

COMP6080: Web Front-End Programming

Tutorial 5

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Some Unpleasant Code

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A: Loops and functions would reduce code repetition.

Debugging

Why won't this page work correctly?

```
<!DOCTYPE html>
<html>
  <head></head>
  <body>
    <div id="dogname"></div>
    <script type="text/javascript">
      const data = fetch(
"http://www.cse.unsw.edu.au/~cs6080/20T3/data/doggo.txt"
      );
      document.getElementById("dogname").innerText = data;
    </script>
  </body>
</html>
```

fetch Returns a Promise!

You'll want to do something like:

```
fetch(URL)
  .then((res) => res.text())
  .then((data) => {
    document.getElementById("dogname").innerText = data;
  });
```

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Fetch Response objects have methods like `.json` and `.text` that return a promise that resolves with the value you probably want.

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One thing I can spot is **poor text contrast**! The W3C's Web Content Accessibility Guidelines (WCAG) tell us about contrast ratio. One useful site is `https://contrast-ratio.com`. Another is Google's Designing in the Browser Youtube series.

Lighthouse

Chrome has in its developer tools an audit tool called **Lighthouse**, and it tells us plenty of stuff like:

- Buttons do not have accessible names
- Image elements do have alt attributes
- Form elements do not have associated labels
- Links do not have a discernible name attribute
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You can run this on your *own* site!

Exercise: A Rough SPA

Build a page in `tabs.html` that has:

- *A header bar with options Home, About, News, Articles*
- *A footer with a contact us link*

When the items in the header bar are clicked, the body of the page should change to the relevant content below.

NOTE: You aren't to just change the inner HTML of the body element, as there may be many nested HTML elements within that. You can either solve this via rendering all bodies and toggling which is displayed, or constantly re-rendering whichever one is being displayed currently.

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For example, I had to make a timer app recently, but I decremented by one second each time the timer fired.

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`setTimeout` is great, and very often useful, but when you need to be a bit more precise about time, you should be careful.

For example, I had to make a timer app recently, but I decremented by one second each time the timer fired. You learnt this in your lectures too, but as a reminder: **timers can be somewhat inconsistent** (especially when the window isn't focused!). You should generally use `performance.now` to find out how much time has elapsed.

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But be careful, `performance.now` might not tick when the user puts their computer to sleep, which is a strong argument in favor of `Date.now`.

The Timer App

If you were curious, I'll also share the timer app code, because there are a few cool techniques like using `requestAnimationFrame` to render declaratively and a simplified tagged union.