

Title: Chrome DevTools Implementations – Project 2

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Course: COMP 484 – Project 2 DevTools Extension

Section 1. JavaScript Debugging Implementation

A debugging demo was added to the bottom of the existing Project 2 interface. The calculator intentionally produced incorrect output because the values retrieved from the DOM were strings, causing concatenation rather than numeric addition.

Screenshot 1: Initial Bug Reproduction

The inputs “5” and “1” produced “ $5 + 1 = 51$,” confirming the string-concatenation error.

Screenshot 2: Breakpoint Placement

A breakpoint was set on the line “`const sum = n1 + n2;`” inside `script.js` using the Chrome DevTools Sources panel. Execution paused upon pressing the Add Numbers button.

Screenshot 3: Scope Inspection

While paused on the breakpoint, the Scope panel reported:

`n1 = "5"`

`n2 = "1"`

indicating both values were string-typed.

Screenshot 4: Corrected Output After Fix

The code was corrected by converting inputs to numbers using the `Number(...)` constructor. The calculator then produced the correct output “ $5 + 1 = 6$.”

Section 2. DOM Inspection and Manipulation Implementation

A DOM demonstration section was added to the page using a static list of players. All DOM manipulations were performed through the Chrome DevTools Elements panel.

Screenshot 5: Node Inspection

Right-click Inspect on “Connor Bedard” correctly highlighted the associated element in the DOM tree.

Screenshot 6: Live Text Modification

The text content inside the was edited directly inside Elements, changing “Connor Bedard” to “Eli Cubillo.” The live page reflected the modification immediately.

Screenshot 7: Node Insertion

Using Edit as HTML on the parent , a new Wayne Gretzky element was inserted. The additional list item appeared instantly on the rendered page.

Summary

The JavaScript debugging workflow demonstrated the use of breakpoints, variable inspection, and correction of logic errors following the Chrome DevTools JavaScript tutorial. The DOM workflow demonstrated inspection, live editing, and structural modification of HTML nodes following the Chrome DevTools DOM documentation.

This is your Giga Pet



DevTools JavaScript Debugging Demo

Use this mini calculator to test JavaScript debugging in Chrome DevTools.

Number 1: Number
2:

$5 + 1 = 51$

Name: **Buddy**
Weight: **9 pounds**
Happiness: **12 tail wags (per min)**
Energy: **10 energy (per min)**

Treat

Play

Exercise

Sleep

The screenshot shows the Chrome DevTools Sources tab with the file 'script.js' open. The code is as follows:

```
EXPLANATION (for your comment in code):
  - .text(message) sets the comment text.
  - .slideToggle() smoothly shows/hides the comment area.
  - .delay() keeps the message visible before sliding back in.

function addNumbers() {
  const n1 = document.getElementById("num1").value; n1 = ""
  const n2 = document.getElementById("num2").value; n2 = ""

  // BUG: this concatenates strings instead of adding numbers
  const sum = n1 + n2;

  const resultEl = document.getElementById("add-result");
  resultEl.textContent = `${n1} + ${n2} = ${sum}`;
}

// hook it up
$(function () {
  $("#add-btn").on("click", addNumbers);
});
```

The screenshot shows the Chrome DevTools Sources tab with the file 'script.js' open. A yellow arrow points to line 105, which contains the assignment statement 'const sum = n1 + n2;'. The code is identical to the one in the previous screenshot.

Line 105, Column 15 Coverage: n/a

Scope Watch

Paused on breakpoint

Breakpoints

- Pause on uncaught exceptions
- Pause on caught exceptions
- script.js const sum = n1 + n2; 105
- Call Stack
- addNumbers script.js:105

Local

- this: button#add-btn
- n1: "5"
- n2: "1"
- resultEl: <value unavailable>
- sum: <value unavailable>

Global

Window

This is your Giga Pet



Name: **Buddy**
Weight: **10 pounds**
Happiness: **10 tail wags (per min)**
Energy: **10 energy (per min)**

Treat Play Exercise Sleep

DevTools JavaScript Debugging Demo

Use this mini calculator to test JavaScript debugging in Chrome DevTools.

Number 1:
Number 2:

$5 + 1 = 6$

This is your Giga Pet



DevTools JavaScript Debugging Demo

Use this mini calculator to test JavaScript debugging in Chrome DevTools.

Number 1:
Number 2:

Result will appear here.

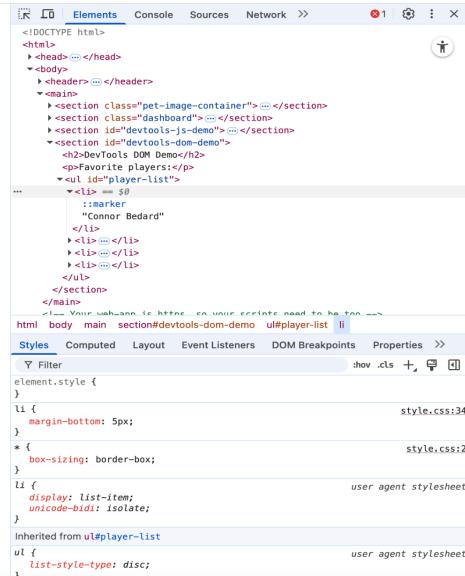
Name: **Buddy**
Weight: **10 pounds**
Happiness: **10 tail wags (per min)**
Energy: **10 energy (per min)**

Treat Play Exercise Sleep

DevTools DOM Demo

Favorite players:

- Connor Bedard
- Leon Draisaitl
- Nathan MacKinnon
- Cale Makar



The screenshot shows the Chrome DevTools Elements tab open. The DOM tree on the left shows the structure of the page, including sections for the pet image, player names, and the calculator form. The right side of the screen shows the CSS Styles panel for the 'player-list' ul element, displaying styles like 'list-style-type: disc;' and 'margin-bottom: 5px;'. A tooltip at the bottom indicates that 'Your website is https, so your styles need to be too'.

```
<!DOCTYPE html>
<html>
  <head>
    ...
  </head>
  <body>
    ...
    <main>
      <section class="pet-image-container">...</section>
      <section class="dashboard">...</section>
      <section id="devtools-javascript-demo">...</section>
      <section id="devtools-dom-demo">
        <h2>DevTools DOM Demo</h2>
        <p>Favorite players:</p>
        <ul id="player-list">
          <li>Connor Bedard</li>
          <li>Leon Draisaitl</li>
          <li>Nathan MacKinnon</li>
          <li>Cale Makar</li>
        </ul>
      </section>
    </main>
  </body>
</html>
```

Styles Computed Layout Event Listeners DOM Breakpoints Properties >

element.style { style.css:34 } li { margin-bottom: 5px; } * { box-sizing: border-box; } li { display: list-item; unicode-bidi: isolate; } Inherited from ul#player-list ul { list-style-type: disc; } user agent stylesheet

This is your Giga Pet



DevTools JavaScript Debugging Demo

Use this mini calculator to test JavaScript debugging in Chrome DevTools.

Number 1:
Number 2:

Add Numbers

Result will appear here.

Name: **Buddy**
Weight: 10 pounds
Happiness: 10 tail wags (per min)
Energy: 10 energy (per min)

Treat Play Exercise Sleep

DevTools DOM Demo

Favorite players:

- Eli Cubillo
- Leon Draisaitl
- Nathan MacKinnon
- Cale Makar

```
<!DOCTYPE html>
<html>
  <head> ...
  </head>
  <body>
    <header> ...
      <main>
        <section class="pet-image-container"> ...
        <section class="dashboard"> ...
        <section id="devtools-is-demo"> ...
      </main>
      <section id="devtools-dom-demo">
        <h2>DevTools DOM Demo</h2>
        <p>Favorite players:</p>
        <ul id="player-list">
          <li>
            <span>marker</span>
            "Eli Cubillo" == $0
          </li>
          <li> ...
          </li>
          <li> ...
          </li>
          <li> ...
          </li>
        </ul>
      </section>
    ...
  </body>
</html>
<!-- Your web-app is https, so your scripts need to be too --&gt;
&lt;script src="https://code.jquery.com/jquery-2.2.1.min.js" integrity="sha256-gJnA/fHkF7XqfWZuLcHgXvIwzjBQDmPQdR0+crkxGtAnonwz" crossorigin="anonymous"&gt;
&lt;/script&gt;</pre>

html body main section#devtools-dom-demo ul#player-list li (text)



Styles Computed Layout Event Listeners DOM Breakpoints Properties >



Filter show .cls +, -



No matching selector or style


```

This is your Giga Pet



DevTools JavaScript Debugging Demo

Use this mini calculator to test JavaScript debugging in Chrome DevTools.

Number 1:
Number 2:

Add Numbers

Name: **Buddy**
Weight: 10 pounds
Happiness: 10 tail wags (per min)
Energy: 10 energy (per min)

Treat Play Exercise Sleep

DevTools DOM Demo

Favorite players:

- Eli Cubillo
- Leon Draisaitl
- Nathan MacKinnon
- Cale Makar
- Wayne Gretzky

```
<!DOCTYPE html>
<html>
  <head> ...
  </head>
  <body>
    <section class="pet-image-container"> ...
    <section class="dashboard"> ...
    <section id="devtools-is-demo"> ...
    <section id="devtools-dom-demo">
      <h2>DevTools DOM Demo</h2>
      <p>Favorite players:</p>
      <ul id="player-list">
        <li>
          <span>marker</span>
          "Eli Cubillo" == $0
        </li>
        <li> ...
        </li>
        <li> ...
        </li>
        <li> ...
        </li>
      </ul>
    </section>
    ...
  </body>
</html>
<!-- Your web-app is https, so your scripts need to be too --&gt;
&lt;script src="https://code.jquery.com/jquery-2.2.1.min.js" integrity="sha256-gJnA/fHkF7XqfWZuLcHgXvIwzjBQDmPQdR0+crkxGtAnonwz" crossorigin="anonymous"&gt;
&lt;/script&gt;</pre>

html body main section#devtools-dom-demo ul#player-list li (text)



Styles Computed Layout Event Listeners DOM Breakpoints Properties >



Filter show .cls +, -



element.style { } style.css:34



li { margin-bottom: 5px; } style.css:2



* { box-sizing: border-box; } user agent stylesheet



li { display: list-item; unicode-bidi: isolate; } user agent stylesheet



Inherited from ul#player-list



ul { list-style-type: disc; } user agent stylesheet



i


```