

MIS3690 - Web Technologies



Animation using JavaScript

setTimeout()

- It calls and executes the **same** function *repeatedly*, in preset time intervals
- Syntax:

```
[window.]setTimeout(function[, delay]);
```

- Example:

```
setTimeout(animate, 1000)
```

- the function `animate` is called over and over every 1000 **microseconds** (i.e. 1 second)
- could be placed inside the **same** function that it calls
 - e.g. `setTimeout(animate, 1000)` is placed inside the `animate()` function
 - known as a **recursive** call
 - try: google "**recursion**"

Global variables vs. Local variables

- Global variables:
 - variables that are declared *outside* a given function
 - used to maintain values that should not get reset
- Case 1 (**local** variable `counter`):

```
function doThis() {  
  let counter = 0;  
  counter++;  
}  
// Every time doThis() is called, counter will be set to 0  
// and then increased by 1.
```

- Case 2 (**global** variable `counter`):

```
let counter = 0;  
function doThat() {  
  counter++;  
}  
// Every time doThat() is called, counter will NOT be reset to 0,  
// it will be incremented by 1, based on its previous value.
```

Creating a slide-show: *ex18.html*

- Create an *Array* variable

```
const slides = ["images/tiger1.jpg", "images/tiger2.jpg"];  
// Now we have a global variable, which is an array that contains two images (src)
```

- Create a place holder for the changing image using `` tag
- Use event `load` on `body` (or `DOMContentLoaded` on `document`). see [difference](#)
- Write a function to *change* the image
- Use `setTimeout()` to *recursively* call the function
- Code is in next slide ()

ex18.html

```
const slides = [  
  "images/tiger1.jpg",  
  "images/tiger2.jpg",  
  // more  
];  
let i = 0;  
  
function slideShow() {  
  let tigerImage = document.getElementById("tiger");  
  if (i === slides.length) {  
    i = 0;  
  }  
  tigerImage.src = slides[i];  
  i++;  
  setTimeout(slideShow, 1000);  
}
```

Extending *ex18*

- Can we add `border` that changes color with the changing image?
- Can we add `changing text` that describes the changing image?
- *Commit/push* to GitHub. *Update sitemap.html*.

Another animation using JavaScript - moving lyrics

- Download [lec18-js-animation.html](#)
- Read code, including
 - JavaScript
 - CSS (**important** in this example)
- Answer the following questions:
 - What are the **global** variables?
 - What is the **purpose** of each variable?
 - Any way to make the movement **faster? more smoothly?**

Questions?

