



**LAUREA**

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*Yhdessä enemmän*

# Visual Elements and Graphics

R0244 - Verkkosivujen kehittäminen / R0278  
- Foundations of Web Development





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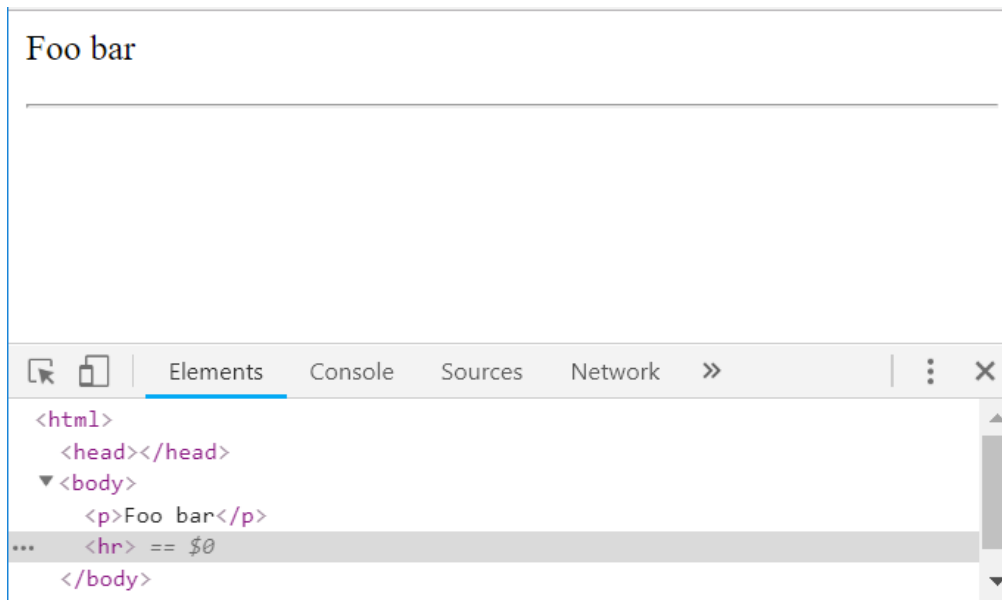
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# 1. Horizontal Rule

- ▶ To define a horizontal divider, you can use `<hr/>` element.
- ▶ Block element



## 2. Progress Bar

- ▶ You can create a progress bar by using `<progress></progress>` element and following attributes:
  - ▶ `value`: current value
  - ▶ `max`: maximum value



```
<progress value="22" max="100"></progress>
```



## 3. CSS Border Property

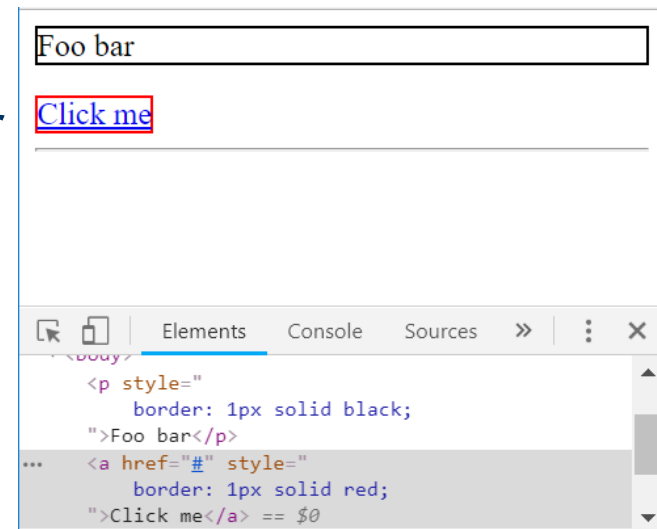
- ▶ To define borders on a HTML element you can use CSS border property.
- ▶ Has three attributes
  - ▶ border-width
  - ▶ border-style
  - ▶ border-color
- ▶ Can be set individually or by using shorthand.

```
.bordered {  
    border: 1px solid black;  
}  
  
.dashed-border {  
    border-width: 1px;  
    border-style: dashed;  
    border-color: red;  
}
```



### 3. CSS Border Property

- ▶ Note that borders appear differently on block and inline elements:
  - ▶ Block elements take up a full width of the parent element -> border outlines the full width also.
  - ▶ Inline elements only take up needed width → border outlines the element content.



*Browsers can display borders a bit differently.*



## 3. CSS Border Property

- ▶ You can also set differently styled borders on different sides of an element:

- ▶ `border-bottom`
- ▶ `border-top`
- ▶ `border-left`
- ▶ `border-right`

- ▶ You can make corners of the borders rounded with  
`border-radius: 20px`

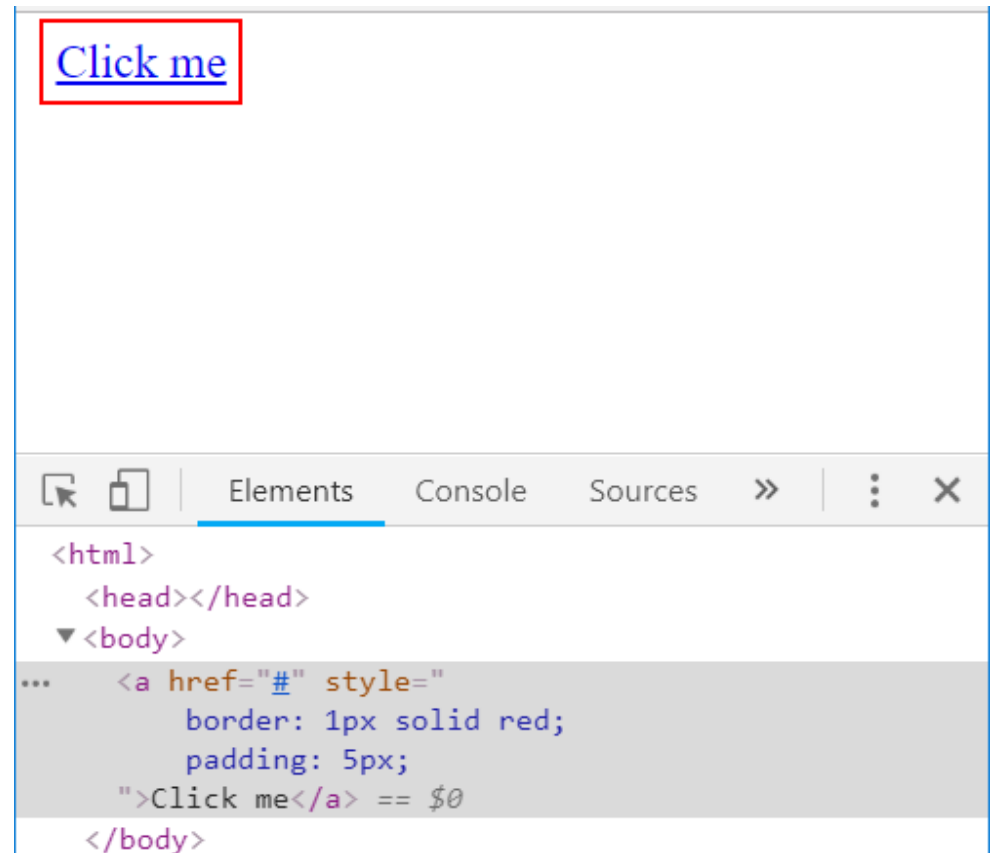


```
Elements Console Sources >> ⋮ ✕  
▼ <body>  
... <a href="#" style="  
    border-top: 1px solid red;  
    border-left: 2px solid blue;  
    border-right: 2px solid #000000;  
    border-bottom: 5px dotted rgb(250, 145, 0);  
">Click me</a> == $0  
</body>
```



## 4. CSS Padding Property

- Padding is used to set amount of whitespace between the content of an element and its border.



(Pic: <https://devrant.com/search?term=html+%26+css>)





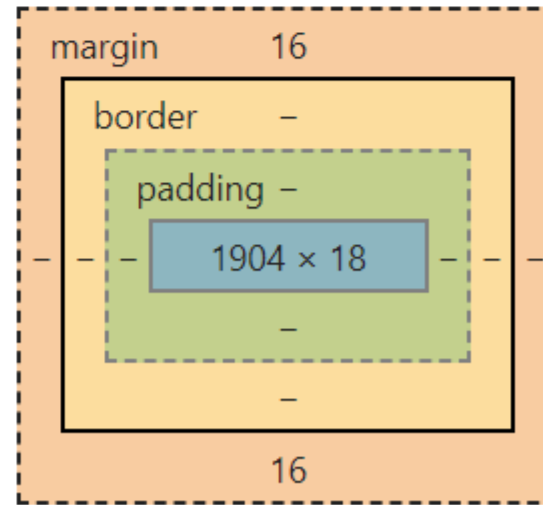
## 4. CSS Padding Property

- ▶ Just like for border, you can set different paddings for each side of the element
  - ▶ `padding-bottom`
  - ▶ `padding-top`
  - ▶ `padding-right`
  - ▶ `padding-left`
- ▶ Or you can use shorthands
  - ▶ `padding: 5px 10px;` (top and bottom 5px, left and right 10px)
  - ▶ `padding: 5px 10px 15px 20px;` (top 5px, right 10px, bottom 15px, left 20px)



## 5. CSS Margin Property

- ▶ You can also set whitespace with `margin` property.
- ▶ Margin is the whitespace outside the border, between the elements.



## 5. CSS Margin Property

- ▶ Just like for border and padding, you can set different paddings for each side of the element
  - ▶ `margin-bottom`
  - ▶ `margin-top`
  - ▶ `margin-right`
  - ▶ `margin-left`
- ▶ Or you can use shorthands
  - ▶ `margin: 5px 10px; (top and bottom 5px, left and right 10px)`
  - ▶ `margin: 5px 10px 15px 20px; (top 5px, right 10px, bottom 15px, left 20px)`



## 6. Images

- ▶ Images are an important part of web design.
- ▶ Properly used they can be informative and attractive.
- ▶ Improperly used they can make your website slow and messy.
- ▶ Two important aspects of using images are
  - ▶ choosing the correct file format for your images.
  - ▶ optimizing your images.





## 6. Images

- ▶ Three most used image file types in the web are gif, png and jpg.
- ▶ Raster/bitmap images
  - ▶ 2d grid of pixels
  - ▶ Don't scale very well





## 6. Images

	Graphics Interchange Format (gif)	Joint Photographic Experts Group (jpeg)	Portable Network Graphic (png)
Colours	256	16.7 million	Millions
Transparency	Yes	No	Yes
Animations	Yes	No	
Interlacing	Yes	Progressive JPEG is similar	Yes
Good for	Simple images with flat colours	Photos	Complex photos and graphics
Compression	Lossless	Lossy	Lossless



## 6. Images

- ▶ People use web more on different screen sizes which has lead to responsive web design which has lead to the need for scalable images.
- ▶ Vector images like svg and webP have become more popular.
  - ▶ Made of lines, shapes and path points, not pixels.
  - ▶ Pixel-independent drawing instructions.
  - ▶ Browser support has been pretty poor.

*"SVG is not an image format - it's more of an image recipe."  
(Alex Walker)*



## 6. Images

	Scalable Vector Graphics (svg)	WebP
Browser support	All modern browsers	Still quite poor
Good for	Logos, maps, icons	Photos
Animated	Yes (with CSS and JS)	
Bonus	Can be embedded in HTML -> no need for HTTP request.	Developed specifically for web by Google.







## 6. Images

- ▶ To use images in your webpage you can use `<img/>` tag with the following attributes:
  - ▶ `src`: location and name of the file.
  - ▶ `alt`: alternative textual presentation of the image.

```

```



## 6. Images

- ▶ In HTML5 you can use `<figure></figure>` element to wrap your images in.
- ▶ For figures you can define captions with a nested `<figcaption></figcaption>` element.

```
<figure>  
    
  <figcaption>Text to be shown</figcaption>  
</figure>
```





## 6. Images

- ▶ Accessibility and images
  - ▶ Always define alt attribute!
    - ▶ Supply meaning of the image textually.
    - ▶ Alt is not file name!
    - ▶ Empty only on purely decorative images.
  - ▶ If main navigation has icon links, provide simple text links at the bottom of the page.



## 6. Images

- ▶ Creating image links
  - ▶ Wrap your `<img>` element in an `<a>` element.
  - ▶ Remove automatic border.

```
<a href="home.html">  
    
</a>
```



```
a img {  
  border-style: none;  
}
```





## 6. Images

- ▶ Images should be optimized for web.
  - ▶ reduce the file size
  - ▶ reduce the dimensions of the image
- ▶ Image editing tools
  - ▶ GIMP (Free)
  - ▶ Adobe Photoshop





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## 7. Questions, comments?

