

REACT – Ocean Cleanup Operations Tracking Tool – Lorena Spallino

A description of the site

The site that I have decided to make to showcase my knowledge of React for this portfolio is a personal Ocean Cleanup tracker tool. The way that it works is that a user can access the site (after they have been involved in some sort of Ocean Cleanup effort), input their name so that the site can welcome them. And finally, keep track of the number of items they have cleaned from the ocean or beach. The site offers four different categories of litter where the user can update the amount of this litter they have cleaned during their most recent cleanup effort. Additionally, the site offers an area where the user can input and display comment or notes of their recent efforts.

The web technologies from above that you used and why.

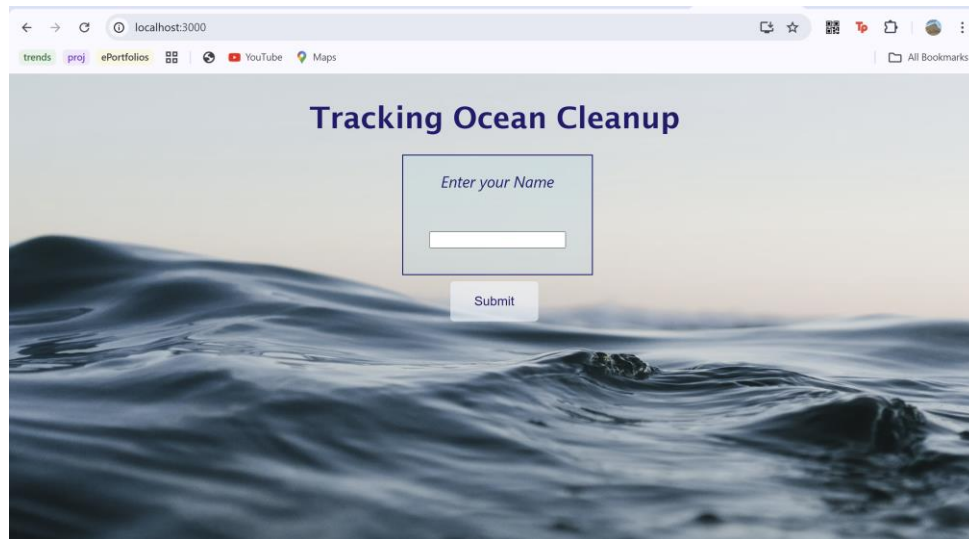
I mainly used JavaScript for this portfolio, leveraging React as one of its libraries. React has so many advantages, being that it can make for a better, more dynamic UI, which improves the user experience. React, being a component based, flexible powerful tool, made the development of this site easier, more user friendly, and helped me to advance my knowledge and skills, not only with this new library, but also with JavaScript.

Additionally, I used CSS for the looks of the elements on my site, and a simple html page to render the site.

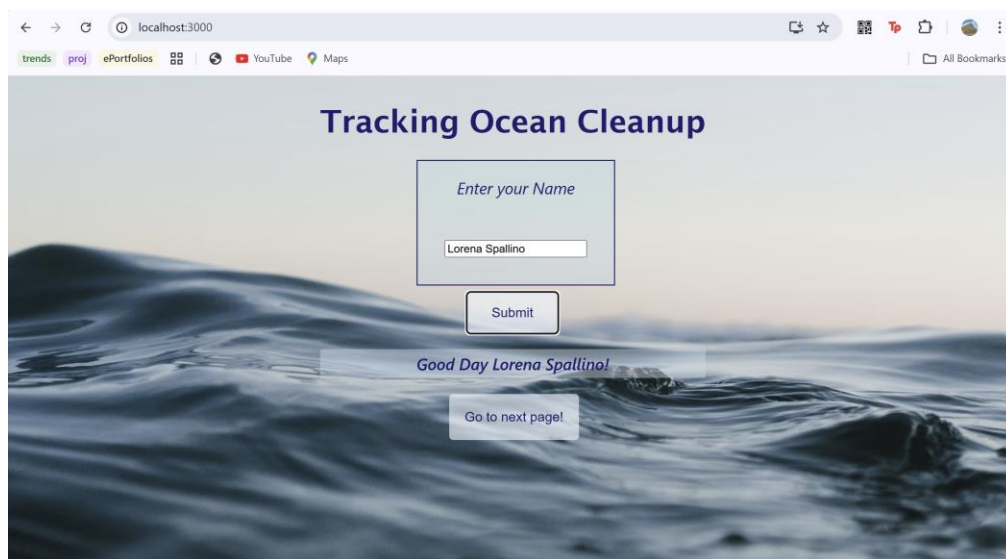
Screenshots of your website.

The following screenshots show the look, and functionality of my site:

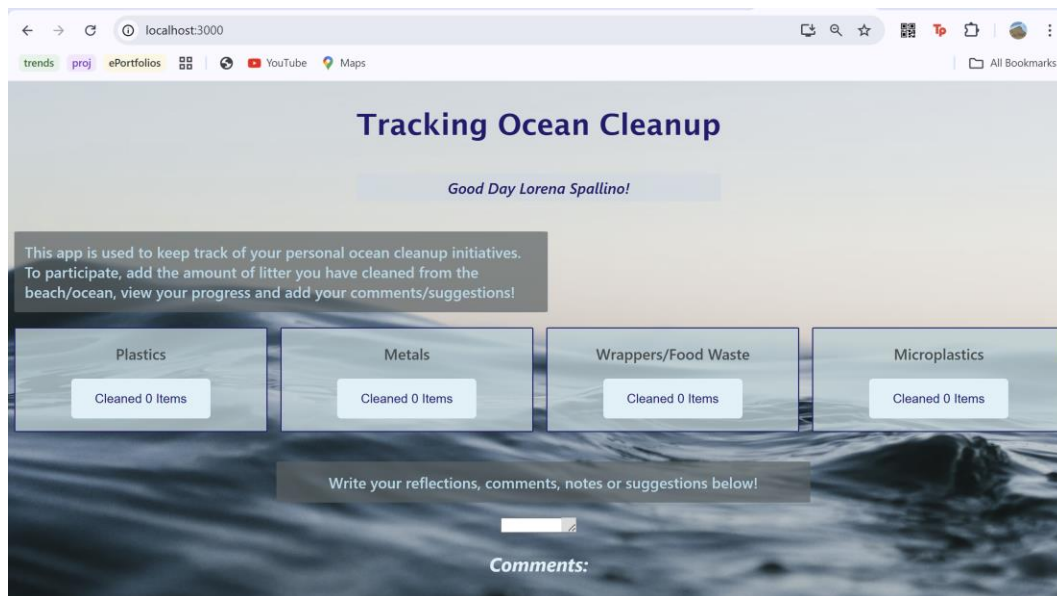
Landing Page: Upon launch, or landing on the html page, the user will see a simple welcome message, as well as a small form where they are prompted to input their name. This is shown below:



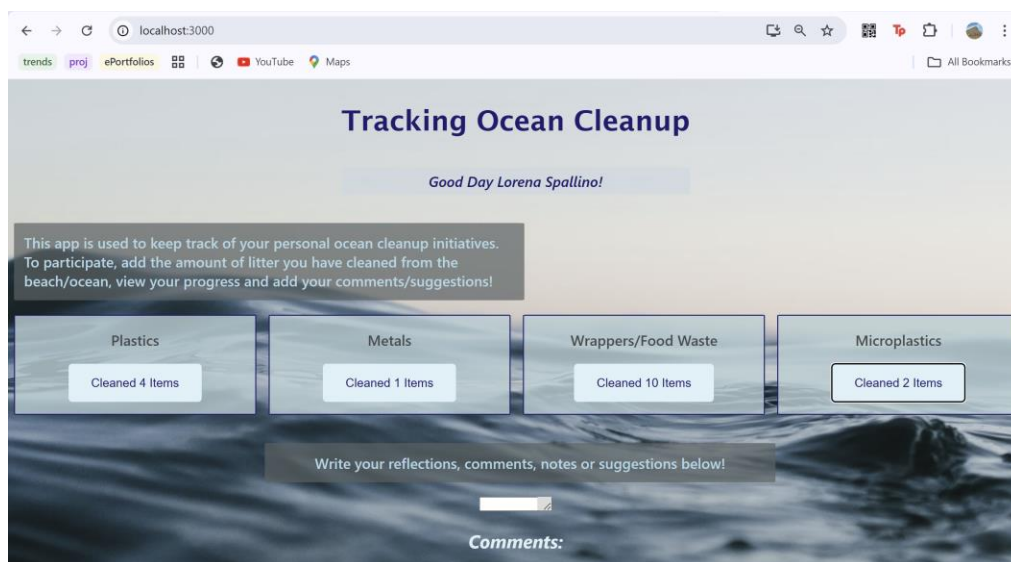
Upon entering their name, and clicking the enter button, React takes the input as a prop to a welcome function, which renders a new look to the page (Welcomes the user with their name, and displays another button to progress to the next part of the application).



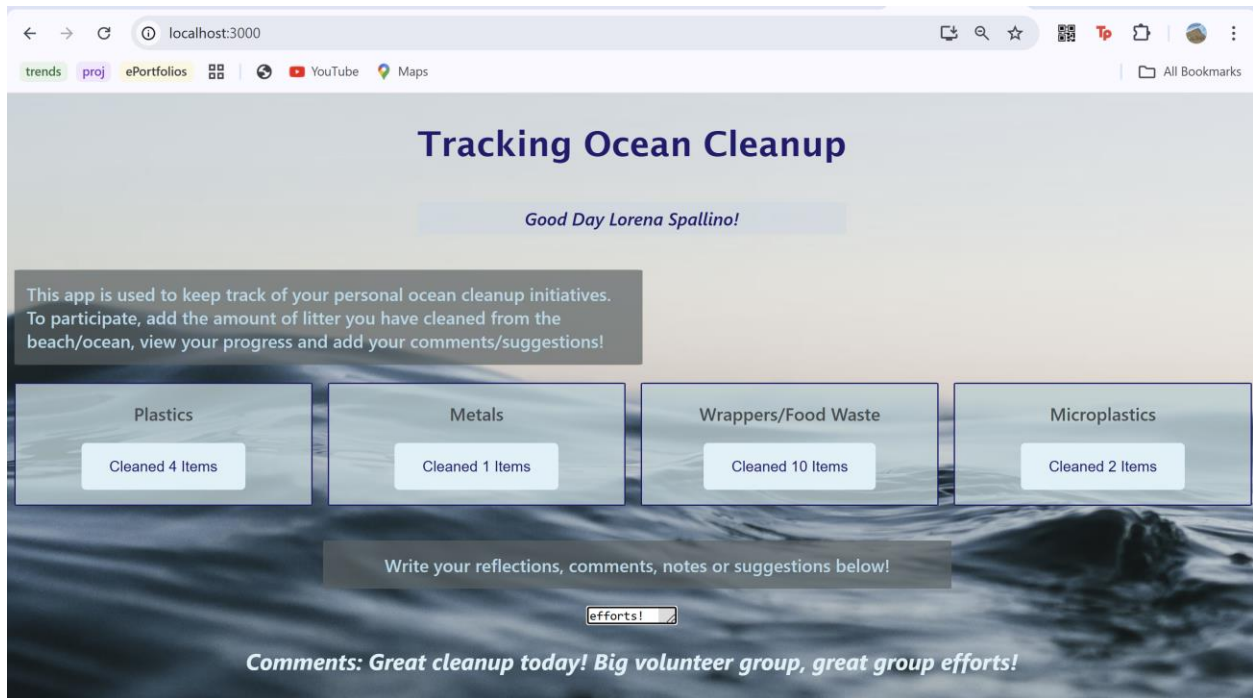
Once the user clicks 'Go to next page!' React renders a completely different page. The header and the form are now gone, and the tracking tool is displayed:



The user can now interact with the site by adding the number of plastics/metals/wrappers/microplastics they have cleaned on their most recent cleanup effort, as well as add any comments or notes below. After interacting with the site, it may look like the screenshot below:



Evidently by clicking the buttons they can count/add the number of plastics(etc) that they have cleaned, and write in their comments in the textarea element, which is displayed in a more aesthetic way directly underneath.



Evidently, this site uses functions which take user inputs as 'props' to make the site more dynamic, as well as various react functionalities, and useState in various different ways.

Source Code Screenshots:

Index.html auto formatted using the following link: <https://www.freeformatter.com/html-formatter.html#before-output>

```
# style.css  JS index.js  index.html X
public > index.html > html
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5    <meta charset="utf-8" />
6    <link rel="icon" href="%PUBLIC_URL%/favicon.ico" />
7    <meta name="viewport" content="width=device-width, initial-scale=1" />
8    <meta name="theme-color" content="#000000" />
9    <meta name="description" content="Web site created using create-react-app" />
10   <link rel="apple-touch-icon" href="%PUBLIC_URL%/logo192.png" />
11   <!--
12     manifest.json provides metadata used when your web app is installed on a
13     user's mobile device or desktop. See https://developers.google.com/web/fundamentals/web-app-manifest/
14     -->
15   <link rel="manifest" href="%PUBLIC_URL%/manifest.json" />
16   <!--
17     Notice the use of %PUBLIC_URL% in the tags above.
18     It will be replaced with the URL of the 'public' folder during the build.
19     Only files inside the 'public' folder can be referenced from the HTML.
20
21     Unlike "/favicon.ico" or "favicon.ico", "%PUBLIC_URL%/favicon.ico" will
22     work correctly both with client-side routing and a non-root public URL.
23     Learn how to configure a non-root public URL by running 'npm run build'.
24     -->
25   <link rel="stylesheet" href="../src/style.css">
26   <script src="../src/index.js"></script>
27   <title>React App</title>
28 </head>
29
30 <body>
31   <noscript>You need to enable JavaScript to run this app.</noscript>
32   <div id="header"></div>
33   <div id="root"></div>
34   <div id="body"></div>
35 </body>
36
37 </html>
```

Index.js – all react components in this file (Auto formatted using this link:

https://codebeautify.org/react-formatter#google_vignette)

```

# style.css  JS index.js  X  index.html
src > JS index.js > ...
1  import React from "react";
2  import ReactDOM from "react-dom/client";
3  import { useState } from "react";
4  import "./style.css";
5
6  //Function to record the user's name - takes name as a 'prop' and returns it
7  function Welcome({ name }) {
8      return <h3>Good Day {name}!</h3>;
9  }
10
11 //Function to return the header for the app
12 function Header() {
13     return (
14         <header className="App-header">
15             <h1>Tracking Ocean Cleanup</h1>
16         </header>
17     );
18 }
19
20 //This function to gather the input from the user and handles it on change This function uses handle, and setName as props
21 function UserInput({ handle, setName }) {
22     return (
23         <div>
24             <form onSubmit={handle} id="nameForm">
25                 <p>Enter your Name</p>
26                 <br />
27                 <input
28                     type="text"
29                     id="name"
30                     onChange={(e) => setName(e.target.value)}
31                 />
32             </form>
33         </div>
34     );
35 }
36
37 function NameButton() {
38     return (
39         <div>
40             <button type="submit" form="nameForm" id="sub">
41                 Submit
42             </button>
43             <br><br>
44             <br><br>
45         </div>
46     );
47 }
48
49 // Function to render the app This includes useState function with a string for the users name
50 function App() {
51     const [firstName, setFirstName] = useState("");
52     const [submitted, setSubmitted] = useState(false);
53     const head = document.getElementById("header");
54     head.style.display = "none";
55
56     const handleSubmit = (e) => {
57         e.preventDefault();
58         setSubmitted(true);
59     };
60
61     return (
62         <div className="App">
63             <Header name={firstName} />
64             /* Passing setFirstName and handleSubmit function inside UserInput component */
65             <UserInput handle={handleSubmit} setName={setFirstName} />
66             <NameButton />

```

Index.js continued:

```

# style.css  JS indexjs  X  index.html
src > JS indexjs > ...
50  function App() {
67      {submitted && <Welcome name={firstName} />}
68      {submitted && <NextButton />}
69      </div>
70  };
71  }
72
73  const element = <Welcome msg="Welcome to your Ocean Cleanup Tracking Tool!" />;
74  const header = ReactDOM.createRoot(document.getElementById("header"));
75  header.render(element);
76
77  //Rendering the page to the root DIV element
78  const root = ReactDOM.createRoot(document.getElementById("root"));
79  root.render(
80      <React.StrictMode>
81      |   <App />
82      </React.StrictMode>
83  );
84
85  //This function handles the event that happens when a user clicks the button to go to the next page
86  function NextButton() {
87      function handleClick() {
88          const x = document.getElementById("nameform");
89          const y = document.getElementById("sub");
90          x.style.display = "none";
91          y.style.display = "none";
92          const z = document.getElementById("next");
93          z.style.display = "none";
94          const body = ReactDOM.createRoot(document.getElementById("body"));
95          body.render(
96              //This renders the doc element, changing the page dynamically
97              <Doc />
98          );
99      }
100
101      return (
102          <button type="button" id="next" onClick={handleClick}>
103              Go to next page!
104          </button>
105      );
106  }
107
108  //Function to display the elements on the page
109  function Doc() {
110      return (
111          <div id="body">
112              <p id="par">
113                  This app is used to keep track of your personal ocean cleanup
114                  initiatives. To participate, add the amount of litter you have cleaned
115                  from the beach/ocean, view your progress and add your
116                  comments/suggestions!
117              </p>
118              <div id="boxes">
119                  <div id="track">
120                      <p>Plastics</p>
121
122                      <CountButton />
123                  </div>
124                  <div id="track">
125                      <p>Metals</p>
126
127                      <CountButton />
128                  </div>
129                  <div id="track">
130                      <p>Wrappers/Food Waste</p>
131

```

Index.js continued:

```
# style.css  JS index.js  x  index.html
src > JS index.js > ...
109 function Doc() {
110   <CountButton />
111   </div>
112   <div id="track">
113     <p>Microplastics</p>
114     <CountButton />
115   </div>
116   </div>
117   <div id="comments">
118     <br></br>
119     <AddComms />
120   </div>
121 </div>
122 }
123
124 //Function for the buttons that count the amount of litter. These use the useState from react to count
125 function CountButton() {
126   const [count, setCount] = useState(0);
127
128   function handleClick() {
129     setCount(count + 1);
130   }
131
132   return (
133     <div>
134       <button onClick={handleClick}>Cleaned {count} Items</button>
135     </div>
136   );
137 }
138
139 //This function adds string of notes on the page, entered by the user. This uses useState from react, with a string
140 function AddComms() {
141   const [message, setMessage] = useState("");
142
143   const handleChange = (event) => {
144     setMessage(event.target.value);
145     console.log("value is:", event.target.value);
146   };
147
148   return (
149     <div id="commsdiv">
150       <p id="p">
151         Write your reflections, comments, notes or suggestions below!
152       </p>
153       <textarea
154         type="text"
155         id="message"
156         name="message"
157         onChange={handleChange}
158         value={message}
159       />
160       <h2 id="comms">Comments: {message}</h2>
161     </div>
162   );
163 }
164
165 }
```

What you want to accomplish with the site development why you chose this, and how it is supposed to work

The task I wanted to accomplish with this website was for individuals to keep track of their personal ocean cleanup operations. I chose to make this site because, as an environmentalist, I care deeply about the environment, and one of the biggest threats to the environment right now is litter in and around the oceans. Because the oceans are one of the most important aspects to the environment, regulating weather, sustaining marine life, and covering over 70% of the earth's surface, litter in the ocean is

detrimental to our environment. It causes increased global warming, climate change, and endangers marine life. Therefore, I wanted to use this opportunity to create a useful tool that can help individuals keep track and manage their individual ocean cleanup operations. This site is supposed to work by allowing the user to add their name into the initial form, which will then dynamically welcome the user when the body renders with use of useState and props in React. Then they can increment the amount of litter they have cleaned from the respective categories on the site. They can also add helpful notes or comments at the bottom to better manage their efforts all made possible through the useState and various methods of React.

Short descriptions of the struggles you encountered.

❖ Configuring a React Project:

- Because I had never used react, and never even learned about it before this class, configuring the project posed a big challenge for me. I didn't know where to start, or how to include it at all. At first, I simply created a simple website using HTML, JavaScript and CSS, and tried to include react within the JS file. After running it I got a few errors in my console, and nothing rendered properly. I was not sure what to do, so I did some research. I watched some videos for general information and researched the issues I was having. I re-read the modules, and finally figured out that I needed to use the terminal to create a React project and run it!

❖ Using Props:

- I was very unfamiliar with this concept, and did not know how to include them in my project. I needed to conduct supplemental research and was able to

understand the concept and include a simple application. This no doubt adds to the application, ensuring that it is more dynamic, and personal for each user.

References

Built-in React DOM Hooks – React. (n.d.). React. Retrieved November 11, 2024, from

<https://react.dev/reference/react-dom/hooks>

Components and Props – React. (n.d.). React. Retrieved November 11, 2024, from

<https://legacy.reactjs.org/docs/components-and-props.html>

CSS Formatter, CSS Beautifier and CSS Minifier Online tool. (n.d.). Code Beautify. Retrieved

November 26, 2024, from <https://codebeautify.org/css-beautify-minify#>

Free Online HTML Formatter. (n.d.). FreeFormatter.com. Retrieved November 26, 2024, from

<https://www.freeformatter.com/html-formatter.html#before-output>

HTML DOM Input Text value Property. (n.d.). W3Schools. Retrieved November 11, 2024, from

https://www.w3schools.com/jsref/prop_text_value.asp

Quick Start – React. (n.d.). React. Retrieved November 11, 2024, from <https://react.dev/learn>

React Formatter Online. (n.d.). Code Beautify. Retrieved November 26, 2024, from

https://codebeautify.org/react-formatter#google_vignette

React JavaScript Tutorial in Visual Studio Code. (n.d.). Visual Studio Code. Retrieved

November 11, 2024, from <https://code.visualstudio.com/docs/nodejs/reactjs-tutorial>

What is React. (n.d.). W3Schools. Retrieved November 11, 2024, from

https://www.w3schools.com/whatis/whatis_react.asp