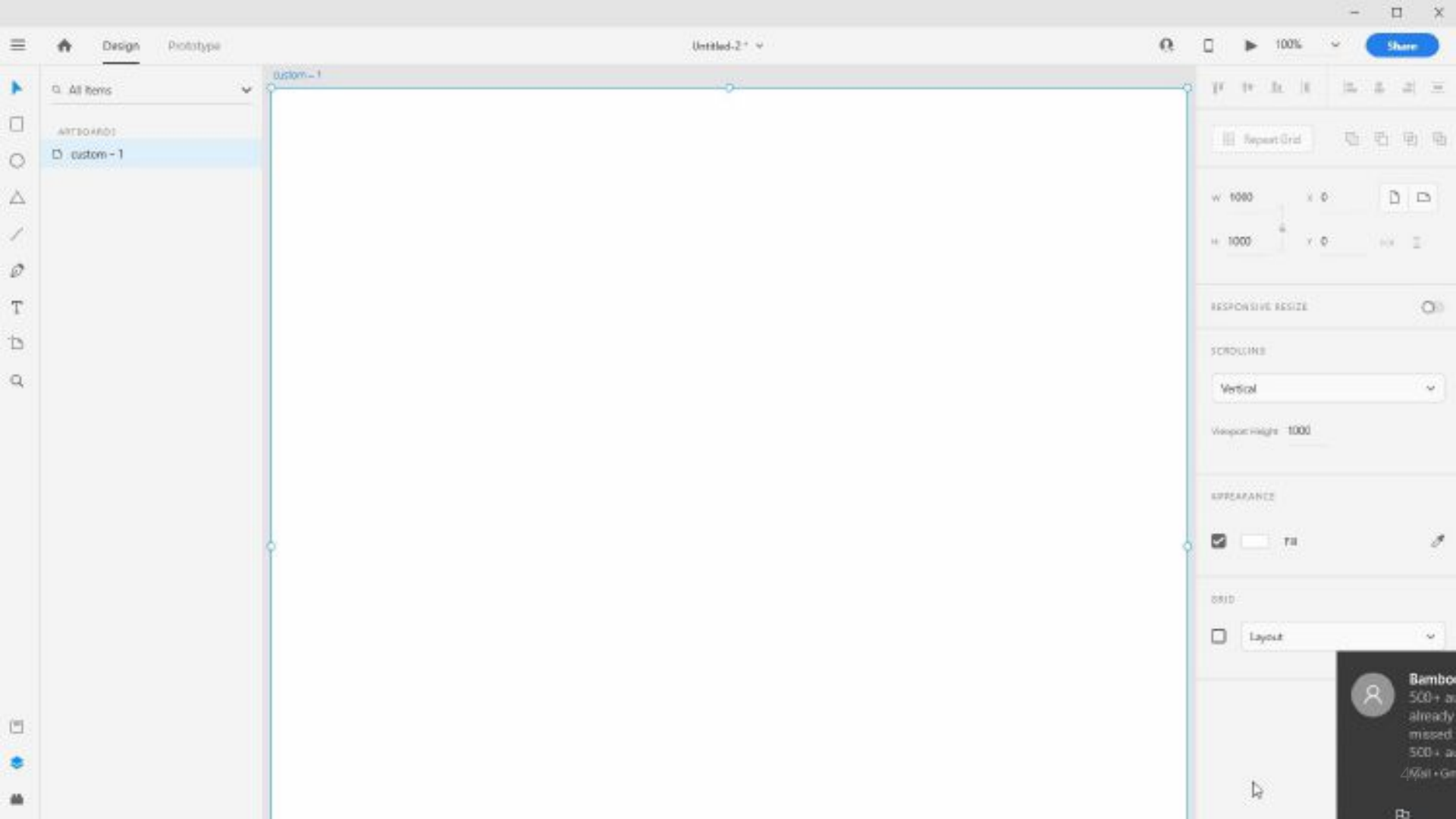
🚗 Star

1 x Ääninen →

1 x Star-luokka (konsipalkka) →



Adobe XD



MUUTA LÄHTÖÄ

25. Syyskuu 2019

MONO

HELSINKI → TALLINNA

DUALI

TALLINNA → HELSINKI

18:00 Kato 20:00

18:00 Kato 20:00

Ka 25.9.

Ka 25.9.

07:30	2h	23 €	09:30
10:30	2h	35 €	12:30
13:30	2h	25 €	15:30
16:30	2h	27 €	18:30
18:30	3.5h	17 €	22:00
18:30	1h	20 €	06:00
19:30	2h	25 €	21:30
22:30	2h	11 €	00:30

07:30	2h	23 €	09:30
10:30	2h	23 €	12:30
12:30	3.5h	17 €	16:00
13:30	2h	27 €	15:30
16:30	2h	25 €	18:30
19:30	2h	23 €	21:30
22:30	2h	21 €	00:30
22:30	1h	29 €	06:00

To 26.9.

To 26.9.

07:30	2h	25 €	09:30
10:30	2h	11 €	12:30

07:30	2h	11 €	09:30
10:30	2h	25 €	12:30

Versio: 4145049

MATKA

Meno-paluumatka Tallinnaan

25. Syysk. 2019

26. Syysk. 2019

22:30 00:30 01:30 09:30

MATKUSTAJAT

1 x Alueen 18+

1 x Lapset 6-11

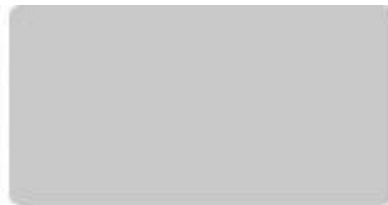
1 x Lapset 12-17

1 x Lapset 0-5



Victor R.

Сегодня в 14:04



Создаём идеальный SVG-скелетон

градиент и пульсация

How to draw an owl

1.



2.



1. Draw some circles

2. Draw the rest of the f



owl

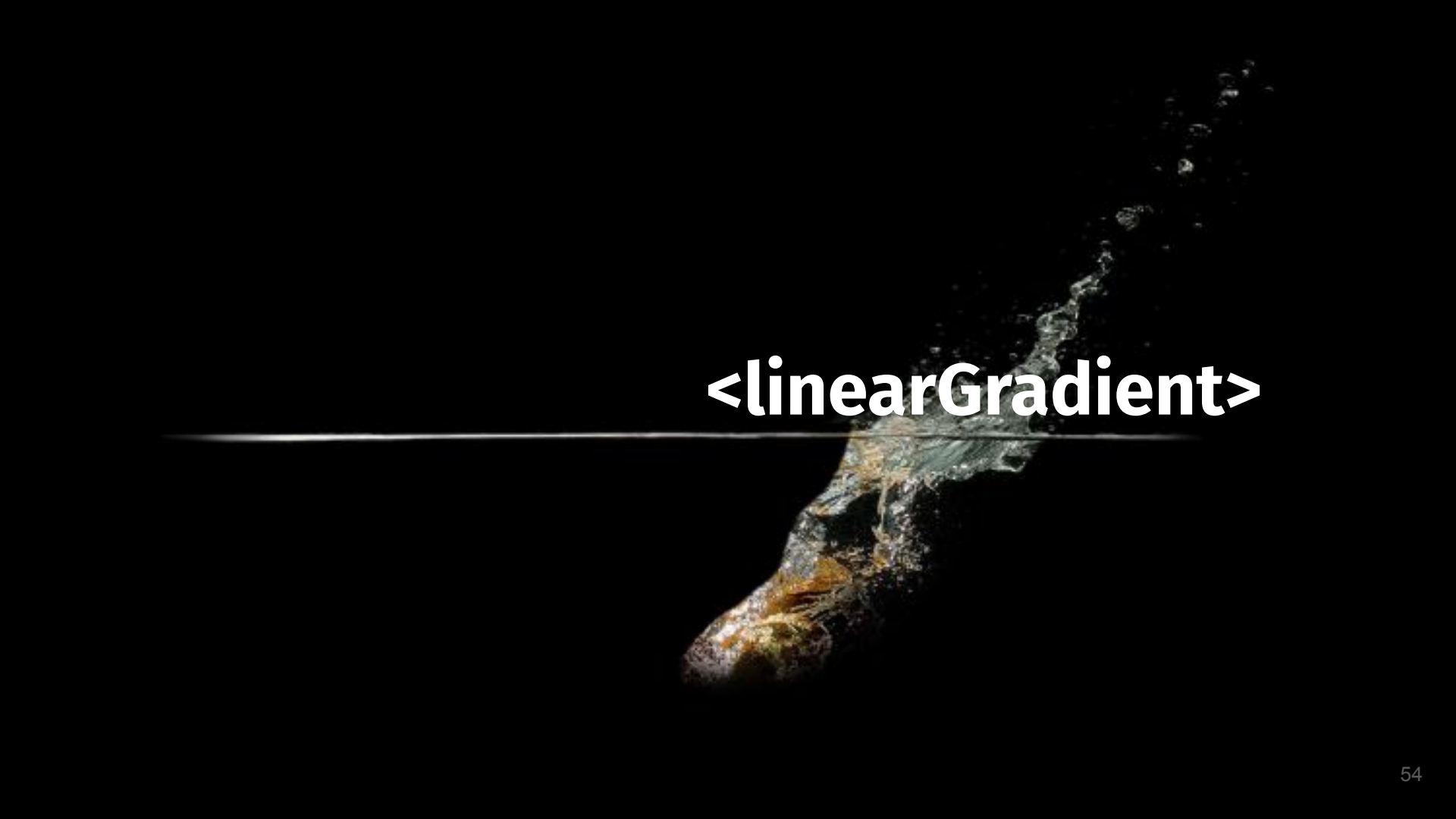
https://www.reddit.com/r/pics/comments/d3zhx/how_to_draw_an_owl/

Волна





<linearGradient>



<linearGradient>

CSS

A horizontal line, possibly representing a water surface, is positioned below the 'CSS' text. To the right of the text, there is a dynamic splash of water with many small bubbles and droplets, appearing to rise from below the line.

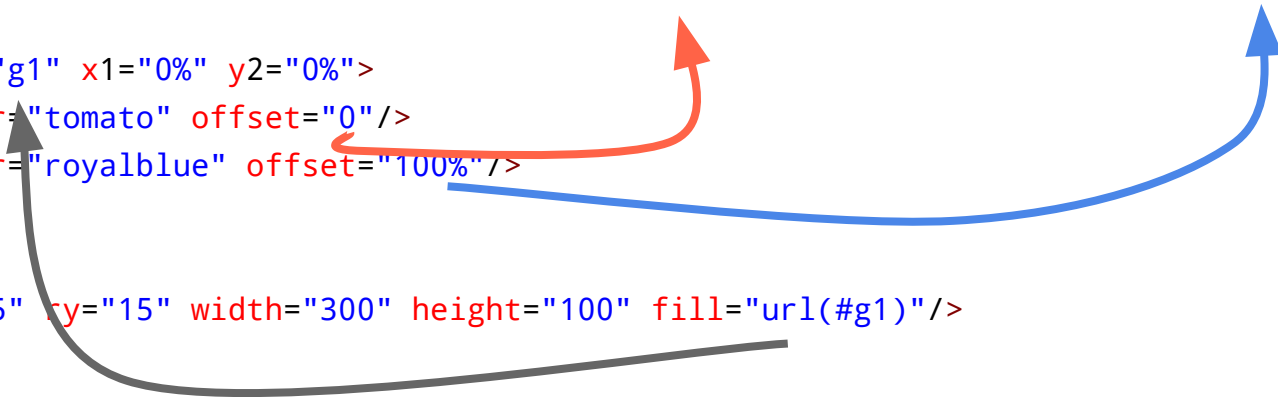
A high-speed photograph of a water splash against a black background. The water is captured in mid-air, creating a complex, symmetrical shape with many small droplets and bubbles. The text 'CSS' is overlaid in the center of the splash.

CSS



<linearGradient> не двигается

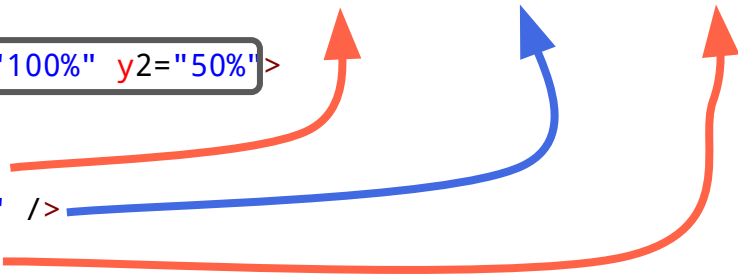
```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="0%" y2="0%">
      <stop stop-color="tomato" offset="0"/>
      <stop stop-color="royalblue" offset="100%"/>
    </linearGradient>
  </defs>
  <rect x="0" y="0" rx="15" ry="15" width="300" height="100" fill="url(#g1)"/>
</svg>
```





<linearGradient> в центре

```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g3" x1="0%" y1="50%" x2="100%" y2="50%">
      <stop stop-color="tomato" offset="0%" />
      <stop stop-color="tomato" offset="35%" />
      <stop stop-color="royalblue" offset="50%" />
      <stop stop-color="tomato" offset="65%" />
      <stop stop-color="tomato" offset="100%" />
    </linearGradient>
  </defs>
  <rect x="0" y="0" rx="5" ry="5" width="300" height="100" fill="url(#g3)" />
</svg>
```





<linearGradient> узкий слева

```
<svg width="300" height="100">
```

```
  <defs>
```

```
    <linearGradient id="g5" x1="000%" y1="50%" x2="20%" y2="50%">
```

```
      <stop stop-color="tomato" offset="0%" />
```

```
      <stop stop-color="tomato" offset="30%" />
```

```
      <stop stop-color="royalblue" offset="50%" />
```

```
      <stop stop-color="tomato" offset="70%" />
```

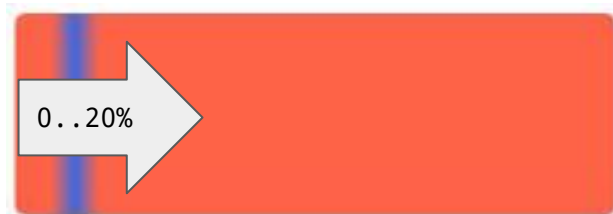
```
      <stop stop-color="tomato" offset="100%" />
```

```
    </linearGradient>
```

```
  </defs>
```

```
  <rect x="0" y="0" rx="5" ry="5" width="300" height="100" fill="url(#g5)" />
```

```
</svg>
```





<linearGradient> в движении



```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g6" x1="000%" y1="50%" x2="20%" y2="50%">
      <animate attributeName="x1" from="00%" to="100%" dur="2s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="20%" to="120%" dur="2s" repeatCount="indefinite"/>
      <stop stop-color="tomato" offset="0%"/>
      <stop stop-color="tomato" offset="30%"/>
      <stop stop-color="royalblue" offset="50%" />
      <stop stop-color="tomato" offset="70%"/>
      <stop stop-color="tomato" offset="100%"/>
    </linearGradient>
  </defs>
  <rect x="0" y="0" rx="5" ry="5" width="300" height="100" fill="url(#g6)" />
</svg>
```



<linearGradient> без прыжков



```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g7" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="2s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="00%" to="120%" dur="2s" repeatCount="indefinite"/>
      <stop stop-color="tomato" offset="0%"/>
      <stop stop-color="tomato" offset="30%"/>
      <stop stop-color="royalblue" offset="50%"/>
      <stop stop-color="tomato" offset="70%"/>
      <stop stop-color="tomato" offset="100%"/>
    </linearGradient>
  </defs>
  <rect x="0" y="0" rx="5" ry="5" width="300" height="100" fill="url(#g7)"/>
</svg>
```



Статичный скелет профиля

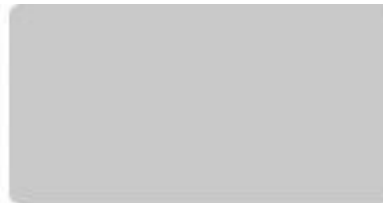


```
<svg width="300" height="100">  
  <rect x="0" y="0" rx="5" ry="5" width="300" height="100" fill="gray"/>  
</svg>
```



Victor R.

Сегодня в 14:04





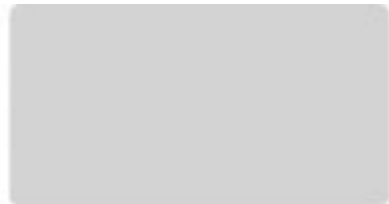
Статичный скелетон профиля



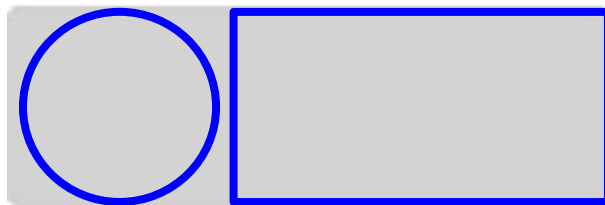
```
<svg width="300" height="100">  
  <circle cx="50" cy="50" r="49" fill="gray" />  
  <rect x="110" y="0" rx="5" ry="5" width="190" height="100" fill="gray"/>  
</svg>
```



Скелетон профиля в движении



```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite"/>
      <stop stop-color="lightgray" offset="0%" />
      <stop stop-color="lightgray" offset="30%" />
      <stop stop-color="gray" offset="50%" />
      <stop stop-color="lightgray" offset="70%" />
      <stop stop-color="lightgray" offset="100%" />
    </linearGradient>
  </defs>
  <circle cx="50" cy="50" r="49" fill="url(#g1)" />
  <rect x="110" y="0" rx="5" ry="5" width="190" height="100" fill="url(#g1)" />
</svg>
```

```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite"/>
      ...
    </linearGradient>
  </defs>
  <circle cx="50" cy="50" r="49" fill="url(#g1)"/>
  <rect x="110" y="0" rx="5" ry="5" width="190" height="100" fill="url(#g1)"/>
</svg>
```





Скелетон с маской – бокс для градиента

```
<svg width="300" height="100">  
  <rect x="0" y="0" width="100%" height="100%" fill="gray" />  
  <circle cx="50" cy="50" r="49" fill="blue" />  
  <rect x="110" y="0" rx="5" ry="5" width="190" height="100" fill="blue" />  
</svg>
```





Скелетон с маской – <clipPath>



```
<defs>
  <linearGradient id="g2">
    <animate attributeName="x1" from="20%" to="100%" dur="1s" repeatCount="indefinite"/>
    <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite"/>
    <stop...>
  </linearGradient>
  <clipPath id="mask">
    <circle cx="50" cy="50" r="49" fill="blue"/>
    <rect x="110" y="0" rx="5" ry="5" width="190" height="100"/>
  </clipPath>
</defs>
<rect x="0" y="0" width="100%" height="100%" fill="url(#g2)" clip-path="url(#mask)"/>
```



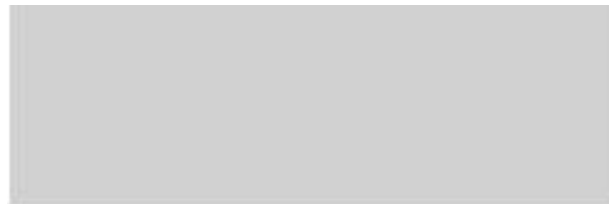


Пульсирующий скелетон - <stop><animate /></stop>

```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite" />
      <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite" />
      <stop stop-color="lightgray" offset="0%" />
      <stop stop-color="lightgray" offset="30%" />
      <stop stop-color="gray" offset="50%" />
      <stop stop-color="lightgray" offset="70%" />
      <stop stop-color="lightgray" offset="100%" />
    </linearGradient>
  </defs>
  <circle cx="50" cy="50" r="49" fill="url(#g1)" />
  <rect x="110" y="0" rx="5" ry="5" width="190" height="100" fill="url(#g1)" />
</svg>
```




П пульсирующий скелетон

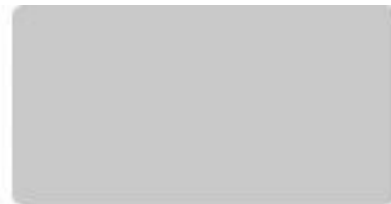


```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite"/>
      <stop stop-color="lightgray" offset="0%">
        <animate
          attributeName="stop-color"
            from="lightgray"
            to="gray"
          dur="1s"
          repeatCount="indefinite"/>
      </stop>
    </linearGradient>
  </defs>
  <rect fill="url(#g1)" width="300" height="100"/>
</svg>
```

...



Пульсирующий скелетон



```
<svg width="300" height="100">
  <defs>
    <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
      <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite"/>
      <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite"/>
      <stop stop-color="lightgray" offset="0%">
        <animate
          attributeName="stop-color"
          values="lightgray; gray; lightgray"
          keyTimes="0; 0.5; 1"
          dur="1s"
          repeatCount="indefinite"/>
      </stop>
    </defs>
  </svg>
```

...

SVG Box with animated linear bg

codesandbox.io/s/svg-box-with-animated-linear-bg-ninfe

File Edit Selection View Go HelpMy Sandboxes / SVG Box with animated linear bg

gradients.htmlskelton-simple.htmlindex.htmlskelton-pulsate.html

BrowserTests

https://ninfe.csb.app/

[Step by step: gradients](#)[Step by step: simple skeleton](#)[Step by step: masked skeleton](#)[Step by step: pulsated skeleton](#)

ConsoleProblemsReact DevTools

```
1 <html>
2
3 <head>
4   <title>Parcel Sandbox</title>
5   <meta charset="UTF-8" />
6 </head>
7
8 <body>
9   <svg width="300" height="100">
10     <defs>
11       <linearGradient id="g1" x1="-20%" y1="50%" x2="00%" y2="50%">
12         <animate attributeName="x1" from="-20%" to="100%" dur="1s" repeatCount="indefinite" />
13         <animate attributeName="x2" from="00%" to="120%" dur="1s" repeatCount="indefinite" />
14         <stop stop-color="lightgray" offset="0%">
15           <animate attributeName="stop-color" from="lightgray" to="gray" dur="1s" repeatCou
16         </stop>
17         <stop stop-color="lightgray" offset="30%">
18           <animate attributeName="stop-color" from="lightgray" to="gray" dur="1s" repeatCou
19         </stop>
20         <stop stop-color="gray" offset="50%" />
21         <stop stop-color="lightgray" offset="70%">
22           <animate attributeName="stop-color" from="lightgray" to="gray" dur="1s" repeatCou
23         </stop>
24         <stop stop-color="lightgray" offset="100%">
25           <animate attributeName="stop-color" from="lightgray" to="gray" dur="1s" repeatCou
26         </stop>
27       </linearGradient>
28     </defs>
29     <rect id="r1" x="0" y="0" width="100%" height="100%" fill="url(#g1)" />
30 </svg>
31 <hr>
32
```

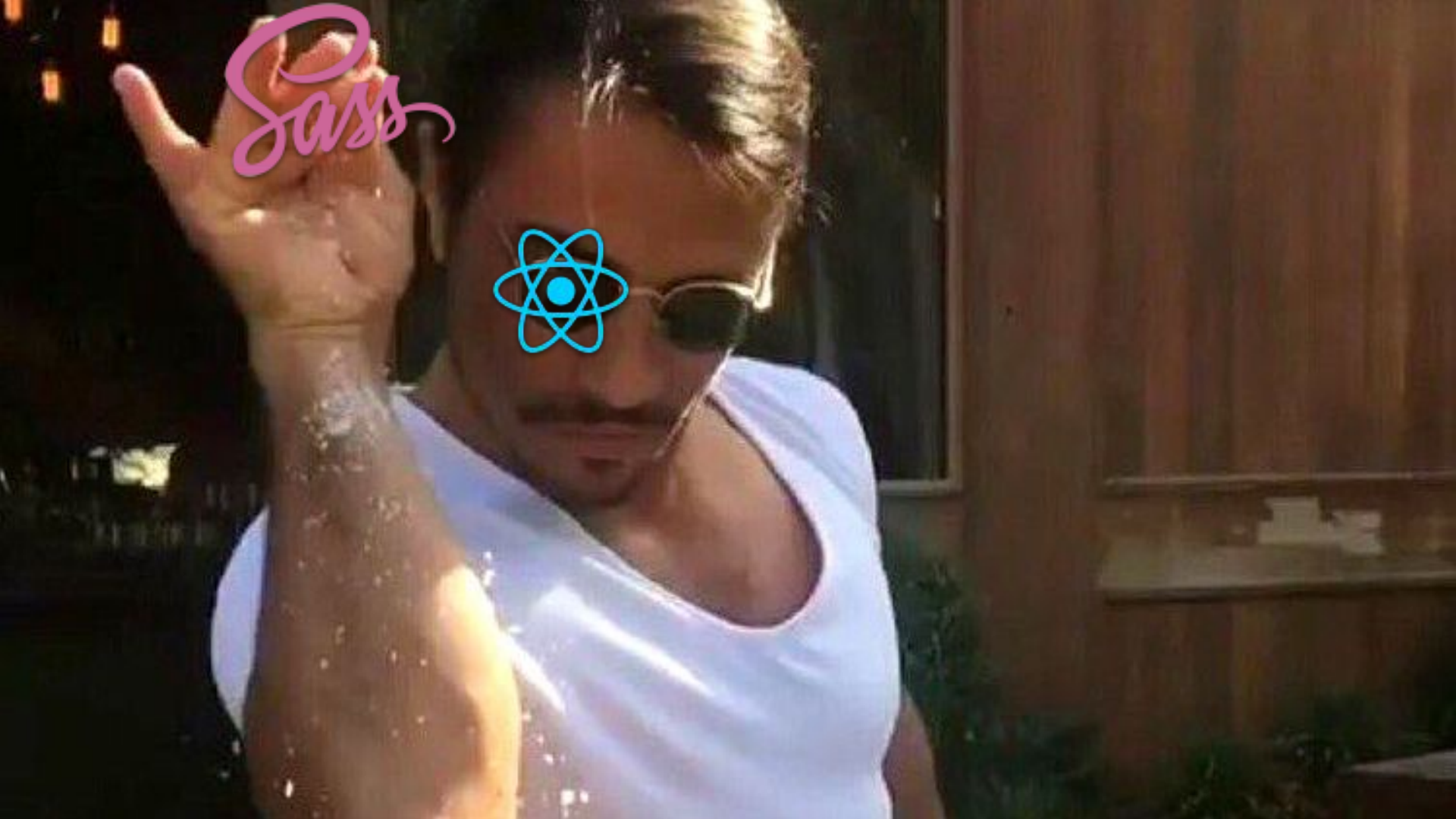
Ln 8, Col 7Spoons: 4UTF-8CRLF

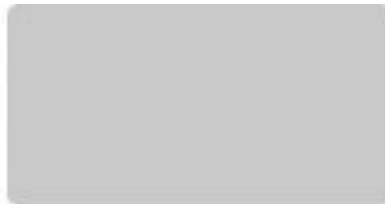
73



HTML-скелетоны

Sass





```
export const SkeletonHtml = () => (  
  <div class="skeleton">  
    <div class="avatar" />  
    <div class="post" />  
  </div>  
)
```




\$base-color: #ddd;

\$shine-color: red;

\$animation-duration: 1.6s;

\$gradient-width: 20px;



```
$base-color: #ddd;
```

```
$shine-color: red;
```

```
$animation-duration: 1.6s;
```

```
$gradient-width: 20px;
```

```
@mixin background-gradient() {
```

```
background-image: linear-gradient(90deg,
```

```
$base-color 0px,
```

```
$shine-color ($gradient-width / 2),
```

```
$base-color $gradient-width);
```

```
}
```



```
$base-color: #ddd;
```

```
$shine-color: red;
```

```
$animation-duration: 1.6s;
```

```
$gradient-width: 20px;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg,  
    $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
}
```

```
@keyframes move-gradient {  
  0% { background-position: -$gradient-width; }  
  100% { background-position: calc(-100% + #{$gr-width * 2}); }  
}
```



```
$base-color: #ddd;  
$shine-color: red;  
$animation-duration: 1.6s;  
$gradient-width: 20px;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg, $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
}  
  
@keyframes move-gradient {  
  0% { background-position: -$gradient-width; }  
  100% { background-position: calc(-100% + #{$gr-width *  
    2}); }  
}
```

```
.post {  
  @include background-gradient();  
  animation: move-gradient $animation-duration infinite linear;  
}
```





```
.avatar {  
  @include background-gradient();  
  border-radius: 50%;  
  animation: move-gradient $animation-duration infinite linear;  
}  
  
.post {  
  @include background-gradient();  
  animation: move-gradient $animation-duration infinite linear;  
}
```



CSS clip-path maker

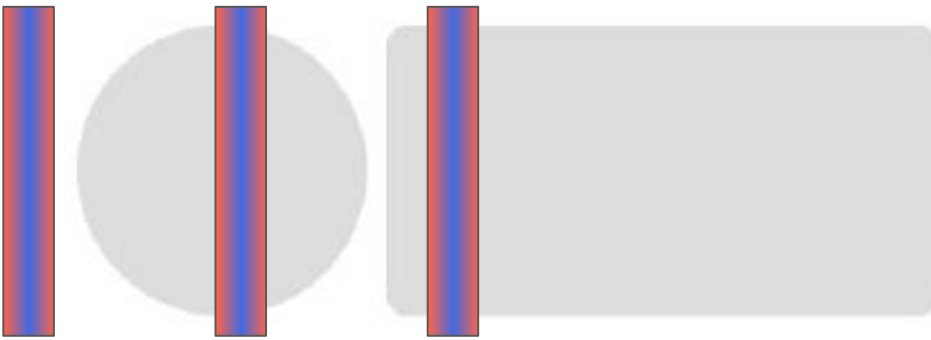
Tweet



 Triangle	 Trapezoid	 Parallelogram	 Rhombus
 Pentagon	 Hexagon	 Heptagon	 Octagon
 Nonagon	 Decagon	 Bevel	 Rabbit
 Left arrow	 Right arrow	 Left Point	 Right Point
 Left Chevron	 Right Chevron	 Star	 Cross
 Message	 Close	 Frame	 Inset
 Custom Polygon	 Circle	 Ellipse	

```
clip-path: polygon(25% 0%, 100% 1%,
100% 100%, 25% 100%, 0% 50%);
```







```
$avatar-width: 145px;
```

```
$gradient-width: 20px;
```

```
$block-width: 430px;
```

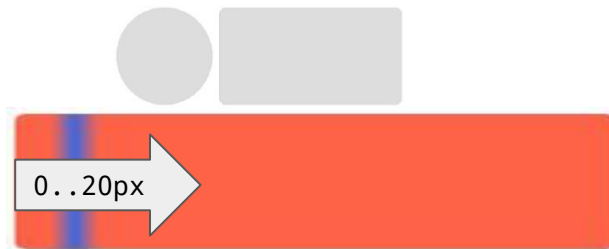
```
$avatar-gap: 10px;
```

```
$avatar-offset: $avatar-width + $avatar-gap;
```



```
$avatar-width: 145px;  
$gradient-width: 20px;  
$block-width: 430px;  
$avatar-gap: 10px;  
$avatar-offset: $avatar-width + $avatar-gap;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg,  
    $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
  background-size: $block-width * 2;  
}
```



```
<stop stop-color="$base-color" offset="0px"/>  
<stop stop-color="$shine-color" offset="10px"/>  
<stop stop-color="$base-color" offset="20px"/>
```

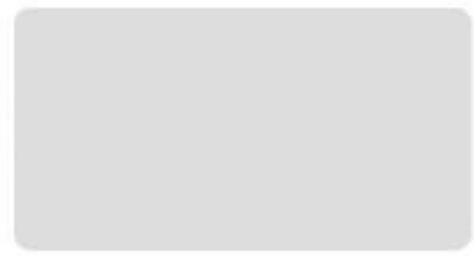


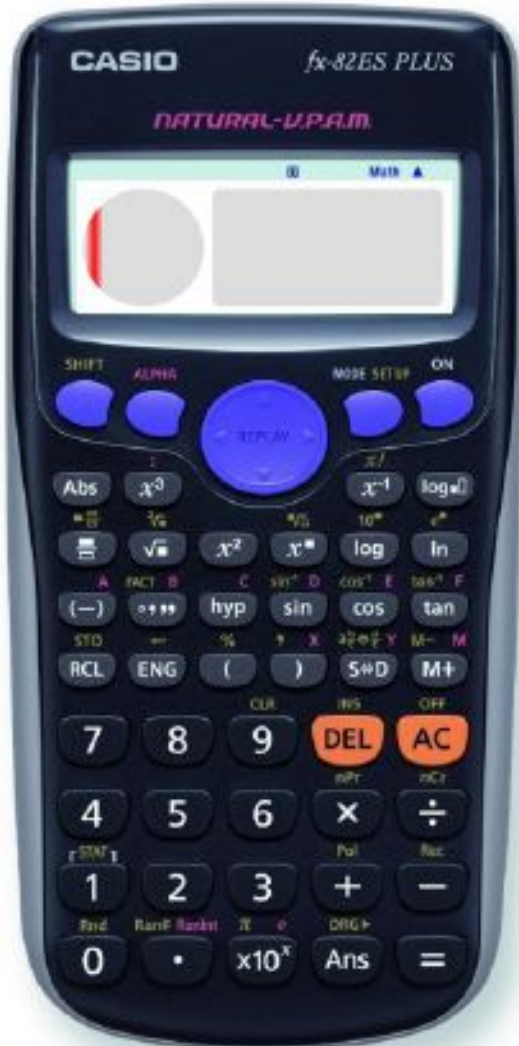
```
$avatar-width: 145px;  
$gradient-width: 20px;  
$block-width: 430px;  
$avatar-gap: 10px;  
$avatar-offset: $avatar-width + $avatar-gap;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg,  
    $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
  background-size: $block-width * 2;  
}
```

```
@keyframes shine-avatar {  
  0% { background-position: -$gradient-width; }  
  100% { background-position: $block-width; }  
}
```

```
@keyframes shine-post {  
  0% { background-position: -$gradient-width - $avatar-offset; }  
  100% { background-position: $block-width - $avatar-offset; }  
}
```







```
$avatar-width: 145px;  
$gradient-width: 20px;  
$block-width: 430px;  
$avatar-gap: 10px;  
$avatar-offset: $avatar-width + $avatar-gap;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg,  
    $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
  background-size: $block-width * 2;  
}
```

```
@keyframes shine-avatar {  
  0% { background-position: -$gradient-width; }  
  100% { background-position: $block-width; }  
}
```

```
@keyframes shine-post {  
  0% { background-position: -$gradient-width - $avatar-offset; }  
  100% { background-position: $block-width - $avatar-offset; }  
}
```





```
$avatar-width: 145px;  
$gradient-width: 20px;  
$block-width: 430px;  
$avatar-gap: 10px;
```

```
$avatar-offset: $avatar-width + $avatar-gap;
```

```
@mixin background-gradient() {  
  background-image: linear-gradient(90deg,  
    $base-color 0px,  
    $shine-color ($gradient-width / 2),  
    $base-color $gradient-width);  
  background-size: $block-width * 2;  
}
```

```
@keyframes shine-avatar {  
  0% { background-position: -$gradient-width; }  
  100% { background-position: $block-width; }  
}
```

```
@keyframes shine-post {  
  0% { background-position: -$gradient-width - $avatar-offset; }  
  100% { background-position: $block-width - $avatar-offset; }  
}
```





GIF-скелетоны



GIF-скелетоны

Photoshop / GIMP

Photoshop: создаем анимацию автоматически через "промежуточные кадры"

GIMP: вручную создаем каждый кадр и склеиваем в GIF



Стили

Параметры наложения

☐ Тиснение☐ Контур☐ Текстура☐ Выполнить обводку +☐ Внутренняя тень +☐ Внутреннее свечение☐ Глянц☐ Наложение цвета +☐ Наложение цвета +☒ Наложение градиента +☐ Наложение узора☐ Внешнее свечение☐ Тень +

fx



Редактор градиентов

X

Наборы



OK

Отмена

Загрузить...

Сохранить...

Новый

Имя: Заказная

Градиент: Непрерывный ▾

Гладкость: 100 ▾ %



Контрольные точки

Непрозр.: ▾ %

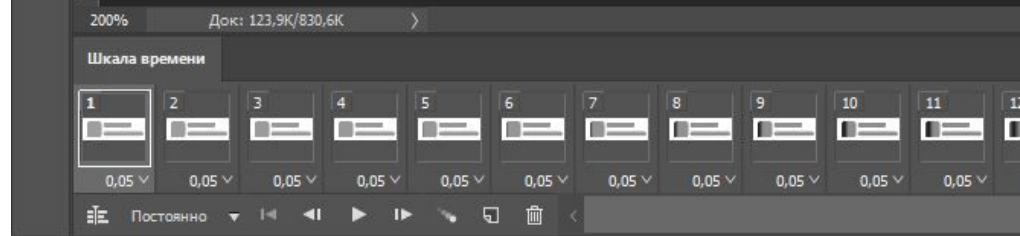
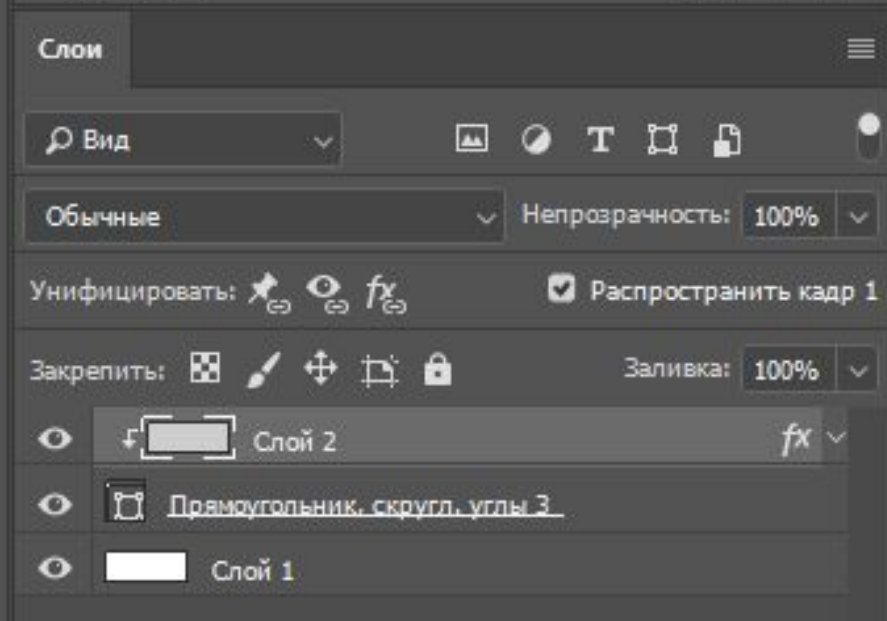
Позиция: ▾ %

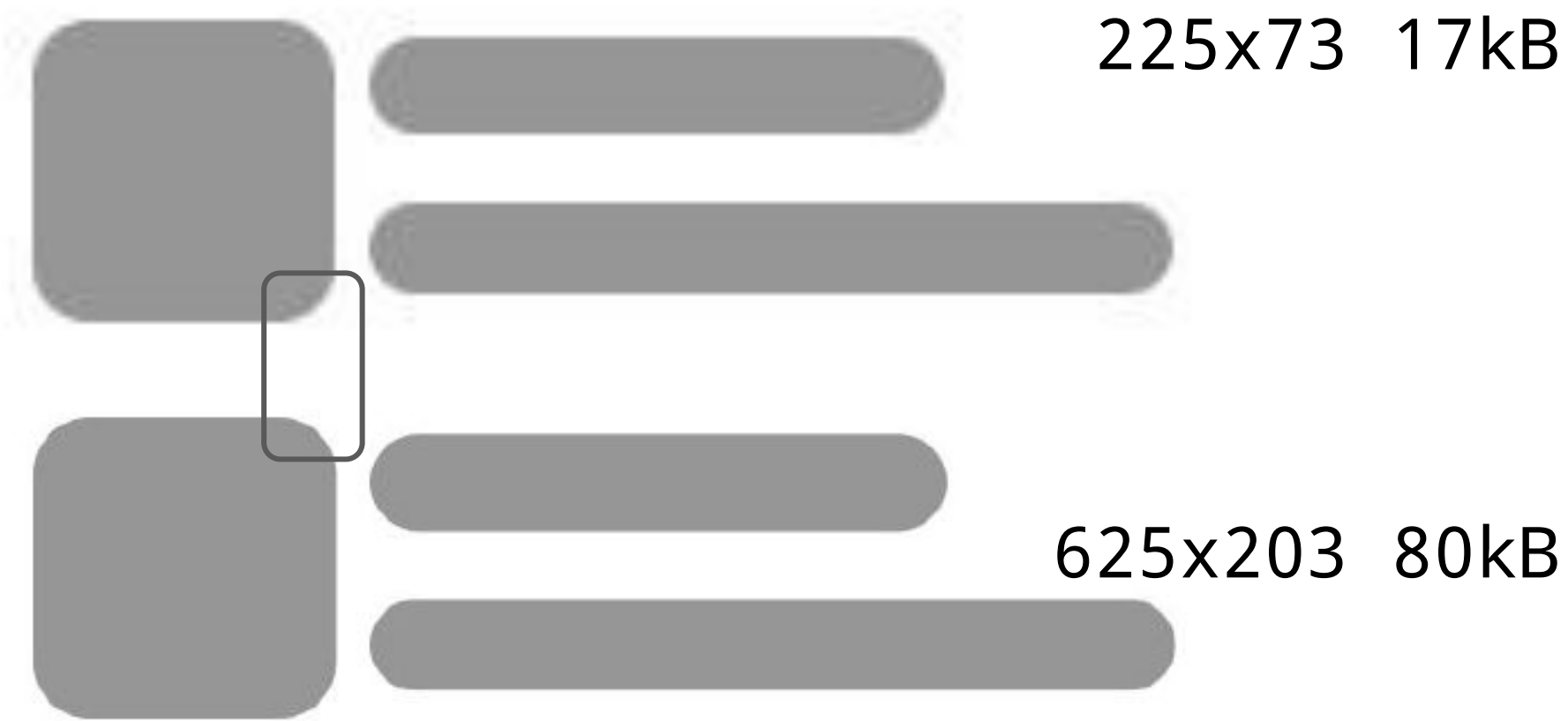
Удалить

Цвет: ▾

Позиция: 47 %

Удалить









80kB



200kB



Итого, на чем делать скелетоны?

	HTML	SVG	GIF
Легко сделать без дизайнера			
Удобно хранить в приложении			
Увеличивает размер сборки			

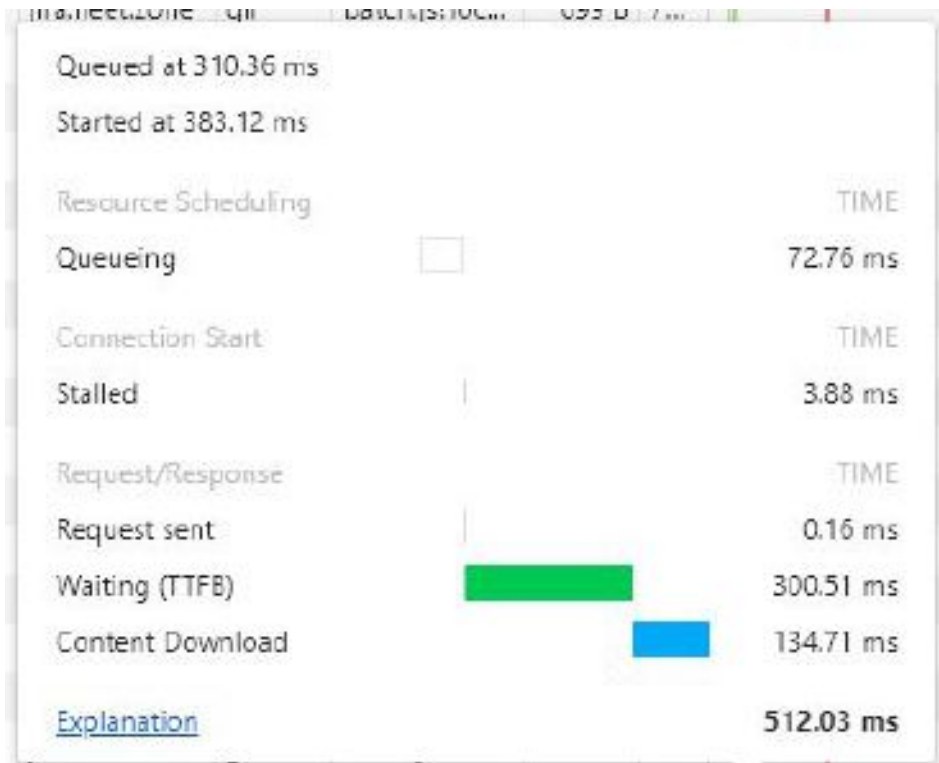
A close-up, top-down view of a large pile of unsorted jigsaw puzzle pieces. The pieces are in various colors including white, cream, yellow, orange, blue, green, and brown. They are scattered haphazardly, creating a complex, textured surface. The lighting is even, highlighting the interlocking shapes and the slight shadows between the pieces.

Собираем скелетоны



Собираем скелетоны – избегаем загрузки

`<svg src="skeleton.svg"/>`





103



Убираем скелетон – резко

```
function App({ allDataIsReady }) {  
  if (allDataIsReady) return <RealApp/>  
  
  return <SkeletonSvg />  
}
```



Убираем скелетон – плааавно

```
function App({ allDataIsReady }) {  
  return (  
    <Fragment>  
      <RealApp show={allDataIsReady}/>  
      <SkeletonSvgTransition show={!allDataIsReady}/>  
    </Fragment>  
  )  
}
```




Убираем скелетон плавно – CSSTransition, ng-animate

```
const SkeletonSvgTransition = ({ show }) => (
```

```
  <CSSTransition
```

```
    in={show}
```

```
    timeout={1000}
```

```
    classNames={{
```

```
      exit: 'animated',
```

```
      exitActive: 'fadeOut'
```

```
    }}
```

```
    unmountOnExit
```

```
  >
```

```
    <SkeletonSvg />
```

```
  </CSSTransition>
```

```
)
```

```
  show = true
```

```
  <svg class="" />
```

```
  show = false
```

```
  <svg class="animated fadeOut"/>
```



```
  1000ms
```

```
  <!-- null -->
```



Убираем скелетон плавно – CSS fadeOut

```
@keyframes fadeOut {  
  from { opacity: 1; }  
  to   { opacity: 0; }  
}  
  
.fadeOut {  
  animation-name: fadeOut;  
}  
  
.animated {  
  animation-duration: 1s;  
}
```

```
<svg class="animated fadeOut"/>
```

Поддержка



REACT

redux

www.dachacvillain.com



	№ Средство массовой информации	Просмотры страниц (в млн)
	1 Tut.by - новости, финансы, авто, спорт, леди, 42, недвижимость, афиша	105,13
	2 Onliner.by - люди, недвижимость, авто, технологии	42,70
	3 Кр.by / Комсомольская правда в Беларуси	7,95
	4 Belaruspartisan.by+.org / Белорусский партизан	6,98
	5 Pressball.by / Прессбол	6,83



Вероятно, это самое красивое место под Минском. Гуляли здесь?

54 323 150



Стало известно, чей скелет минчанин нашел в заброшенном доме

112158 ■ 177



Бывший пилот-наркокурьер пролетел без топлива 120 километров и спас 306 человек

49/228 1/28



Выбираем шины с экспертом

④ 52.254 磅 275

Показать меню

ОБСУЖДЕНИЕ





54 323 150



© 112156 ■ 177



◎ 49228 琴 325



④ 52.154 磅 275

[Показать еще](#)

ОБСУЖДЕНИЕ



TNC-CLUB Салон-9 в 08:11

Коасота



Лучший комментарий

Степень

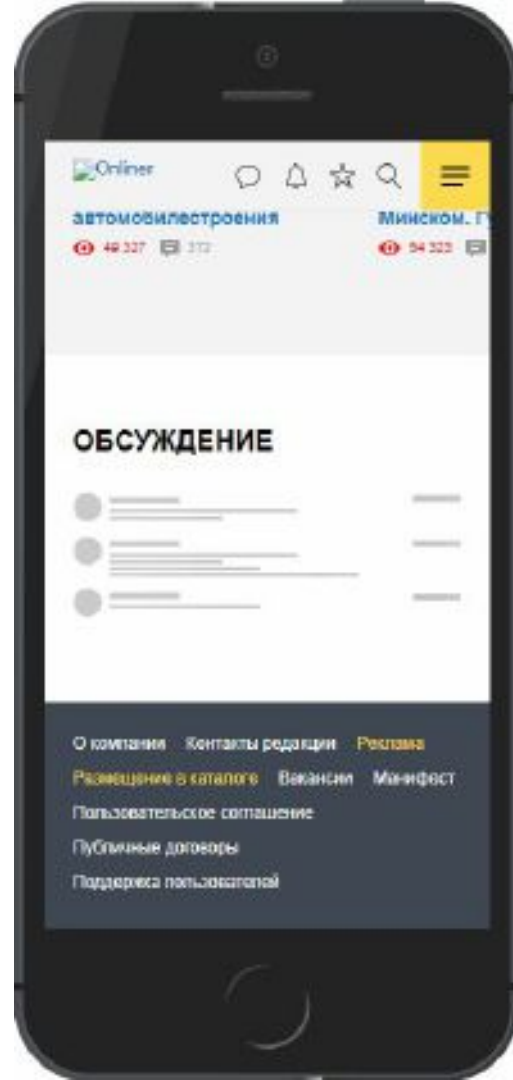
[Перейти к обсуждению](#)

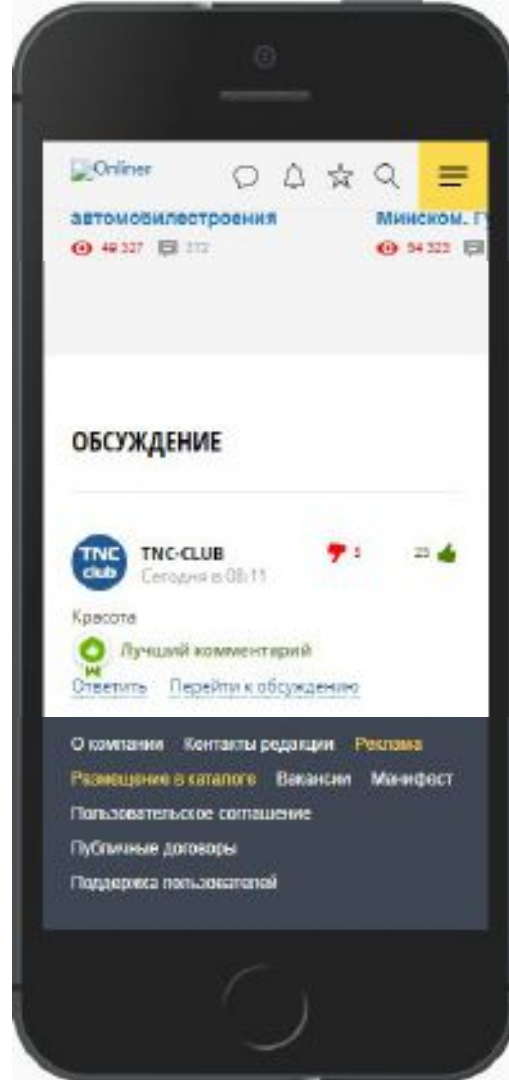
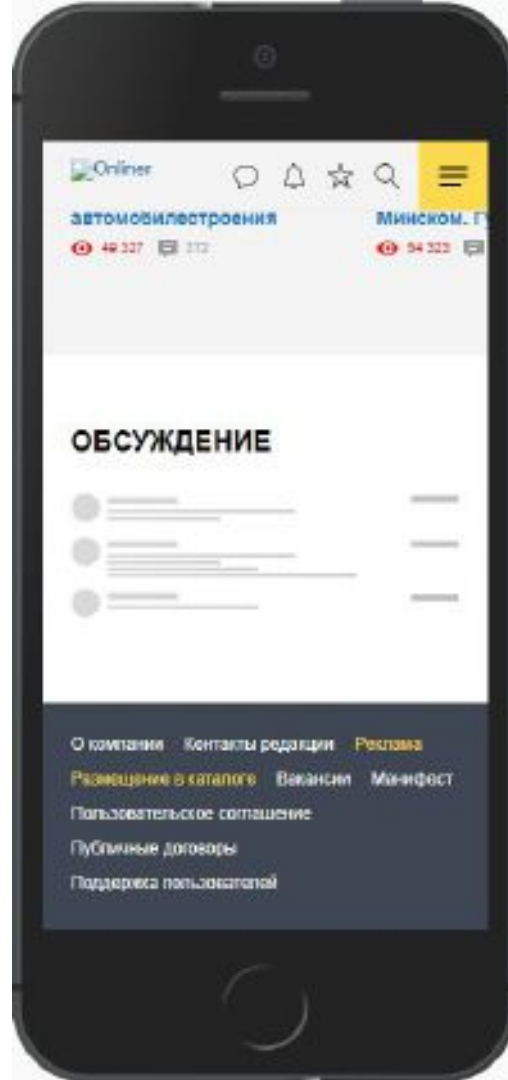


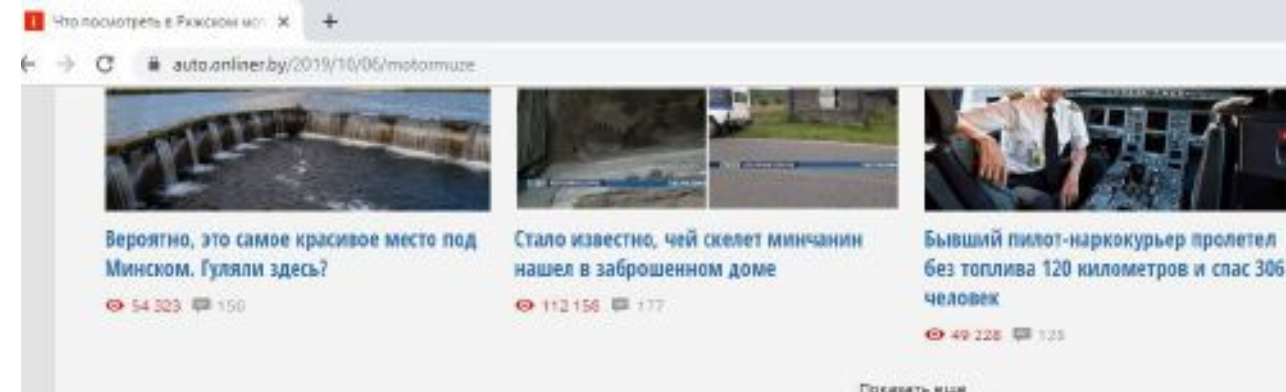
Same machine, the ghost?

[Показать 39 комментариев](#)

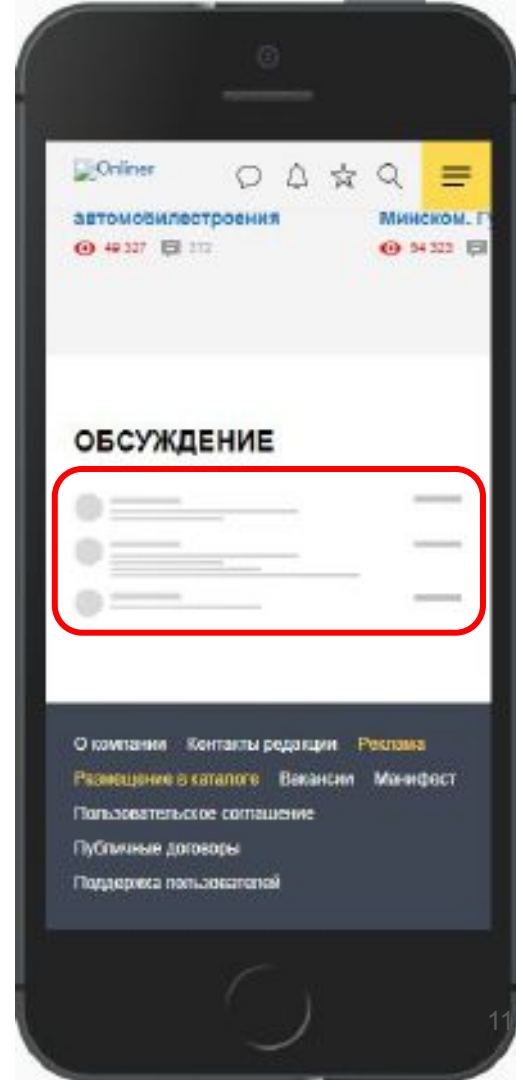
Последние 22 комментария







ОБСУЖДЕНИЕ





Settings

Preferences

Workspace

Blackboxing

Devices

Throttling

Geolocations

Network Throttling Profiles

[Add custom profile...](#)

Fast LAN	1000 kb/s	500 kb/s	30ms
2G	10 kb/s	10 kb/s	500ms
Almost offline	1 kb/s	1 kb/s	10000ms

localhost:8080/BookingChangeMobileApp.html?resId=60653148&resToken=4ZsCj7YwYVxP891z7iRQ&locale=fi&country=FI&experimental=true&native#summary

iPhone 5/SE 320 x 568 100% Mobile

Elements Console Network Performance Sources Application Memory Security Redux React Audit

Filter Hide data URLs All XMLHttpRequests CSS Images Media Fonts Documents WebSockets Manifest Other

Recording network activity.
Perform a request or hit **Ctrl + R** to record.
[Learn more](#)

Console Animations Changes Network conditions Request blocking Performance monitor Search Remote device

top Filter All levels

```

[XHR] Waiting for update signal from WDS...
[WDS] Hot Module Replacement enabled.
Uncaught runtime.lastError: The message port closed before a response was received.

```



Включаем скелетон в коде

```
function MobileAppContainer(props) {  
  if (!props.isReady) return <SplashPageMobile/>  
  
  return <MobileAppReady { ... props } />  
}
```

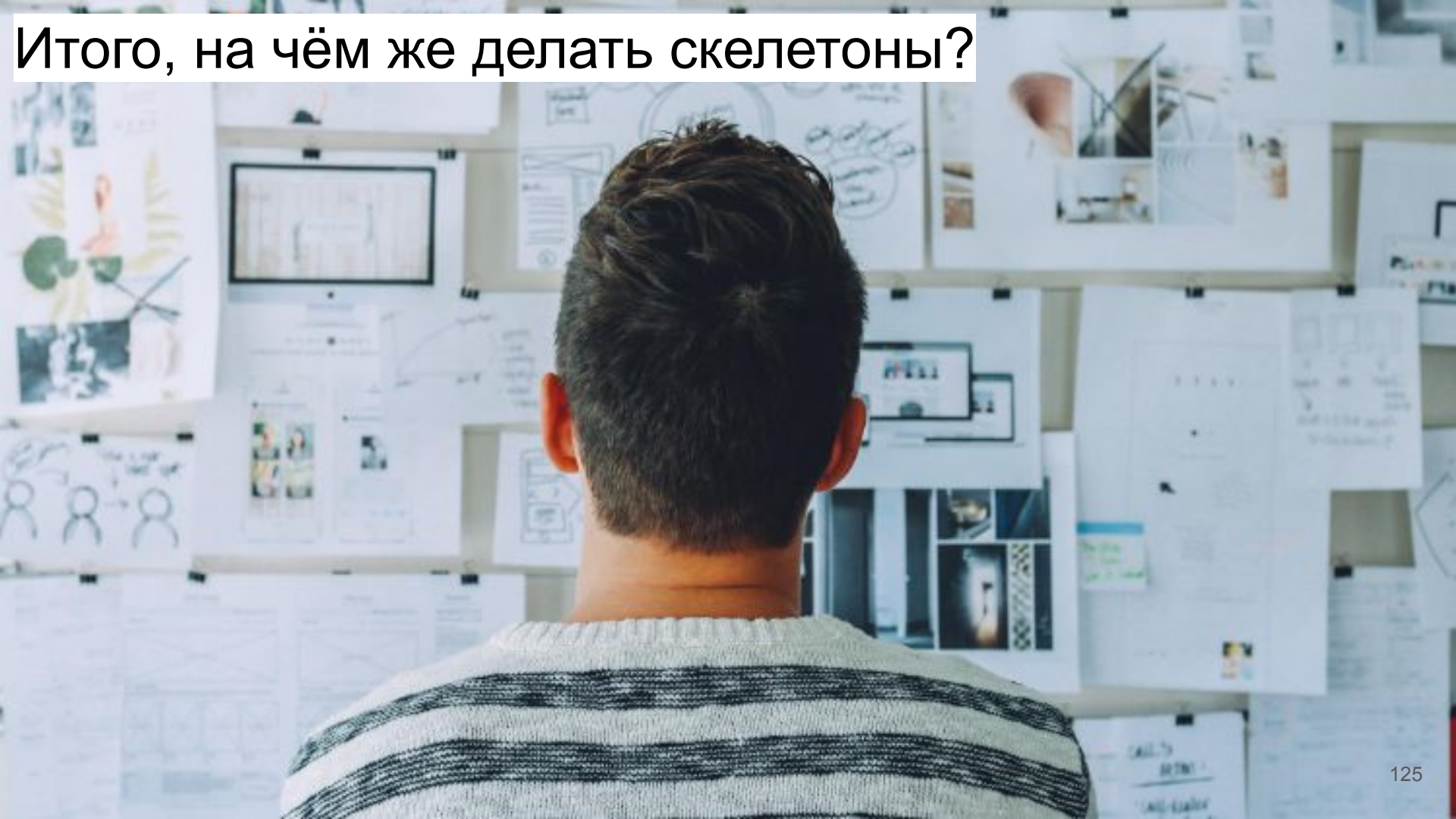




Итого, на чем делать скелетоны?

	HTML	SVG	GIF
Легко сделать без дизайнера	Да	Да	Нет
Удобно хранить в приложении	Да	Да	Да
Влияет на размер сборки	Нет	Нет	Да
Легко поддерживать			

Итого, на чём же делать скелетоны?





TALLINNA → HELSINKI

LEADS Kusto PIVOT

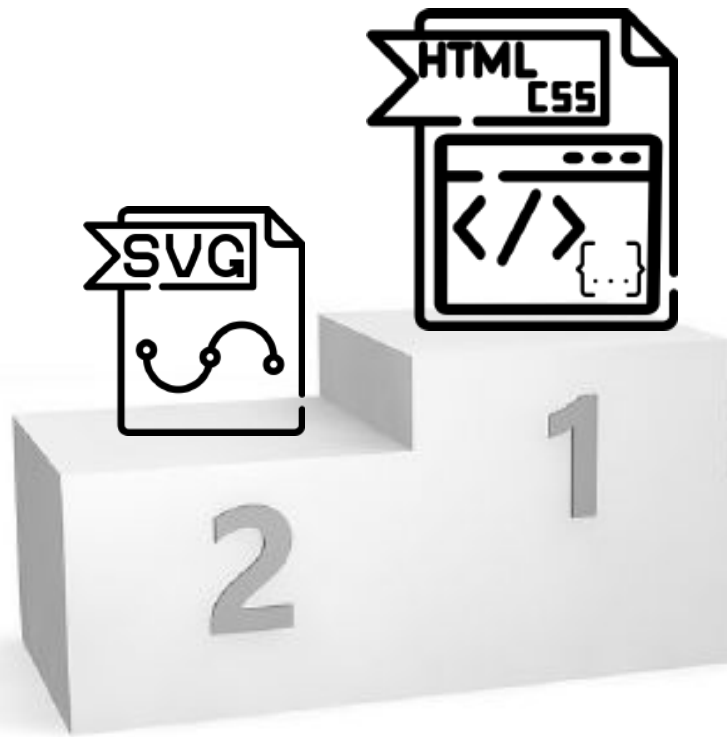
Ma 28.10.

07:30	2h	27 €	09:30
10:30	2h	25 €	12:30
12:30	3.5h	21 €	16:00
13:30	2h	25 €	15:30
16:30	2h	27 €	18:30
19:30	2h	23 €	21:30
22:30	2h	33 €	00:30
22:30		79 €	06:00

Ti 29.10.

07:30	2h	23 €	09:30
-------	----	------	-------

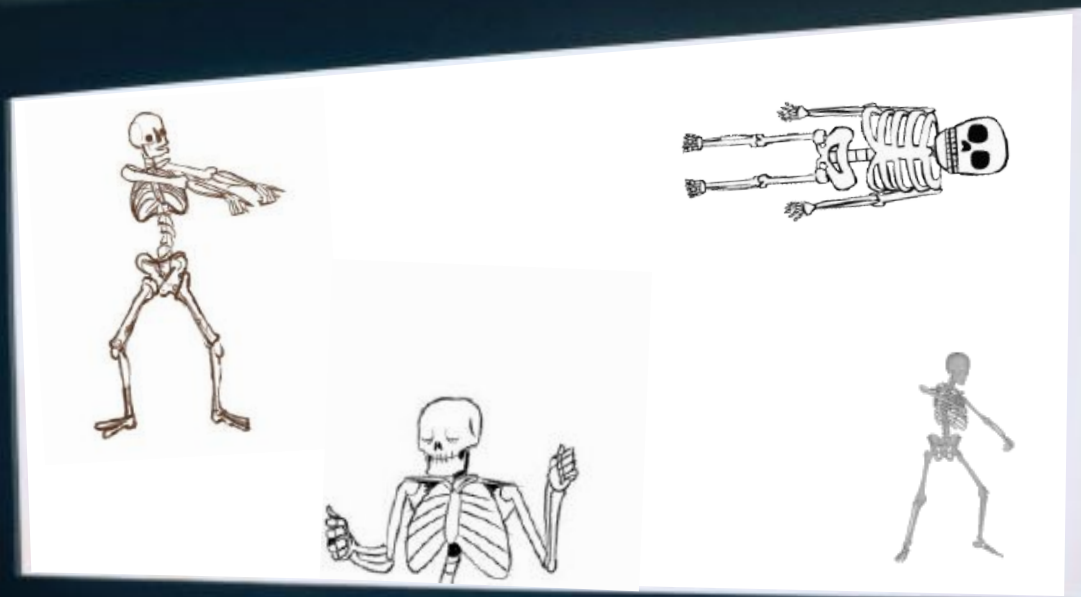
TEE MUUTOKSET JATKAAKSESI



"сделал и не забыл" – **HTML**

"сделал и забыл" – **SVG**

Реальность



Использованная литература:

1. [Discrete and continuous mechanisms of temporal selection in rapid visual streams](#)
2. [Performance Perception in Mobile Application Development](#)
3. [In the blink of an eye | MIT News](#)
4. [Improved Perceived Performance with Skeleton Screens | The Ionic Blog](#)
5. [Skeleton frame loading on Lottiefiles. Free Lottie, Bodymovin Animation](#)
6. [lottie-web@5.5.5 | BundlePhobia](#)
7. [airbnb/lottie-web: Render After Effects animations natively on Web, Android and iOS, and React Native. <http://airbnb.io/lottie/>](#)
8. [What is Perceived Performance and Why You Need to Optimize It](#)
9. [ProgressBarsVisualCHlv15CAMERA1](#)
10. [!\[\]\(a22ba4e13c745edbf29e51af246c4c12_img.jpg\) John !\[\]\(33b18af9a4b997eb52666cfeb3c44157_img.jpg\) on Twitter: "There's no limit per page. Make sure they load fast, for your users and aim for <2-3 secs..."](#)
11. [A Designer's Guide to Perceived Performance - Marvel Blog](#)
12. [wol tapp/blurhash: A very compact representation of a placeholder for an image.](#)
13. [An Introduction to Perceived Performance | Treehouse Blog](#)
14. [Everything you need to know about skeleton screens - UX Collective](#)
15. [LukeW | Mobile Design Details: Avoid The Spinner](#)
16. [How to use SVG as a Placeholder, and Other Image Loading Techniques - José M. Pérez](#)
17. [Progressive Image Loading](#)
18. [3 Ways to Do Progressive JPEG Encoding](#)
19. [Lightning Fast Image Previews with Pure CSS and LQIP | Matthias Endler](#)
20. [LQIP - example](#)
21. [Clippy — CSS clip-path maker](#)
22. [A Bone to Pick with Skeleton Screens | Viget / другое мнение](#)
23. [Automating image optimization | Web Fundamentals | Google Developers](#)



Спасибо!

Вопросы?

*Виктор Русакович,
Минск, GP Solutions*



<http://bit.ly/?????>

(можно комментировать)



<https://t.me/JavaScripterRor>

A man with a beard and short brown hair is sitting in front of a large window. He is wearing a brown wool coat over a dark turtleneck. He is looking down at a laptop on his lap, with his hand resting on his chin in a thoughtful pose. A grey messenger bag is visible on the right side of the frame. A white speech bubble with a black outline is positioned above the laptop, containing the text "А КАРТИНКИ?".

А КАРТИНКИ?

Скелетоны картинок

1. ПЖПГ \ ЧПНГ
2. НКЗК

Скелетоны картинок

1. Прогрессивный ЖПГ \ Черезстрочный PNG
2. НКЗК - Низко Качественные Заменители Картинок

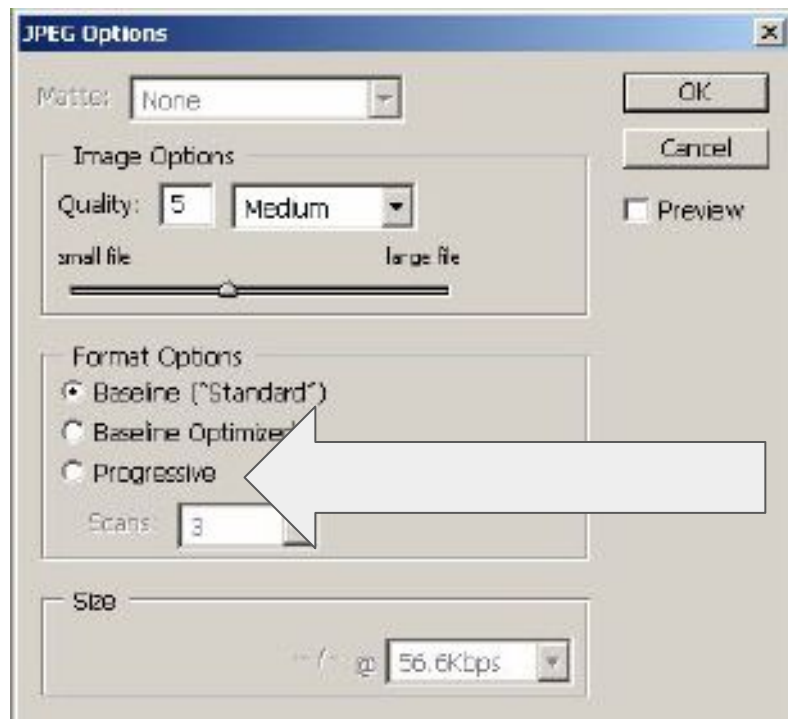
Скелетоны картинок

1. Progressive JPG \ Interlaced PNG
2. LQIP - Low Quality Image Placeholders

Progressive JPG \ Interlaced PNG



Как сделать PJPG?



RJPG – Идеален?

ISO 400



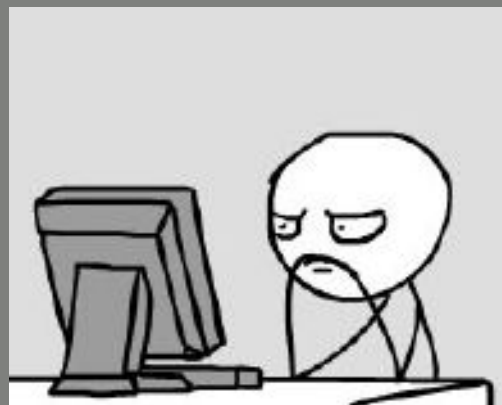
ISO 400



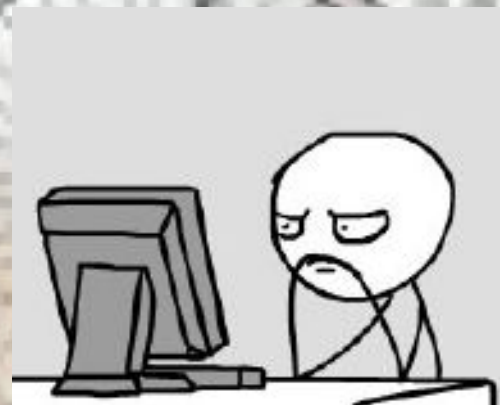
Нет

Почему?

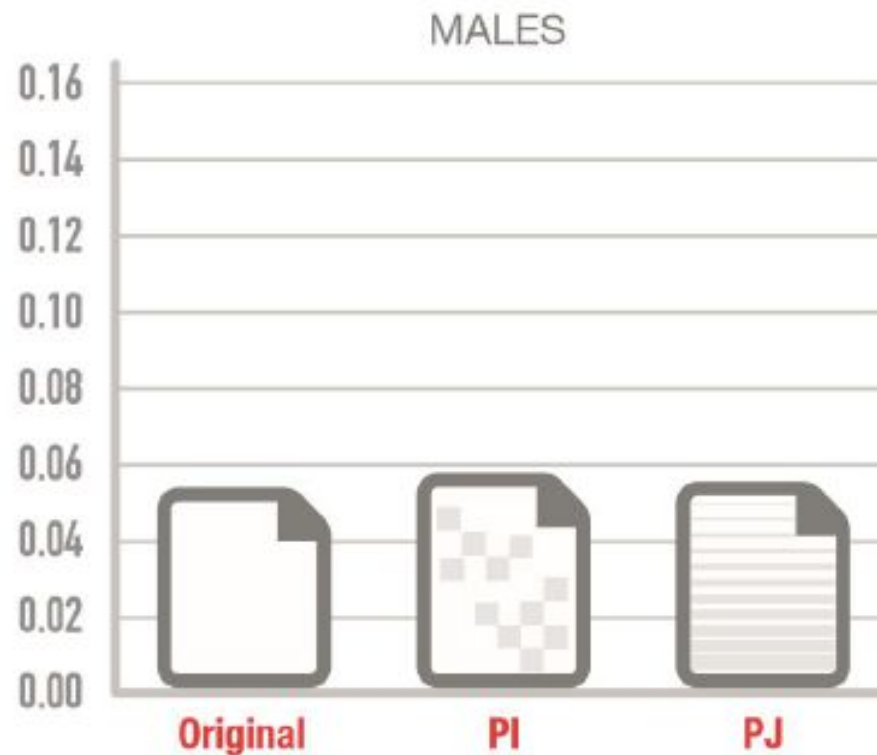
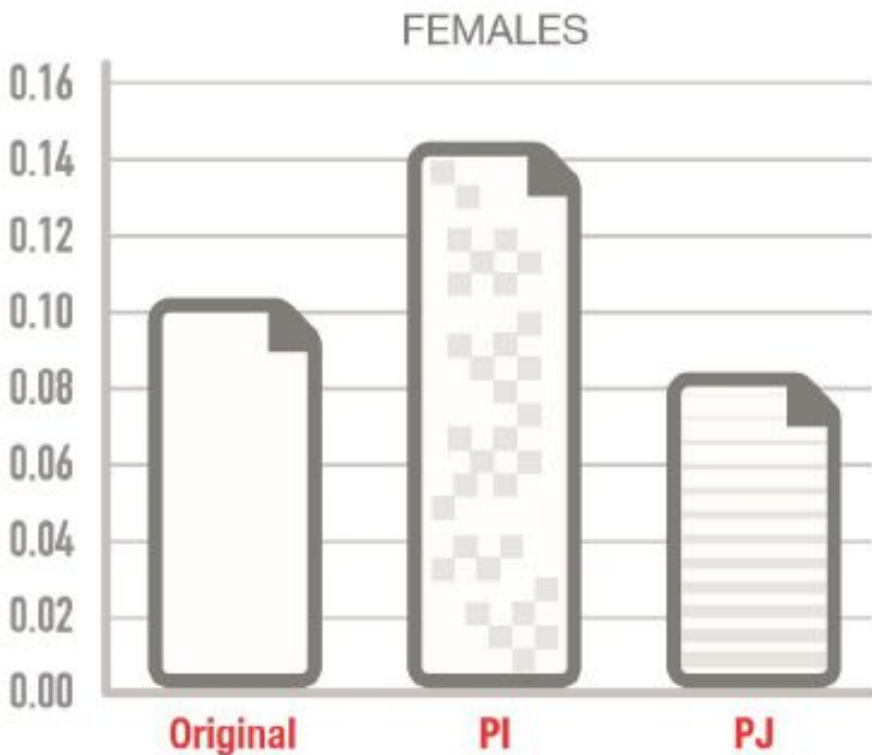
ISO 400



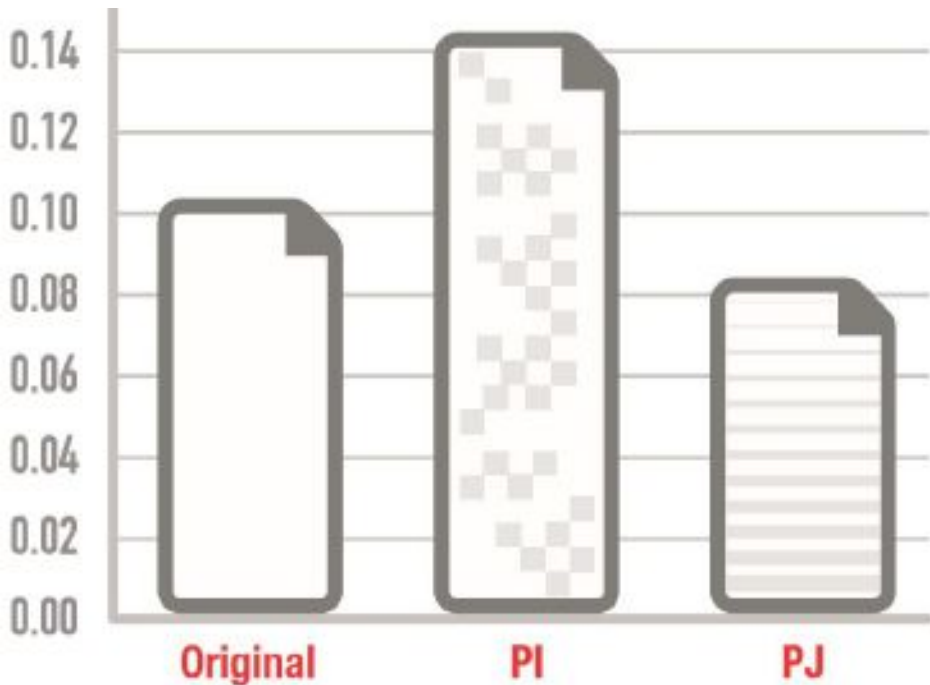
ISO 400



Уровень "счастья" в зависимости от метода оптимизации картинок



Уровень "счастья" в зависимости от метода оптимизации картинок



- Впечатлительные пользователи делают вывод как только есть полная картина
- Ожидание – допустимо

Скелетоны картинок - основной цвет



Скелетоны картинок - основной цвет 🐢



LQIP: Low Quality Images Placeholder

```
npm install --save-dev lqip-loader
```



```
const lqip = require('lqip')
lqip.palette('./home-video/selfie.jpg').then(res => {
  console.log(res); //['#628792', '#bed4d5', ..., '#551f24']
});
```


Скелетоны картинок

```

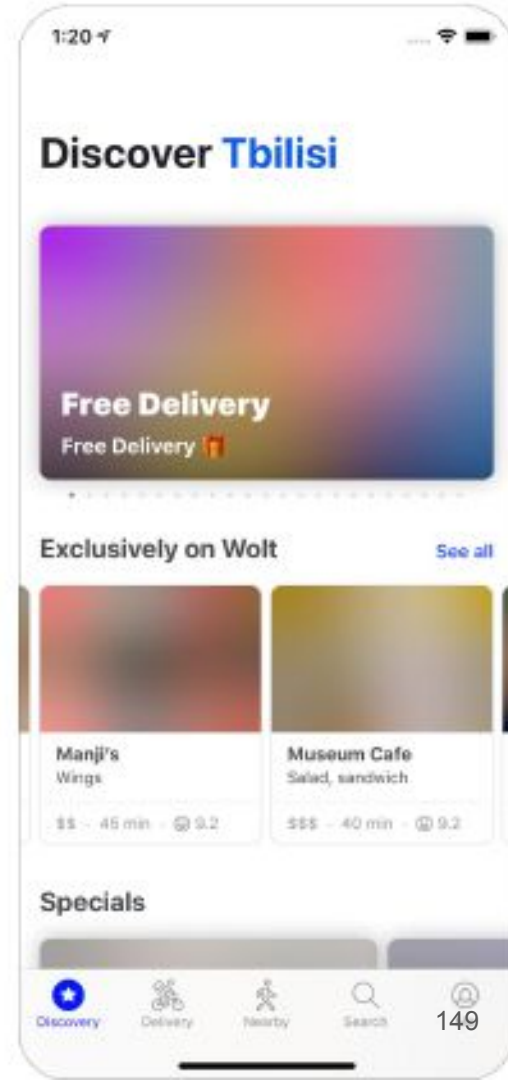
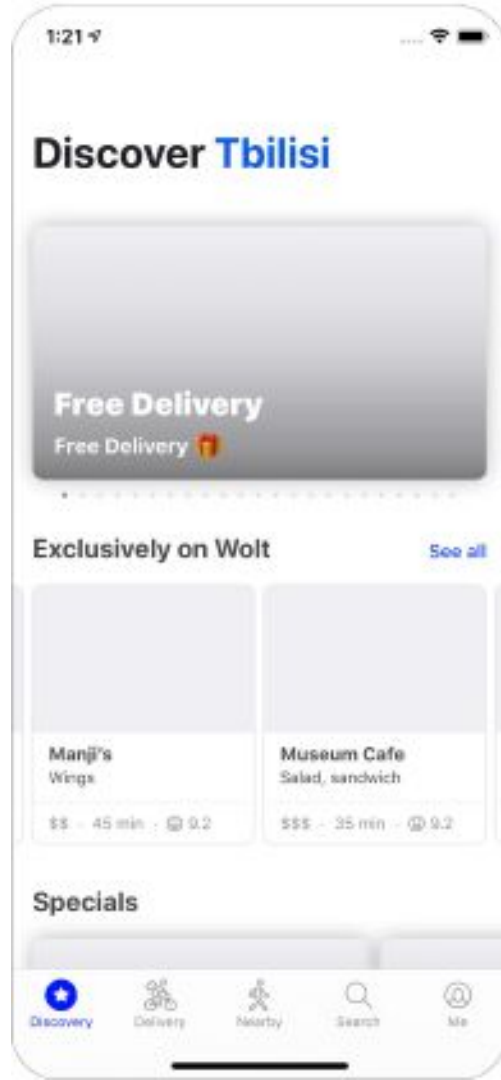
```



#a55b36



Скелетоны картинок



Скелетоны картинок

```

```



LNMF%n00%#MwS | WCWEM{R*bbWBbH



Скелетоны картинок



LVN^0dxa?wNa-;WBf,WBs;baR*af





Спасибо!

Вопросы?

*Виктор Русакович,
Минск, GP Solutions*



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(можно комментировать)



<https://t.me/JavaScripterRor>

- <https://pooyak.com/p/progjpeg/> PJ demo
- долина смерти
- <https://www.keycdn.com/support/progressive-images>