Programming for Web Development

Overview

This guide primarily focuses on the skills necessary to work with YETI's software stack (TypeScript, Next.js/React, and PostgreSQL). With that being said, there are plenty of other commonly used frameworks. Below is a table containing some of the more popular choices:

JavaScript/TypeScript	PHP	Java	Python	Ruby	C#
Next.js	Laravel	SpringBoot	Flask	Ruby on Rails	.NET
Remix			Django		
Astro					
TanStack Start					
Angular					
Gatsby					
SvelteKit					

JavaScript/TypeScript frameworks are currently very commonplace. One of the key driving factors of this is the choice of language. Browsers can only run JavaScript (and more recently, Web Assembly). JS/TS frameworks allow you to write your frontend and backend code entirely in one language. This allows these sites to get off the ground much faster, as developers need to spend less time learning new languages to work with the code. As a result, these frameworks are becoming increasingly common in industry (particularly Next.js and Remix). We

We chose Next.js due to our mentors' familiarity with the framework. Multiple YETI mentors use this framework for work or personal websites. We can provide substantial help with learning the framework and debugging issues that arise. Next.js is also a common framework to see in the industry, and several of the world's most recognizable sites (Nike, OpenAI, Claude, TikTok, Notion, Hulu...) currently use it (https://nextjs.org/showcase).

L1 Standards

Learning HTML/CSS

HTML and CSS are the building blocks for the web. HTML controls the general layout/blocks of the page, while CSS controls the appearance and how those blocks are displayed. These aren't programming languages in the traditional sense. HTML (or Hypertext Markup Language) is a "markup language," which essentially means it encodes the structure of the text/content it contains. CSS (or Cascading Style Sheets) is a "stylesheet" language. Stylesheets are files documenting how the page should be displayed. CSS is a way of representing these styles in a text-based format.

Codecademy has great (free) resources for learning both what HTML and CSS do. To get started, check out the following courses:

- HTML Fundamentals: https://www.codecademy.com/courses/learn-html-fundamentals
- Learn CSS: https://www.codecademy.com/courses/learn-css

After completing these two courses, congrats! You'll be able to build a static website.

Learning JavaScript

JavaScript is a language that lets you dynamically update content on websites. This is useful for forms and other interactive parts of websites. Together with HTML and CSS, it creates the traditional web development stack.

The course on Codecademy is great for getting started.

- Introduction to JavaScript: https://www.codecademy.com/enrolled/courses/introduction-to-javascript

Learning React

React is a library we use to create reusable *components* for our scouting site. Our L1 standard covers very basic React concepts. The best place to learn React is probably the React docs:

- Learn React - React Docs
  - Follow the Tic-Tac-Toe Tutorial
  - Follow the "Thinking in React" Tutorial

- Try the YETI Web Challenge to test your skills!

After completing this, congrats! You'll be ready for the L1 web development test.

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