

WebCamp 2017

# Unlocking the full potential of **SVG**





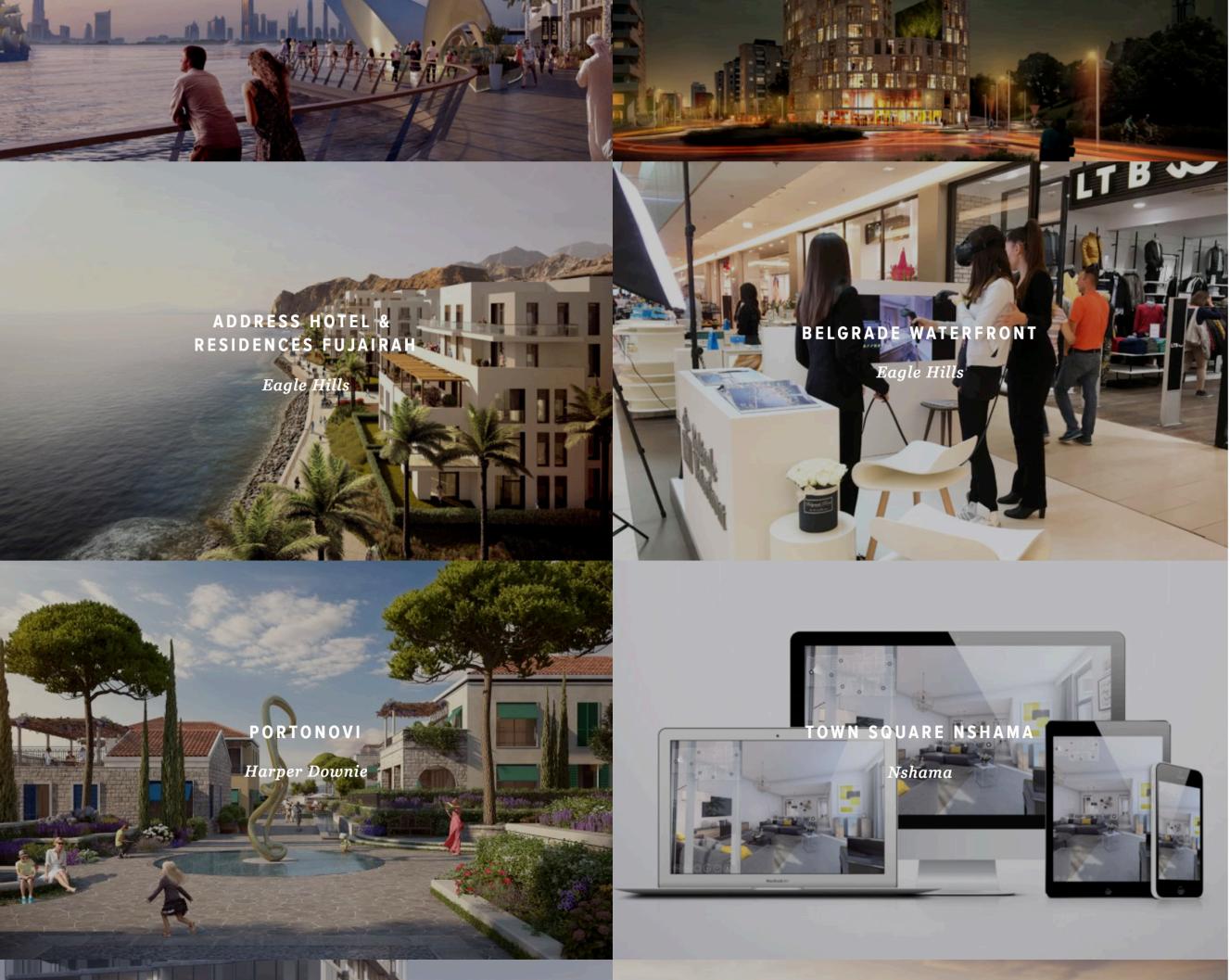
Magdalena Magličić

**FIVE**



## INTRO

# Why SVG?





[PROJECTS](#)[ABOUT US](#)[CONTACT](#)

# Meet north2

A supersmall studio with a programmer's brain and a creative heart.

We are an unusual bunch of creatives who share one vision - making websites that stand out of the many. We enjoy stepping out of our comfort zone and delivering something new and unseen.

DROP HERE  
TO VIEW

## MARKO

**Front-end developer**

He speaks JavaScript, is an explorer of new technologies and sworn enemy of apple products. When he wakes up in the morning he looks at his Windows and enjoys the vue! Fun fact : he is a board game and D&D aficionado.



## INTRO

**SVG is ... powerful, fun and useful**

## INTRO

If you don't know SVG you can't call yourself a web developer,  
call yourself a web enthusiast.

- Dmitry Baranovskiy

INTRO

**SVG**

(1.1 spec)

## INTRO

**SVG**  
(1.1 spec)



& mobile

## INTRO

**SVG**  
(1.1 spec)



**SVG filters**  
(on SVG elements)



## INTRO

# SVG (1.1 spec)

# SVG filters (on SVG elements)

# SVG filters (on HTML elements)



Buggy behaviour

CHAPTER 1

# Filters for cool effects

## FILTERS

### <fe\*>

<feDropShadow>  
<feGaussianBlur>

... and more

FILTERS

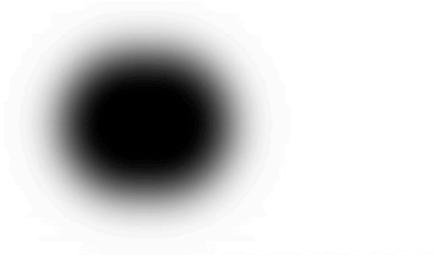
## Combined filters



FILTERS

# Combined filters

feGaussianBlur + feColorMatrix + feBlend





Filter Editor

Filter: filter1

Effect: Color Matrix

Add Effect: Color Matrix

The `feColorMatrix` filter primitive applies a matrix transformation to color of each rendered pixel. This allows for effects like turning object to grayscale, modifying color saturation and changing color.

Effect parameters

Coordinates: -0.10 -0.10

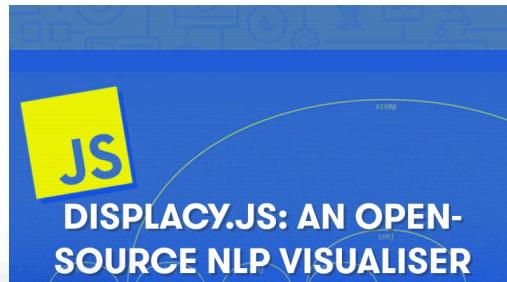
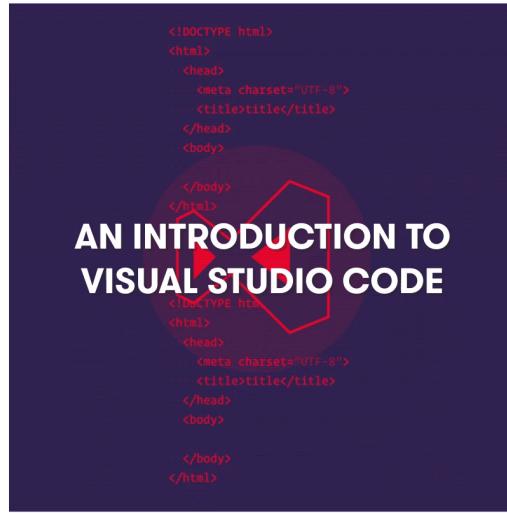
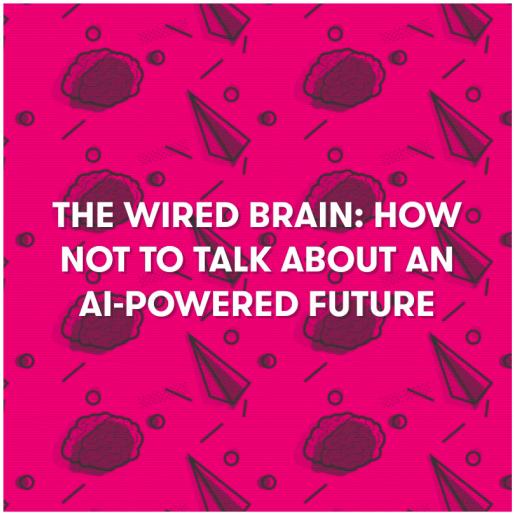
Dimensions: 1.20 1.20

Filter General Settings

Stroke Paint  
Fill Paint  
Background Alpha  
Background Image  
Source Alpha  
Source Graphic

CHAPTER 2

# Color manipulation



## COLOR MANIPULATION

### <feColorMatrix>

```
.circle {  
  filter: saturate(0.5);  
}
```

## COLOR MANIPULATION

### <feColorMatrix>

```
.circle {  
  filter: saturate(0.5);  
}
```

```
<filter id="saturate">  
  <feColorMatrix type="saturate" values="0.5"/>  
</filter>
```

## COLOR MANIPULATION

### <feColorMatrix>

```
<filter id="sepia">
<feColorMatrix type="matrix"
  values="
    (0.393 + 0.607 * [1 - amount]) (0.769 - 0.769 * [1 - amount]) (0.189 - 0.189 * [1 - amount]) 0 0
    (0.349 - 0.349 * [1 - amount]) (0.686 + 0.314 * [1 - amount]) (0.168 - 0.168 * [1 - amount]) 0 0
    (0.272 - 0.272 * [1 - amount]) (0.534 - 0.534 * [1 - amount]) (0.131 + 0.869 * [1 - amount]) 0 0
    0 0 0 1 0
  "/>
</filter>
```

Filter samples:

NO FILTER

PURPLE

YELLOW

CYAN

BLACK & WHITE

OLD TIMES

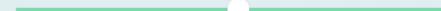
COLD LIFE

SEPIUM

MILK



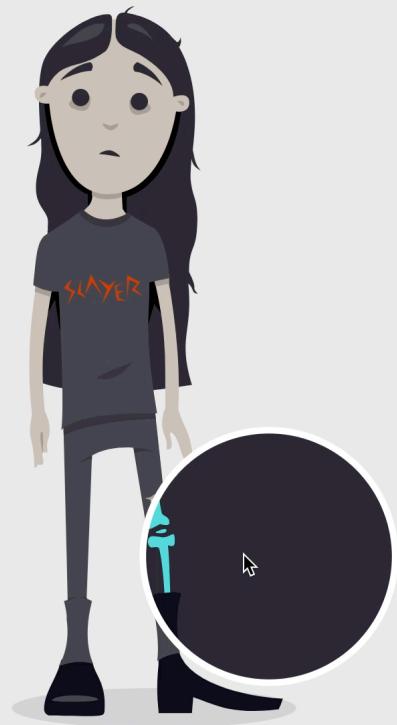
```
<filter id="linear">
  <feColorMatrix
    type="matrix"
    values=" 1  0  0  0  0
           0  1  0  0  0
           0  0  1  0  0
           0  0  0  1  0  "/>
</filter>
</feColorMatrix>
```



You can read more about feColorMatrix and SVG Color Filters here:  
<http://alistapart.com/article/finessing-fecolormatrix>

CHAPTER 3

# Clipping & masking



<https://codepen.io/noeldelgado/pen/ByxQjL>

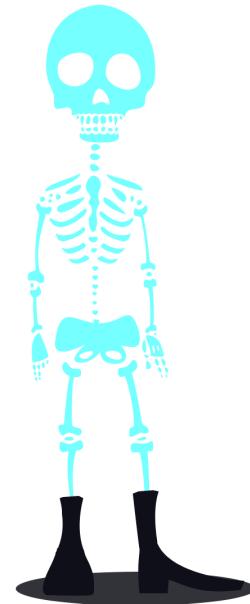
## CLIPPING AND MASKING

```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />
```



## CLIPPING AND MASKING

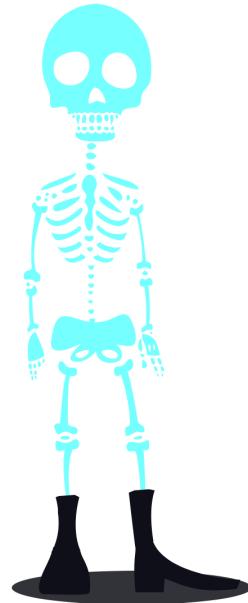
```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />  
<image width="100%" height="100%" xmlns:xlink= "skeleton.svg" />
```



## CLIPPING AND MASKING

```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />
<image width="100%" height="100%" xmlns:xlink= "skeleton.svg" />
```

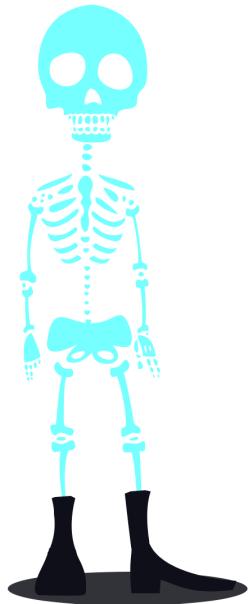
```
<defs>
  <clipPath id="clip">
    </clipPath>
</defs>
```



## CLIPPING AND MASKING

```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />
<image width="100%" height="100%" xmlns:xlink= "skeleton.svg" />

<defs>
  <clipPath id="clip">
    <circle id="clip-circle" cx="60%" cy="20%" r="10%" />
  </clipPath>
</defs>
```



## CLIPPING AND MASKING

```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />
<image width="100%" height="100%" xmlns:xlink= "skeleton.svg"
clip-path="url(#clip)"/>

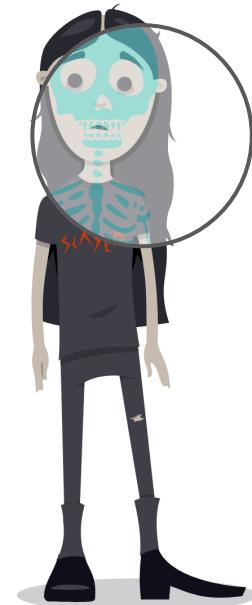
<defs>
  <clipPath id="clip">
    <circle id="clip-circle" cx="60%" cy="20%" r="10%" />
  </clipPath>
</defs>
```



## CLIPPING AND MASKING

```
<image width="100%" height="100%" xmlns:xlink= "person.svg" />
<image width="100%" height="100%" xmlns:xlink= "skeleton.svg"
mask="url(#clip)"/>

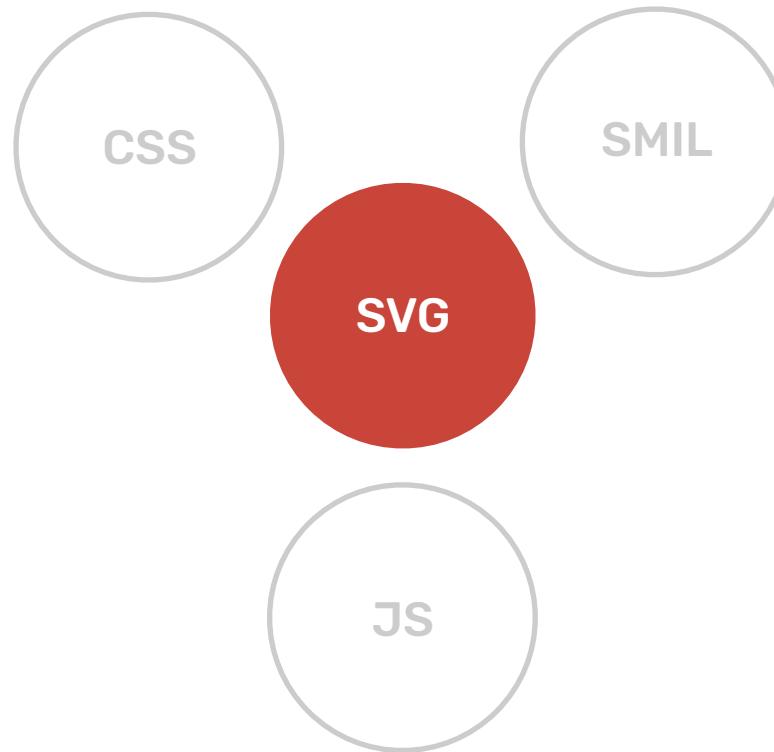
<defs>
  <mask id="clip">
    <circle id="clip-circle" cx="60%" cy="20%" r="10%" fill="gray"/>
  </mask>
</defs>
```



## CHAPTER 4

# Animation: there's more than one way

## ANIMATION



ANIMATION

**SMIL** [/'smail/]

ANIMATION

~~SMIL~~

## ANIMATION

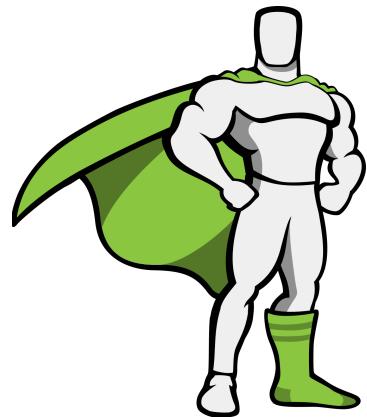
# CSS animations

```
<path id="circle" stroke-dashoffset="100" ... />
```

```
#circle {  
  stroke-dashoffset: 200;  
}
```

ANIMATION

## JS libraries



Greensock

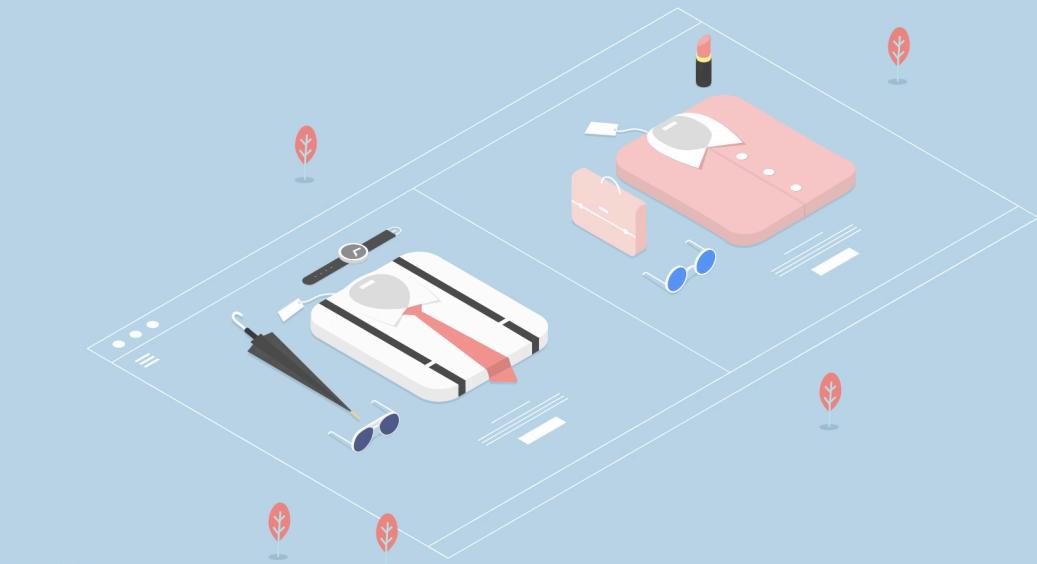


Snap.svg



Data-driven documents

# BODYMOVIN

WORKS

We create elegant and functional  
custom-designed websites

VISION

We approach projects  
with one clear vision

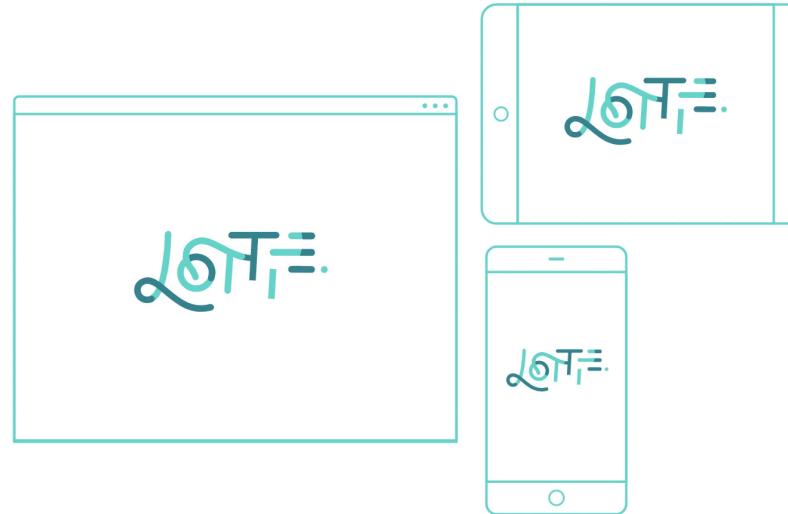
STUDIO

Our fine studio of two  
knows the value of hard work

# Lottie

Easily add high-quality animation to any native app.

Lottie is an iOS, Android, and React Native library that renders After Effects animations in real time, allowing apps to use animations as easily as they use static images.

[Get Started](#)[Learn more >](#)

## ANIMATION

# Morphing



We make your bed

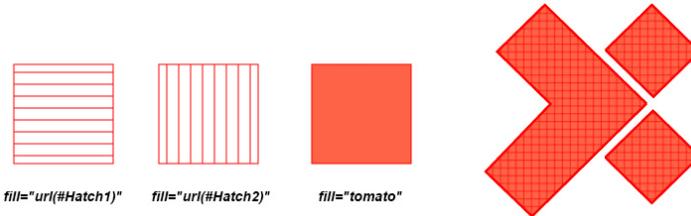
Tucking corners and fluffing pillows  
is our favorite thing

LAST CHAPTER

# What does the future hold?

THE FUTURE

# SVG 2



# Summary

Learn the basics!

Use SVG effects only on SVG elements

Try JS libraries for animations

Don't be afraid to experiment!

**Thank you for  
listening!**

**Any questions?**

Unlocking the  
full potential of **SVG**

