

fun with

SENSORS

& browser

APIS



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Mandy Michael



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Jello

the little fluffy fellow



adognamedjello



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APIS



Experimental features



Support Legend



full support



behind a flag



coming soon



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Web Speech



APIS



‘ The Web Speech API enables you to incorporate voice data into web apps. ’




```
new SpeechRecognition();  
//constructor for SpeechRecognition object instance
```

```
recognition.start();
// method to start speech recognition service

recognition.stop();
// stops the speech recognition service from listening to audio returns a
result
```

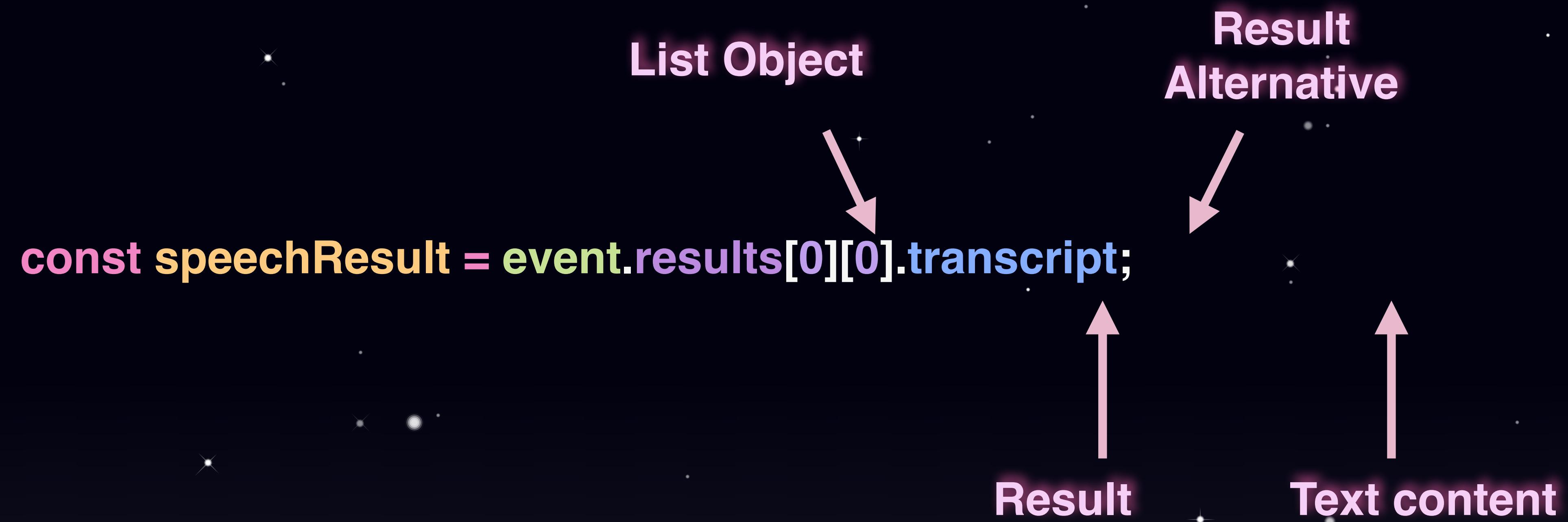
```
recognition.onresult = function(event) {}  
// event handler when a word or phrase has been recognised
```

```
recognition.onspeechend = function(event) {}  
// will run when the speech recognition service has stopped being detected
```

```
// get SpeechRecognitionResultList object
const resultList = event.results;

// get first SpeechRecognitionResult object
const firstResult = resultList[0];

// get this result's first SpeechRecognitionAlternative object
const firstAlternative = firstResult[0].transcript;
```



```
var SpeechRecognition = SpeechRecognition || webkitSpeechRecognition;

function testSpeech() {

  const recognition = new SpeechRecognition();
  const diagnostic = document.querySelector('.output');

  recognition.start();

  recognition.onresult = function(event) {
    const speechResult = event.results[0][0].transcript;
    diagnostic.textContent = speechResult;
  }

  recognition.onspeechend = function() {
    recognition.stop();
  }
}

document.body.onclick = function() {
  testSpeech();
}
```





“ Audio & speech
allow for more
**interactive and more
accessible**
experiences. ”

Orientation SENSORS



“ The accelerometer
detects a change to
the orientation of the
device. ”



DeviceOrientationEvent

```
event.alpha;  
// The direction the device is facing  
// Z Axis  
// Ranging from 0 to 360
```



```
event.beta;  
// The front to back motion of the device  
// X Axis  
// Ranging from -180 to 180
```

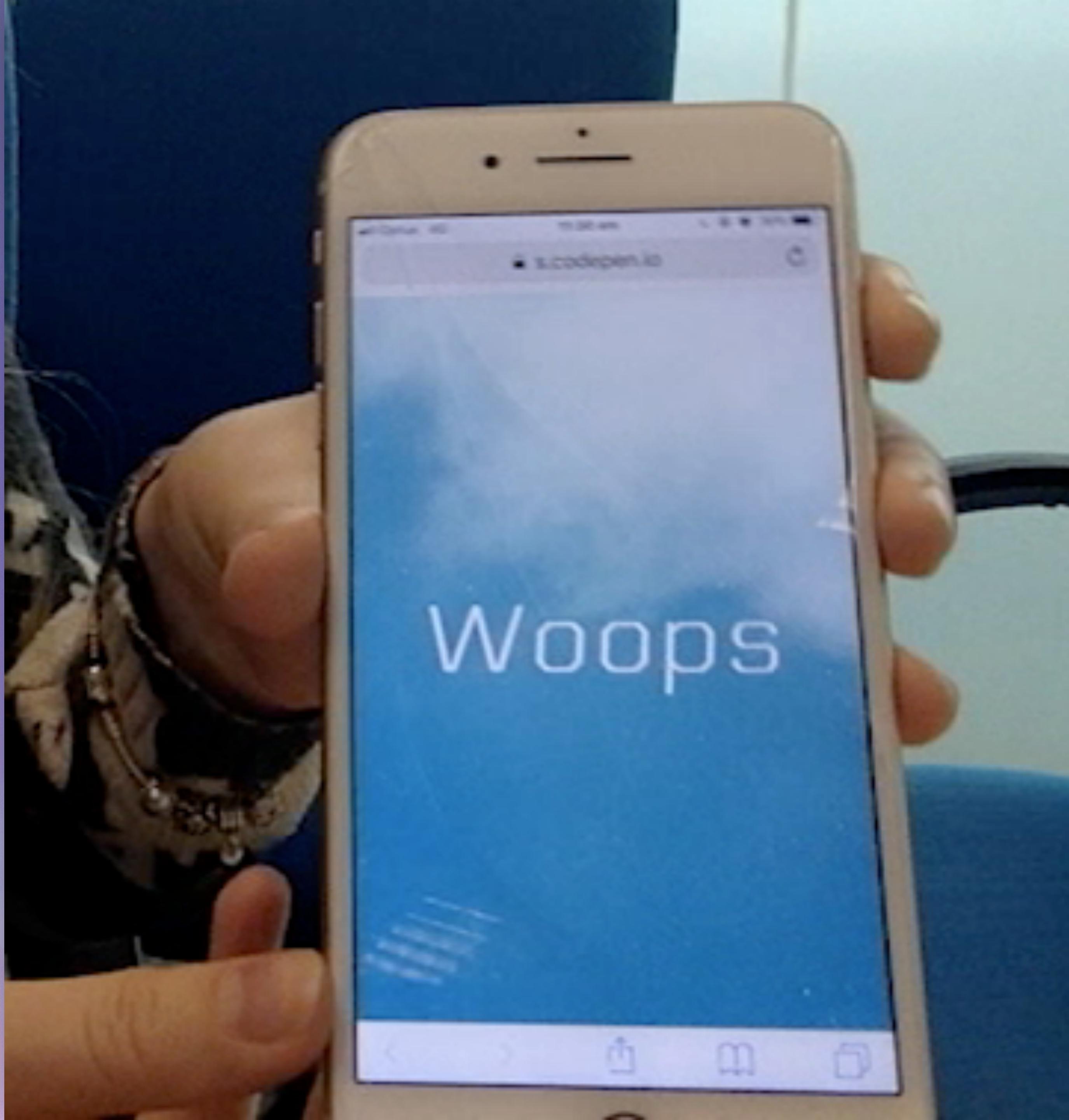


```
event.gamma;  
// The left to right motion of the device  
// Y Axis  
// Ranging from -90 to 90
```



```
if (window.DeviceOrientationEvent) {  
  window.addEventListener('deviceorientation', deviceOrientationFunction);  
}
```

```
function deviceOrientationHandler(event) {  
  const currentGamma = event.gamma;  
  
  if (currentGamma < -50) {  
    // do something  
  }  
}
```





JELLO

We can move on
from static,
predetermined
interactions and
allow the user to ,
shape the
experience.

Light SENSORS



‘A photodetector that is used to sense the amount of ambient light present.’

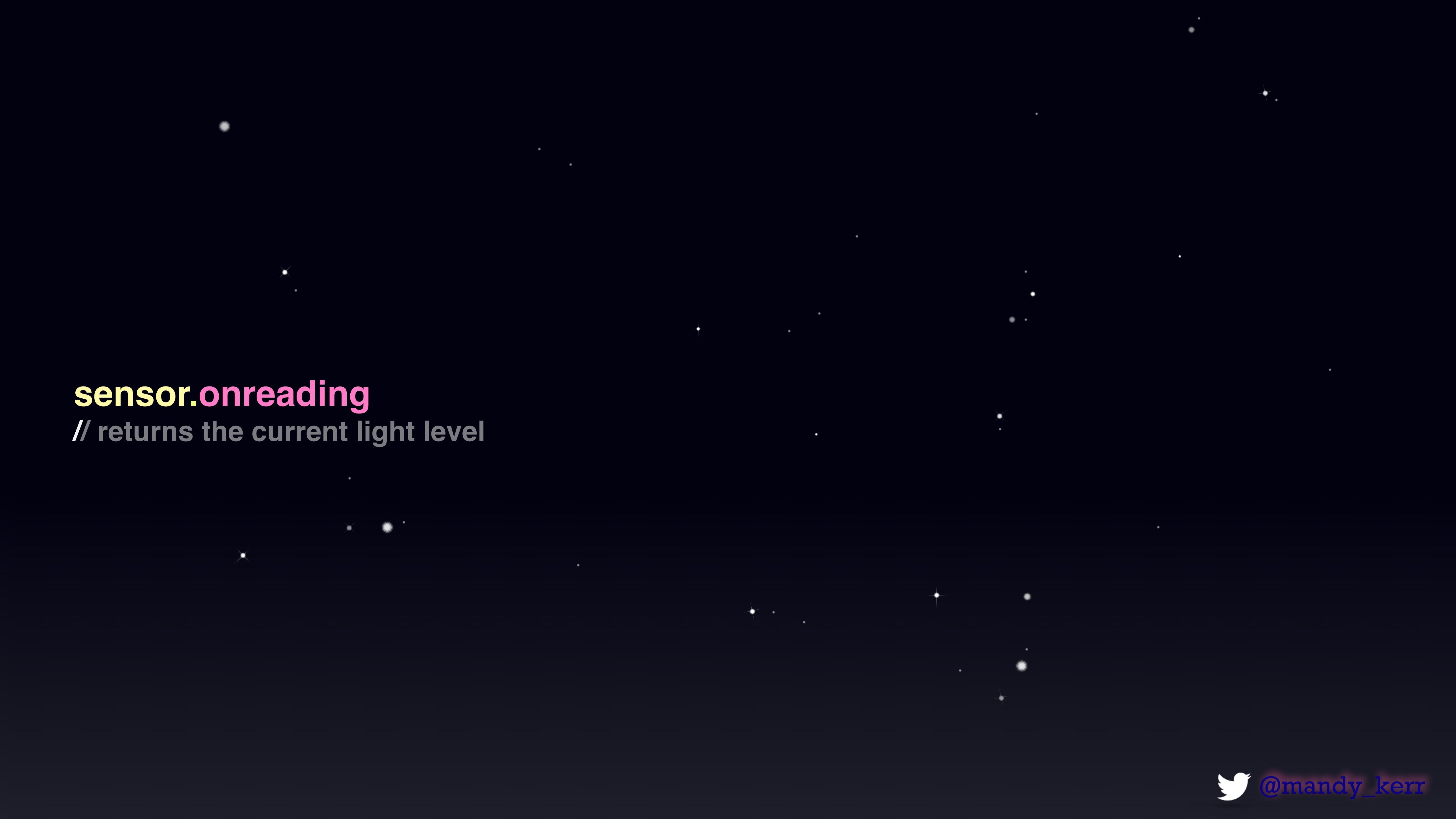


**A second attempt at
the ambient
light sensor.**

Addressing the security concerns of light sensors in the browser



```
const sensor = new AmbientLightSensor();
// Creates a new AmbientLightSensor object.
```



```
sensor.onreading  
// returns the current light level
```

sensor.illuminance

// returns the current light level (lux)

```
if ( 'AmbientLightSensor' in window ) {  
  const sensor = new AmbientLightSensor();  
  sensor.onreading = () => {  
    if ( sensor.illuminance < 20) {  
      element.style.setProperty('--bg', 'black');  
    } else {  
      element.style.setProperty('--bg', 'blue');  
    }  
  };  
  sensor.start();  
}
```





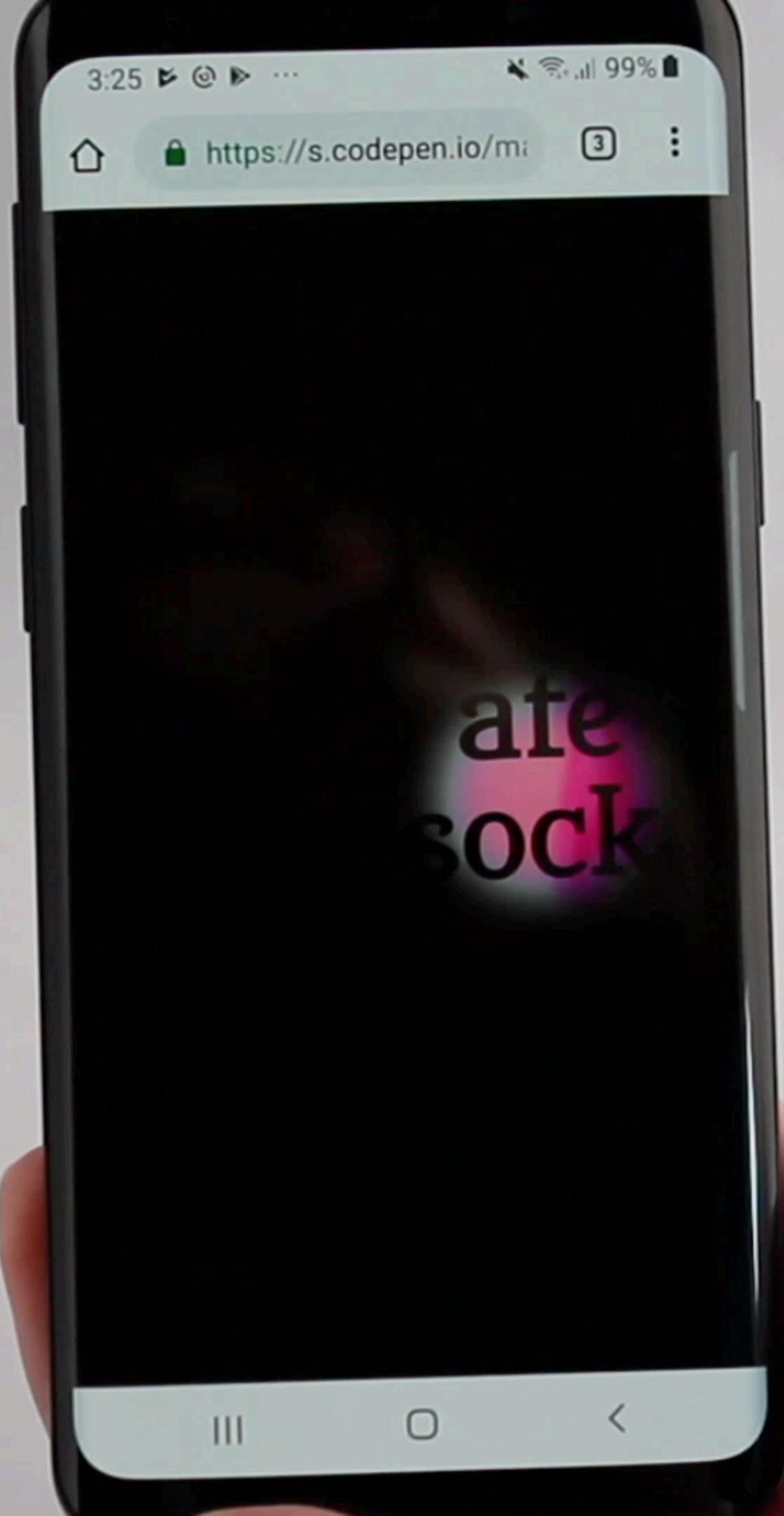
Font: Tiny by Jack Halten Fahnestock

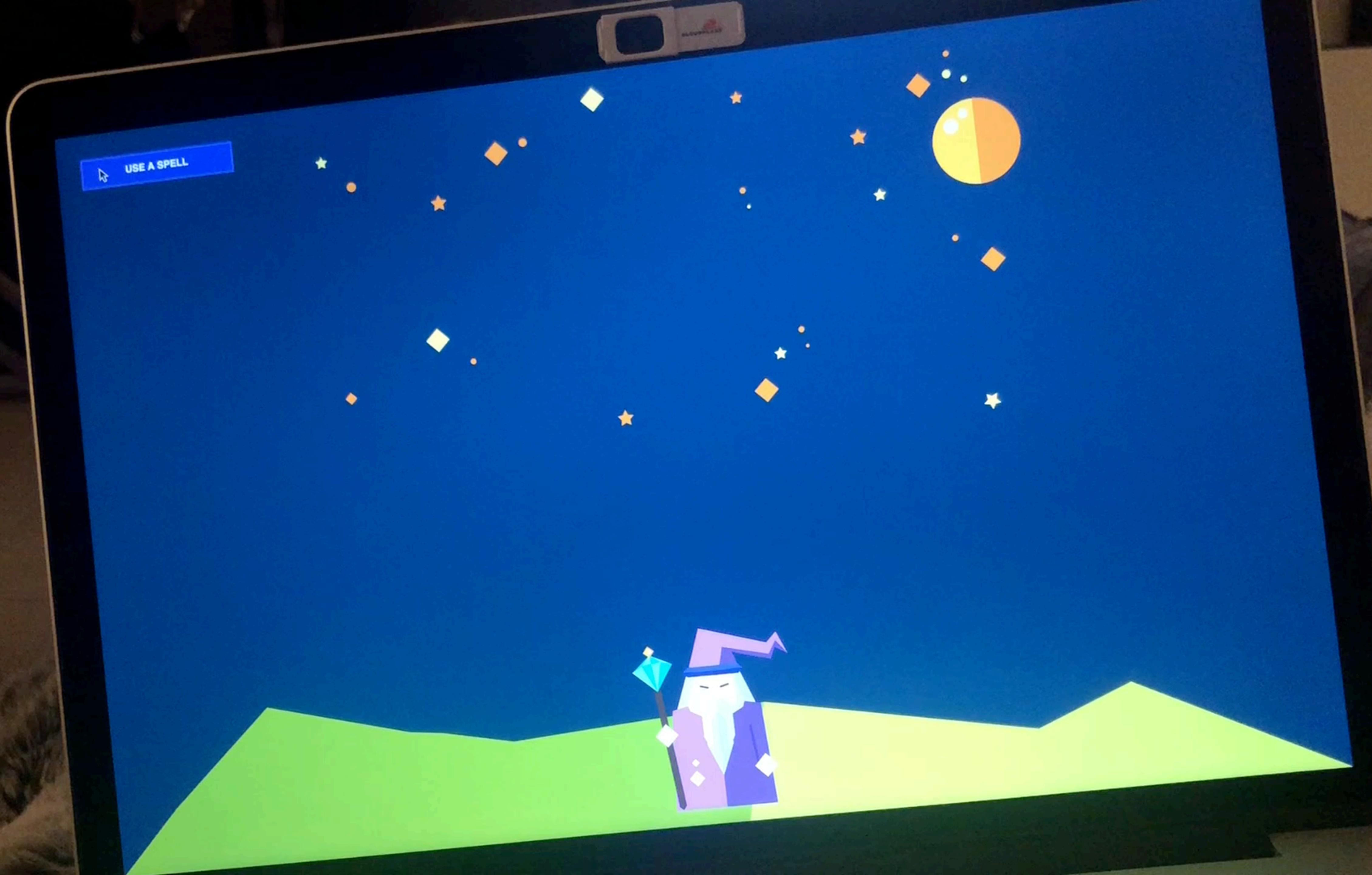
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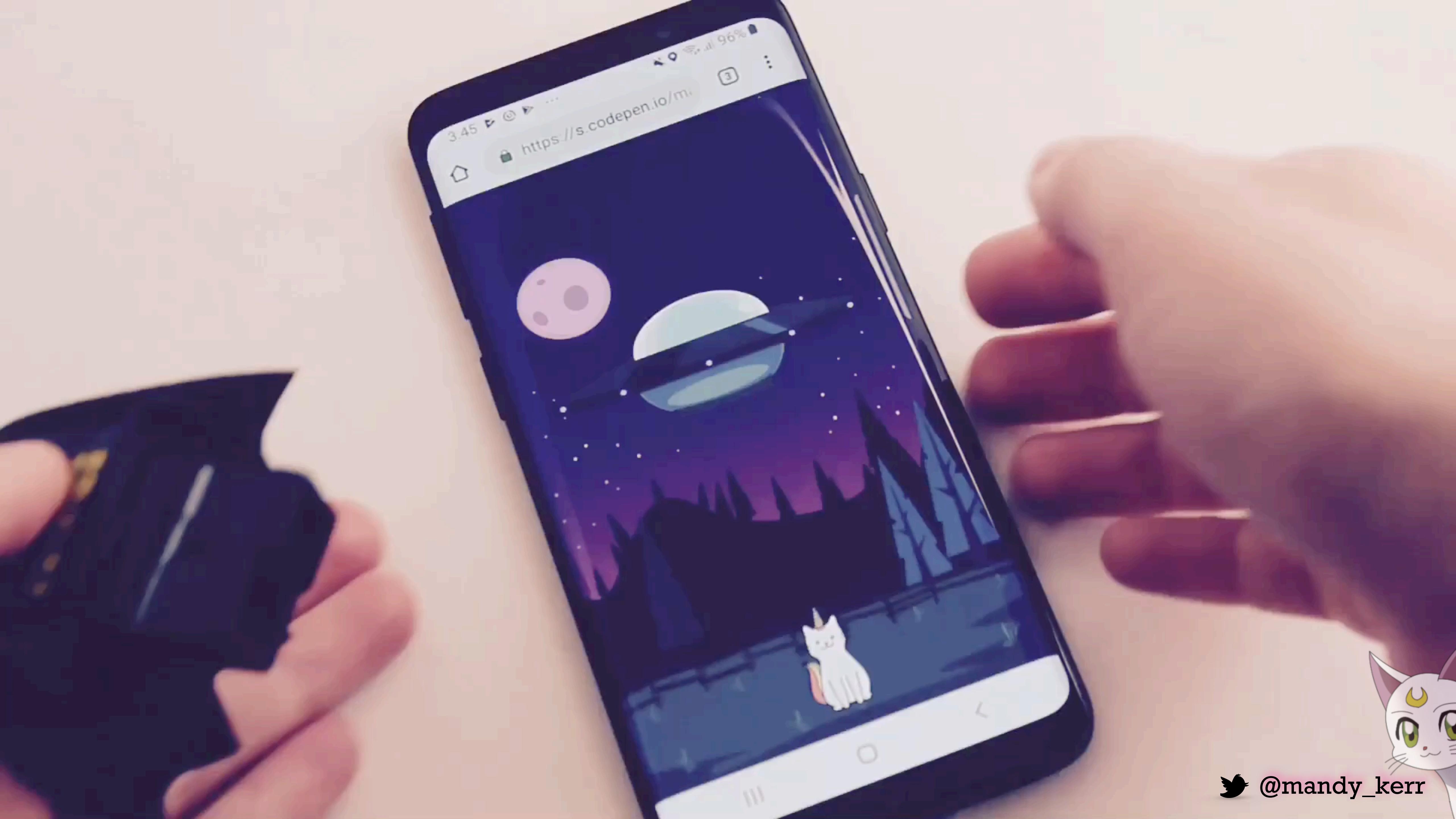


‘Don’t be limited by what we can already do, the web is still young and there is so much for us to create.’





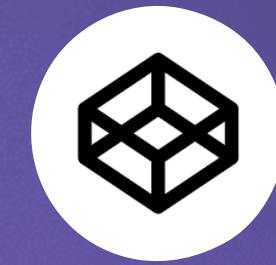




Thank you *



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developer.mozilla.org/docs/Web/API
developer.mozilla.org/docs/Web/API/Sensor_APIs
developer.mozilla.org/docs/Web/API/SpeechRecognition
developer.mozilla.org/docs/Web/API/AmbientLightSensor
developer.mozilla.org/docs/Web/API/DeviceOrientationEvent



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