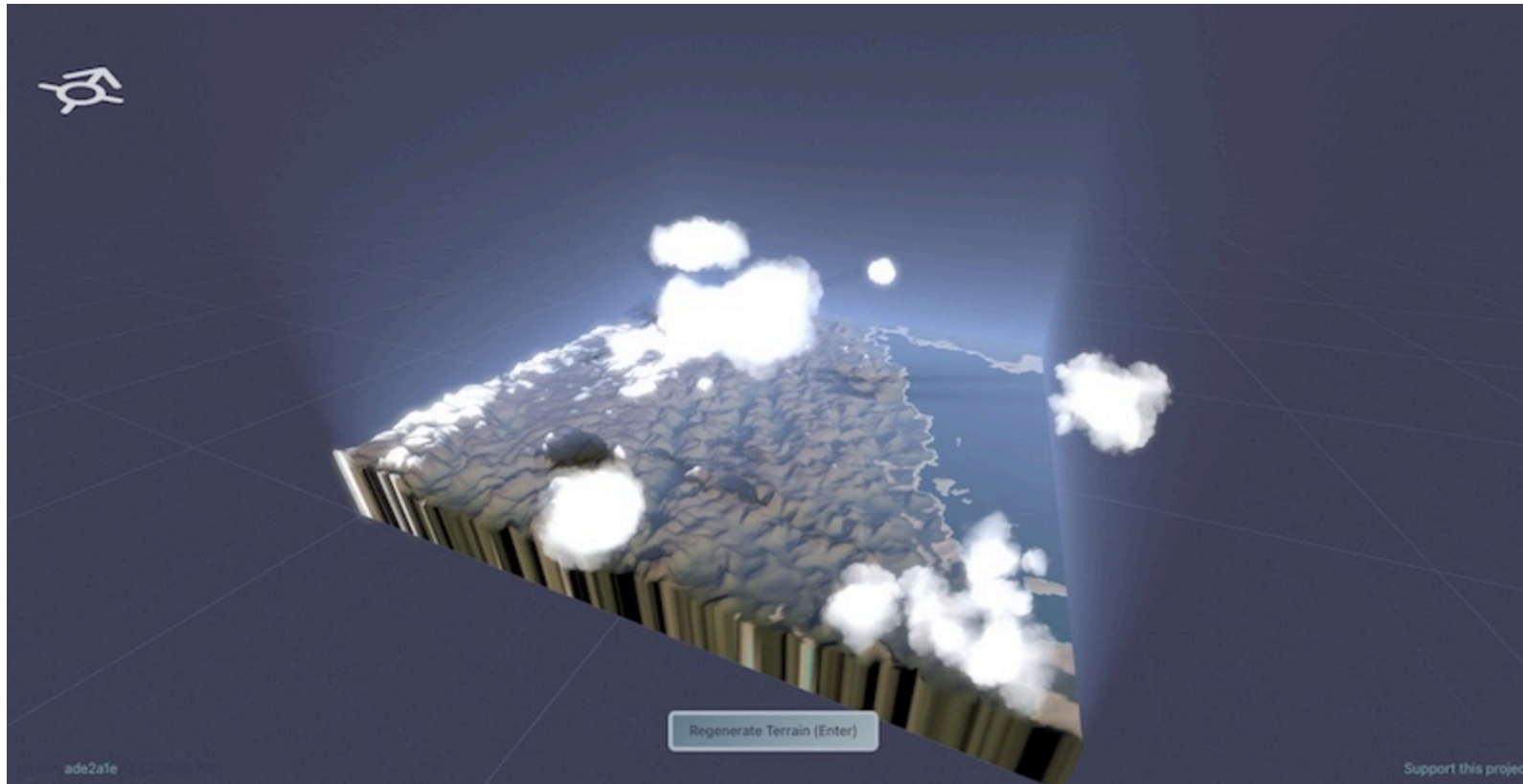


Special Topic: Web Development and Graphics

ENGR 103: Engineering Computation and Algorithmic Thinking

Alex Ulbrich

Example: Terrain Generation in the Browser



[Terrain Synth](#) by [Kenneth Pirman](#). You can also check out Kenny's [World Synth](#).

Programming Languages on the Web

- HTML (HyperText Markup Language) - meaning and structure
- CSS (Cascading Style Sheets) - presentation/rendering
- JS (JavaScript), TS (TypeScript) - scripting
- And many libraries, frameworks, etc. (this evolves fast)

Your (web) browser (Safari, Chrome, Firefox, ...) can make sense of HTML/CSS/JS.

You can use your browser's Dev Tools to see what the browser sees.

Check [learn web development](#) on MDN to get started.

index.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>Hello World</title>
  </head>
  <body>
    <h1>Hello World</h1>
    <p>
      Alex was here.
    </p>
  </body>
</html>
```

CSS

Wrap the following code in a `<style>` tag in the `<head>` .

```
body {  
    font-family: sans-serif;  
    background-color: #f4f4f4;  
}  
h1 {  
    color: #ea580c;  
    text-align: center;  
}  
p {  
    color: #333;  
    text-align: center;  
}
```

JavaScript

Wrap the following code in a `<script>` tag in the `<head>` .

```
let clickCount = 0;

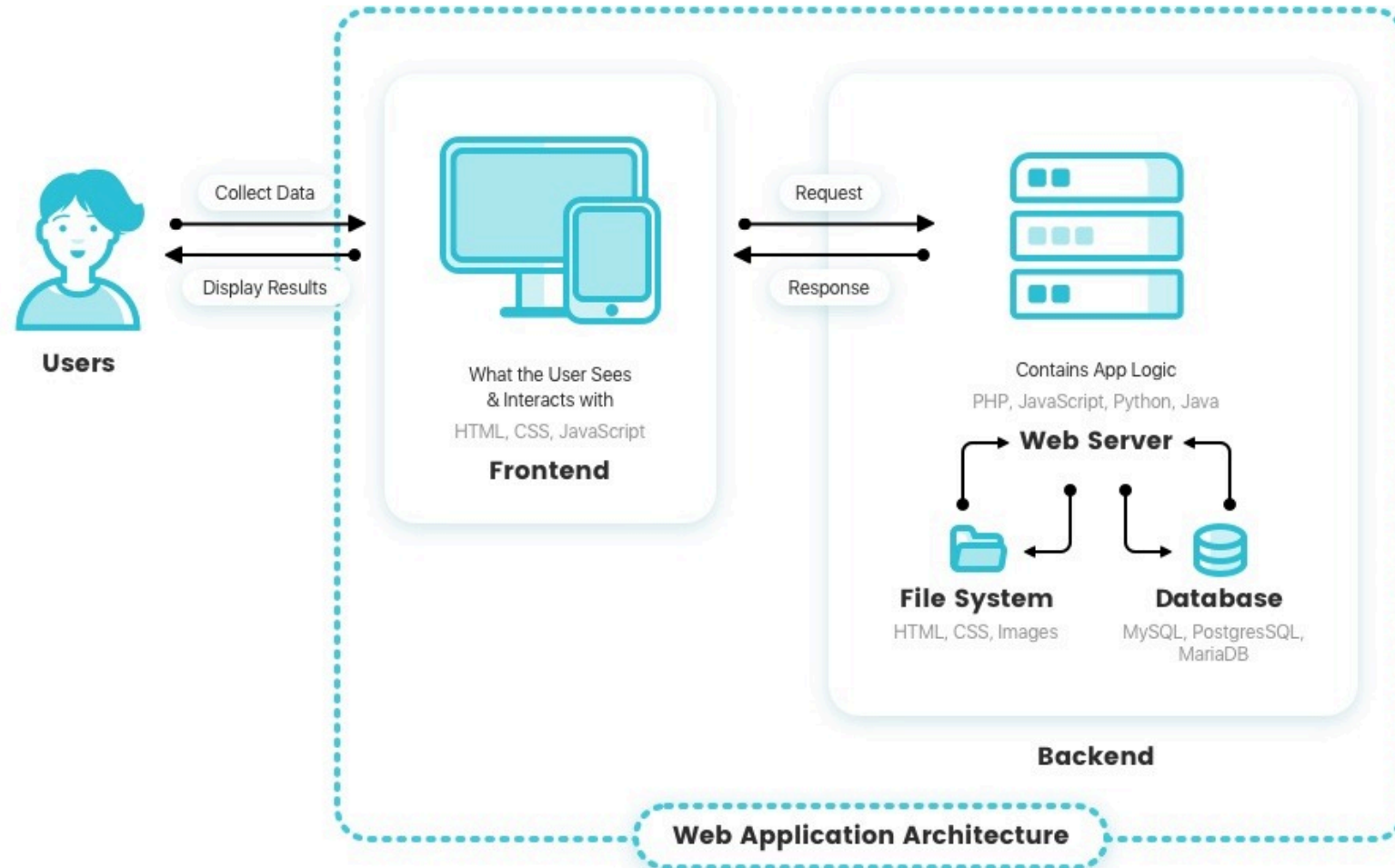
function incrementCounter() {
    clickCount++;

    const paragraph = document.getElementById('placeholder');
    paragraph.textContent = `You clicked the button ${clickCount} time(s)`;
}
```

And change the HTML in the `<body>` .

```
<p id="placeholder"> Alex was here. </p>
<button onclick="incrementCounter()">Click me</button>
```

A Simplified View of the Web



Source

CPU / GPU

Layers

Libraries

Exercise

