IAT 339 Web Design and Development

Spring 2021

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Lecture 8:
P03: Portfolio Project
More JavaScript
Challenges of the Modern Web

P02 Company

- Due tonight
- See description of final deliverables on Canvas

Coding Quiz

For the quiz you will be presented with a web layout problem, the solution for which will only require that you use HTML and CSS.

Coding Quiz

Please read the following quiz rules *carefully*:

1. This quiz is **open book**, meaning you can draw on online resources as much as you would like.
2. *Any* words that are not your own **must be cited** using a proper format — for example (Author, 2000). *Any* plagiarism will result in a grade of zero. No exceptions.
3. Please answer any questions in **full sentences.**

The time allocated ensures that you have sufficient time to upload your .zip folder to Canvas.

Quiz Type	Graded Quiz
Points	20
Assignment Group	Quizzes
Shuffle Answers	No
Time Limit	110 Minutes
Multiple Attempts	No
View Responses	No
One Question at a Time	No

Due	For	Available from	Until
Mar 25 at 12:20pm	Everyone	Mar 25 at 10:30am	Mar 25 at 12:20pm

Coding Quiz – Part 1

- 1. Researching a solution
  - You are required to propose as many potential solutions to the problem as possible.
  - The solutions must be written out with textual explanations, not code.
  - This portion will be graded on quality and quantity of proposed solutions.
  - This will be worth 10 points.

Coding Quiz – Part 2

- 2. Creating a solution in code
  - You will implement one of your solutions in code.
  - This portion will be graded on code validity and solution completeness (part marks are possible).
  - This will be worth 10 points.

Coding Quiz – How to Prepare

- It is highly recommended that you review everything that we have covered re. web layout:
  - Grids
  - Flexbox
  - Responsiveness
  - Units
  - Positioning
- If you have any questions while preparing, please book time during office hours.

Goals for Today

P03 Introduction – Portfolio Project

What is your portfolio?

More JavaScript

- Finding nodes
- Creating new elements
- Adding event listeners
- Mouse events

Challenges of the Modern Web

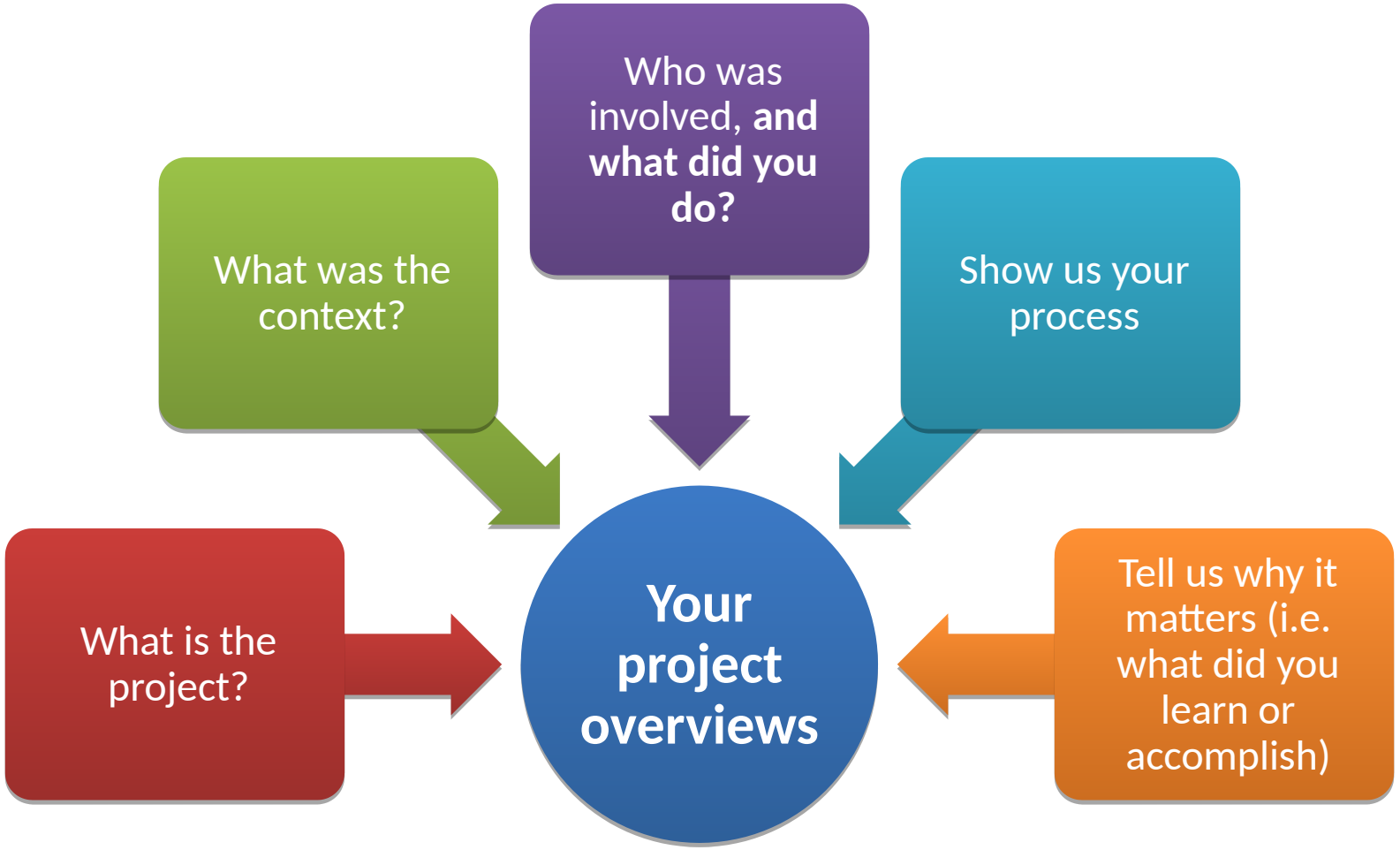
Your Portfolio

- **What makes you different?**
- Who do you want to work for?
- What 'makes you unique' (but employable)?

Creating an Ethos

- A ……*design*…….. ethos is the **understanding, characteristics** and **definition** of oneself as a *designer*.
  - **Ethos** is an argument that appeals to the audience by **emphasizing the speaker's credibility and authority**

Showcasing Your Work - *Help us understand why it is good*



Language

Speaking like your professional self

- The **process analysis** allows us to guide potential employers through **our process**. It should:
  - Describe the project
  - Analyze and explain the project
  - Identify problem(s) and resolution(s)
  - Evaluate the effectiveness

Step 1: Describe

- 1. How would you describe and explain P02?

Step 2: Analyze

- 1. How would you describe and explain P02?

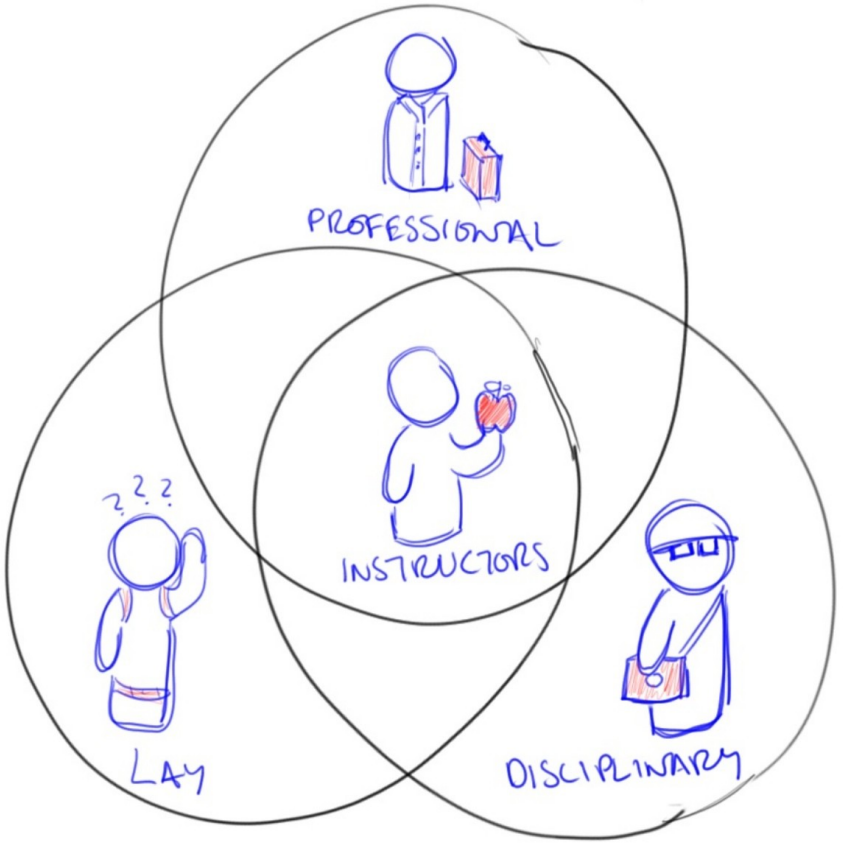
- 2. What might be some 'problems' encountered?

Step 3: Evaluate

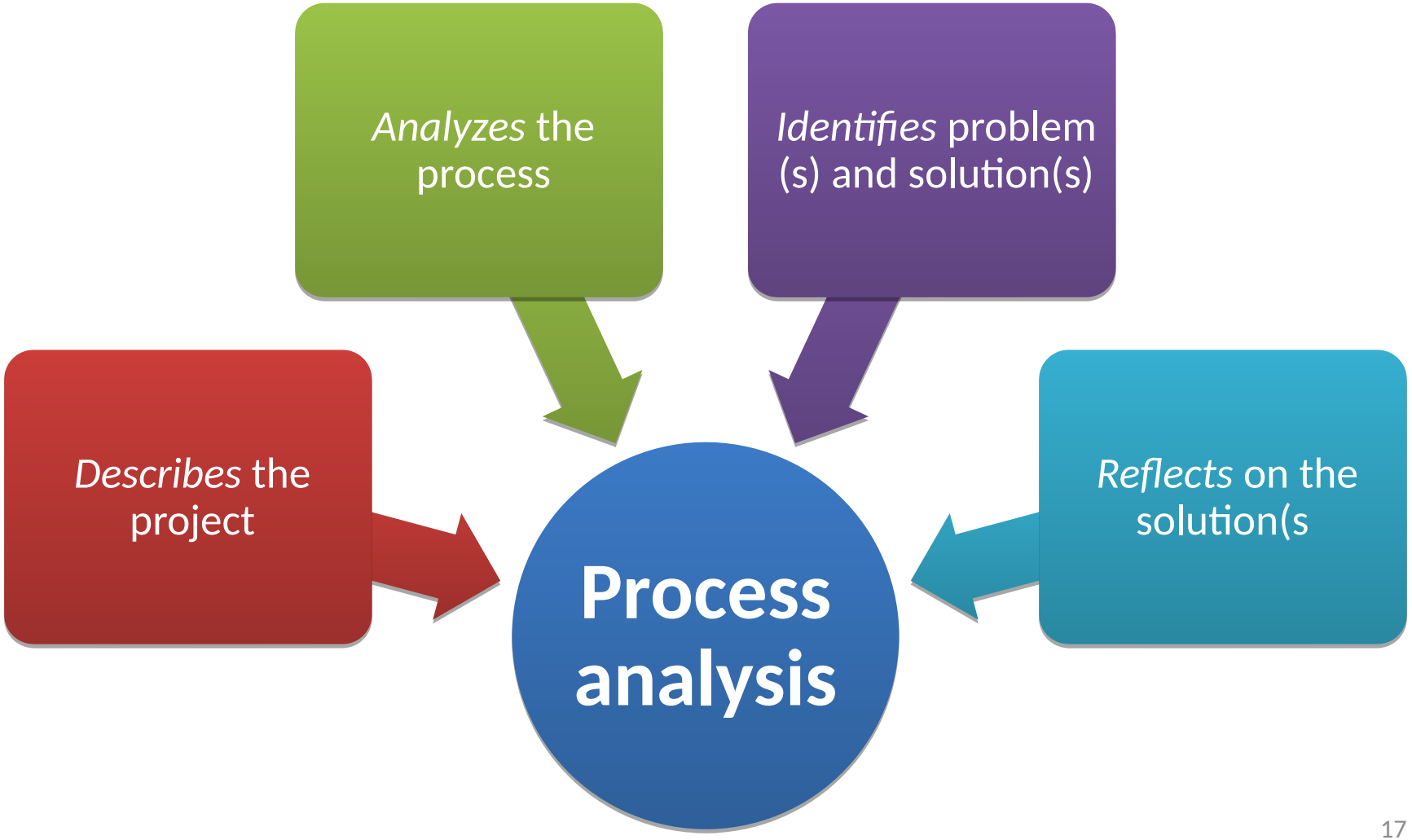
- 1. How would you describe and explain P02?
- 2. What might be some 'problems' encountered?
- 3. What did you learn?

Let's Analyze

- 1. How would you describe and explain P02?
- 2. What might be some 'problems' encountered?
- 3. What did you learn?
- 4. How would you explain them to our audiences?



Process Analysis



Why Should I Care?

Industry and learning

- Portfolios are all about **reflective practice and** learning well always involves self-reflection.

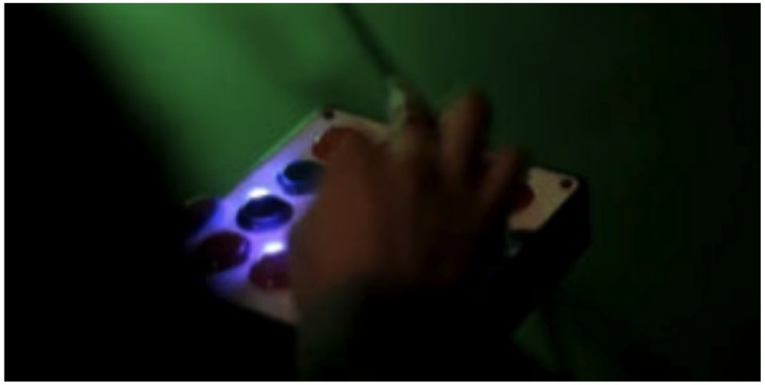
P03: What Do They Want?

How employers approach applications

- **How employers approach your application:**
  - **Skimming the cover letter (5s)**: Well written and custom?
  - **Look at the resume (10s)**: Well designed, clear branding, good typsetting?
  - **Read the resume (20s)**: Have skills and experience relating to job?
  - **Look at web portfolio (30-60s)**: Want custom URL, non-templatey website
- Care of "Burn Your Portfolio"

The Work Never Speaks For Itself

- What does this one say?



P03: Plagiarism

- You are allowed to use frameworks (ie. Bootstraps or Foundation web UI frameworks), JavaScript libraries to make working on the site easier, but the final design must be your own work. **All materials must be cited**.

- When in doubt, ask the TA or instructor.

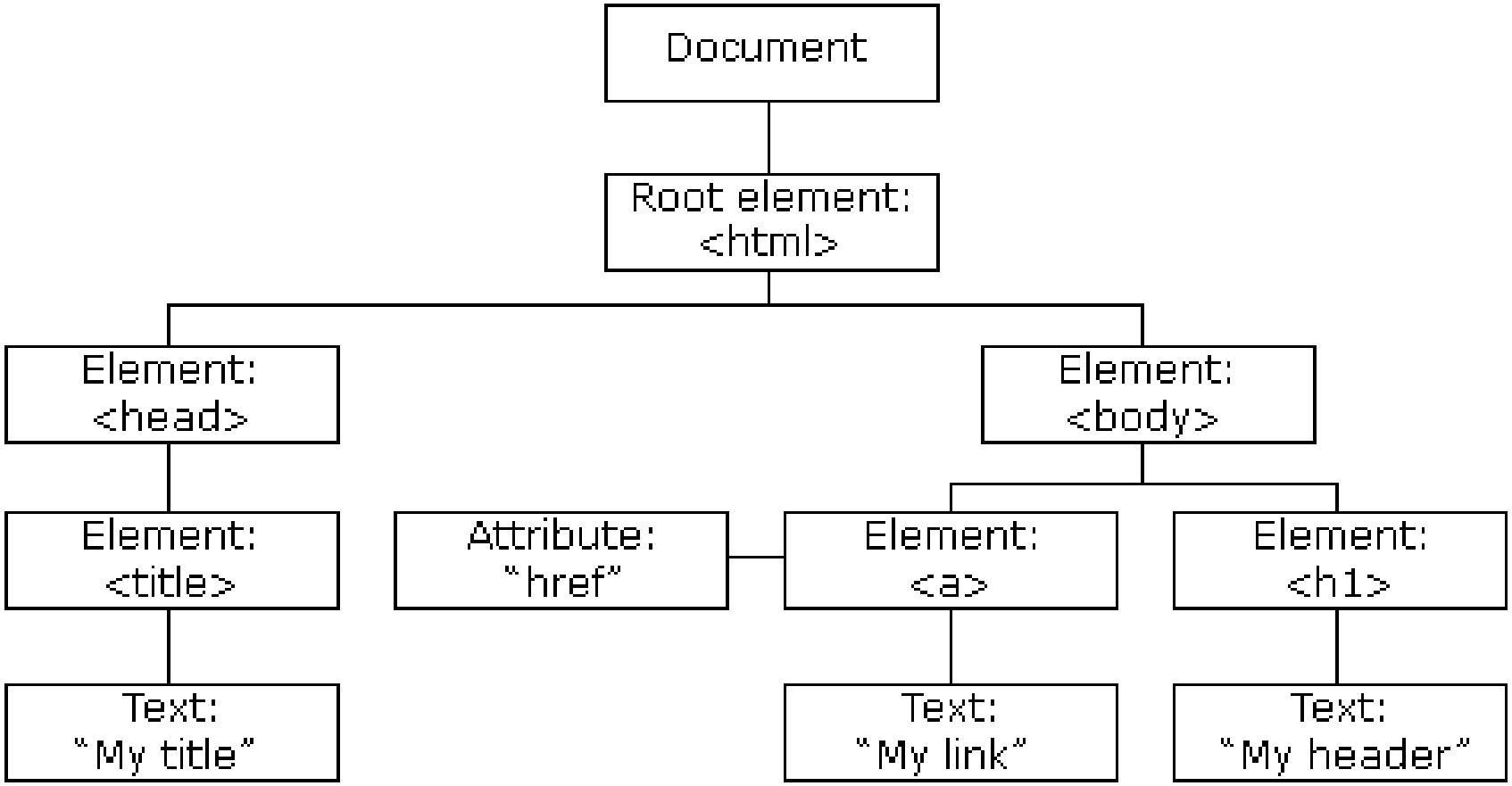
P03: Identifying Employers

- Remember every website has an audience, in this case **your potential employer is your audience**.

- Hence we'll be having you identify who you might want to work for in the future, to help you focus your site.

More JavaScript

HTML DOM: The Document Tree



Source: https://www.w3schools.com/js/js_htmldom.asp

DOM

- Structured representation of the document tree
- We can access the DOM from other programs so that they can change:
  - The document's structure
  - The document's style
  - The document's content

Question

Why use JavaScript to update the CSS and HTML when we can just code those in when we create the website?

Answer

- Different users accessing the website – all of them expect to receive their own experience with the webpage
- Using DOM: we can customize the webpage experience
- Website can change based on user events
- Can add forms, validating forms, image galleries
- Interactive webpages

How to Access the DOM with JavaScript

- DOM = key to make our webpages interactive
- DOM = whole contents of the webpage
  - Different nodes, styles, attributes, …everything
- Browser: looks at the webpage and sees it as one object
- Document object = everything that is within that webpage

Finding Nodes – id, tag, class

- Three methods:
  - getElementById()
  - getElementsByTagName()
  - getElementsByClassName()

findingNodes.zip from Canvas

```html
<html>

<head>
  <meta charset="utf-8">
  <title>Finding Nodes with JavaScript</title>
</head>

<body>
  <h1 id="header">Welcome to IAT339 Lecture 8</h1>
  <p>This is my page in which we will show how <span class="mycla
  <p>The weather will be <span class="myclass">rainy</span> today
  <p>Elements can change and you <span class="myclass">can </span
  <div class="myclass">This is a Div with the class that is the s

  <script src="js/script1.js"></script>

</body>
</html>
```

```
var myHeader = document.getElementById("header");
console.log(myHeader);

var mySpans = document.getElementsByTagName("span");
console.log(mySpans[0]);
console.log(mySpans.length);

for (var i = 0; i < mySpans.length; i++) {
  console.log(mySpans[i]);
}

var selectedClass = document.getElementsByClassName("myclass");
console.log(selectedClass.length);

for (var i = 0; i < selectedClass.length; i++) {
  console.log(selectedClass[i]);
}

```

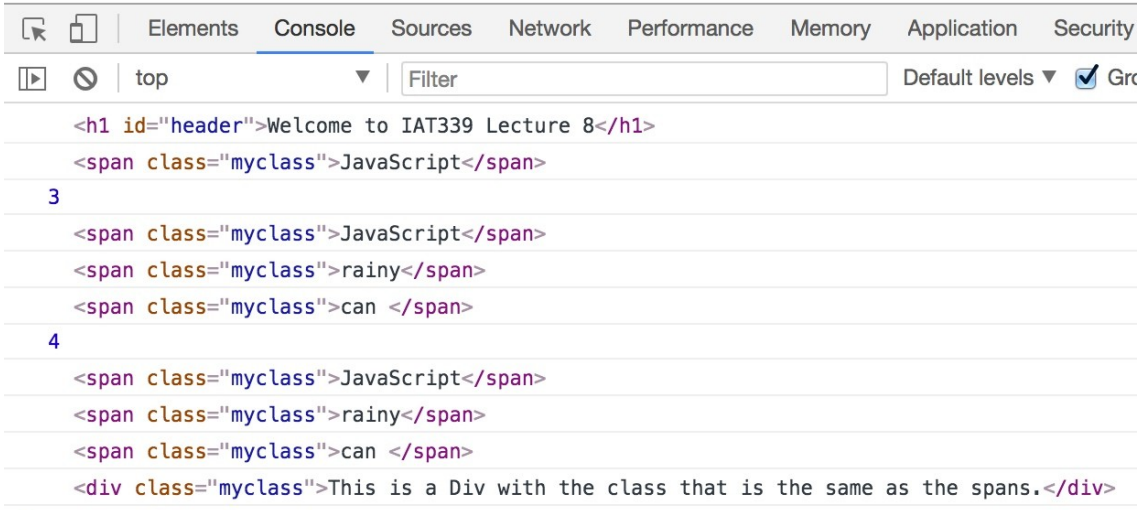
Welcome to IAT339 Lecture 8

This is my page in which we will show how JavaScript works!

The weather will be rainy today.

Elements can change and you can select them by Class, ID and other methods.

This is a Div with the class that is the same as the spans.



In-class Exercise

- Change the content for all elements that have class = "myclass" to "**(1) Class for this element is MYCLASS.**"
  - The '(1)' should be the count corresponding to the element that has 'myclass' as its class
  - The new changed content should appear in **Bold**

Welcome to IAT339 Lecture 8

This is my page in which we will show how **1.Class for this element is MYCLASS.** works!

The weather will be **2.Class for this element is MYCLASS.** today.

Elements can change and you **3.Class for this element is MYCLASS.** select them by Class, ID and other methods.

4.Class for this element is MYCLASS.

Solution

```
var selectedClass = document.getElementsByClassName("myclass");
console.log(selectedClass.length);

for (var i = 0; i < selectedClass.length; i++) {
  selectedClass[i].innerHTML = '<B>' + (i+1) + '.Class for this element is MYCLASS. </b>';
}
```

In-class Exercise 2

- Download ‘exercise2.html’
  - Get all elements with class name row.
  - Loop through the returned results
  - Change the style, textAlign, color, backgroundColor, fontFamily and add a border.

```
var rowElement = document.getElementsByClassName("row");
console.log(rowElement.length);
for (var i = 0 ; i < rowElement.length; i++) {
   //fill in your code
}
```

Solution

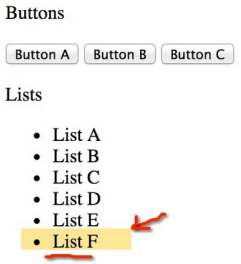
exercise2.html | script1.js | styles.css

```
1  .newstyle {
2    color: #ea1010;
3    background-color: #f9de2dcf;
4    text-align: center;
5    font-family: Cambria; "Hoefler Text", Times, "Times New Roman", serif;
6    border: 1px solid black;
7  }
```

```
var rowElement = document.getElementsByClassName("row");
console.log(rowElement.length);
for (var i = 0 ; i < rowElement.length; i++) {
   rowElement[i].className += " newstyle";
}
```

Creating a New Element

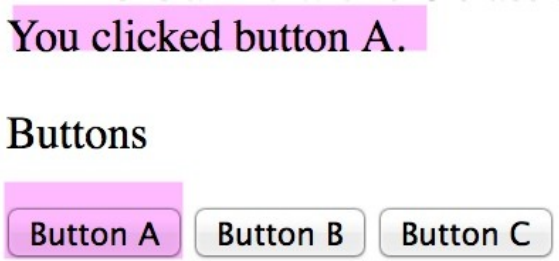
- Add a new element in our ordered list:



ercise2.html | script1.js | script2.js

```
var ul = document.getElementById('mylist');
var li = document.createElement("li");
li.appendChild(document.createTextNode("List F"));
li.setAttribute("id", "listF");
li.classList.add('listClass');
ul.appendChild(li);
```

Adding Event Listeners



- Making web pages interactive
- Waiting for user input
  - Depending on the action the user takes, the webpage will react through JavaScript code
- Example with button clicks

```
var myButton = document.getElementById('btnA');
var myOutput = document.getElementById('output');
var btnClick = function(){
  myOutput.textContent = "You clicked button A.";
  };
myButton.addEventListener("click", btnClick);
```

In-Class Exercise 3

- Download 'EventListeners.zip'

- Modify the JavaScript code so that it reacts to all three button clicks, and the output should correspond to the button that has been clicked.
  - Hint: you will need to modify HTML code – think about adding a class to each of the buttons

Solution

HTML

```html
<div id="output">No output yet!</div>

<div class="rowOne">
  <p> Buttons</p>
  <button id="btnA" class="btn">Button A</button>
  <button id="btnB" class="btn">Button B</button>
  <button id="btnC" class="btn">Button C</button>
</div>
```

JavaScript

```javascript
var myButton = document.getElementsByClassName('btn');
var myOutput = document.getElementById('output');

for (var i=0; i<myButton.length; i++){
  var btnClick = function(){
    myOutput.textContent = "You clicked " + this.id;
    };
  myButton[i].addEventListener("click", btnClick);
}
```

Mouse Events

```
var myOutput1 = document.getElementById('output1');
var myArea = document.getElementById ("myImage");
var mouseMover = function(e){
      console.log(e);
      console.log(e.x);
      myOutput1.textContent = "x: " +e.x +", y: "+e.y;
    };
myArea.addEventListener("mousemove", mouseMover);
}
```

In-Class Exercise 4

- Change the background and text of of the div with id = output1 when the user moves in and out of the image.

Mouse is OVER image

Mouse is OUT of image

Solution

```
var myOutput1 = document.getElementById('output1');
var myArea = document.getElementById ("myImage");

var mouseOVER_Image = function(e){
    myOutput1.style.backgroundColor = "pink";
    myOutput1.textContent = "Mouse is OVER image";
    };
var mouseOUT_Image = function(e){
      myOutput1.style.backgroundColor = "yellow";
      myOutput1.textContent = "Mouse is OUT of image";
        };
myArea.addEventListener("mousemove", mouseOVER_Image);
myArea.addEventListener("mouseleave", mouseOUT_Image);
}
```

The Dark Side: Challenges of the Modern Web

Challenges of the Modern Web

- Web ethics

- We are considering the ethics — the morality, or duty and obligations — associated with different issues on the web, and how they might relate to our work as designers or developers.

- The questions today are *not* binaries of right or wrong. They are complex, and we want to make sure we understand how others may perceive these issues as much as we understand how we perceive them.

Guidelines

- Given that you will be considering topics that you may feel passionately about, we have a couple guidelines:
  - **Please focus on the issues**: Please try to avoid personal opinion.
  - **Avoid rights and wrongs**: You may personally view something as right/wrong, but we want to unpack more than our personal views.
  - **Have empathy**: While you may not agree with, or understand how an issue is presented, try to take time to understand why that issue exists or has been presented that way.

Questions

- We will be focusing on three questions regarding the web:

- *1. Privacy*: How is this understood?

- *2. Data & Ownership*: How is data 'owned'?

- *3. Net Neutrality*: How do we balance access?

Groups

- Group 1, Group 2:
  - *1. Privacy*: How is this understood?
- Group 3, Group 4:
  - *2. Data & Ownership*: How is data 'owned'?
- Group 5, Group 6:
  - *3. Net Neutrality*: How do we balance access?

How?

- **Please do the following:**
  - Read the quotes.
  - Think about the issue the quotes address.
  - Consider the question and make note of your answers.
  - Have a group discussion to come up with set of answers to present to the class (15 minutes)
  - Submit your answers to the assignment on Canvas.
  - Each group will present to the class (included as participation mark) (3 minutes per group)

Privacy – How is this understood?

- "People have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people … that social norm is just something that has evolved over time."

- "The universe wants us to have secrets. We can encrypt information so thoroughly that if all the hydrogen atoms in the universe were computers and tried nothing but to crack our cyphers until the end of the universe, they wouldn't be able to."

- "As adults, by and large, we think of the home as a very private space … for young people it's not a private space. They have no control over who comes in and out of their room, or who comes in and out of their house. As a result, the online world feels more private because it feels like it has more control."

- **How does a shift in the perceived importance of privacy affect designer's or developer's consideration of it?**

Data and Ownership – How is data owned?

- "People do not know how much their data are worth, nor do they really want to deal with the hassle of managing them, but they are also showing symptoms of what is called 'learned helplessness': terms and conditions for services are often impenetrable and users have no choice than to accept them — smartphone apps quit immediately if one does not tap on 'I agree'."

- "Facebook's argument and obviously OkCupid's argument is, well, what we're giving you in exchange for your data — very clearly — are these tools. Like on OkCupid you can find dates. On Facebook you can connect with long lost friends. You have an easy platform to collect pictures. To the extent that any of these sites are useful, that's why people use them."

- "I reveal my date of birth and hometown on my Facebook profile and an identity thief can reconstruct my Social Security number and steal my identity … or someone can send me 'happy birthday' messages on the day of my birthday, which makes me feel very good."

- **How do we determine what handing over of personal data is acceptable in exchange for a free service?**

Net Neutrality – How do we balance access?

- "Without net neutrality the incumbents who provide access to the internet would be able to pick winners or losers in the market. They could impede traffic from our services in order to favor their own services or established competitors. Or they could impose new tolls on us, inhibiting consumer choice."

- "Facebook's Free Basics - free access to basic websites (news, job postings, health and education info, communication tools like Facebook) - is yet another way competitive carriers can improve the lives of rural Americans by increasing access to and adoption of broadband."

- "My concern is that by imposing those heavy-handed economic regulations on Internet service providers big and small, we could end up disincentivizing companies from wanting to build out Internet access to a lot of parts of the country, in low-income, urban and rural areas, for example. And that, I think, is something that nobody would benefit from."

- **How might providing free data for access to specific websites be advantageous or disadvantageous to those who do not have internet access otherwise?**

Thank you!