

## 2.5.8 Optimize Using Variables

Before we wrap up this GitHub issue, let's explore another newer (and really cool) feature of CSS called custom properties, or **variables**. If you skim over the CSS rules in `style.css`, you'll notice that there's a lot of repetition in the values we use. Run Buddy basically has three colors: yellow (`#fce138`), navy blue (`#024e76`), and teal (`#39a6b2`). We've been writing these colors a lot and will continue to do so as long as Run Buddy keeps requesting more features. What would be helpful is to define the colors once and then just reference a name like "primary-color." Well, with CSS variables, we totally can! The syntax is as follows:

```
div {  
  --favorite-color: blue;  
  color: var(--favorite-color);  
  box-shadow: 5px 5px 10px var(--favorite-color);  
}
```

The custom property is defined using two hyphens (`--`) and then any name you'd like. Retrieving the custom property simply requires placing the name inside `var()` and can be used in place of any normal value. Here's another example:

```
div {  
  --size-small: 12px;  
  --size-big: 50px;  
  font-size: var(--size-small);  
  margin: var(--size-big) var(--size-small);  
}
```

In these examples, we've tied the custom properties only to `<div>` elements and their children. In most cases, we want our custom properties to be **global**, meaning any element or class selector can use them.

We can accomplish this by using the `:root` pseudo-class. Add this new rule to the top of your style sheet:

```
:root {  
  --primary-color: #fce138;  
  --secondary-color: #024e76;  
  --tertiary-color: #39a6b2;  
}
```

The `:root` pseudo-class targets the top-most parent element (most likely the `<html>` element) so that all other child elements will have access to any variables we declare here. Now that you've defined the three main colors for Run Buddy, go through the style sheet and replace every instance of `#fce138` with `var(--primary-color)`, every instance of `#024e76` with `var(--secondary-color)`, and so on.

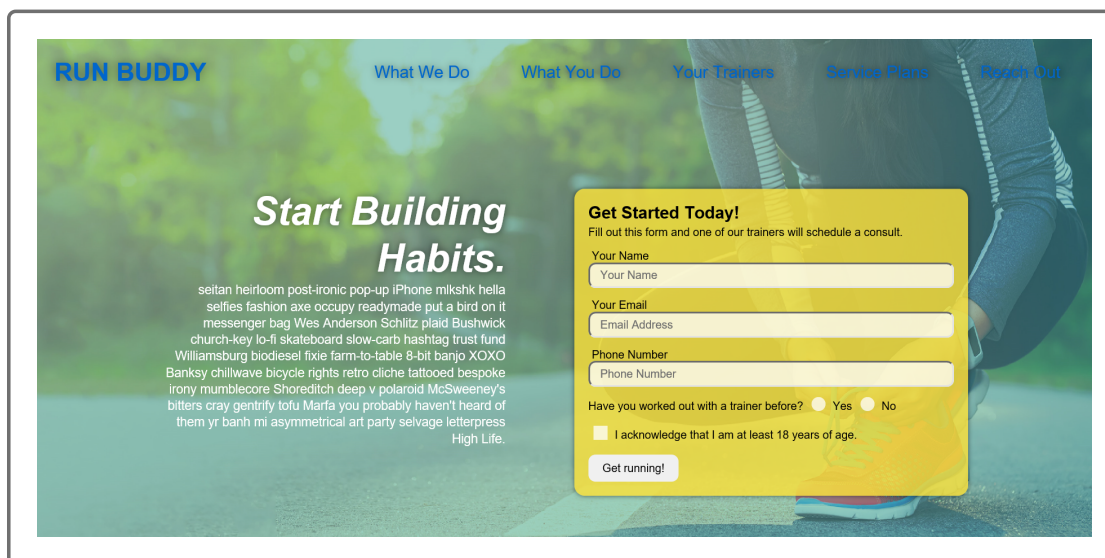
## HIDE PRO TIP

In VS Code, a handy shortcut is to highlight the first instance of what you're looking for and press Ctrl+d on Windows or Command+d on macOS to continually select the next instance it

finds. With multiple instances selected, you can type/replace them all at once.

Save and refresh the browser to verify that nothing broke. If the page still looks the same, that means it worked! Try changing the three color properties in `:root` and marvel at how easy it is now to swap out color schemes.

Alas, we do still need to be mindful of other browsers. If you check [MDN's compatibility chart for CSS variables](https://developer.mozilla.org/en-US/docs/Web/CSS/Using_CSS_custom_properties#Browser_compatibility) ([https://developer.mozilla.org/en-US/docs/Web/CSS/Using\\_CSS\\_custom\\_properties#Browser\\_compatibility](https://developer.mozilla.org/en-US/docs/Web/CSS/Using_CSS_custom_properties#Browser_compatibility)), you'll see that Internet Explorer, once again, has zero support. This is what the page now looks like for IE users:



Yuck. But Run Buddy assures us they aren't interested in supporting IE. Various browser stats (like those on [Wikipedia's browser usage article](https://en.wikipedia.org/wiki/Usage_share_of_web_browsers#Summary_tables) ([https://en.wikipedia.org/wiki/Usage\\_share\\_of\\_web\\_browsers#Summary\\_tables](https://en.wikipedia.org/wiki/Usage_share_of_web_browsers#Summary_tables))) put overall IE usage in pretty low percentiles, and Run Buddy's market research suggests their users are more likely to be on Chrome or Safari. We're safe to leave our CSS variables in.

## ON THE JOB

Browser requirements vary from client to client. If your company has many international users, where older operating systems like Windows XP are still fairly common, you will need to be much more mindful of Internet Explorer. If you do all of your development on macOS, don't be afraid to ask your company for a Windows laptop to test on, or vice versa!

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