Five-Minute Retrospective

Front-End Academy

Overview

While at Oracle, I created and presented a lecture series to improve my engineering team's foundational front-end knowledge. I put together on modern HTML, CSS, tooling, and accessibility; a coworker added additional JavaScript material.

The result was a condensed, remote, ten-lecture series. I hosted eight of them, talking through slides and working through questions with the team. Before and after the session, we measured an improvement in the team's front-end skills. The recordings continue to be used by engineers at the company.

To set the scene

At the start of 2020, I was asked to evaluate the effort of incorporating the emerging design system of our parent company, Oracle, into our CrowdTwist product. I was a product designer at the time, but I hold good knowledge in front-end development too. I agreed to take a look, which meant cracking open style and template files.

What I found I found discouraged practices and features in use — things like inline styles, unnecessary CSS prefixes, and high selector specificities. Now, to be fair, you find tech debt like this in plenty of longstanding apps. But I was seeing these outdated practices pop up in features we had just shipped.

The product designer side of me was concerned with the implication: how well are our increasingly complex features going to be built? I brought up the problem with my boss and talked about how to help it. Maybe use what I know to help the engineering team?

Process

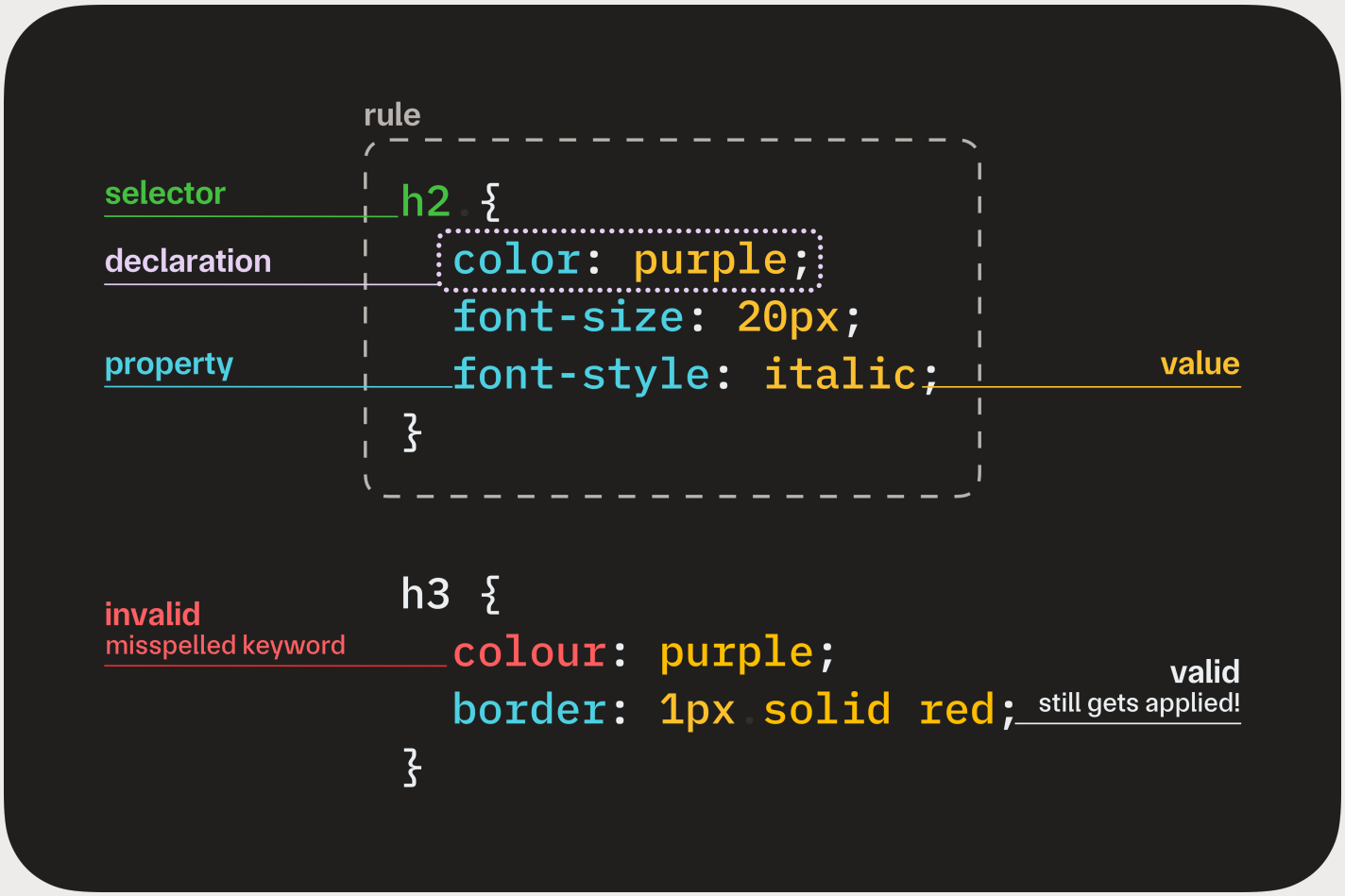
I took up the challenge. We talked and decided that a lecture series would be the best way to educate the team in a concise-as-possible way. I paired up with a coworker and set out to create a manageable set of topics. We landed on a list of ten, and I led these eight:

- CSS Cascade, Specificity, and the Box Model
- Testing Your Work with Developer Tools
- Testing Across Devices, Operating Systems, and Scenarios
- Modern CSS, Layouts, and Markup
- Responsive Design
- Inclusive Design and Markup
- Internationalization
- SCSS

I expanded each topic of the curriculum into a full presentation. For each lecture's slides, I cited high-quality sources like the MDN Docs, CSS-Tricks, and Smashing Magazine. I started with broad explanations and then dove deep with example code, custom diagrams, and a collection of CodePens to help give devs different ways to grapple course material.

I then presented each topic in a weekly, one-hour Zoom call, talking alongside the slides and answering questions along the way. Each session was recorded, which my coworker and I uploaded alongside the slides later on.

To track the team's progress, we put together two tests to bookend the lecture series. When compared, our showed a modest improvement across the team.



Above: A diagram identifying components of a CSS rule.

macOS and VoiceOver

- The built-in screen reader for macOS
- By default, press the Touch ID button three times quickly to enable VoiceOver, or enable in System Preferences
  - To toggle instead of showing a list of checkboxes, modify Accessibility ▸ General and uncheck all except VoiceOver
- Commands start with the "VoiceOver modifier," often abrreviated "VO"
  - By default, ^ control and ⌥ option pressed and held together
  - Some, but not all, commands are announced by VoiceOver

> Until recently, Windows Narrator was not a robust screen reader. Most users needing screen reader capabilities opt for JAWS, a paid software that has been around for the past 20 years.

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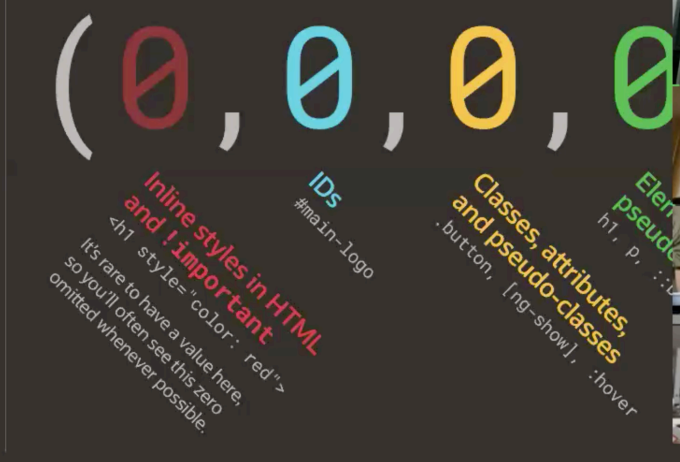
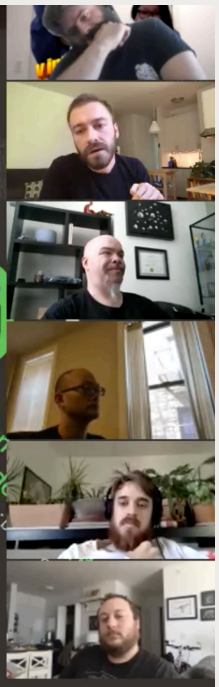
Specificity

- *Specificity* is a set of values that determine the priority of rules when two or more apply to the same element
- First, to calculate a selector's *specificity*, add 1 upon the presence of any of these parts to the specified place





Top: An informational slide discussing VoiceOver setup, to test website screen reader capability. The information is the stuff I found most tricky when getting started with it.

Bottom: Talking through CSS specificity and their relation to selectors. (You can catch my pandemic haircut second from top.)

Evaluation

First, what I'd do differently:

- With limited time and resources, we couldn't provide as many code examples and quizzes as we wanted. More active learning could have improved the team's understanding of the material.
- At the end of the first session, I lost my footing on an example. Still, it was easy to correct in the second session. It was a lovely segue into a discussion of common mistakes.

Second, what I'd say worked well:

- The team showed measured improvement when comparing pre- and post-session tests.
- The team now has a library of lectures with recordings of hands-on examples for reference.
- I was reminded how much I enjoy breaking down concepts for others. In a couple cases, I even caught a few of my own CSS misunderstandings.

More

Additional links

- Nine CodePens I made: https://codepen.io/collection/AvVyGk
- Both sides of the great divide: https://css-tricks.com/the-great-divide/

Recordings

Email me at john@johnmatu.la if you'd like to step through recordings.

Acknowledgments

Diagrams use information sourced from MDN Web Docs content: "Cascade and inheritance" and "Inheritance," by Mozilla Contributors, are licensed under Creative Commons 2.5 Attribution-Share Alike license (CC-BY-SA 2.5).

The VoiceOver icon is a trademark of Apple Inc.