



# CSC-318

# Web Technology

(BSc CSIT, TU)

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# HTML Special Tags

- `<pre>` tag
- `<tt>` tag
- `<meta>` tag
- `<audio>` tag
- `<video>` tag
- `<canvas>` tag

## <pre> Tag

- The <pre> tag defines preformatted text
- Text in a <pre> element is displayed in a fixed-width font (usually Courier)
- it preserves both spaces and line breaks
- **Tip:** Use the <pre> element when displaying text with unusual formatting, or some sort of computer code

# <pre> Tag

```
<!DOCTYPE html>
<html>
  <body>
    <pre>
      Text in a pre
      element
      is displayed in a
      fixed-width
      font, and it preserves
      both      spaces and
      line breaks
    </pre>
  </body>
</html>
```

Text in a pre  
element  
is displayed in a  
fixed-width  
font, and it preserves  
both spaces and  
line breaks

# <tt> Tag

- used for marking up keyboard input
- not supported in HTML5

```
<p>This text is normal.</p>
<p><tt>This text is teletype text.</tt></p>

<p><strong>Note:</strong> The tt element is not supported in
HTML5.</p>
```

This text is normal.

This text is teletype text.

**Note:** The tt element is not supported in HTML5.

# <meta> Tag

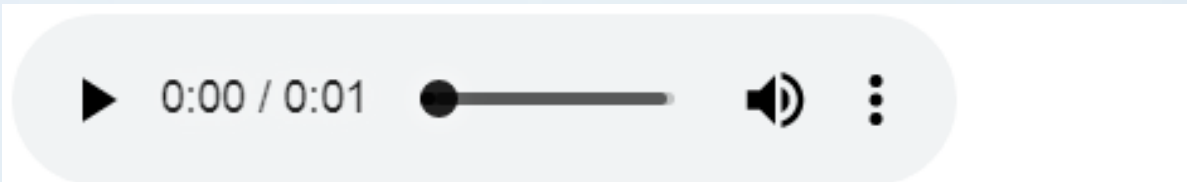
```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <meta name="description" content="Free Web tutorials">
  <meta name="keywords" content="HTML,CSS,XML,JavaScript">
  <meta name="author" content="John Doe">
  <meta name="viewport" content="width=device-width,
    initial-scale=1.0">
</head>
<body>
  <p>
    All meta information goes in the head section...
  </p>
</body>
</html>
```

# <meta> Tag

- Metadata is data (information) about data
- <meta> tag provides metadata about the HTML document
- Metadata will not be displayed on the page, but will be machine parsable
- Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata
- The metadata can be used by browsers (how to display content or reload page), search engines (keywords), or other web services
- Note: <meta> tags always go inside the <head> element
- Note: Metadata is always passed as name/value pairs

# <audio> Tag

```
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
  Your browser does not support the audio element.
</audio>
<p>
  <strong>Note:</strong> The audio tag is not supported
  in Internet<br> Explorer 8 and earlier versions.
</p>
```



**Note:** The audio tag is not supported in Internet Explorer 8 and earlier versions.



# <audio> Tag

- The <audio> tag defines sound, such as music or other audio streams
- Currently, there are 3 supported file formats for the <audio> element: MP3, WAV, and OGG

## MIME Types for Audio Formats

Format	MIME-type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

# <video> Tag

```
<!DOCTYPE html>
<html>
<body>

<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
</video>

</body>
</html>
```



# <video> Tag

- The <video> tag specifies video, such as a movie clip or other video streams
- Currently, there are 3 supported video formats for the <video> element: MP4, WebM, and Ogg

## MIME Types for Video Formats

Format	MIME-type
MP4	video/mp4
WebM	video/webm
Ogg	video/ogg

# <canvas> Tag

```
<!DOCTYPE html>
<html>
<body>
<canvas id="myCanvas"></canvas>
<script>
  var c = document.getElementById("myCanvas");
  var ctx = c.getContext("2d");
  ctx.fillStyle = "#FF0000";
  ctx.fillRect(0, 0, 80, 100);
</script>
</body>
</html>
```



# <canvas> Tag

- The <canvas> tag is used to draw graphics, on the fly, via scripting (usually JavaScript)
- The <canvas> tag is only a container for graphics, you must use a script to actually draw the graphics
- For Details :
  - [https://www.w3schools.com/graphics/canvas\\_intro.asp](https://www.w3schools.com/graphics/canvas_intro.asp)

# HTML Events

- When a user clicks the mouse
- When a web page has loaded
- When an image has been loaded
- When the mouse moves over an element
- When an input field is changed
- When an HTML form is submitted
- When a user strokes a key etc
- These events are handled by javascript

# Google Material Design and CSS3

- Introduction to Material Design
- CSS3 Properties
- CSS3 Transitions
- CSS3 Animation

# Google Material Design

- developed in 2014 by Google
- Material Design is a unified system that combines theory, resources, and tools for crafting digital experiences
- Material is a metaphor, a system for uniting style, branding, interaction, and motion under a consistent set of principles.
- With Material we believe product teams can realize their greatest design potential
- Material Design makes more liberal use of grid based layouts, responsive animations and transitions, padding, and depth effects such as lighting and shadows

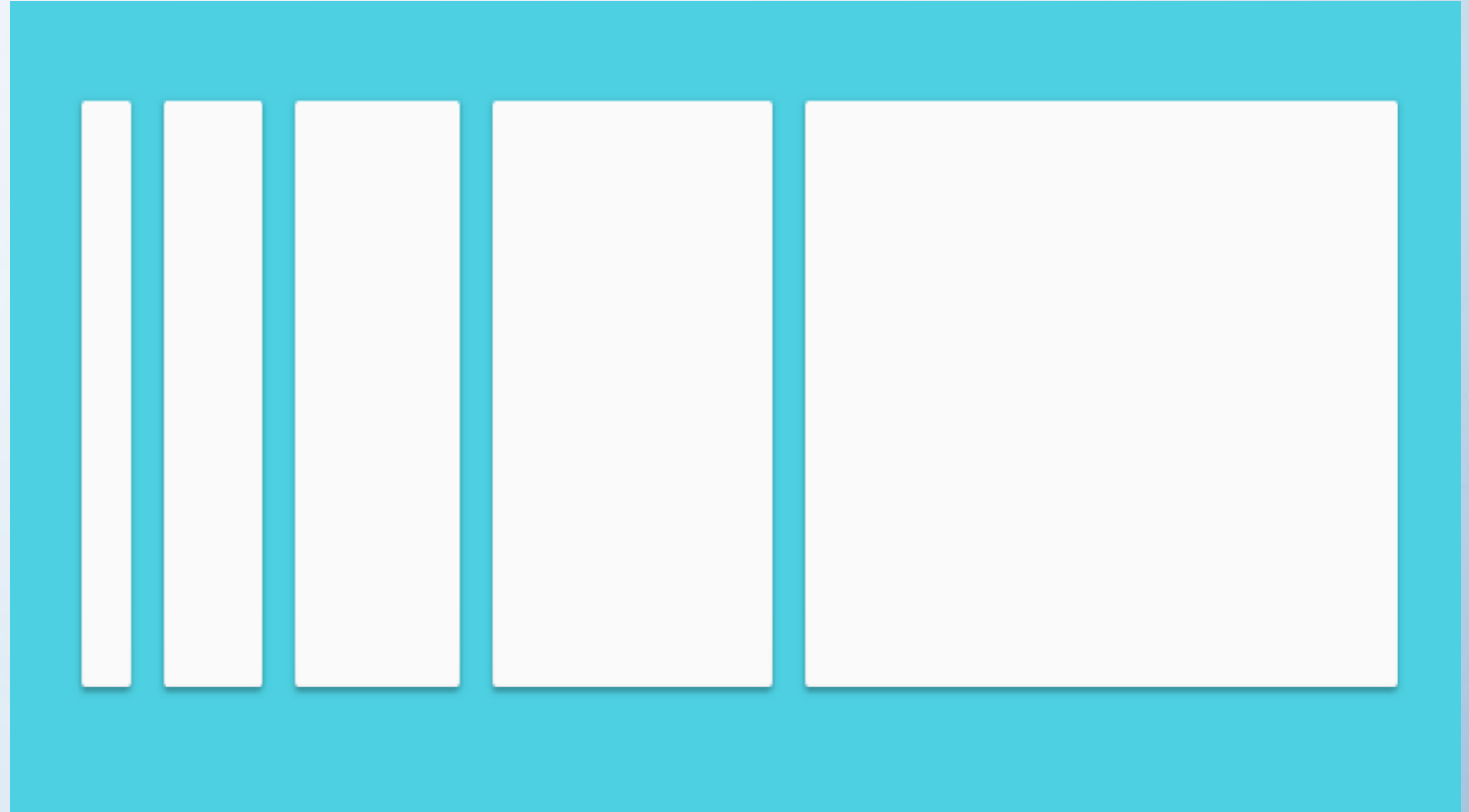


# Google Material Design



# Google Material Design

- Develop a single underlying system that allows for a unified experience across platforms and device sizes
- Mobile precepts are fundamental, but touch, voice, mouse, and keyboard are all first-class input methods

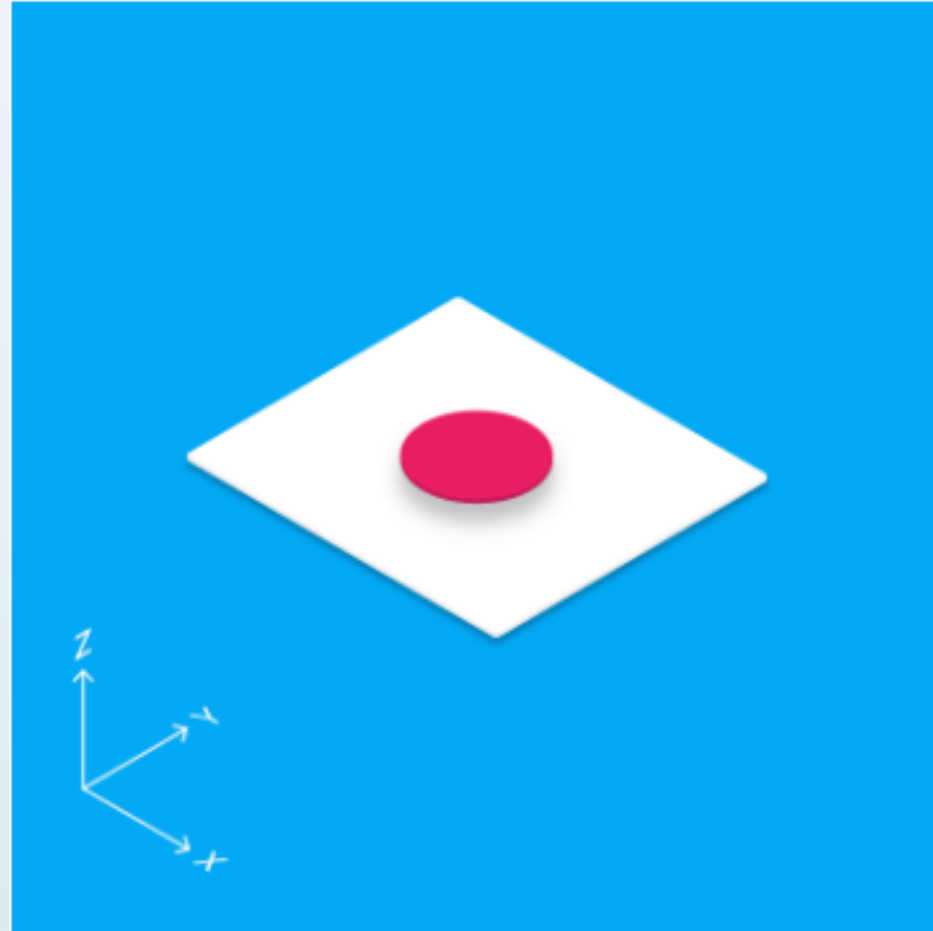


# Google Material Design



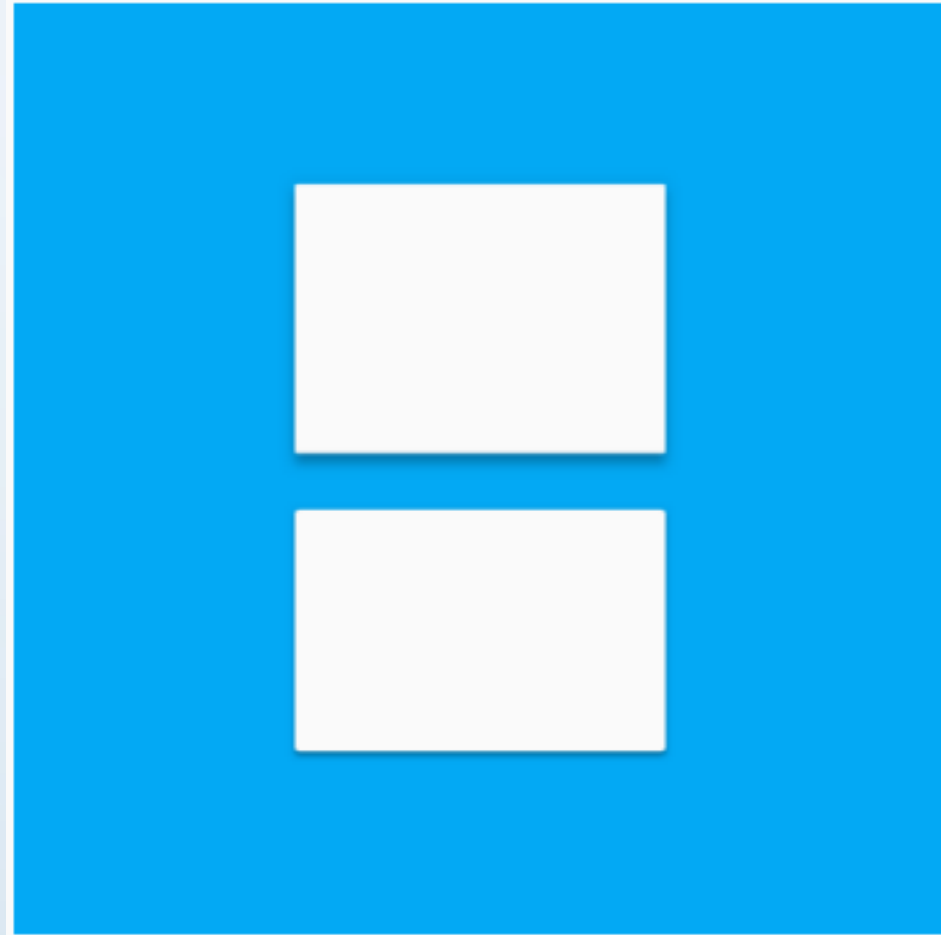
# Google Material Design

- Material design is a three-dimensional environment containing light, material, and cast shadows



# Google Material Design

- Material has certain immutable characteristics and inherent behaviors.



# Google Material Design

## DESIGN GUIDELINES

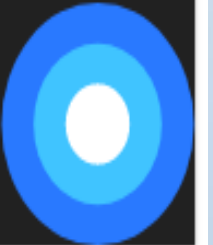
The Material Design guidelines are a living document of visual, interactive, and motion guidance.

\*LAST UPDATED SEPT 2017

## ICONS

Visit our library of over 900 material icons.

\*41 NEW ICONS



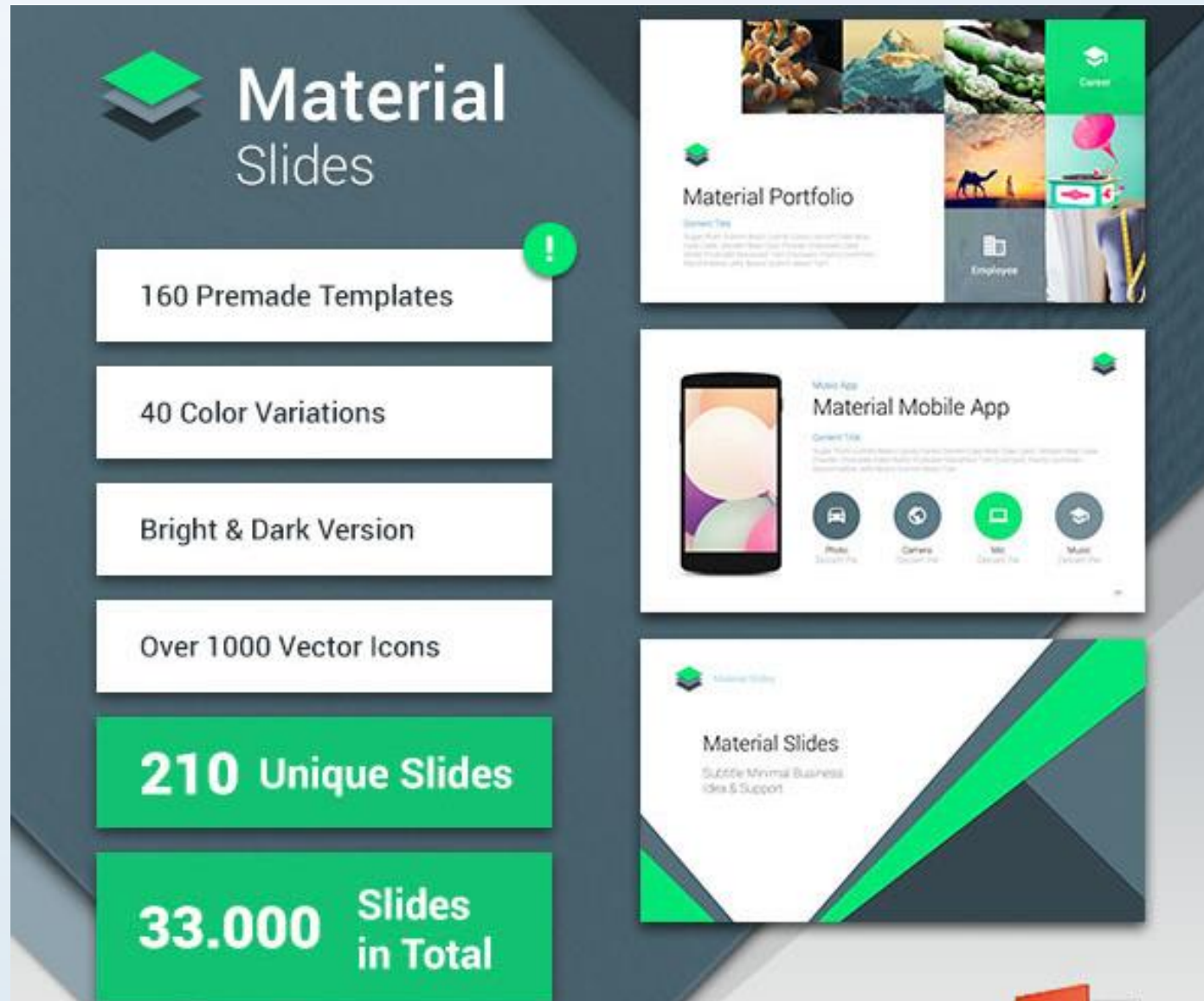
## MATERIAL COMPONENTS

Create beautiful apps with modular and customizable UI components.

\*NEW WEBSITE



# Google Material Design



The graphic features a dark grey background with a green diamond icon and the text 'Material Slides' in white. On the left, a vertical list of features is presented in white and green boxes. On the right, three sample slides are displayed, showcasing various themes like 'Material Portfolio', 'Material Mobile App', and 'Material Slides'.

**Material Slides**

- 160 Premade Templates
- 40 Color Variations
- Bright & Dark Version
- Over 1000 Vector Icons
- 210 Unique Slides**
- 33.000 Slides in Total**

**Material Portfolio**

**Material Mobile App**

**Material Slides**

# CSS3 Introduction

- Rounded Corners
- Border Images
- Backgrounds
- Colors
- Gradients
- Shadows
- Text Effects
- CSS Transform
- CSS Transitions
- CSS Animations



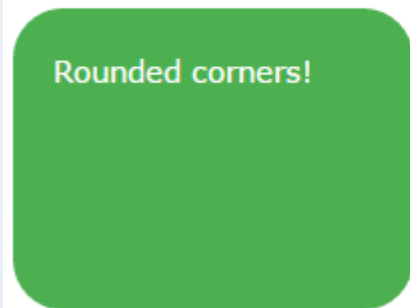
# CSS3 Introduction

- Latest standard for CSS
- completely backwards-compatible with earlier versions of CSS
- Most of the new CSS3 properties are implemented in modern browsers
- Some of the most important CSS3 modules are
  - Selectors
  - Box Model
  - Backgrounds and Borders
  - Image Values and Replaced Content
  - Text Effects
  - 2D/3D Transformations
  - Animations
  - Multiple Column Layout
  - User Interface

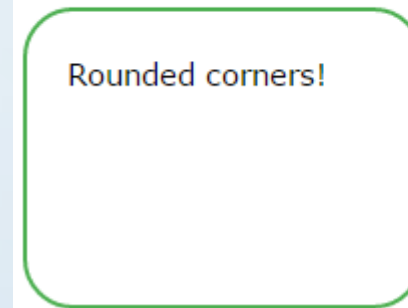
# CSS3 Rounded Corners

- you can give any element "rounded corners"
- Border-radius property

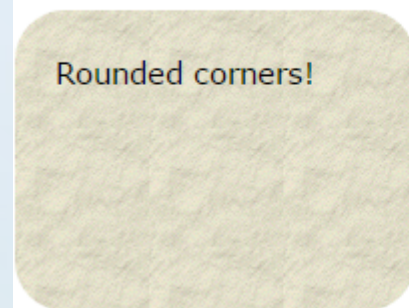
1. Rounded corners for an element with a specified background color:



2. Rounded corners for an element with a border:



3. Rounded corners for an element with a background image:



# CSS3 Rounded Corners

1. Four values - border-radius: 15px 50px 30px 5px:



2. Three values - border-radius: 15px 50px 30px:

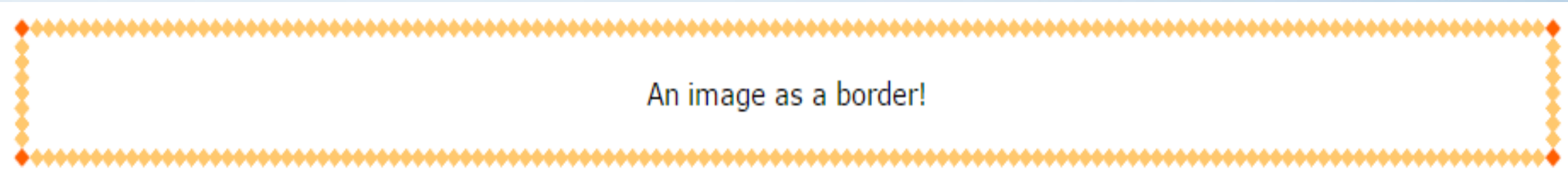


3. Two values - border-radius: 15px 50px:



# CSS3 Border Images

- With the CSS3 border-image property, you can set an image to be used as the border around an element
- allows you to specify an image to be used instead of the normal border around an element
- The property has three parts:
  - The image to use as the border
  - Where to slice the image
  - Define whether the middle sections should be repeated or stretched

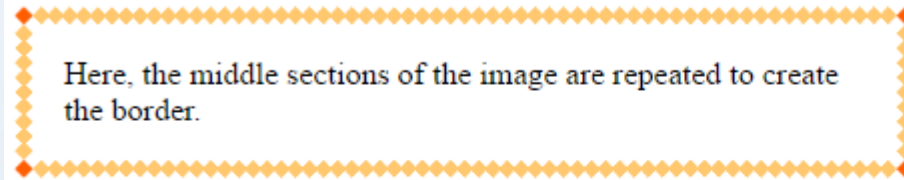


An image as a border!

# CSS3 Border Images: Example

```
#borderimg {  
  width:400px;  
  border: 10px solid;  
  padding: 15px;  
  -webkit-border-image: url(border.png) 30 round;  
  /* Safari 3.1-5 */  
  -o-border-image: url(border.png) 30 round;  
  /* Opera 11-12.1 */  
  border-image: url(border.png) 30 round;  
}
```

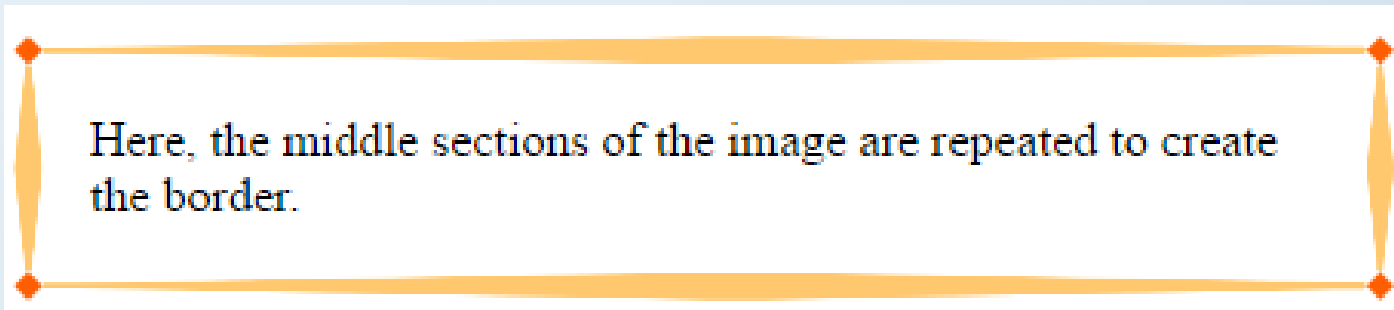
The border-image property specifies an image to be used as the border around an element:



Here is the original image:



**Note:** Internet Explorer 10, and earlier versions, do not support the border-image property.



# CSS3 Backgrounds

- CSS3 contains a few new background properties, which allow greater control of the background element
- You will also learn about the following new CSS3 properties
  - background-size
  - background-origin
  - background-clip
- to add multiple background images for an element
- The different background images are separated by commas, and the images are stacked on top of each other, where the first image is closest to the viewer

# CSS3 Backgrounds: Example1

```
#example1 {  
    width:400px;  
    background-image: url(img_flwr.gif), url(paper.gif);  
    background-position: right bottom, left top;  
    background-repeat: no-repeat, repeat;  
    padding: 15px;  
}
```

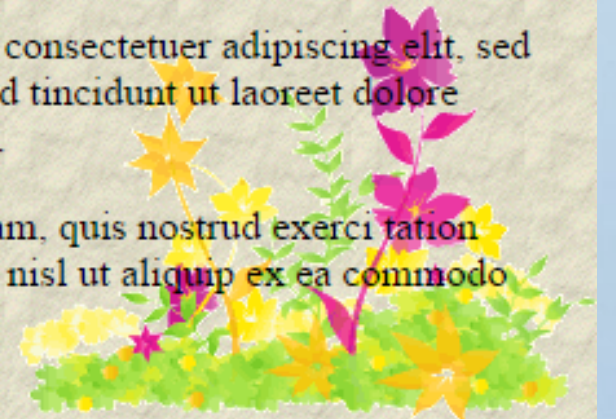
## **Note: Shorthand**

background: url(img\_flwr.gif) right bottom  
no-repeat, url(paper.gif) left top repeat;

## Lorem Ipsum Dolor

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed  
diam nonummy nibh euismod tincidunt ut laoreet dolore  
magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation  
ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo  
consequat.





# CSS3 Backgrounds: Example2 : background-size

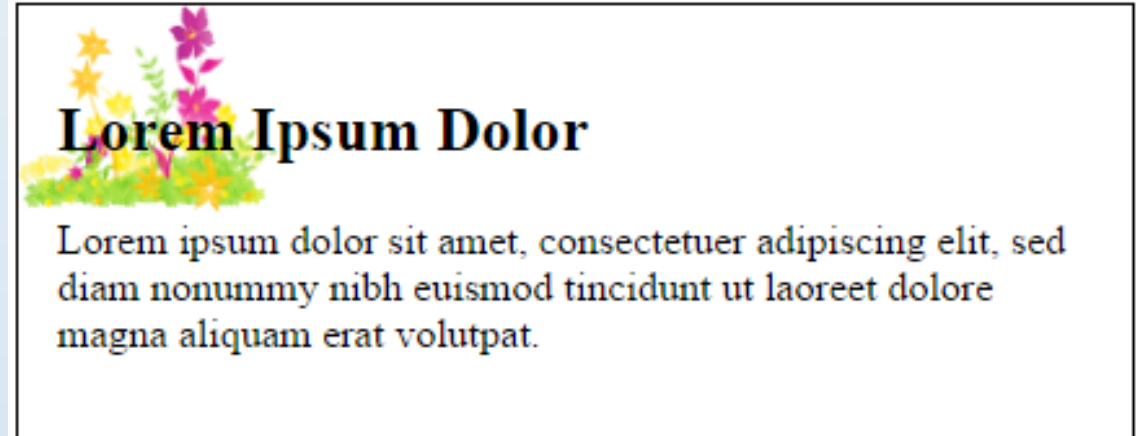
```
#example1 {  
    border: 1px solid black;  
    background:url(img_flwr.gif);  
    background-repeat: no-repeat;  
    padding:15px;  
}
```

```
#example2 {  
    border: 1px solid black;  
    background:url(img_flwr.gif);  
    background-size: 100px 80px;  
    background-repeat: no-repeat;  
    padding:15px;  
}
```

Original background-image:



Resized background-image:





# CSS3 Colors

- CSS supports color names, hexadecimal and RGB colors
- In addition, CSS3 also introduces
  - RGBA colors (Red, Green, Blue, Alpha value)
  - HSL colors (Hue, Saturation, Lightness)
  - HSLA colors (Hue, Saturation, Lightness, Alpha:opacity)
  - opacity

# CSS3 Colors: RGBA

```
#p1 {background-color:rgba(255,0,0,0.3);}
#p2 {background-color:rgba(0,255,0,0.3);}
#p3 {background-color:rgba(0,0,255,0.3);}
#p4 {background-color:rgba(192,192,192,0.3);}
#p5 {background-color:rgba(255,255,0,0.3);}
#p6 {background-color:rgba(255,0,255,0.3);}
```

RGBA colors:

Red

Green

Blue

Grey

Yellow

Cerise

# CSS3 Colors: Opacity

- sets the opacity for the whole element (both background color and text will be opaque/transparent)
- value must be a number between 0.0 (fully transparent) and 1.0 (fully opaque)

```
#p1 {background-color:rgb(255,0,0);opacity:1;}  
#p2 {background-color:rgb(255,0,0);opacity:0.8;}  
#p3 {background-color:rgb(255,0,0);opacity:0.6;}  
#p4 {background-color:rgb(255,0,0);opacity:0.4;}  
#p5 {background-color:rgb(255,0,0);opacity:0.2;}  
#p6 {background-color:rgb(255,0,0);opacity:0;}
```

Elements with opacity:



# Exercise 1

- <https://www.w3schools.com/css/>
- Go to above link and try to implement all the css3 properties in your web page
- Note: Use Flexbox properties

