CT4009

Dynamic Map Markers

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What we'll cover

- Geolocation
- Promises
- Fetch
- Google Maps API

Geolocation API

- A browser API for getting information about the user's location
- The user must grant permission to a website before it can get their information
- A very useful API for working with Google Maps (and social network based assignments…)

Link to documentation:
https://developer.mozilla.org/en-US/docs/Web/API/Geolocation_API

Geolocation API Example

```
navigator.geolocation.getCurrentPosition(position => {
    alert(`
     Your latitude is ${position.coords.latitude}.
     Your longitude is ${position.coords.longitude}.
    `);
});
```

Promises

It’s a method that allows us to resolve or reject a block of code, asynchronously. This means that we can ask for something and carry on knowing that our promise, **promises** to return something when it’s ready.

Useful for:
- Network requests
- Preloaders
- Most modern JavaScript APIs

Article: https://developers.google.com/web/fundamentals/primers/promises

```
function getLocation() {
  return new Promise((resolve, reject) => {

    // Detect if geolocation is available, reject if not
    if(!'geolocation' in navigator) {
      reject({ message: 'Geolocation not available' });
    }

    // Grab the user's position and resolve promise with the coordinates
    navigator.geolocation.getCurrentPosition(position => {
       resolve(position.coords);
    });
  });
}
```

Fetch

Fetch is a native, promise-based method for loading remote data. It's very similar to the jQuery Ajax method which you all have used in your lab work.

Key points:
- It's native JavaScript, not a framework
- It's promise based, so very good at dealing with large, slow data
- It's supported in all major browsers

Link to documentation:
https://developer.mozilla.org/en-US/docs/Web/API/Fetch_API

Fetch Example

```
fetch('https://api.jsonbin.io/b/5c96a3377726fe2562cf7ff8')
.then(response => response.json())
.then(data => {
  console.log(data);
});
```

Let’s put all of this together into an example

Live Coding Example

I’m going to show you the following example.

We’ll:
- Create a new map instance
- Get the user’s current location and add it to the map
- Get some JSON data and add that to the map

Completed, fully commented example
https://codepen.io/andybelldesign/pen/rRPyWe

Recap

- You learned what Geolocation is
- We recapped on what Promises are
- You learned about Fetch
- We worked with Google Maps API