

Student Guide: JavaScript DOM & Events – Interactive Web Development

Welcome to Your JavaScript Adventure

In this session, we're not just learning JavaScript—we're building with it. Whether you're new to coding or strengthening your JS skills, by the end of this session, you'll be able to interact with users, modify a webpage, and respond to real-time events. You'll leave with 2 mini-projects and a toolkit of coding patterns used by real-world developers.

What We're Building Together

1. **Ticket Calculator App** – Enter an age, and the app tells you which type of ticket the person gets.
2. **Cookie Banner Manager** – Display a notification and hide it when the user dismisses it.

We'll break down each topic with examples, then you'll code your own versions as mini-projects

1. Understanding Decisions: if, else if, else

What's Happening?

Sometimes in programming, we need our app to **make a decision**. In JavaScript, we use if statements to control what code runs based on conditions.

💡 Example:

```
let age = 20;

if (age < 14){
  alert("Child's Ticket");
}
else if (age < 65){
  alert("Adult Ticket");
}
else{
  alert("Travel Free");}
```

Mini Challenge:

Change the value of age and run the code. Try with age = 8, 30, and 70. See what message you get!

2. Writing Reusable Code: Functions

Why Functions?

Imagine writing the same block of code every time you need it. Not fun. Functions let us write once, use many.

Example:

```
function ticketType(age){  
  if (age < 14){  
    alert("Child's Ticket");  
  }  
  else if (age < 65){  
    alert("Adult Ticket");  
  }  
  else{  
    alert("Travel Free");  
  }  
}
```

Call it like this:

```
ticketType(30);
```

Mini Project:

Create a function greetUser(name) that says hello to a user using alert(). Try it with different names.

3. Controlling the Webpage: The DOM

What's the DOM?

The **Document Object Model** is how JavaScript "sees" your web page. It lets us find and change anything on the page: text, styles, images, etc.

💡 Example:

Let's say you have this HTML:

```
<div id="example">Welcome!</div>
```

Now change the background:

```
document.getElementById("example").style.backgroundColor = "lightblue";
```

Mini Challenge:

Create a div and a button. When you click the button, change the background of the div.

4. Listening for Events

We want the page to **react** when a user does something. That's where **events** come in.

HTML:

```
<button id="btnExample">Click Me</button>
```

JS:

```
document.getElementById("btnExample").addEventListener("click", function(){  
    alert("The button was clicked!");  
});
```

Mini Project 1: Ticket Calculator App

HTML:

```
<input id="txtAge" placeholder="Enter your age">
```

```
<button id="btnGetTicket">Get Ticket Type</button>
```

```
<p id="result"></p>
```

JS:

```
document.getElementById("btnGetTicket").addEventListener("click", () => {  
    let age = document.getElementById("txtAge").value;  
    let output = "";  
  
    if (age < 14){  
        output = "Child's Ticket";  
    }  
    else if (age < 65){  
        output = "Adult Ticket";  
    }  
    else{  
        output = "Travel Free";  
    }  
  
    document.getElementById("result").innerHTML = output;  
});
```

What You Learned:

- How to get values from an input box
- How to process data and display a result
- How to build a complete interactive feature



Quick JavaScript Cheatsheet

Task Code

Get element by ID `document.getElementById("id")`

Hide an element `element.style.display = "none";`

Show an element `element.style.display = "block";`

Change text content `element.innerHTML = "New text";`

Add a click event `element.addEventListener("click", () => {})`