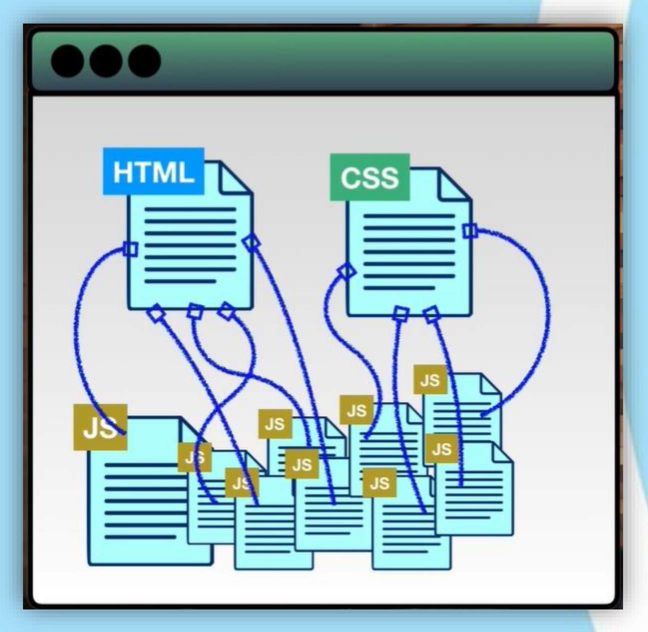
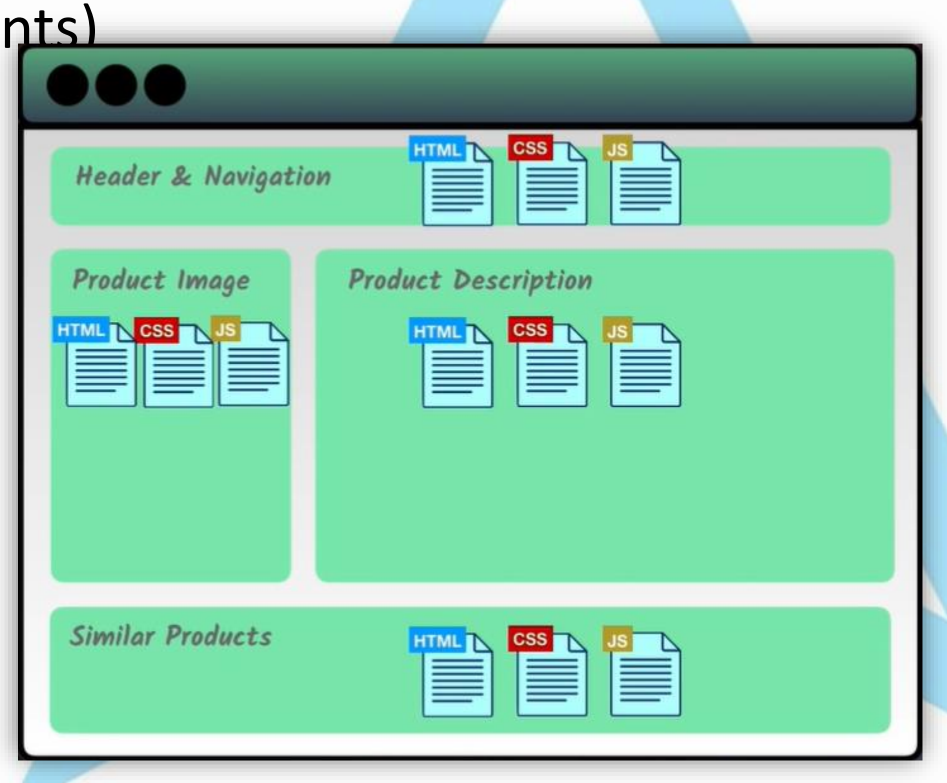
Module 4 Day 12

Introduction to Vue

Why a Framework?

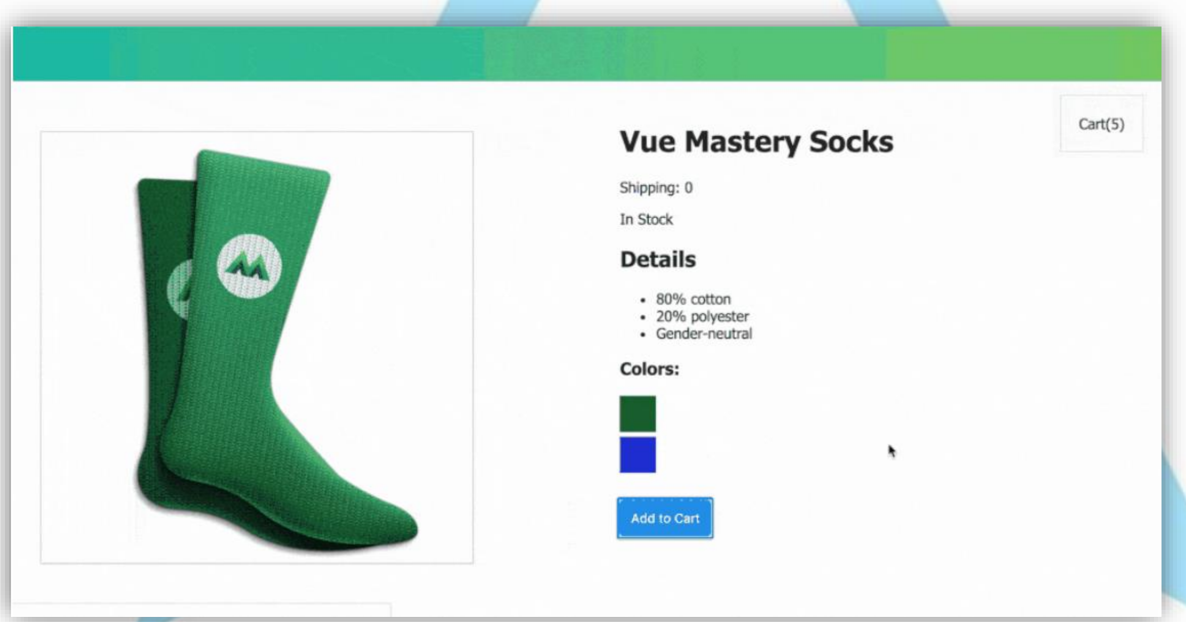
- Vanilla JavaScript is Powerful! (oh, and **TEDIOUS**)
- Builds applications in manageable chunks (components)
  - Built to stand alone and be testable
  - Placed into pages (or other components)
  - Contain HTML, JS and CSS





Vue

- Approachable, progressive
  - You don't have to rebuild entire apps; you can add Vue in as needed
- Very good documentation: https://vuejs.org/v2/guide/...
- And a video course library: https://www.vuemastery.com/courses/intro-to-vue-js/vue-instance...
- And…socks!
- https://vuejs.org/v2/guide/#



Vue Mastery Socks

Shipping: 0

In Stock

Details

- 80% cotton
- 20% polyester
- Gender-neutral

Colors:

🟩
🟦

Preparation

Tool	Verify	Install
Nodejs and **npm** – Node and Node Package Manager. Node runs JavaScript files directly; npm manages add-on packages	> npm –version	https://nodejs.org/en/download/
Vue CLI – command-line interface for setting up Vue projects	> vue –V	> npm install -g @vue/cli
Vue.js dev tools for Chrome	chrome://extensions/ in Chrome's address bar. Look for "Vue.js devtools"	https://chrome.google.com/webstore/detail/vuejs-devtools/nhdogjmejiglipccpnnnanhbledajbpd
Vetur VSCode extension – syntax highlighting and IntelliSense for Vue.	In VSCode, Extension tab (ctrl-shift-X). Look for Vetur under Enabled.	In same tab, search for Vetur and click Install.

Creating a Project with Vue CLI

- > vue create *my-first-vue*
  - 140 MB of code!?
  - (139 MB of that is node_modules)
- > *code my-first-vue* (or launch VS Code from Explorer menu)
- > *npm install* (downloads all dependencies)
- > *npm run serve* (starts a local server and launches the site)
  - See package.json for its definition

Let's Code

Project Structure

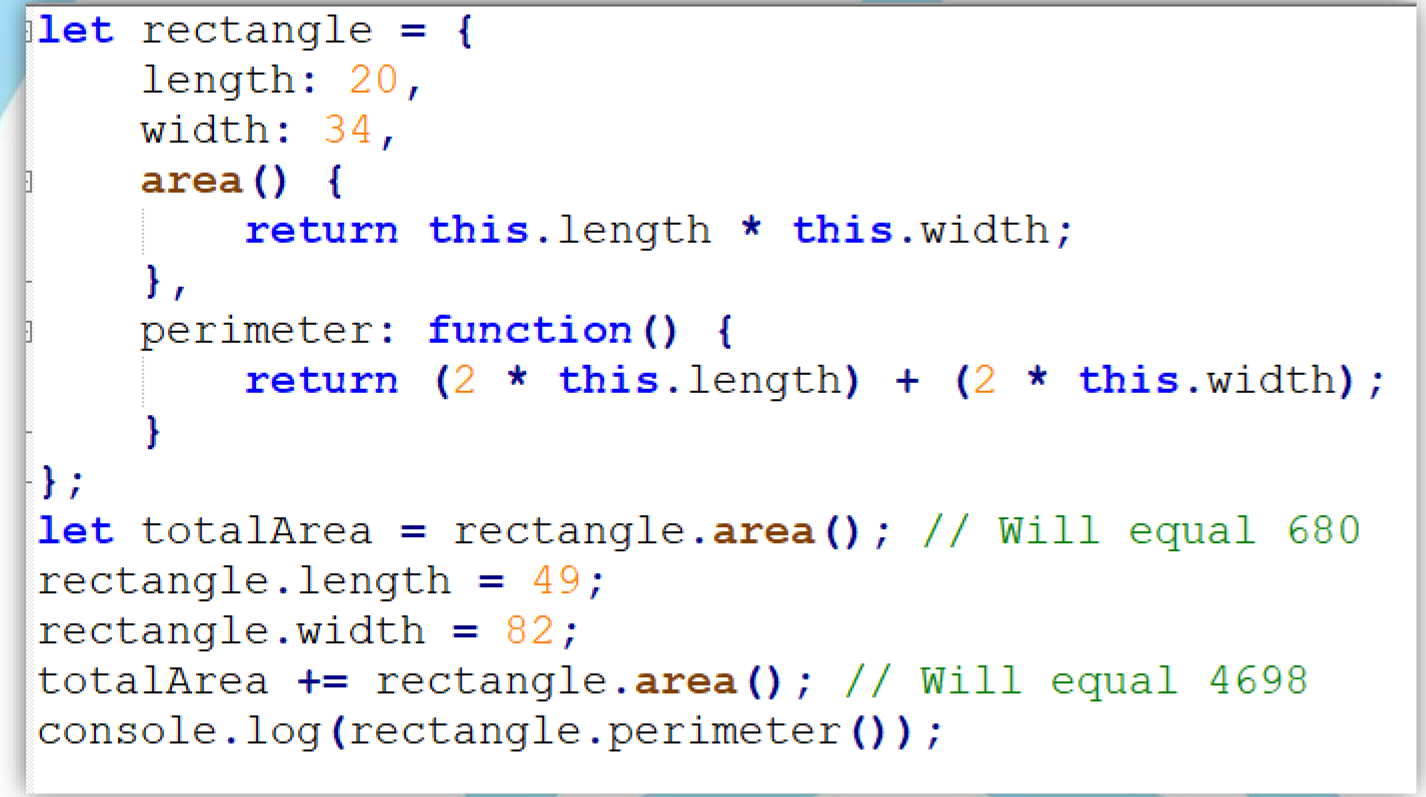
- node_modules – dependencies
- public – public website assets
- src/assets – website assets
- src/components – your component source files
- package.json – configuration / dependencies

Vue Components

- A .vue file defines a component in Vue
- Display (HTML): **<template>**
  - <template> must contain a single child element
- Style (CSS): **<style scoped>**
  - <style scoped> tag allows CSS to apply to only this component
- Data and behavior (js): **<script>**
  - Properties and functions on the object provide data and information about the object
  - *data* is a function that returns an object. https://alligator.io/vuejs/component-instancing/
- App.vue – the "root" Vue instance

JavaScript Objects Review

- Objects are keys and values
- Properties can be any data type:
  - Strings, numbers
  - Arrays
  - Objects
  - Functions



```
let rectangle = {
    length: 20,
    width: 34,
    area() {
        return this.length * this.width;
    },
    perimeter: function() {
        return (2 * this.length) + (2 * this.width);
    }
};
let totalArea = rectangle.area(); // Will equal 680
rectangle.length = 49;
rectangle.width = 82;
totalArea += rectangle.area(); // Will equal 4698
console.log(rectangle.perimeter());
```

Let's Code

Vue Components – JS Properties

- data()
  - Function that returns an object that contains the component's "properties"
- computed:
  - An object full of functions that return computed values and then are treated as property getters on the component
- props:
  - An object with properties for data that is passed in from the "parent" component when created
- methods:
  - An object full of functions to be treated as methods on the component

Data Binding

- Linking a data property of a component to a specific HTML element
- One-way (Simple): Component data is viewed in the UI {{ }}
- Two-way: Component data is viewed and updated from the UI
  - v-model
- v-model modifiers (https://vuejs.org/v2/guide/forms.html#Modifiers)
  - .lazy – update after focus is lost
  - .number – assign the property as a number instead of string
  - .trim – trim whitespace from before and after a string input

Demo

Loops (v-for)

- Arrays
  - v-for="item in items" -- equivalent to C# "foreach(Item item in items)"
  - v-for="(item, index) in items"
  - v-bind:key="uniqueValue"
- Objects
  - v-for="value in object"
  - v-for="(value, key) in object"
- Integer
  - v-for="i in n" – eq. to c# "for (int i = 1; i <= n; i++)"
  - Sets n = 1 to integer in a loop
  - That's right, it starts at 1!

Let’s Code

Binding DOM Attributes (v-bind)

https://vuejs.org/v2/api/#v-bind

-
  ```
  v-bind:class = {
      'class1' : Boolean-expression,
      'class2' : Boolean-expression
  }
  ```
-
  ```
  v-bind:style = {
      'color' : barColor,
      'width' : barValue + 'px'
  }
  ```
-
  ```
  v-bind:disabled="Boolean-expression"
  ```

Let’s Code