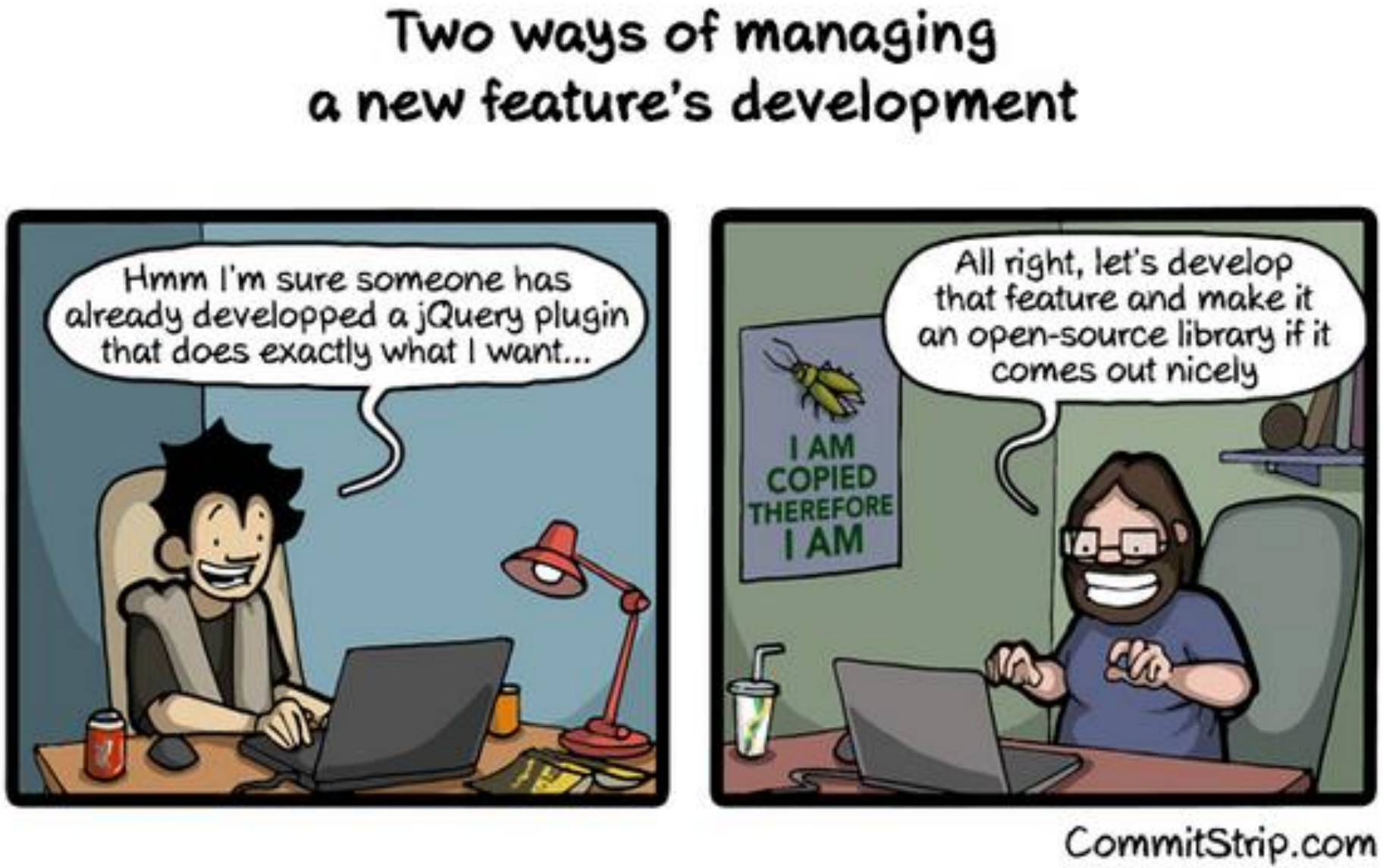
CSC 337



jQuery

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What is jQuery?

- jQuery is a fast and concise JavaScript Library that simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development. (jQuery.com)
- A huge collection of predefined JavaScript objects and methods that are free to use
- JQuery also provides a mobile library and a CSS library with predefined styles for fancy buttons, links, headings and fancy mobile interfaces

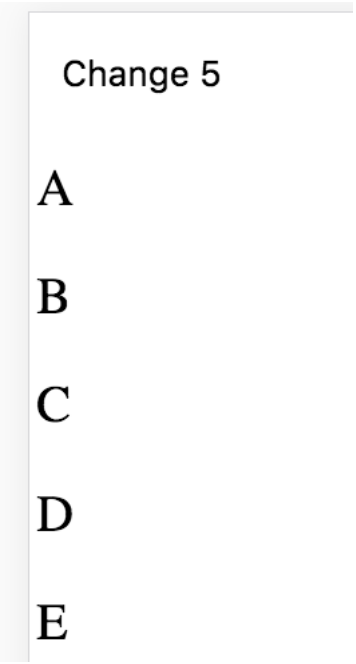
Why jQuery?

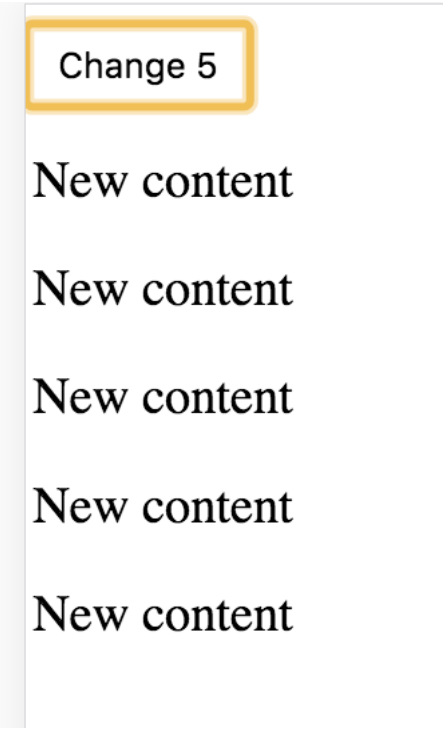
- Write less, do more
- Can be used for
  - HTML/DOM manipulation, HTML event methods, animations, AJAX
- Has methods for about any task you need
- Widely used
- Use JavaScript and HTML using css selectors to find elements and do something with them
- Performance, it’s standard, it's fun
- It's free

Compare JS to jQuery, no jQuery here

```
<body>
<button type="button" onclick="change4()">Change 5</button>
<p>A</p>
<p>B</p>
<p>C</p>
<p>D</p>
<p>E</p>

<script>
function change4() {
  var paragraphs = document.getElementsByTagName("p");
  for (i = 0; i <= 4; i++) {
    paragraphs[i].innerHTML = "New content";
  }
}
</script>
</body>
```

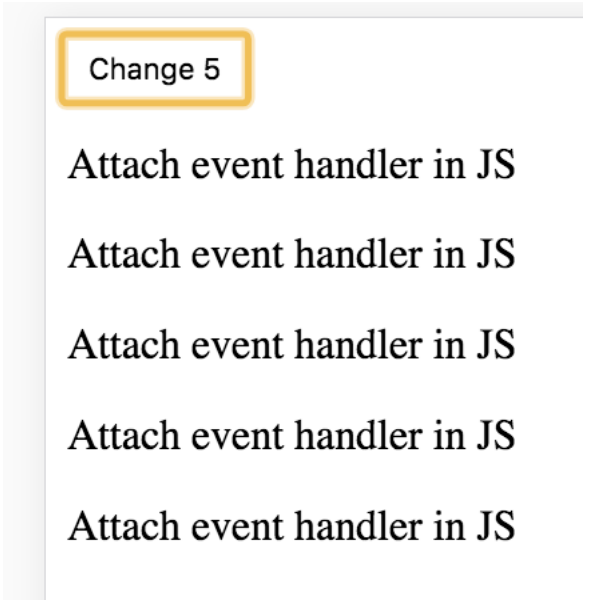




But as a warmup, addEventListener in JS

```
<body>
<button type="button">Change 5</button>
<p>A</p>
<p>B</p>
<p>C</p>
<p>D</p>
<p>E</p>

<script>
  var button = document.getElementById("change5");
  button.addEventListener("click", function() {
    var paragraphs = document.getElementsByTagName("p");
    for (i = 0; i <= 4; i++) {
      paragraphs[i].innerHTML = "Attach event handler in JS";
    }
  });
</script>
</body>
```



JS changes the view, not the HTML 1.html

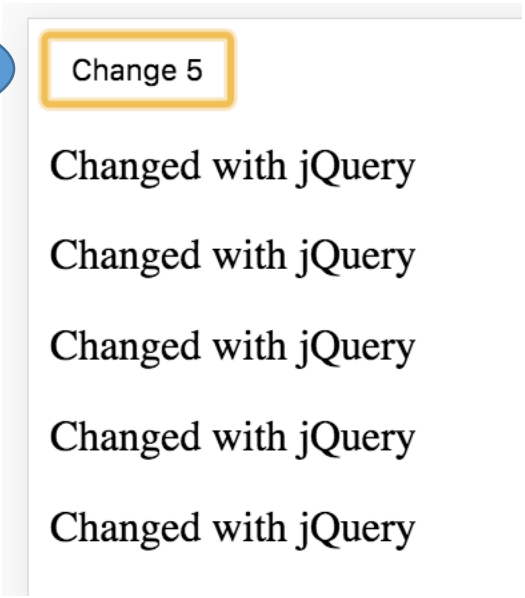
```
<script src="jquery-3.2.1.min.js"></script>
<body>
<button id="change5">Change 5</button>
<p>A</p>
<p>B</p>
<p>C</p>
<p>D</p>
<p>E</p>

<script>
$("button").click(function() {
    $("p").html("JQuery Changed");
});
</script>
</body>
</html>
```

Need this file in the current folder

$ is short for function jQuery ( )

jQuery uses CSS selectors



Anonymous function call when DOM is loaded

- We cannot use the DOM before the page has been constructed. jQuery gives us a more compatible way to do this.
  - The DOM way

```
window.onload = function() { // do stuff with the DOM }
```

  - The direct jQuery translation. Do this so no JS runs before page load

```
$(document).ready(function() { // do stuff with the DOM });
```

Hello DOM, when loaded

- Basic syntax: `$(selector).action()`
  - `selector` used to find (query) HTML elements
  - A jQuery `action()` is what will be performed on the element(s)

Selectors

- Element selectors
  - Select all <p> elements on a page `$("p")`
- #id Selectors
  - Find an element by id `$("#anID")`
- class selectors
  - To find elements with a specific class, write a period character, followed by the name of the class `$(".aClass")`

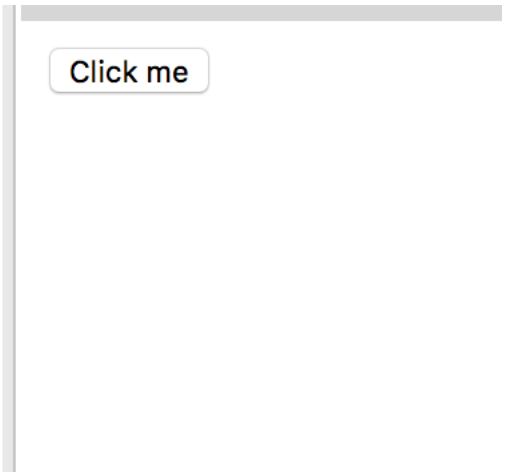
Hide three HTML elements 2.html

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
</head>

<h2 class="one">This is a heading</h2>
<p id="two">This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
<script>

$(document).ready(function(){
    $("button").click(function(){
        $(".one").hide();
        $("#two").hide();
        $("p").hide();
    });
});

</script>
```



jQuery Event Methods

- Like what we've seen with HTML events
  - moving a mouse over an element
  - selecting a radio button
  - clicking on an element
- Assign a click event to all paragraphs on a page `$("p").click();`
- Also need to define what should happen when the event fires.
  - Pass a function to the event

```
$("p").click( function() {
     // action goes here!!
});
```

Commonly Used jQuery Event Methods beside click

2.html, same as the previous one

- The `mouseenter()` method attaches an event handler function to an HTML element

```
$("p").mouseenter(function() {
  enters++;
if (enters % 2 == 0)
  $("p").css("color", "red");
else
  $("p").css("color", "blue");
});
```

- There are ~50 events like `hover mousedown event.timer resize`

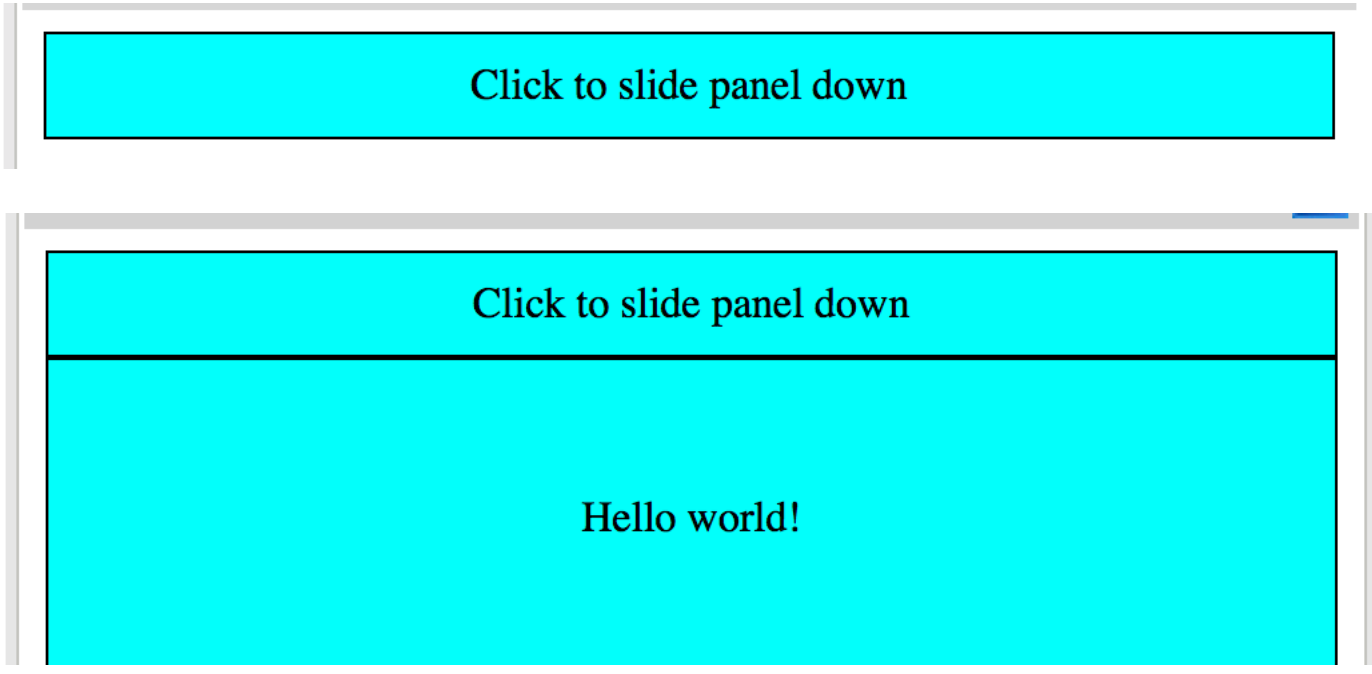
jQuery Effects 3.html

```css
#panel, #flip {
    padding: 10px;
    text-align: center;
    background-color: cyan;
    border: solid 1px black;
}
#panel {
    padding: 50px;
}
```

- With jQuery, you can do the following effects:
  - Hide, Show, Toggle, Slide, Fade, Animate
- jQuery has slide methods `slideDown()` `slideUp()` `slideToggle()`

```html
<div id="flip">Click to slide panel down</div>
<div id="panel">Hello world!</div>

<script>
$(document).ready(function(){
    $("#flip").click(function(){
        $("#panel").slideDown(1000);
    });
});
</script>
```

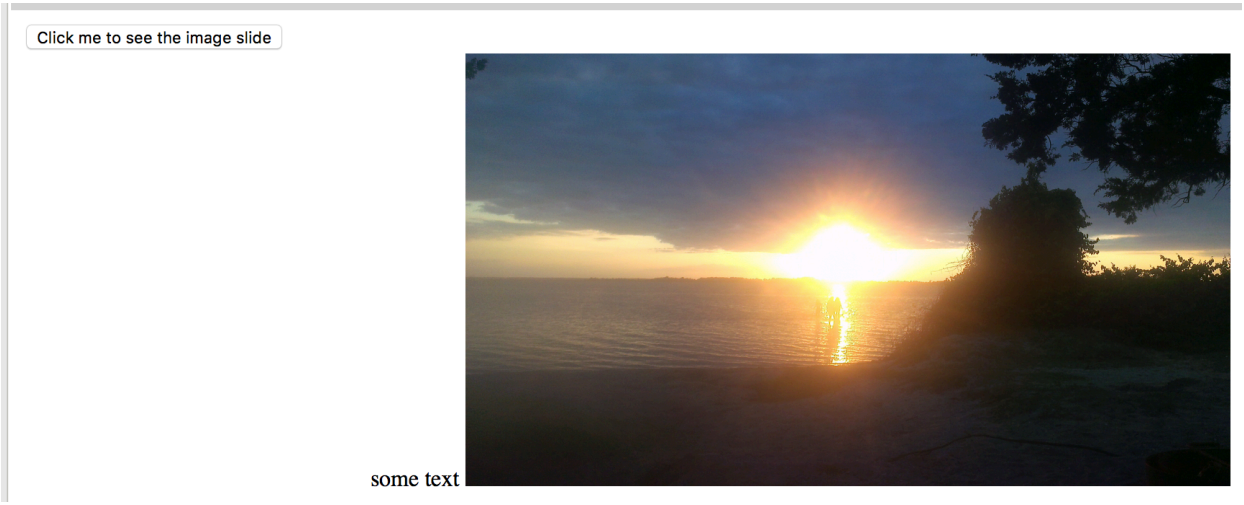


jQuery Animations - The animate() Method 4.html

- Moves an image element to the right, until it has reached a left property of 300px. Take 1 second to do it need to demo 5.html

```
<script src="jquery-3.2.1.min.js"></script>
<body>
<button id="button1">Click me to see the image slide</button>
<div id="pic" style="position: absolute;">
some text
<img src="images/atlantic.jpg" id="pic" alt="atlantic" width="532px"
        height="300px">
</div>

<script>
$(document).ready(function() {
  $("#button1").click(function() {
    $("#pic").animate({left:'250px'}, 1500);
  });
});
</script>
```



Multiple Properties possible 5.html

- Multiple properties can be animated at the same time 5.html

```
$("button").click(function(){
$("div").animate({
        left:'250px',
        opacity:'0.5',
        height:'150px',
        width:'150px'});
    });
});
```