

P08 Web Components, React

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Open the folder *progress* in the sample files for this assignment. The files in this folder demonstrate the use of Web Components to create a new element, *custom-progress-bar*. The example is based on an article “Introducing Custom Elements” in the WebKit Blog: <https://webkit.org/blog/7027/introducing-custom-elements/>

Let's try to develop a very simple custom element *navigation-bar* that encapsulates some logic and styles to create a mobile navigation bar. The result should look more or less like this:



There are already some fragments of a solution in the folder *navibar*.

- Analyze the component in the file *navibar.js*. The slot element is the target for *navigation-bar*'s children, i.e., icon images embedded in links. What does the `::slotted` pseudo element in the style rules select?
- The component in *navibar.js* needs a small update: make sure the items are evenly distributed in the navigation bar, even if one item is removed or another item is added. Use Flexbox for this purpose.
- Add a sample navigation bar and some styles to *navibar.html*.

Links

Introducing Slot-Based Shadow DOM API
<https://webkit.org/blog/4096/introducing-shadow-dom-api/>

Shadow DOM v1: Self-Contained Web Components
<https://developers.google.com/web/fundamentals/web-components/shadowdom>

2

Start a new React project. There are various ways to do this. The React development teams recommends using a framework like Next.js or Remix:

<https://react.dev/learn/start-a-new-react-project>

As an alternative, Vite can be used to quickly set up a React installation:

<https://vitejs.dev>

We recommend Vite for this assignment:

<https://vitejs.dev/guide/>

Steps with yarn:

```
yarn create vite my-react-app --template react
cd my-react-app
yarn
yarn dev
```

Make some changes to the home page, e.g., change the welcome text and add other HTML elements (button, ...) to the page.

Also, try some alternatives – online or minimal HTML template – described here:

<https://react.dev/learn/installation#try-react>

<https://stackblitz.com/edit/vitejs-vite-lerneb?file=index.html&terminal=dev>

Project

3

Work on the Web version of your project.