PLATINUM

Octopus Deploy

GOLD

auth0 by Okta

elabor8

GitHub

Insight

Lynkz

MAKER X

Mantel group

PATIENT ZERO

technologyone Transforming business, making life simple

Telstra Purple

VALD

workday

SILVER

Progress

Seq

Loan Market Group.

SixPivot

SOULSOLUTIONS

STANDARD

Calyptia

@JBURR90 / JULIAN BURR

DDD BRISBANE

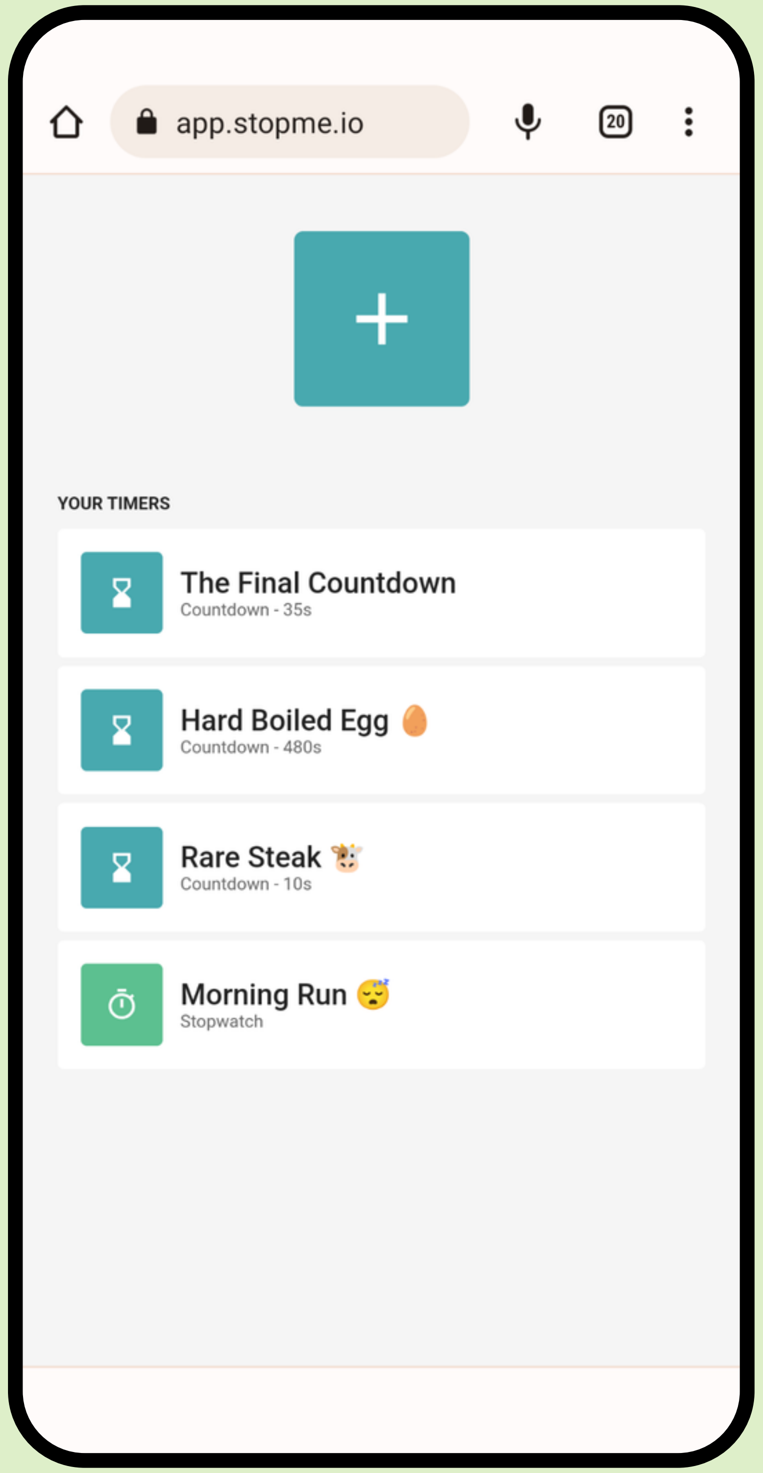
YES, YOUR BROWSER CAN DO THAT! (PROBABLY)

WHY DO BROWSER APIS MATTER?

A very brief history of frontend development and the constant desire to build native

STOPME.IO

The ultimate SaaS (Stopwatch as a Service) product for everyone


app.stopme.io

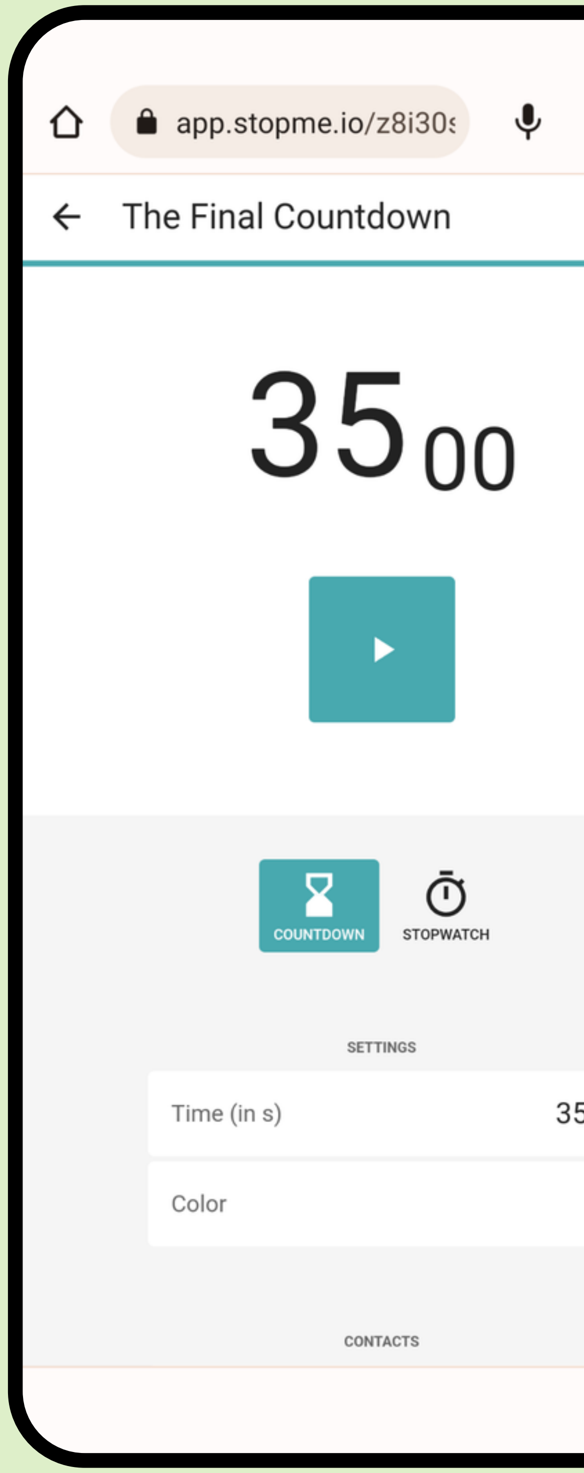
YOUR TIMERS

The Final Countdown
Countdown - 35s

Hard Boiled Egg 🥚
Countdown - 480s

Rare Steak 🐮
Countdown - 10s

Morning Run 😴
Stopwatch


app.stopme.io/z8i30s

The Final Countdown

35 00

SETTINGS

Time (in s) 35

Color

CONTACTS

01

OBSERVE

01

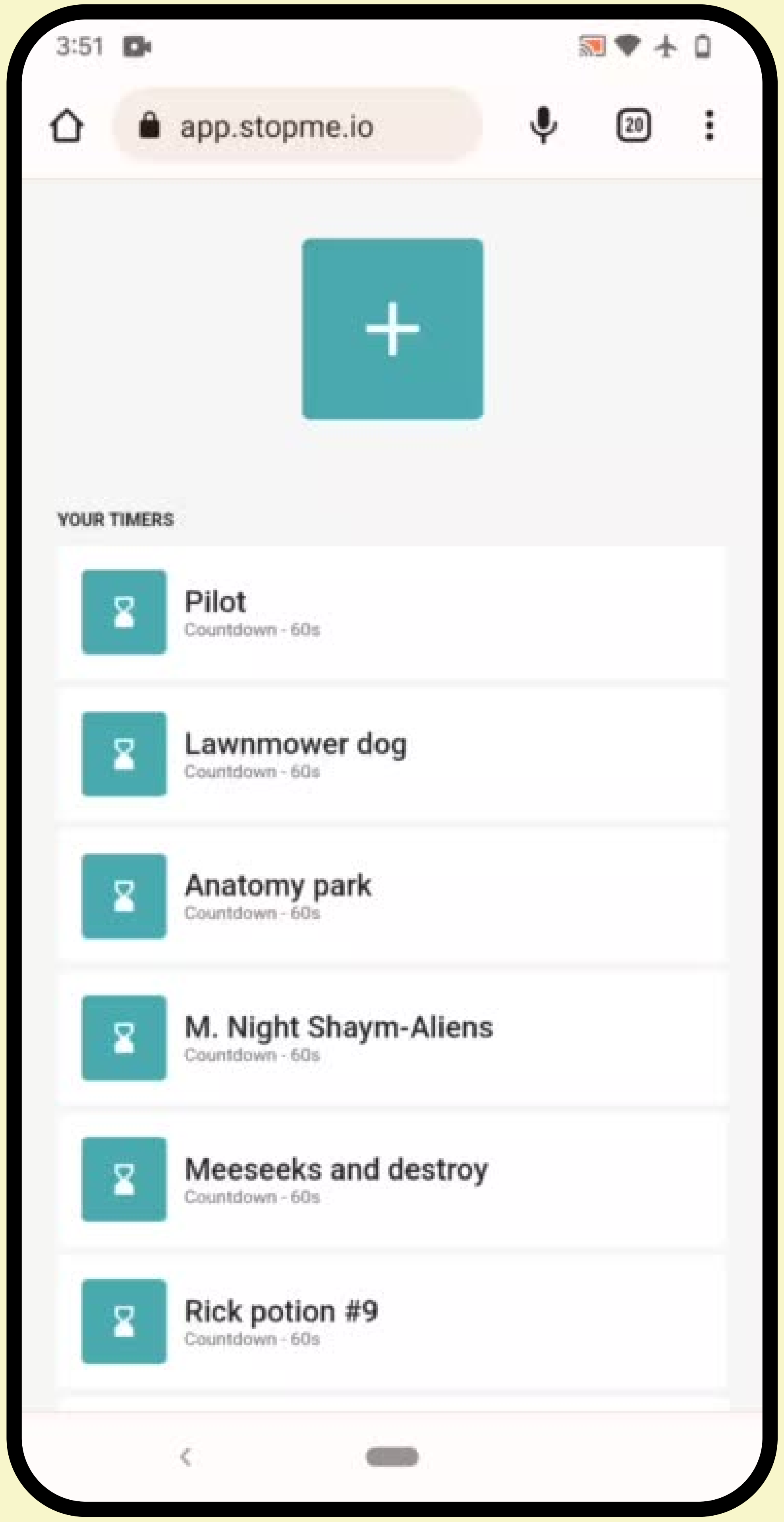
INTERSECTION OBSERVER

Keep track of when DOM elements enter or leave the users viewport

01

INTERSECTION OBSERVER

Keep track of when DOM elements enter or leave the users viewport


3:51

app.stopme.io

YOUR TIMERS

Pilot
Countdown - 60s

Lawnmower dog
Countdown - 60s

Anatomy park
Countdown - 60s

M. Night Shaym-Aliens
Countdown - 60s

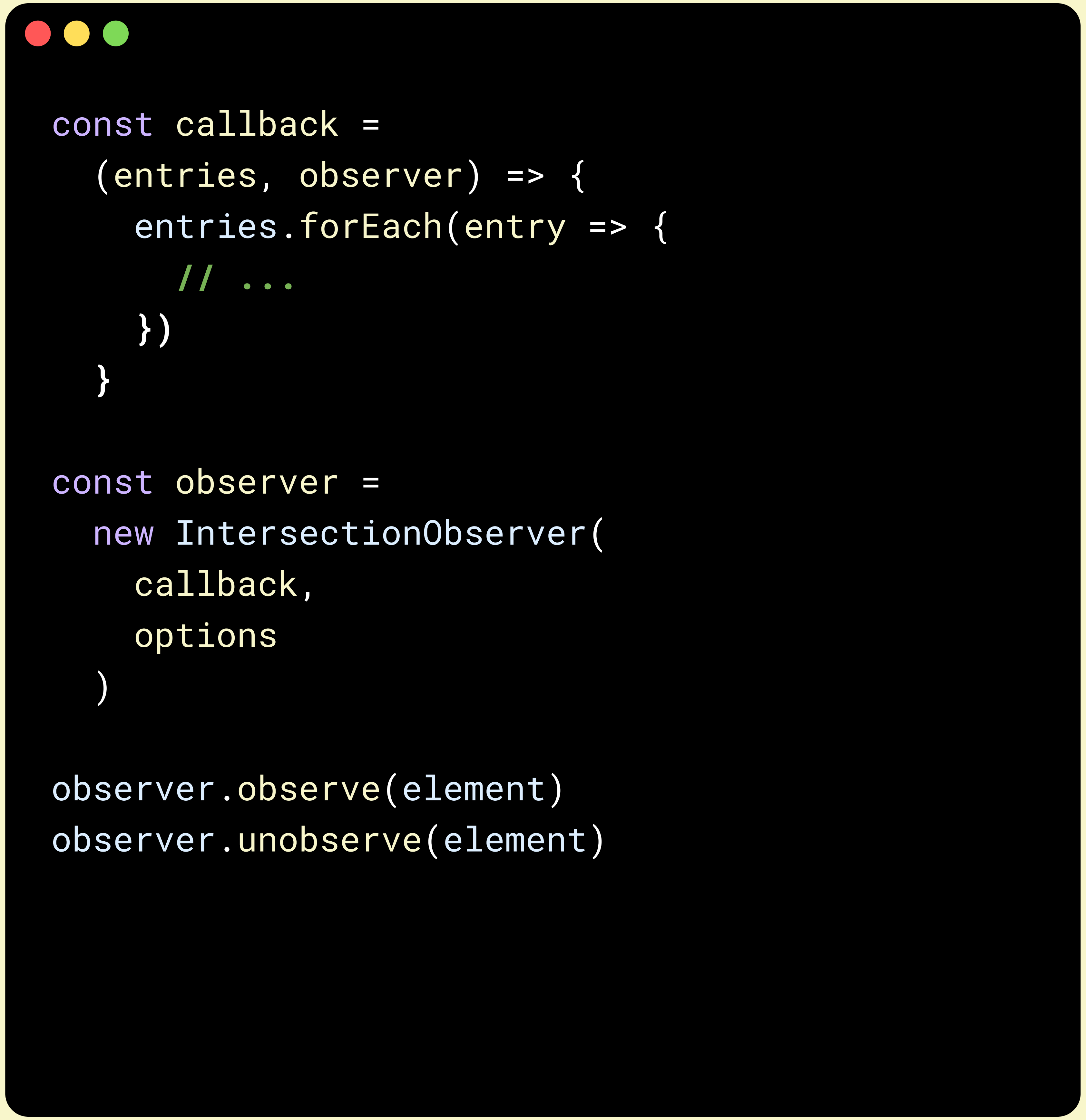
Meeseeks and destroy
Countdown - 60s

Rick potion #9
Countdown - 60s

01

INTERSECTION OBSERVER

Keep track of when DOM elements enter or leave the users viewport

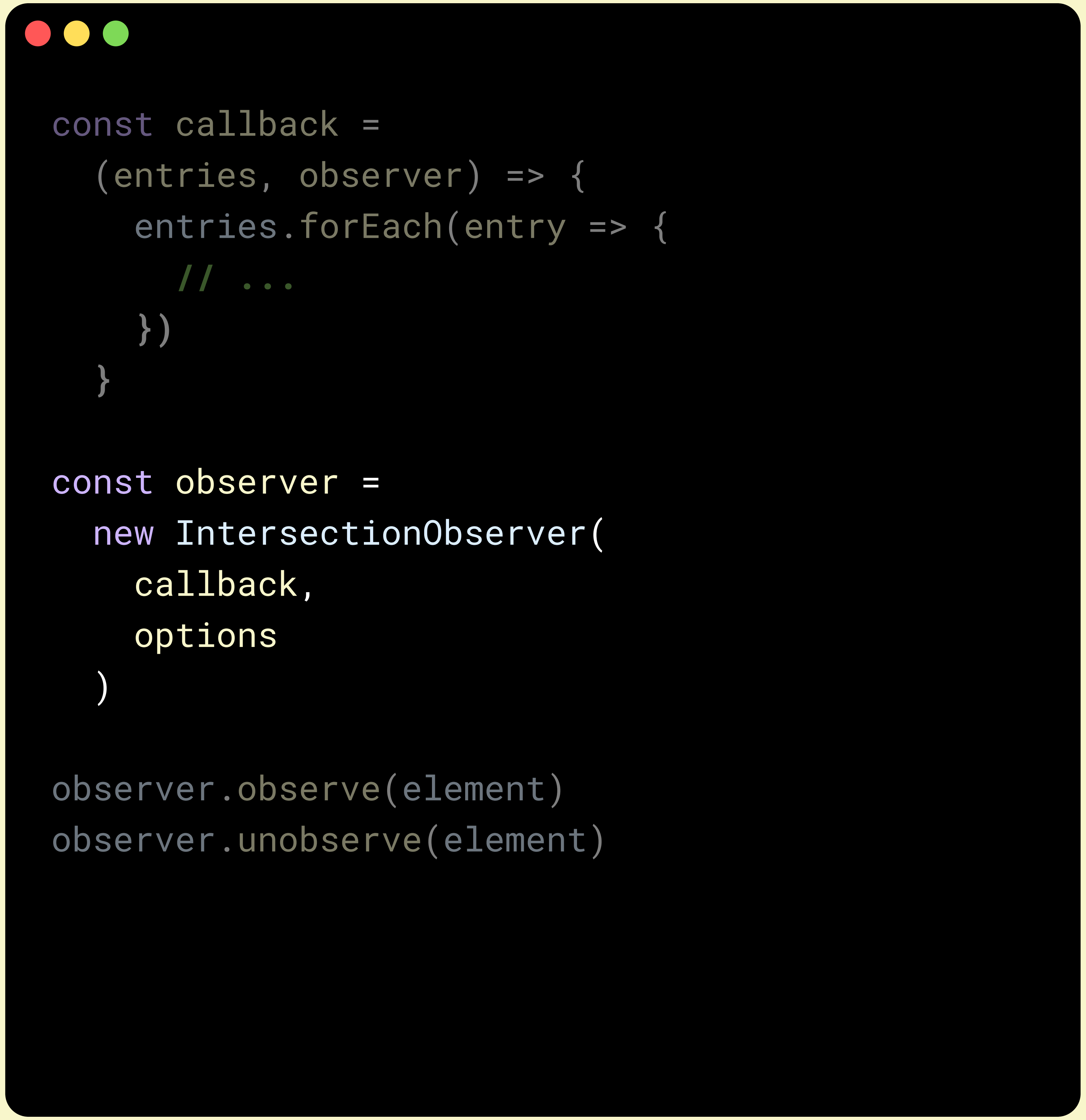


```
const callback =
  (entries, observer) => {
    entries.forEach(entry => {
      // ...
    })
  }

const observer =
  new IntersectionObserver(
    callback,
    options
  )

observer.observe(element)
observer.unobserve(element)
```

01

INTERSECTION OBSERVER

Keep track of when DOM elements enter or leave the users viewport



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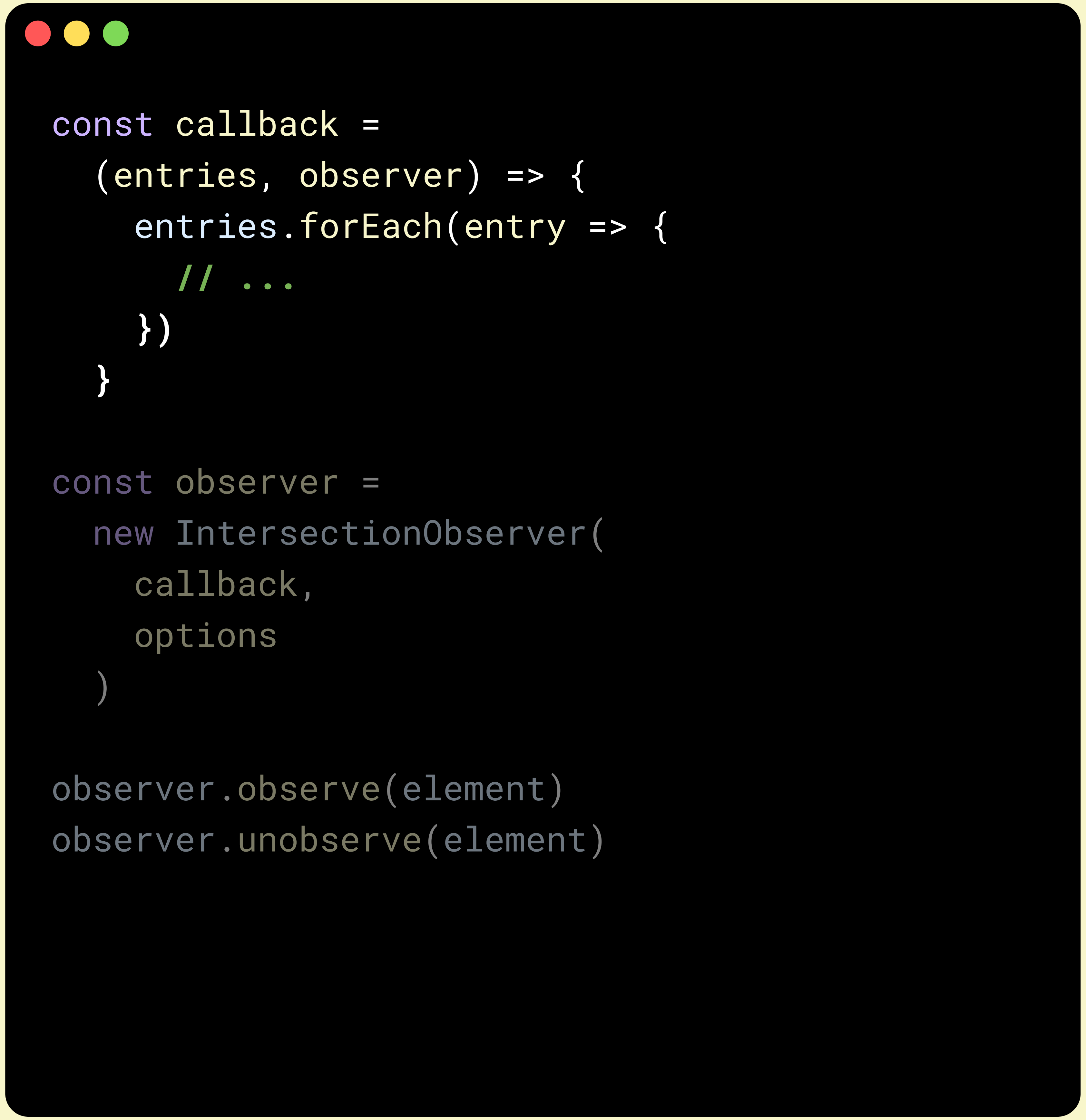

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01

INTERSECTION OBSERVER

Keep track of when DOM elements enter or leave the users viewport

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INTERSECTION OBSERVER

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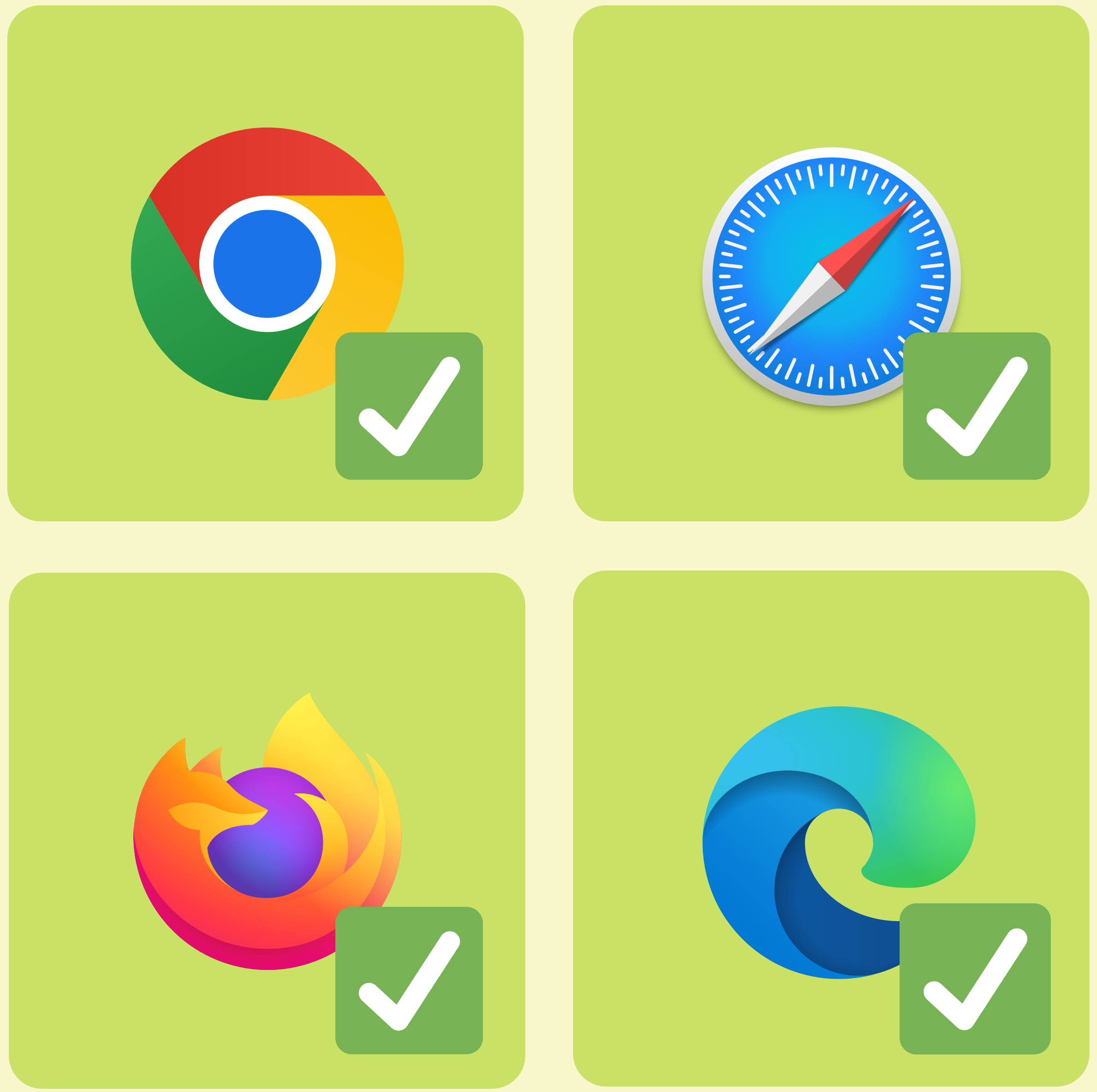


01

RESIZE OBSERVER

Observe DOM elements and run callbacks whenever their content box changes

01

RESIZE OBSERVER

Observe DOM elements and run callbacks whenever their content box changes

```
const callback =
  (entries, observer) => {
    entries.forEach(entry => {
      // ...
    })
  }

const observer =
  new ResizeObserver(
    callback,
    options
  )

observer.observe(element)
observer.unobserve(element)
```

01

RESIZE OBSERVER

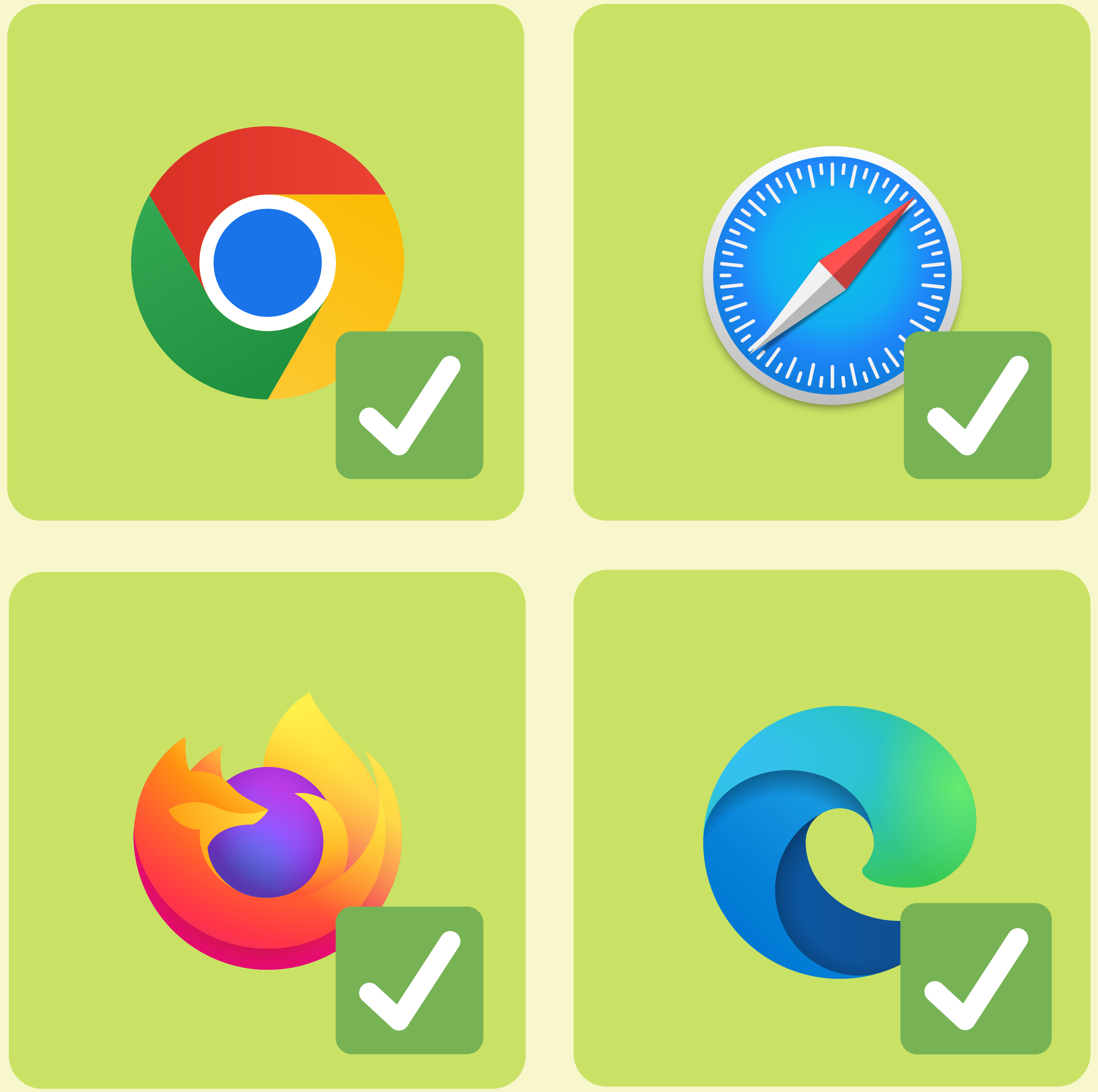
Observe DOM elements and run callbacks whenever their content box changes

```
const callback =
  (entries, observer) => {
    entries.forEach(entry => {
      // ...
    })
  }

const observer =
  new ResizeObserver(
    callback,
    options
  )

observer.observe(element)
observer.unobserve(element)
```

01

RESIZE OBSERVER

Observe DOM elements and run callbacks whenever their content box changes



02

EVEN OBSERVE THE USER'S DEVICE

02

PAGE VISIBILITY API

Detect when the tab of the current page is active or in the background

02

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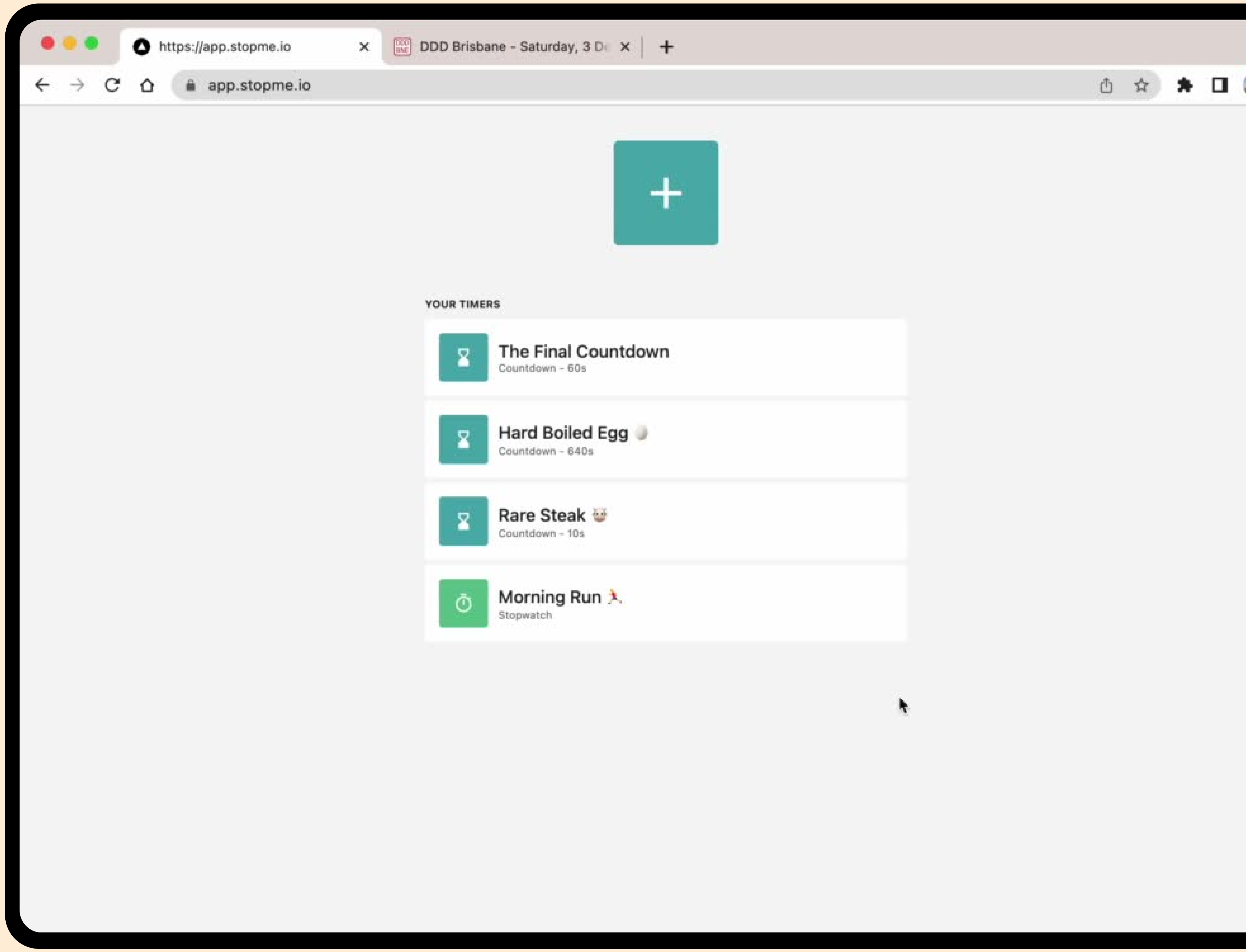
Detect when the tab of the current page is active or in the background



02

PAGE VISIBILITY API

Detect when the tab of the current page is active or in the background

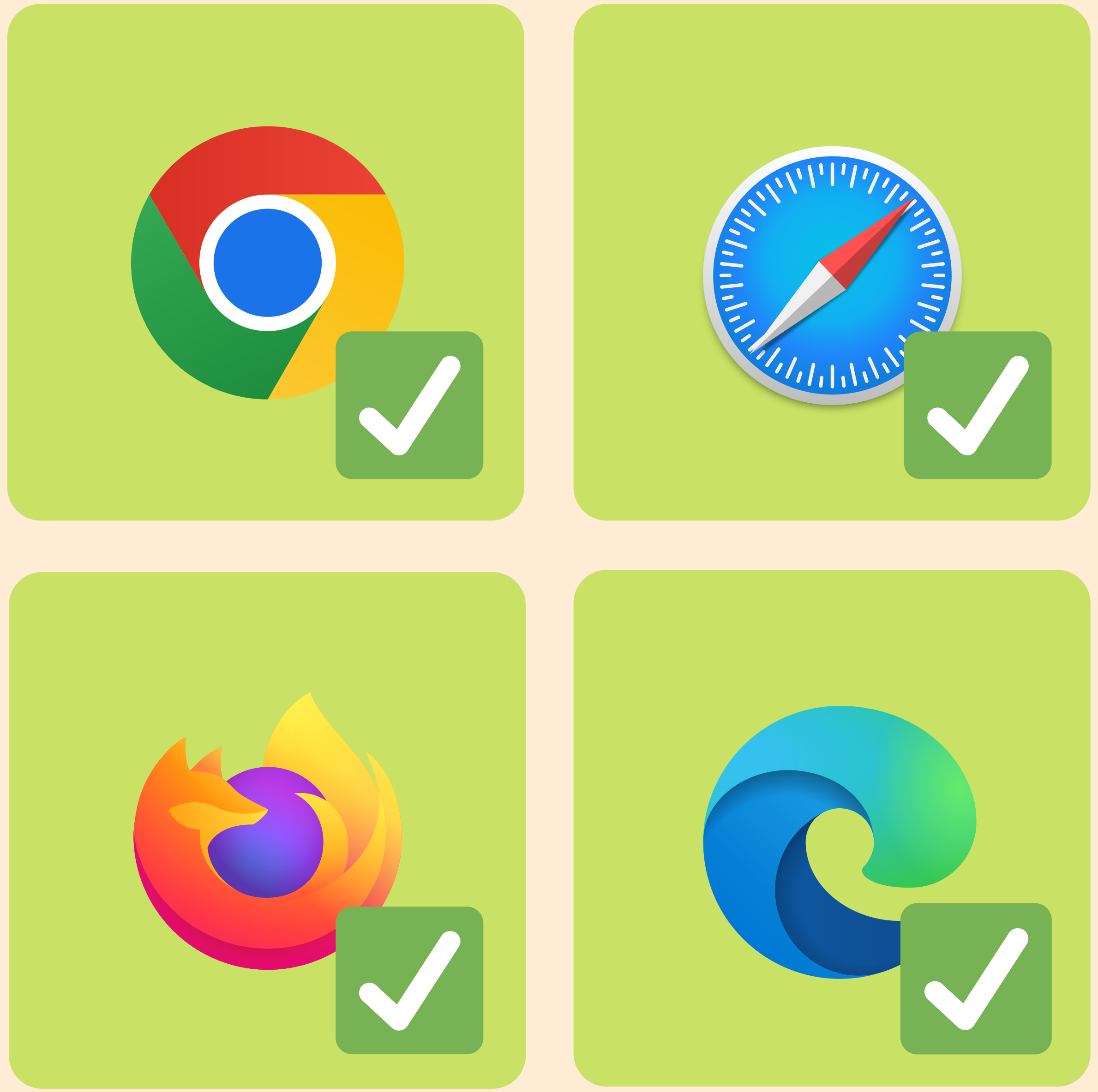
```
function handleChange () {
  if (document.visibilityState === "hidden") {
    // do or stop something when tab is hidden
  } else {
    // do or stop something when it's visible
  }
}

document.addEventListener(
  "visibilitychange",
  handleChange
)
```

02

PAGE VISIBILITY API

Detect when the tab of the current page is active or in the background



02

NETWORK INFORMATION API

Get information about the users network connection

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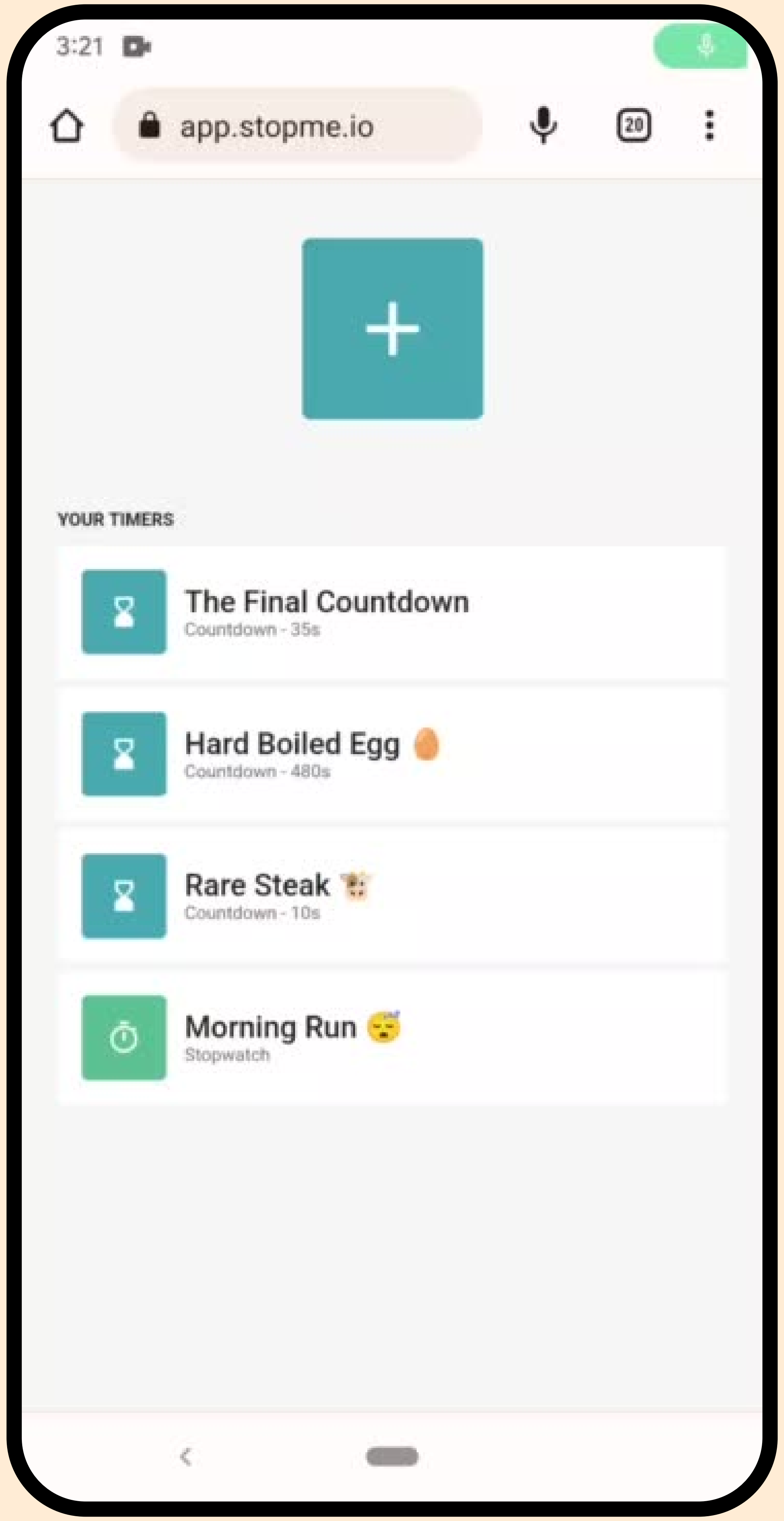


NETWORK INFORMATION API

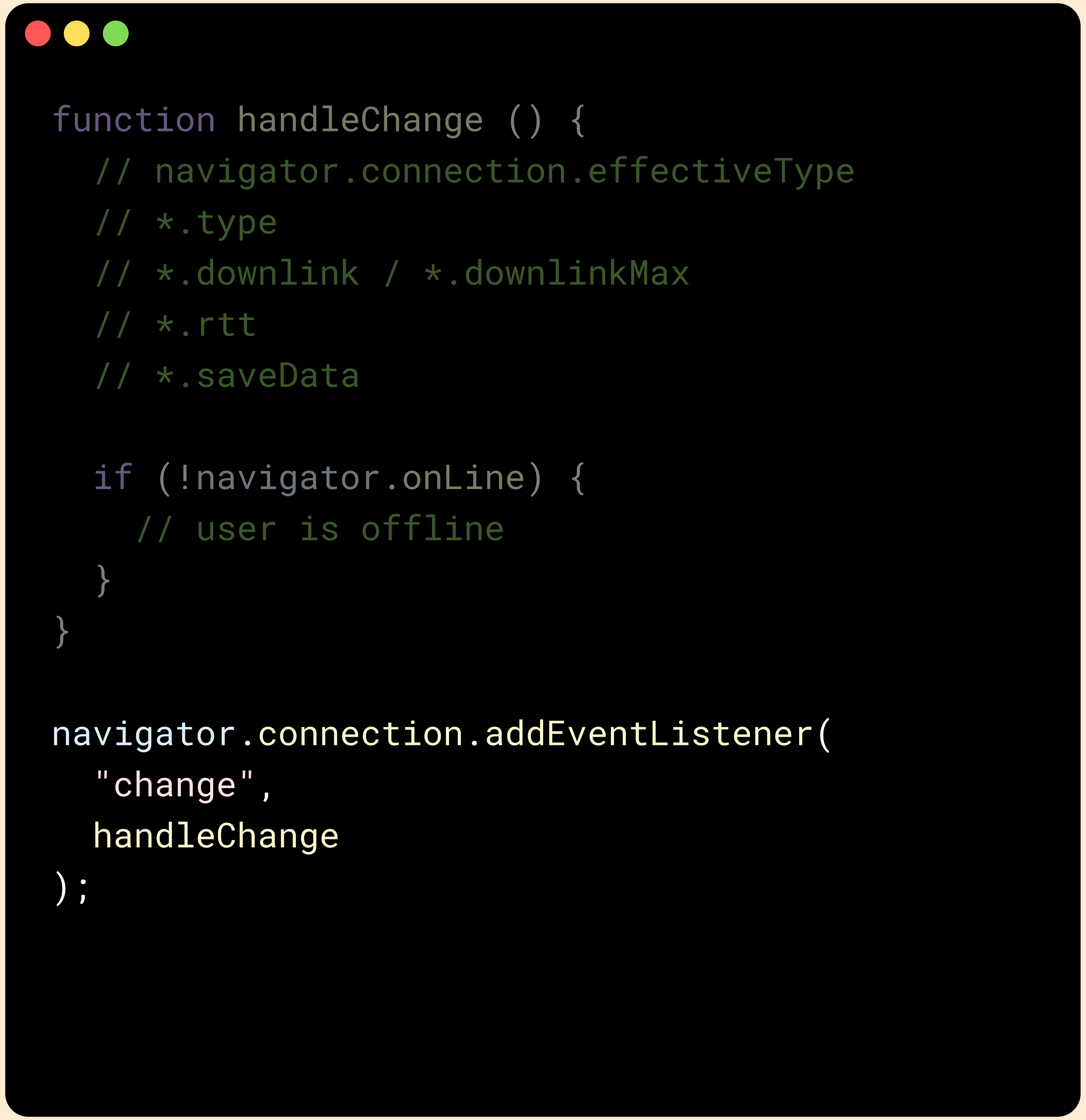
Get information about the users network connection

```
function handleChange () {
  // navigator.connection.effectiveType
  // *.type
  // *.downlink / *.downlinkMax
  // *.rtt
  // *.saveData

  if (!navigator.onLine) {
    // user is offline
  }
}

navigator.connection.addEventListener(
  "change",
  handleChange
);
```

02

NETWORK INFORMATION API

Get information about the users network connection



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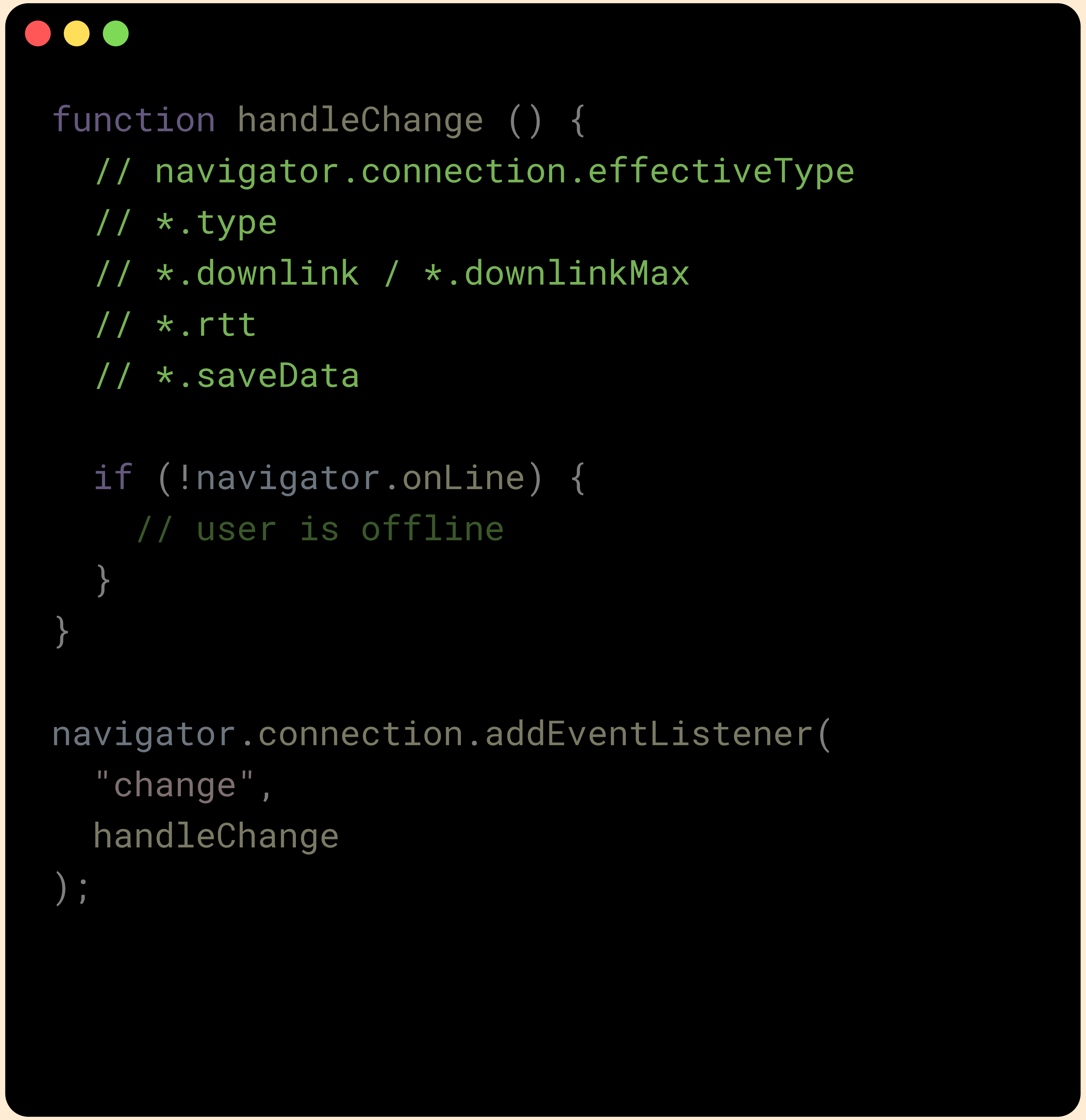

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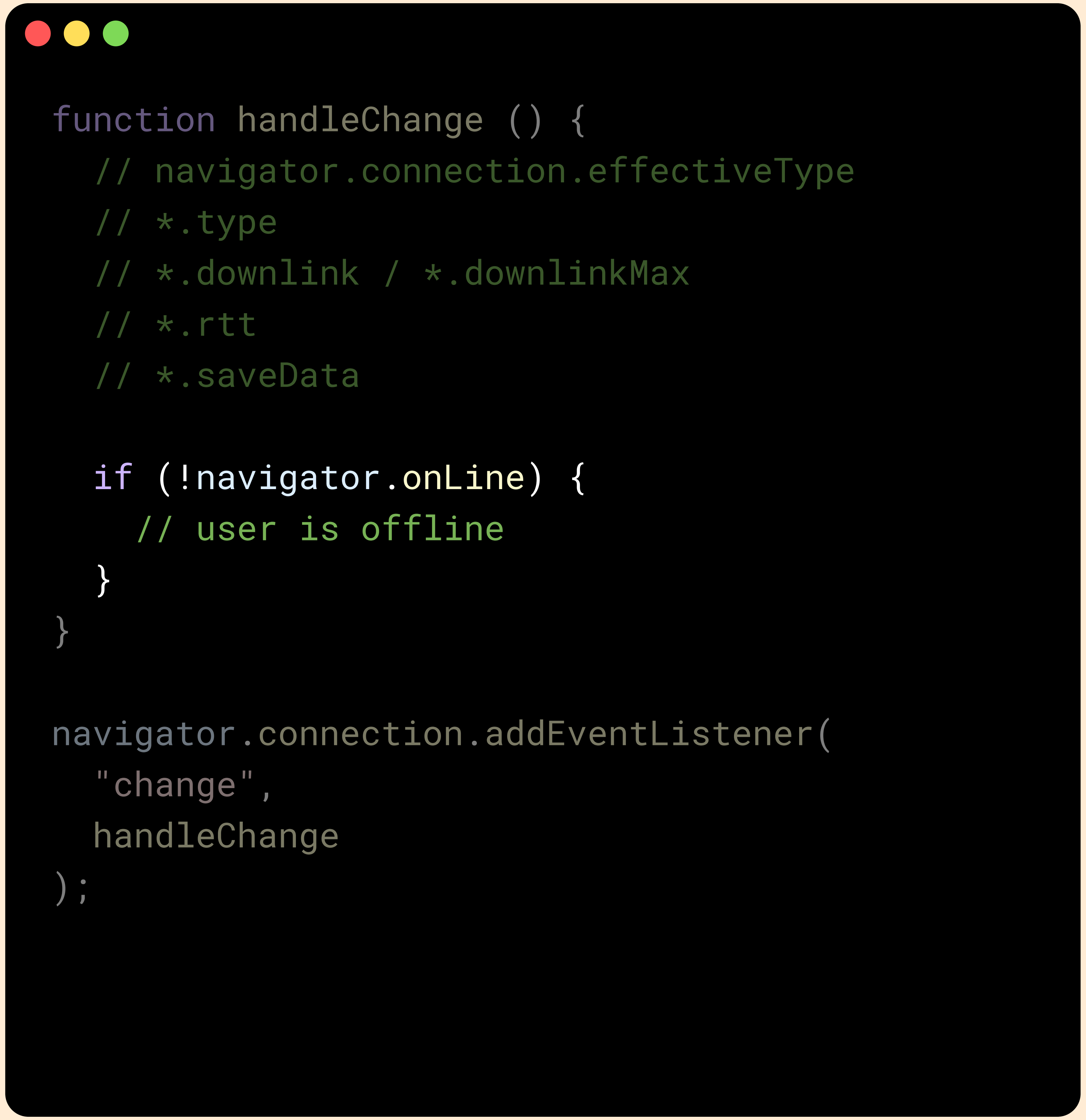

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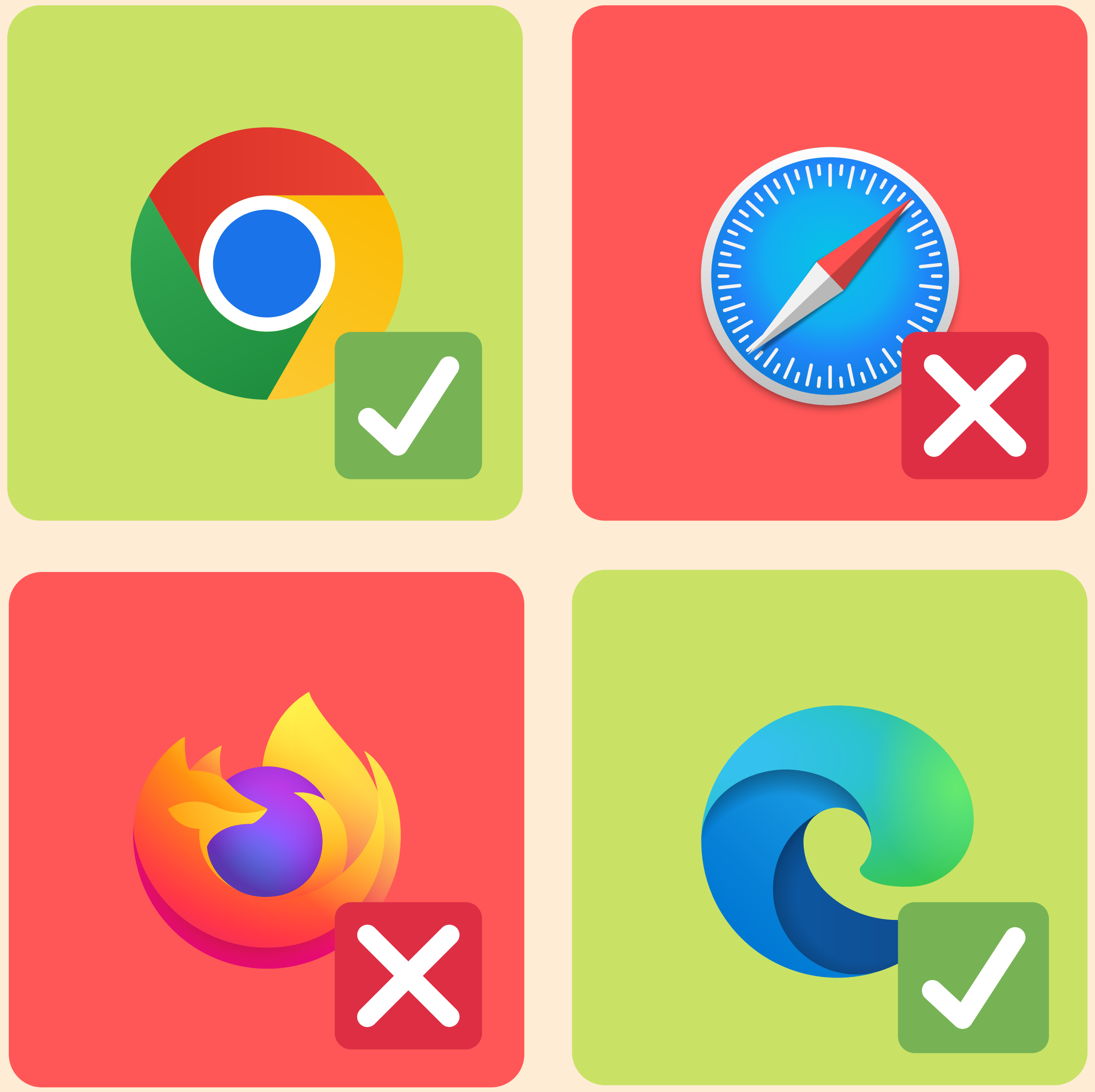

02

BATTERY STATUS API

Get details about the devices battery status

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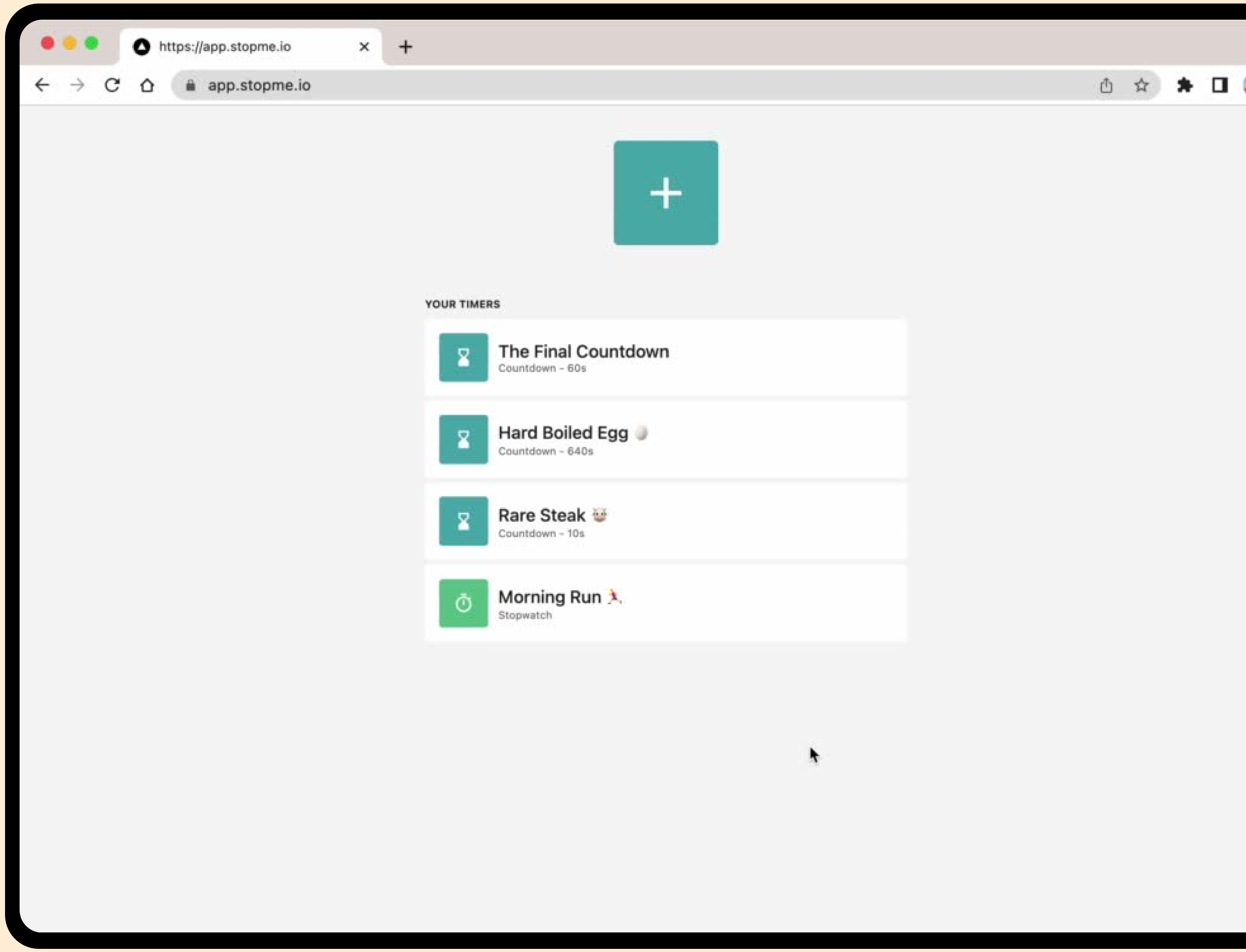

YOUR TIMERS

The Final Countdown
Countdown - 60s

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Stopwatch

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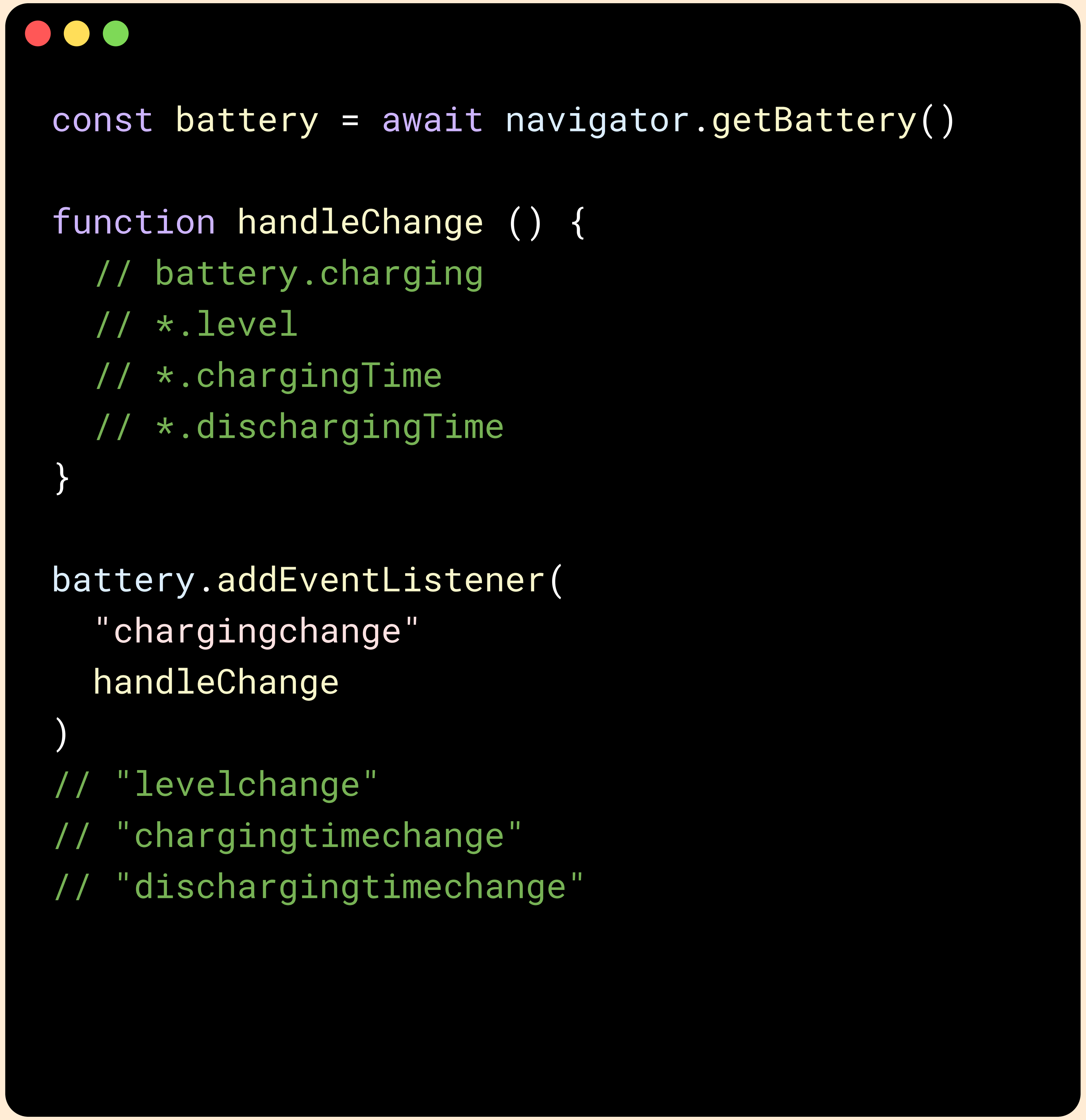


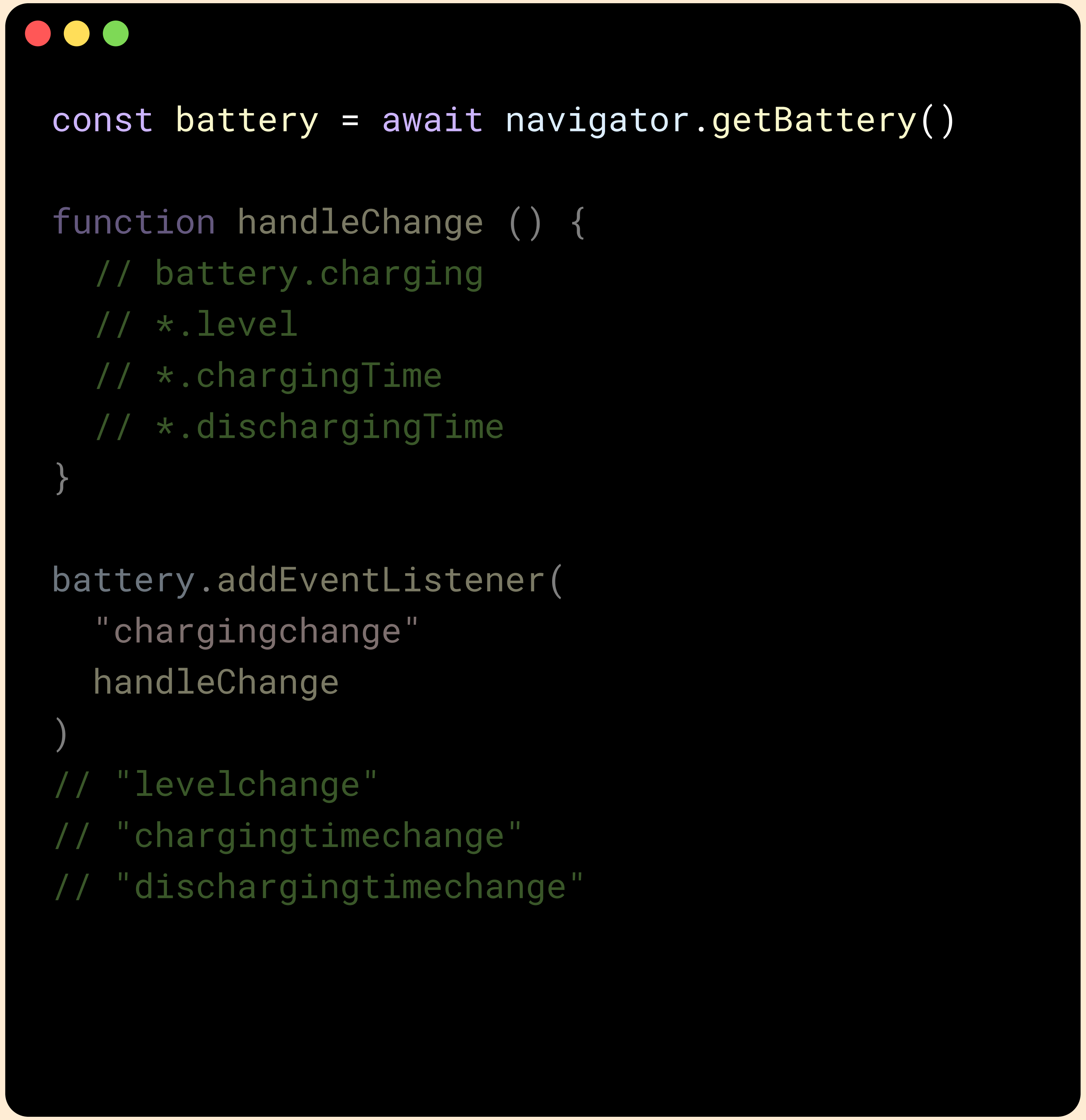
```
const battery = await navigator.getBattery()

function handleChange () {
  // battery.charging
  // *.level
  // *.chargingTime
  // *.dischargingTime
}

battery.addEventListener(
  "chargingchange"
  handleChange
)
// "levelchange"
// "chargingtimechange"
// "dischargingtimechange"
```

BATTERY STATUS API

Get details about the devices battery status



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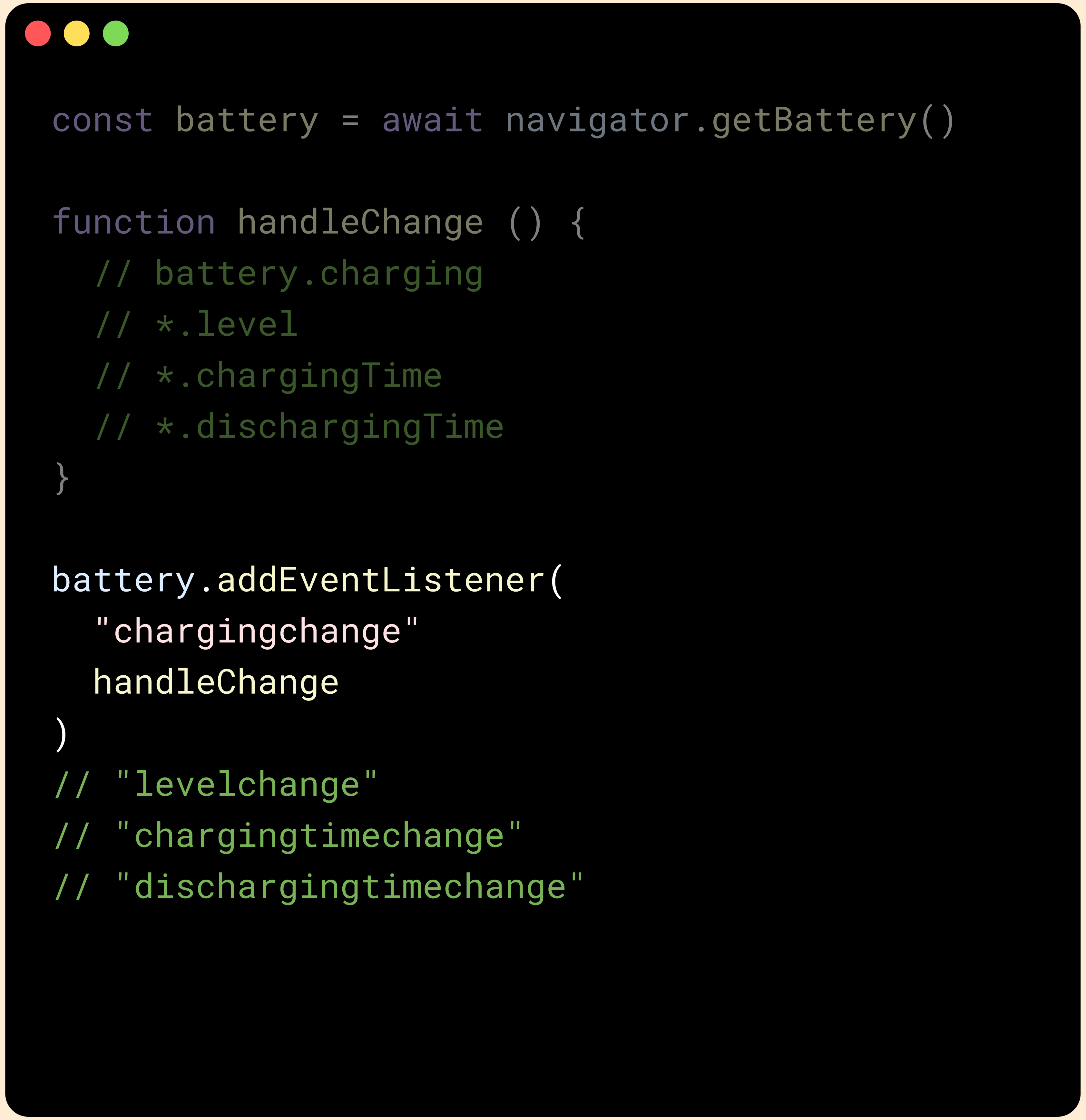

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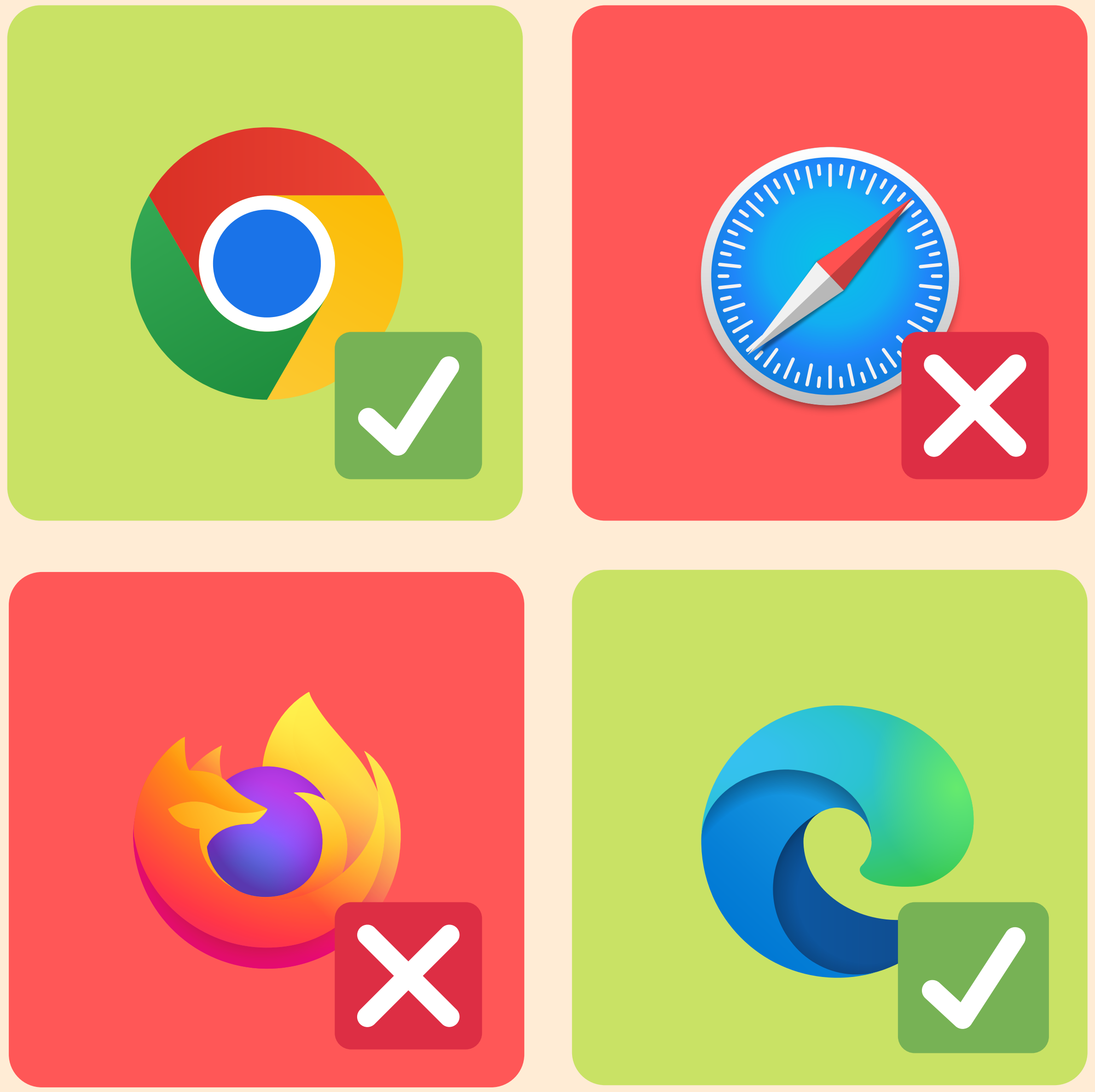


03

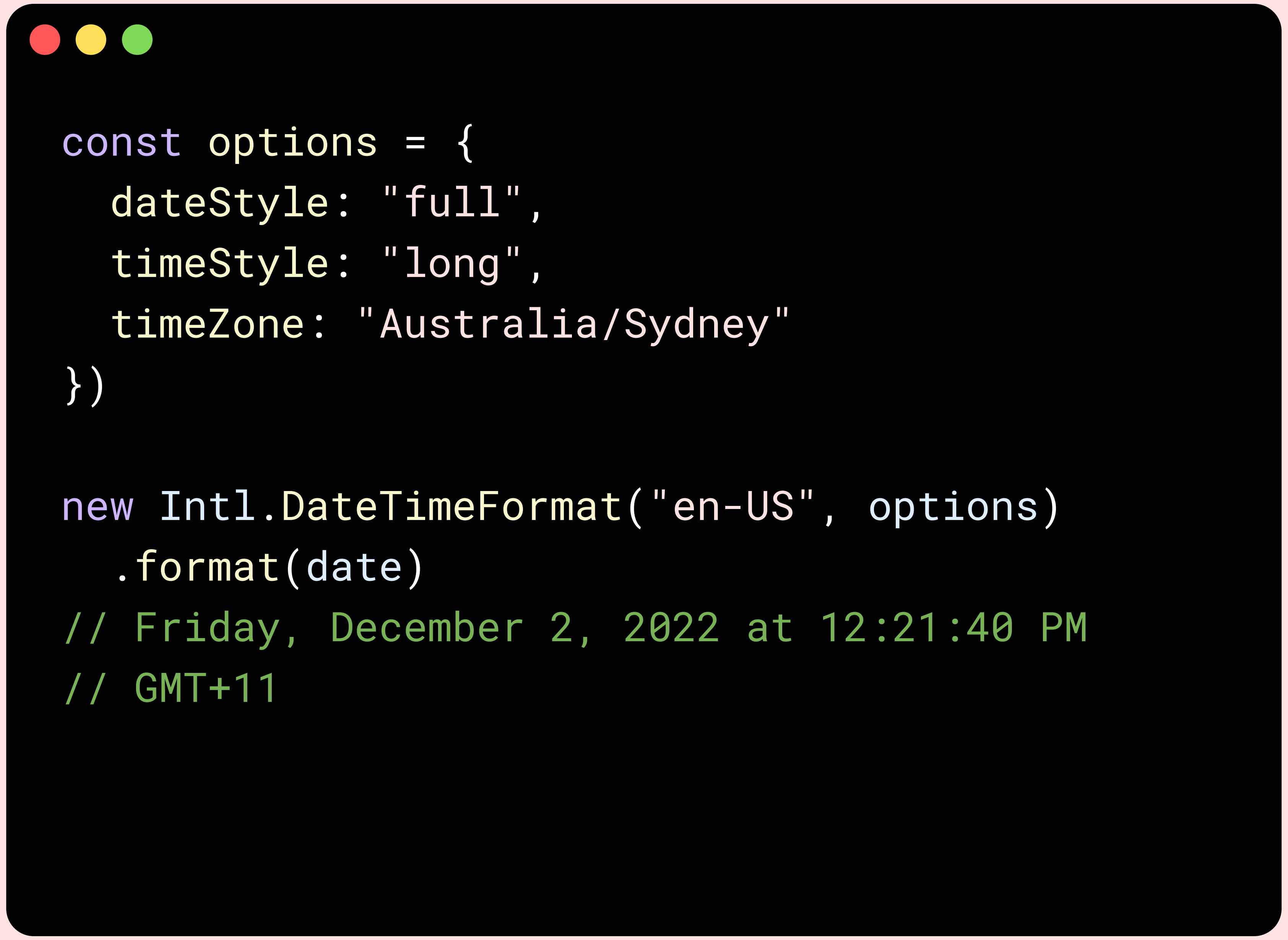
ENHANCE YOUR COMPONENTS

03

I18N API

Internationalisation helpers and utilities

03



```js
const options = {
  dateStyle: "full",
  timeStyle: "long",
  timeZone: "Australia/Sydney"
})

new Intl.DateTimeFormat("en-US", options)
  .format(date)
// Friday, December 2, 2022 at 12:21:40 PM
// GMT+11
```

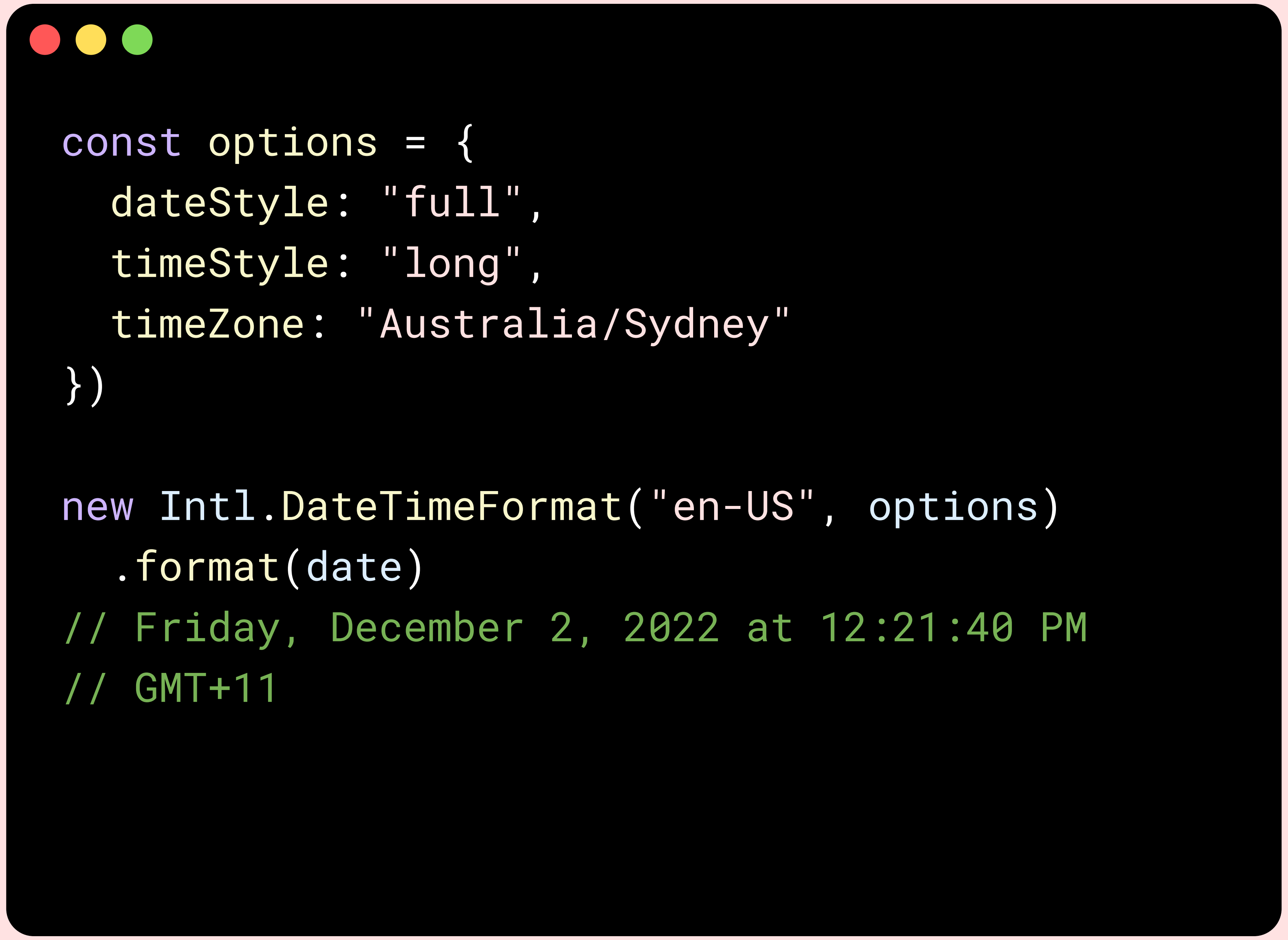
INTL API

Internationalisation helpers and utilities

03

INTL

Internationalisation helpers and utilities



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})

new Intl.DateTimeFormat("en-US", options)
  .format(date)
// Friday, December 2, 2022 at 12:21:40 PM
// GMT+11
```

✓ ✓ ✓ ✓

03

```
const fmt = new Intl.RelativeTimeFormat(
  "en",
  { style: "narrow" }
)

fmt.format(3, "day")
// in 3 days

fmt.format(-2, "year")
// 2 years ago
```

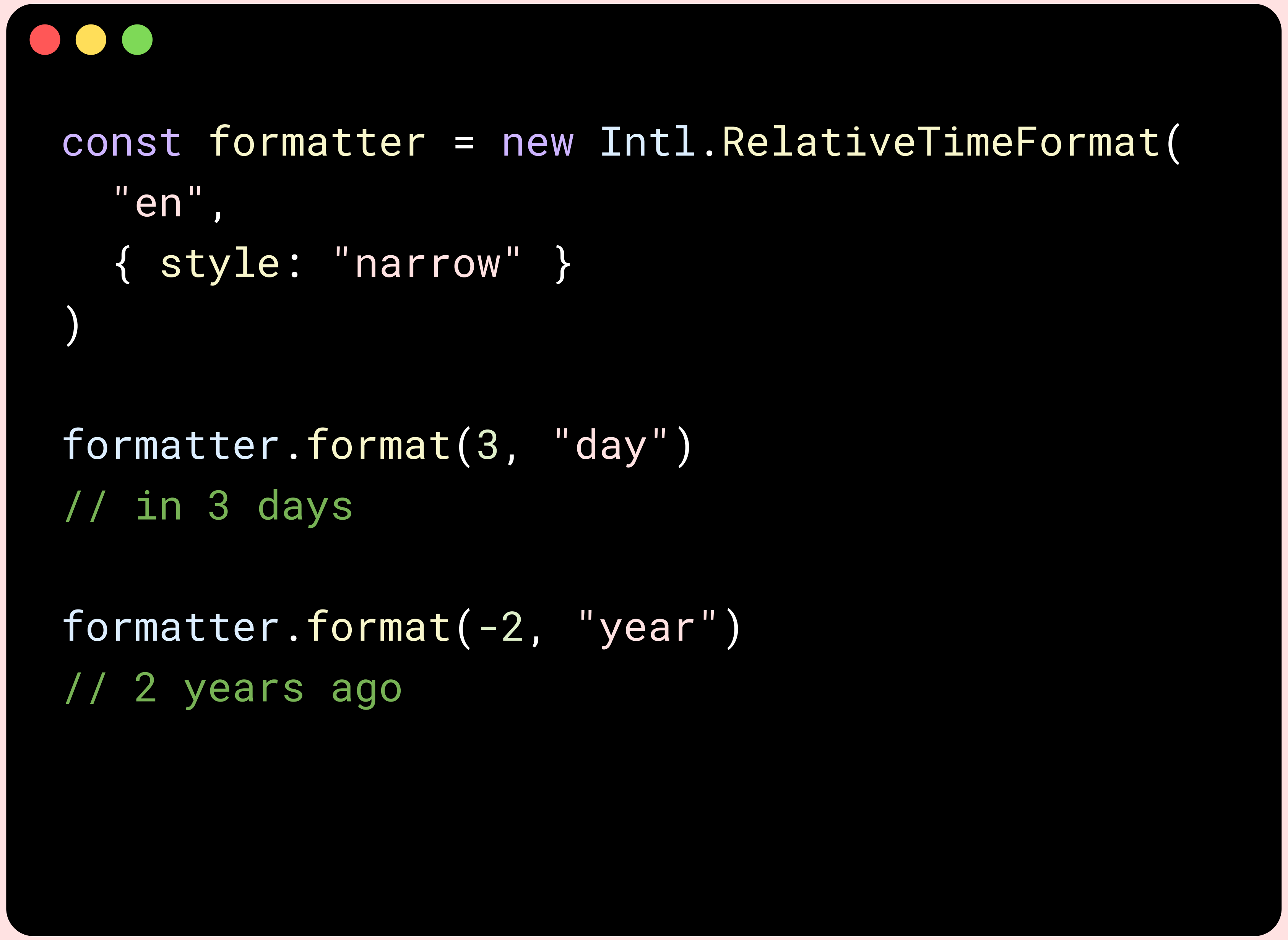
INTL API

Internationalisation helpers and utilities

03

INTL API

Internationalisation helpers and utilities

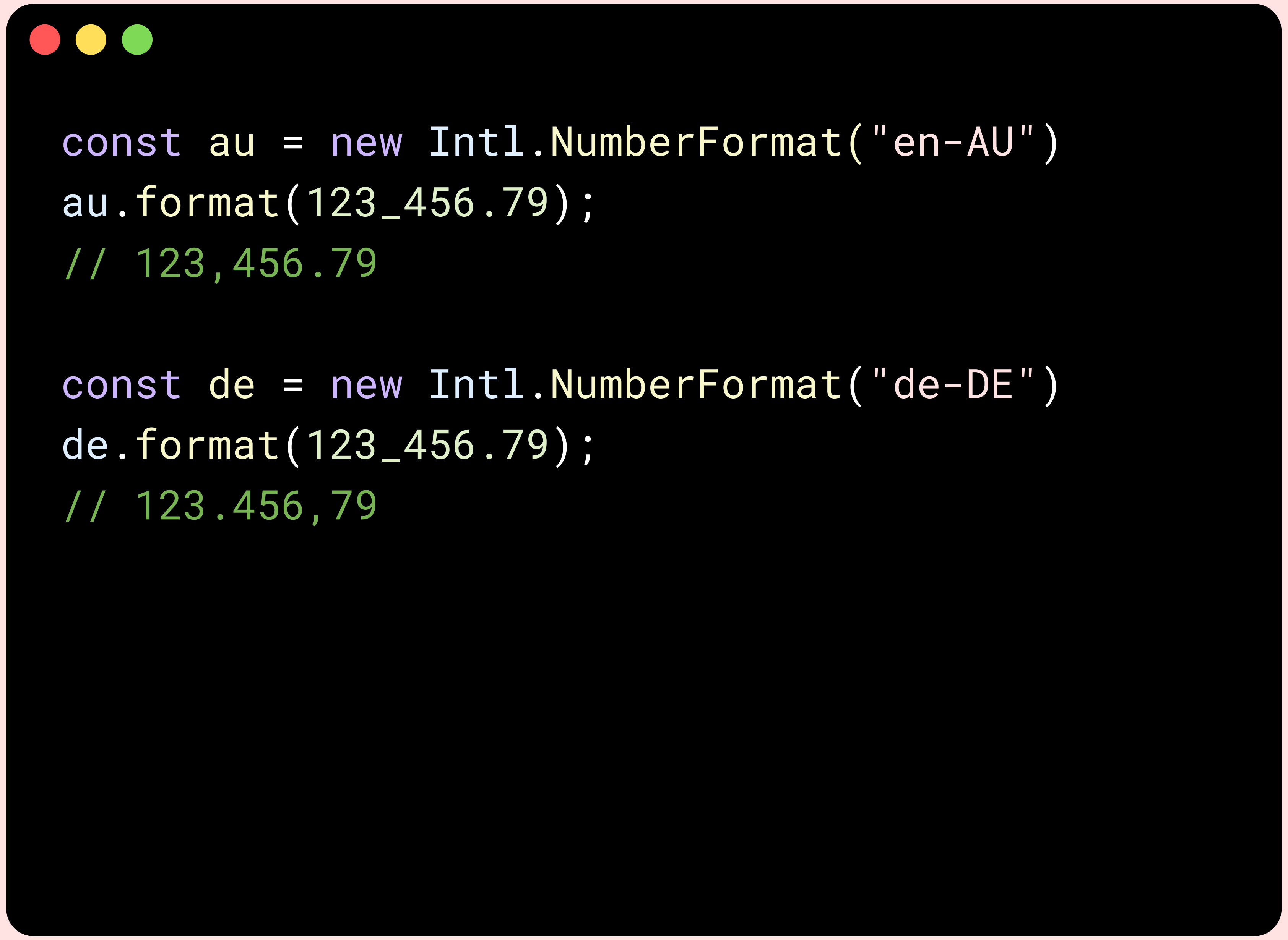


```
const formatter = new Intl.RelativeTimeFormat(
  "en",
  { style: "narrow" }
)

formatter.format(3, "day")
// in 3 days

formatter.format(-2, "year")
// 2 years ago
```

✓ ✓ ✓ ✓



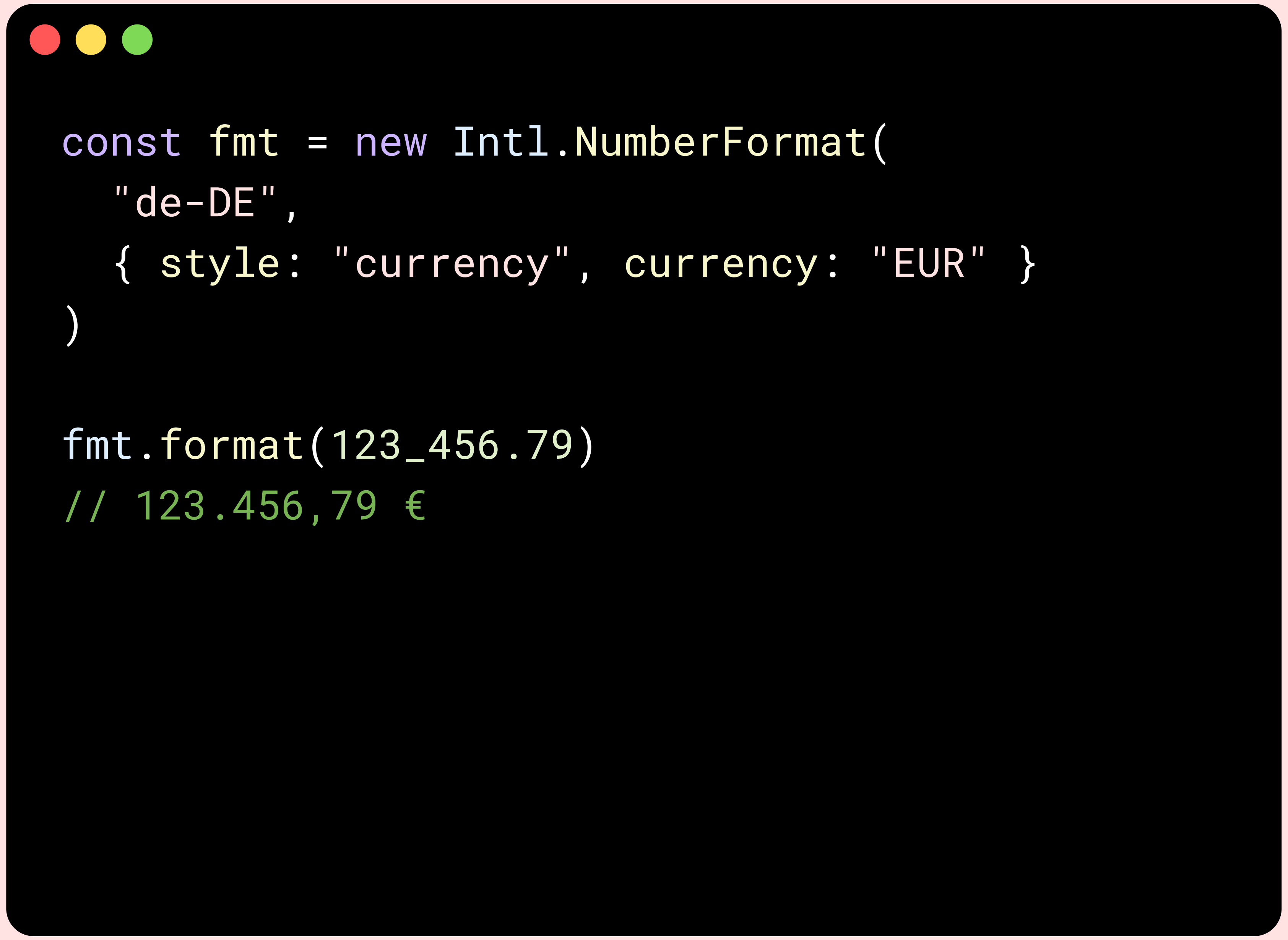
```
const au = new Intl.NumberFormat("en-AU")
au.format(123_456.79);
// 123,456.79

const de = new Intl.NumberFormat("de-DE")
de.format(123_456.79);
// 123.456,79
```

INTL API

Internationalisation helpers and utilities

03



```
const fmt = new Intl.NumberFormat(
  "de-DE",
  { style: "currency", currency: "EUR" }
)

fmt.format(123_456.79)
// 123.456,79 €
```

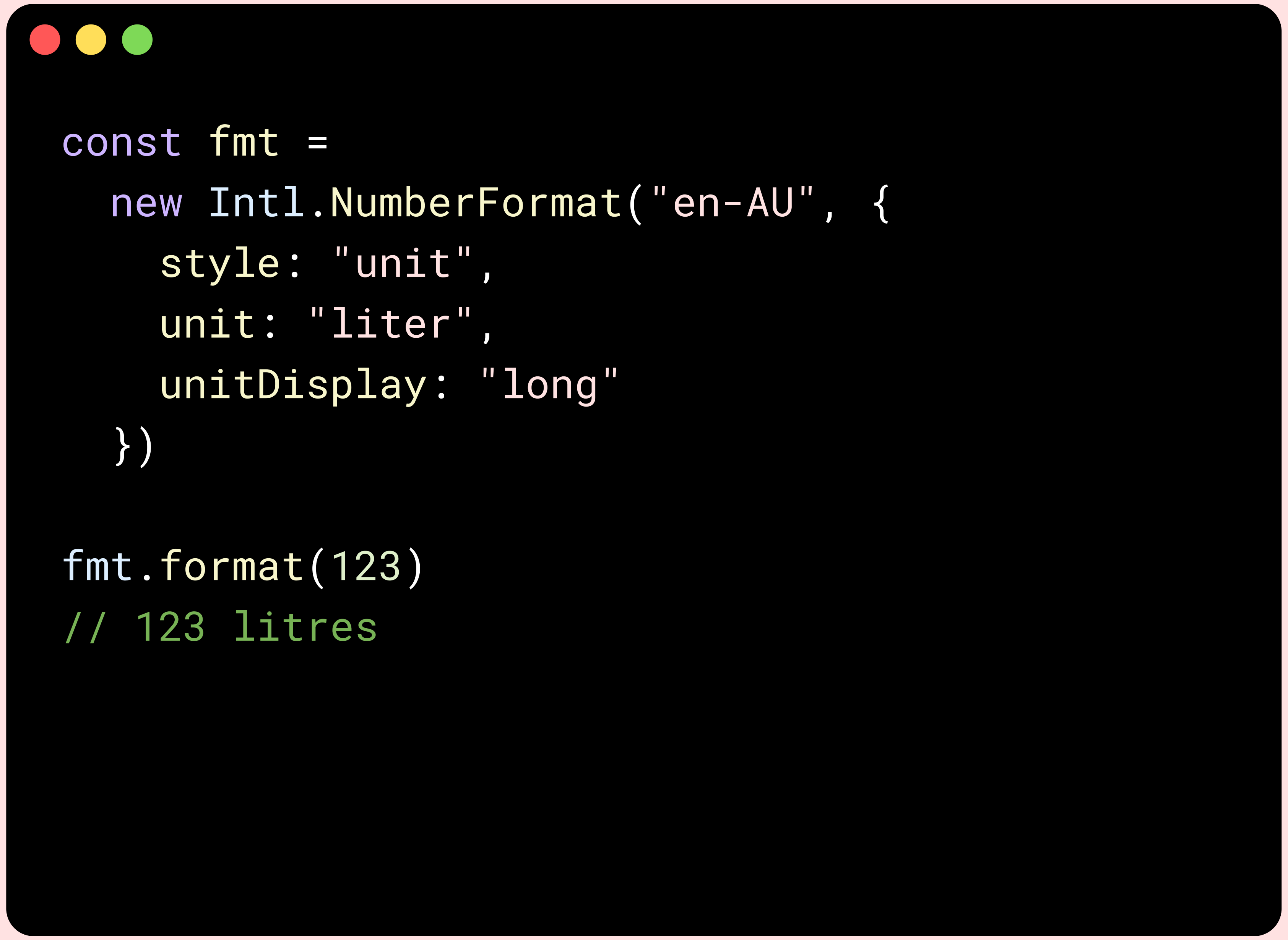
INTL API

Internationalisation helpers and utilities

03

INTL API

Internationalisation helpers and utilities



```
const fmt =
  new Intl.NumberFormat("en-AU", {
    style: "unit",
    unit: "liter",
    unitDisplay: "long"
  })

fmt.format(123)
// 123 litres
```

03

INTL API

Internationalisation helpers and utilities

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fmt.format(123)
// 123 litres
```

03

SCREEN WAKE LOCK API

Let the users device know that you don't want the screen to lock due to inactivity

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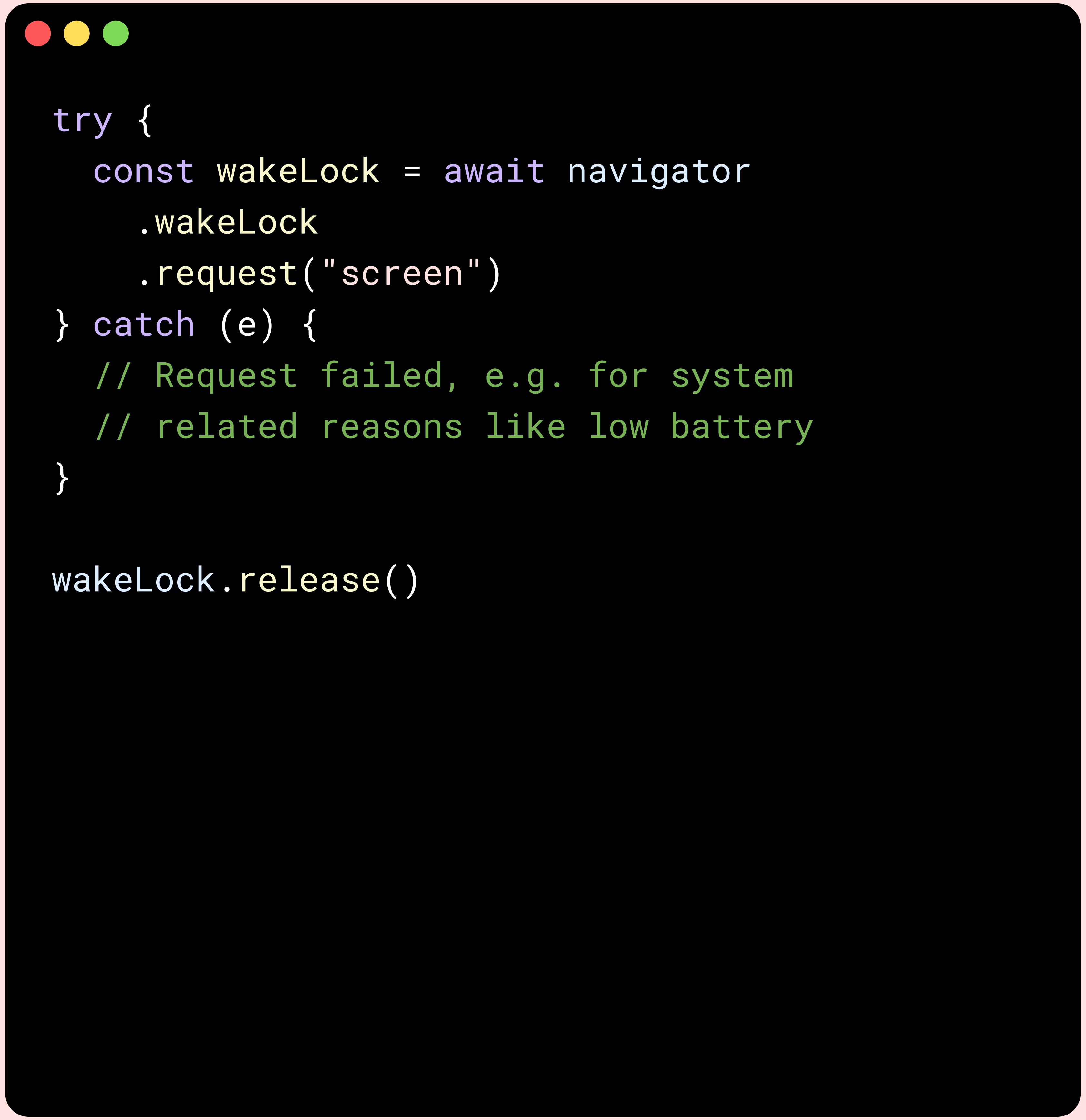
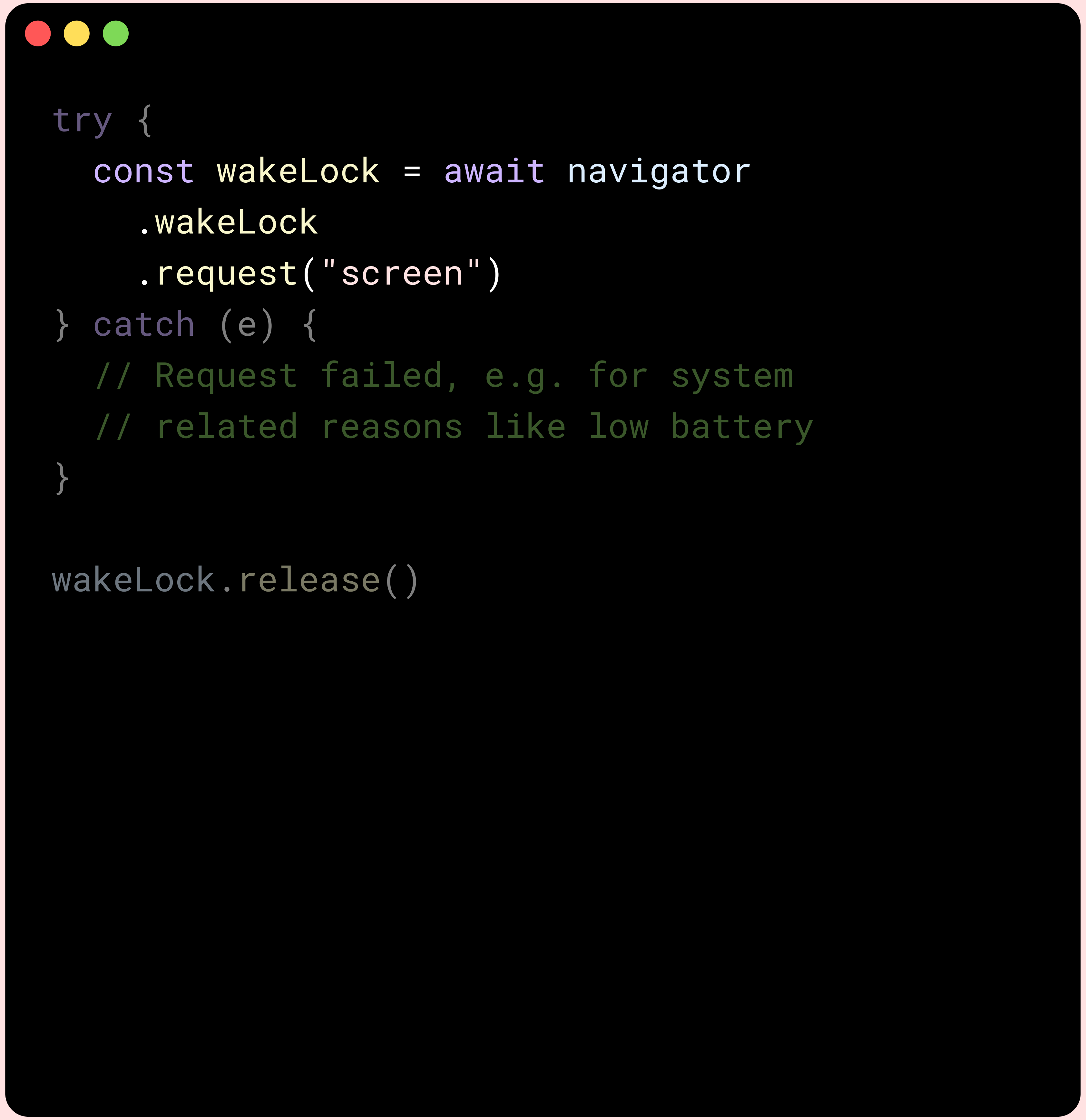


```
try {
  const wakeLock = await navigator
    .wakeLock
    .request("screen")
} catch (e) {
  // Request failed, e.g. for system
  // related reasons like low battery
}

wakeLock.release()
```

SCREEN WAKE LOCK API

Let the users device know that you don't want the screen to lock due to inactivity



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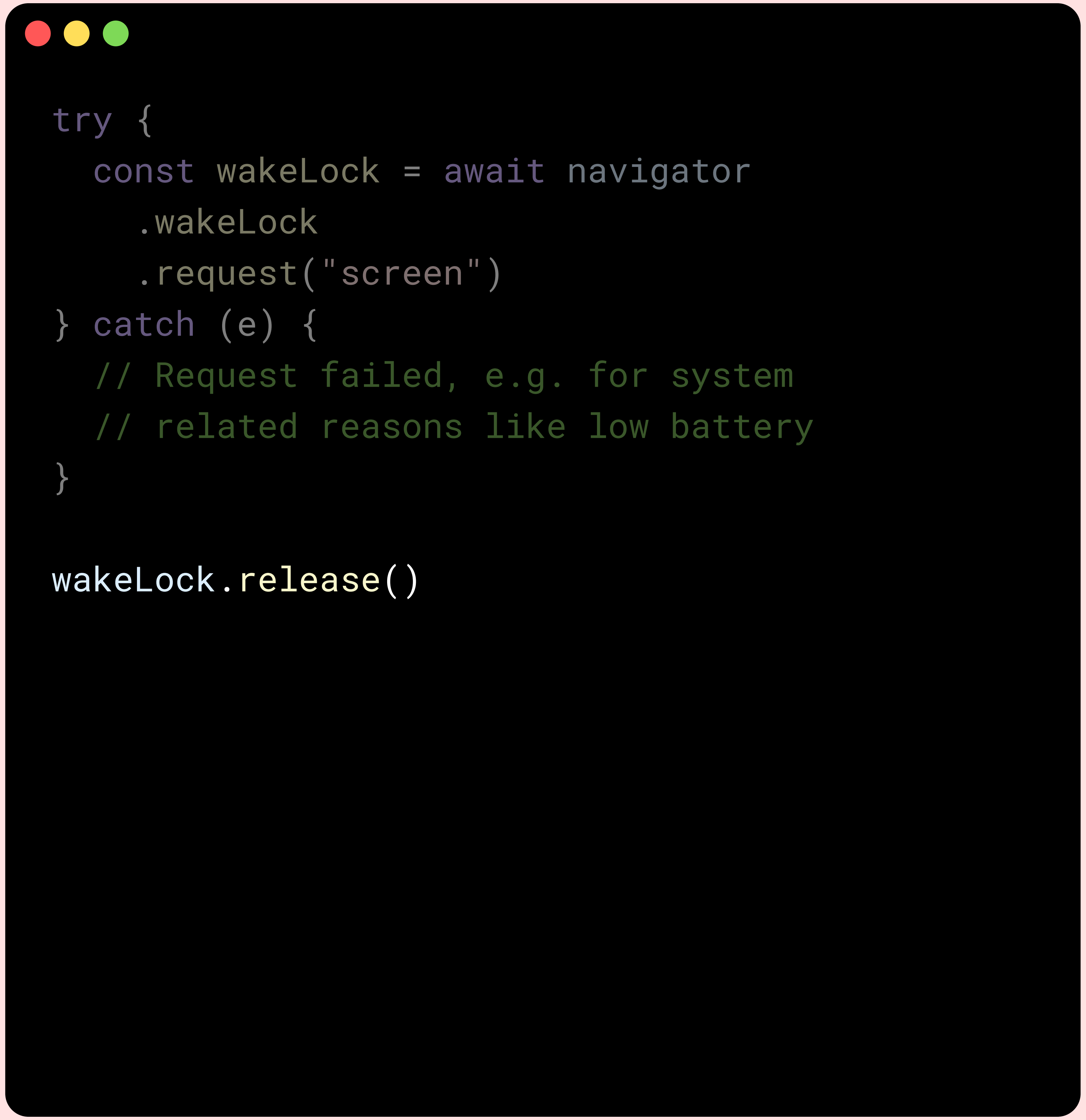

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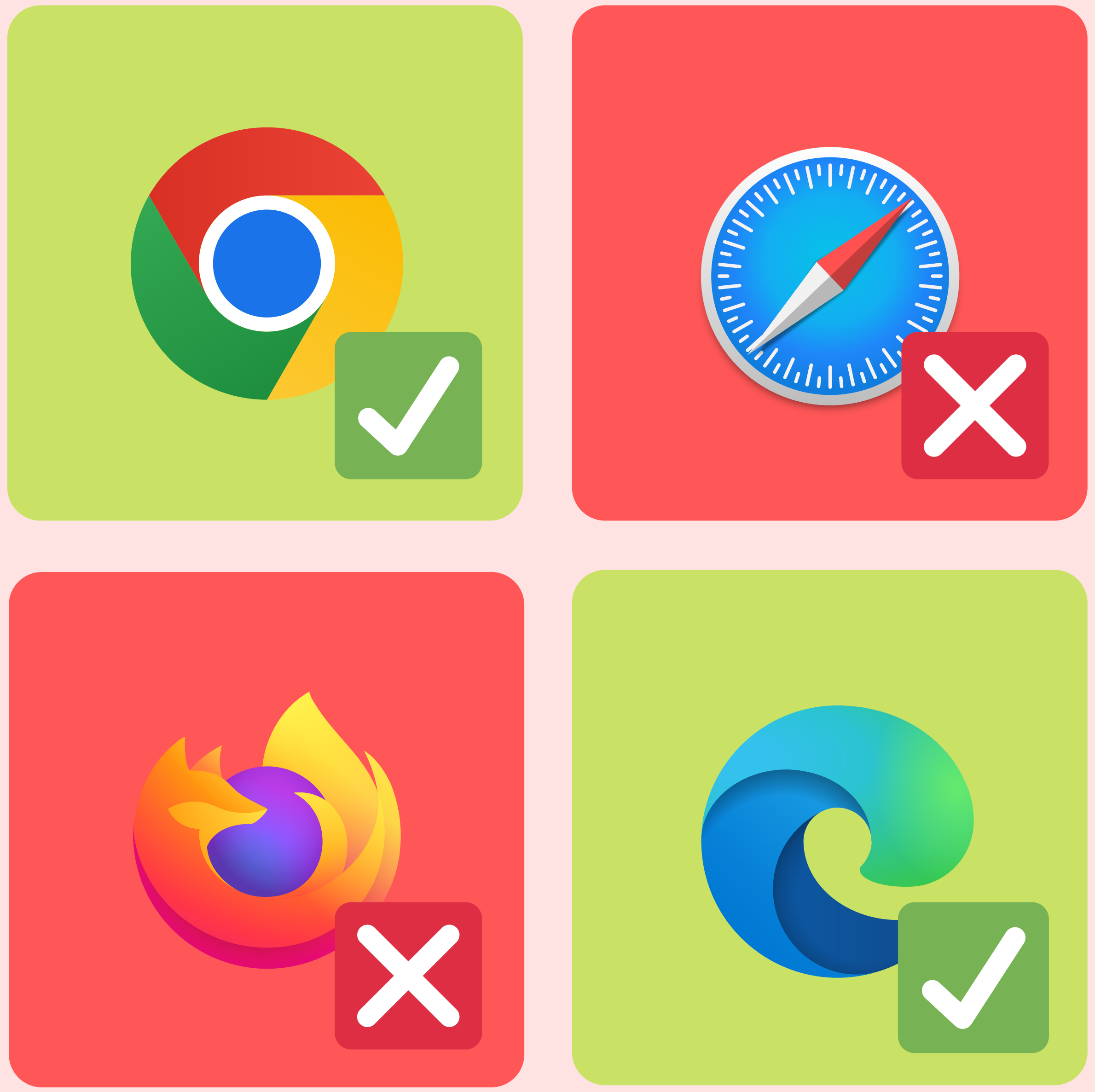


03

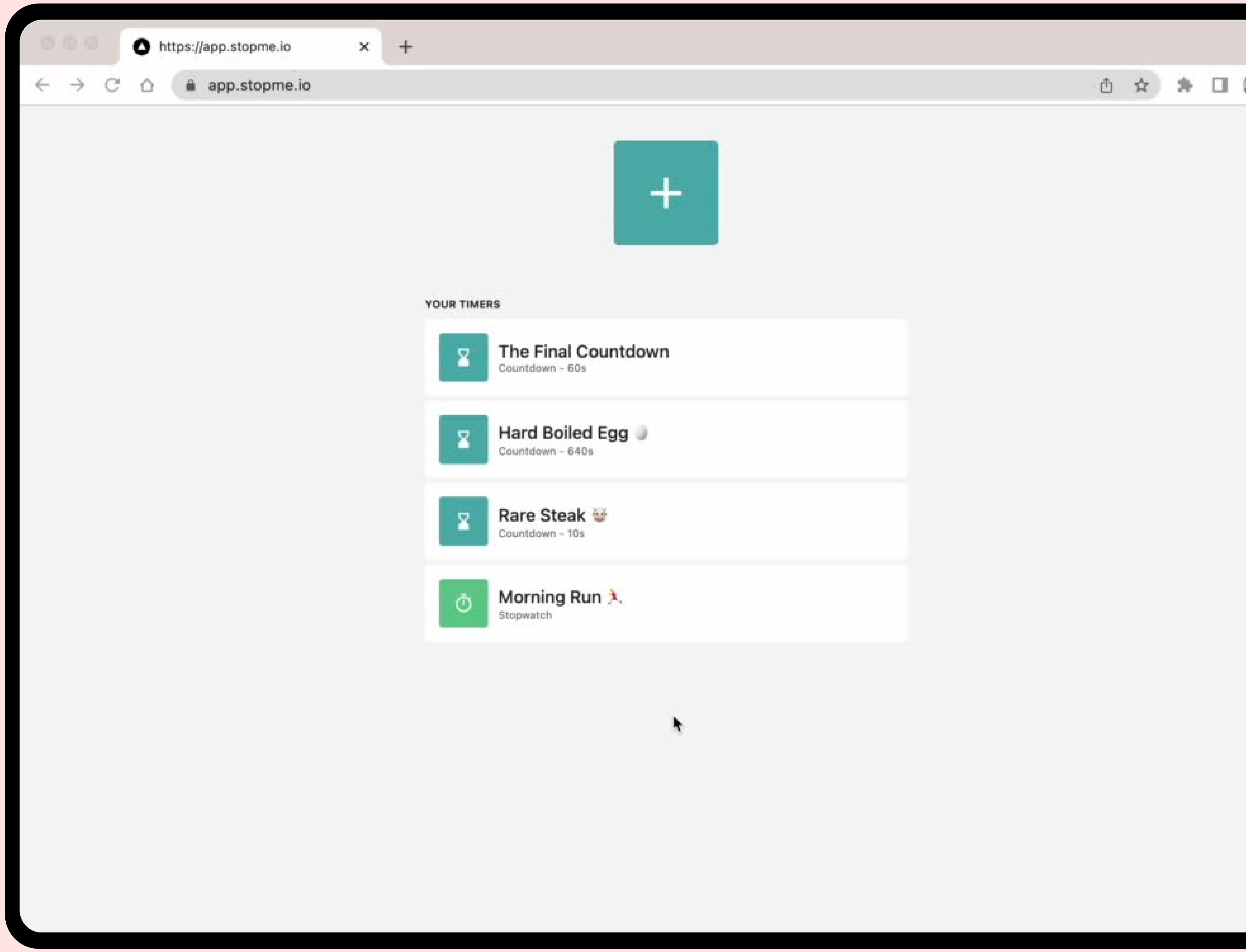
EYEDROPPER API

Allow your users to pick a colour from anywhere on their screen

03

EYEDROPPER API

Allow your users to pick a colour from anywhere on their screen



03

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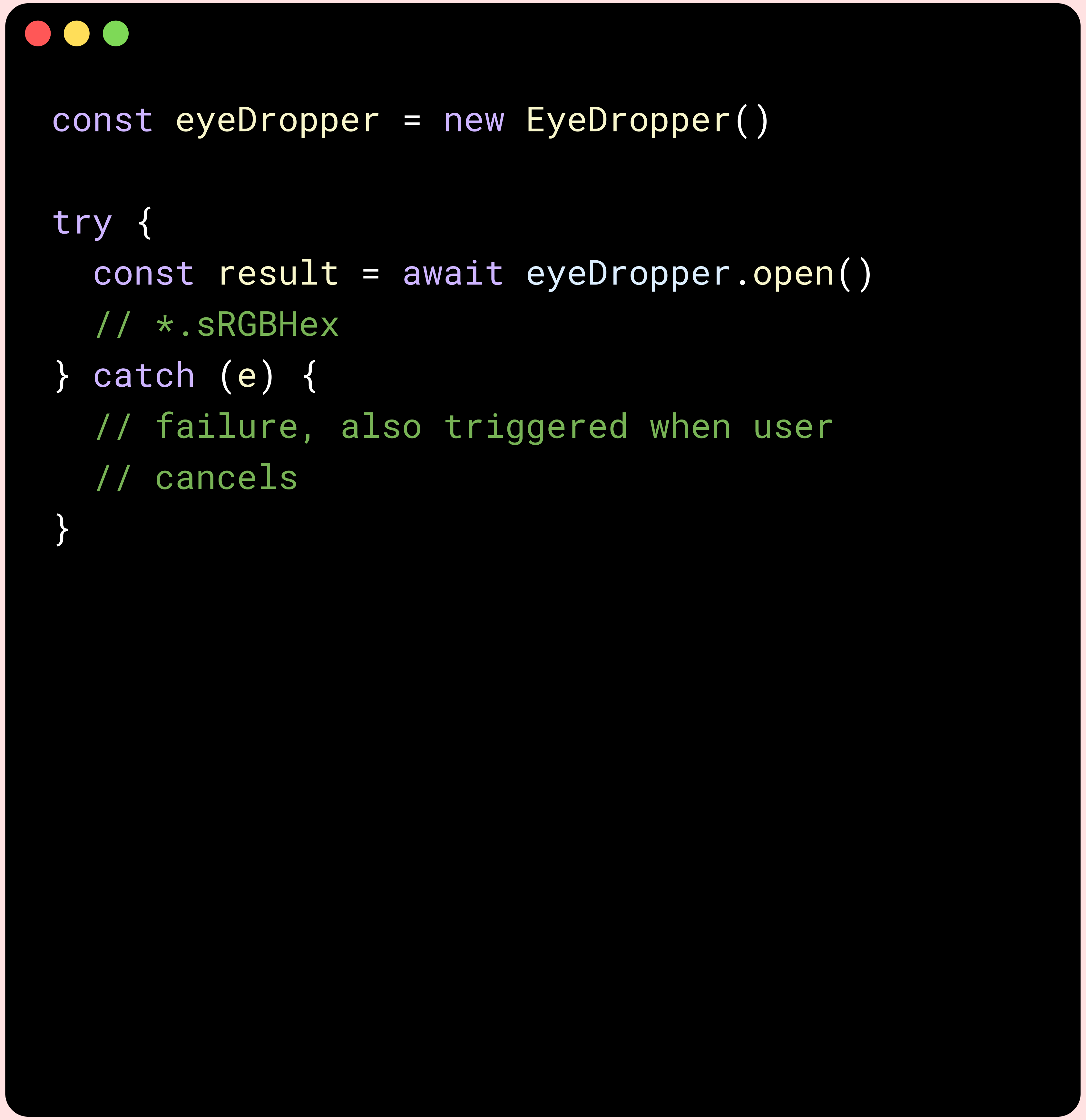
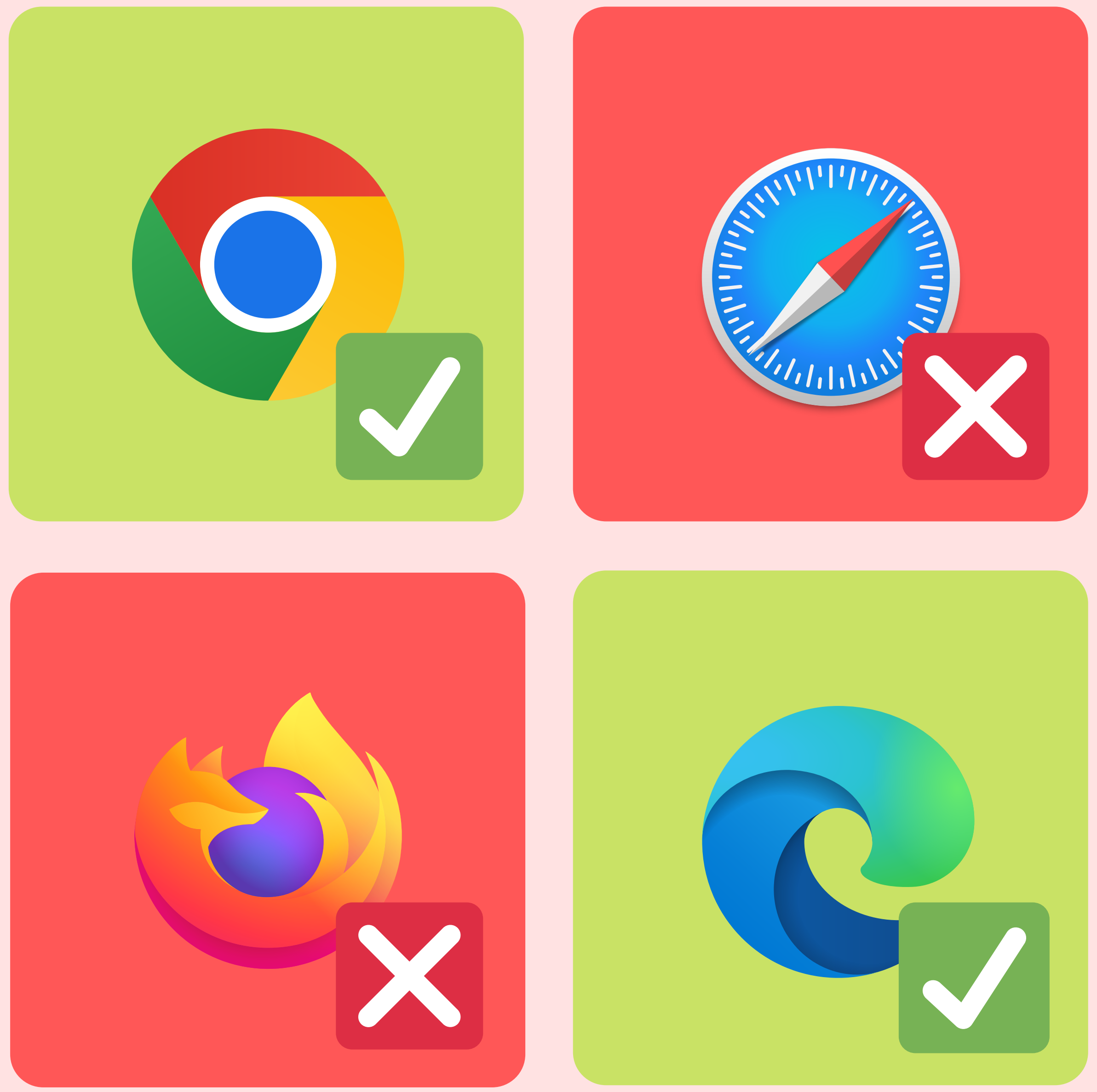


```
const eyeDropper = new EyeDropper()

try {
  const result = await eyeDropper.open()
  // *.sRGBHex
} catch (e) {
  // failure, also triggered when user
  // cancels
}
```

03

EYEDROPPER API

Allow your users to pick a colour from anywhere on their screen



04

Almost as good as native

04

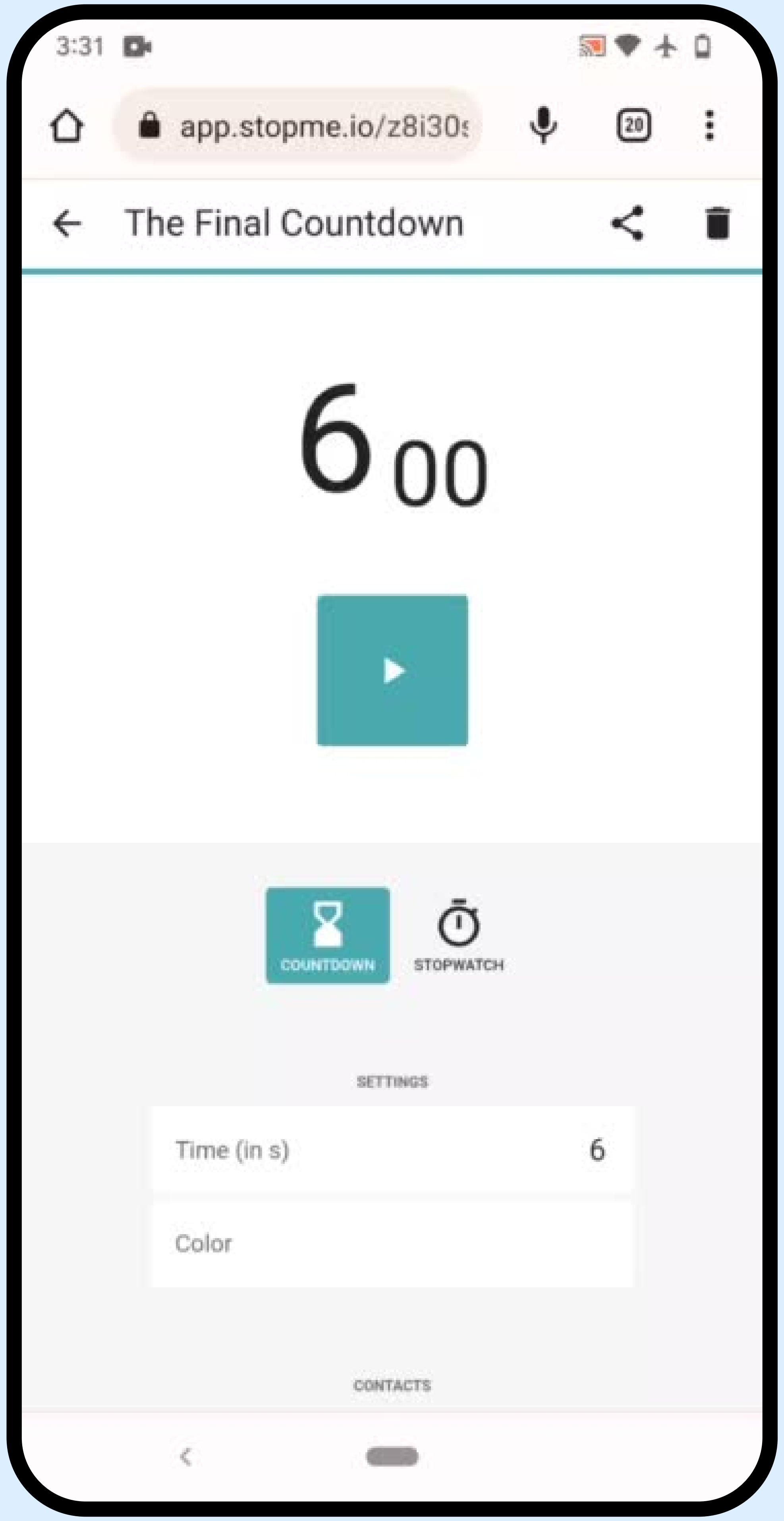
VIBRATION API

Control the devices vibration for haptic feedback

04

VIBRATION API

Control the devices vibration for haptic feedback



VIBRATION API

Control the devices vibration for haptic feedback

```
navigator.vibrate(200)

// Pattern
navigator.vibrate([200, 100, 200])
```

VIBRATION API

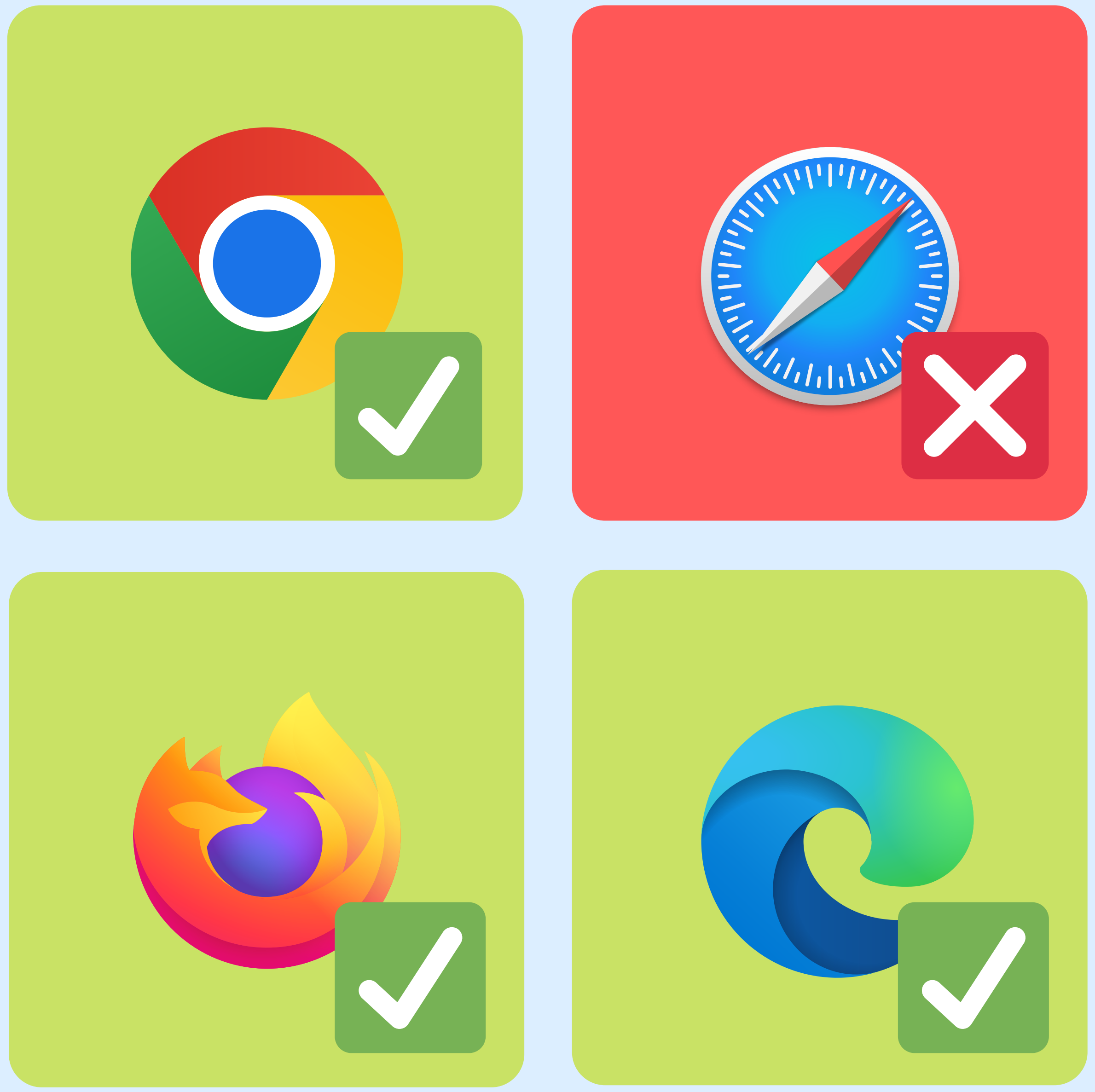
Control the devices vibration for haptic feedback

```
// https://github.com/hjdesigner/vibration-api

// Super Mario
navigator.vibrate([
  87, 89, 104, 176, 96, 176, 88, 88,
  79, 241, 176, 377, 191
])

// Game of Thrones
navigator.vibrate([
  950, 50, 530, 80, 100, 100, 100, 60,
  930, 50, 530, 80, 100, 100, 100, 60, 980
])
```

04

VIBRATION API

Control the devices vibration for haptic feedback



04

CONTACT PICKER API

Let users select from their device contacts list with the native picker

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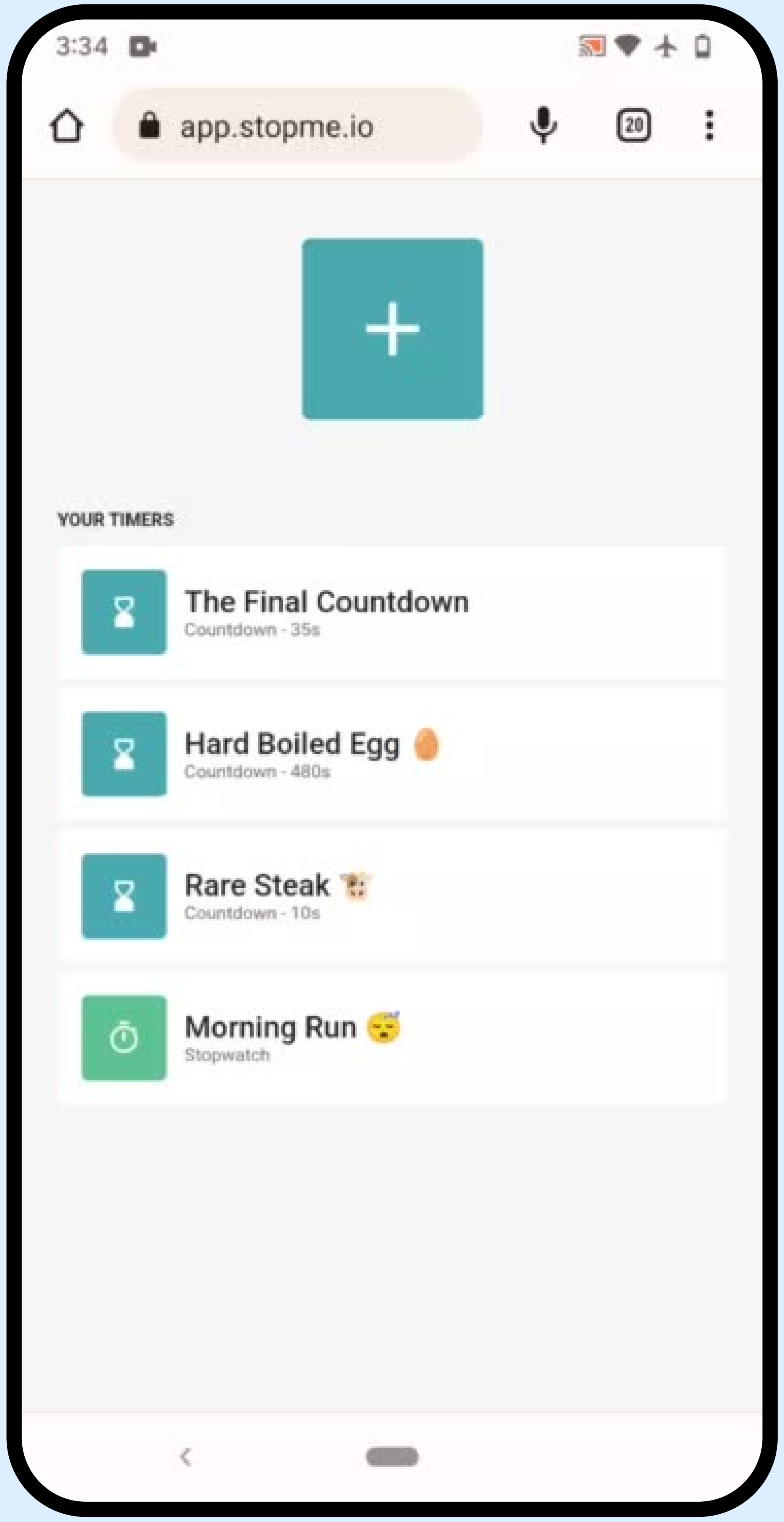


04

CONTACT PICKER API

Let users select from their device contacts list with the native picker

```
const supportedProperties =
  await navigator.contacts.getProperties()
// ["name", "email", "tel", "address", "icon"]

try {
  const props = ["name", "email"]
  const options = { multiple: true }
  const contacts = await navigator
    .contacts
    .select(props, opts)
} catch (e) {
  // Failure or cancellation
}
```

04

CONTACT PICKER API

Let users select from their device contacts list with the native picker

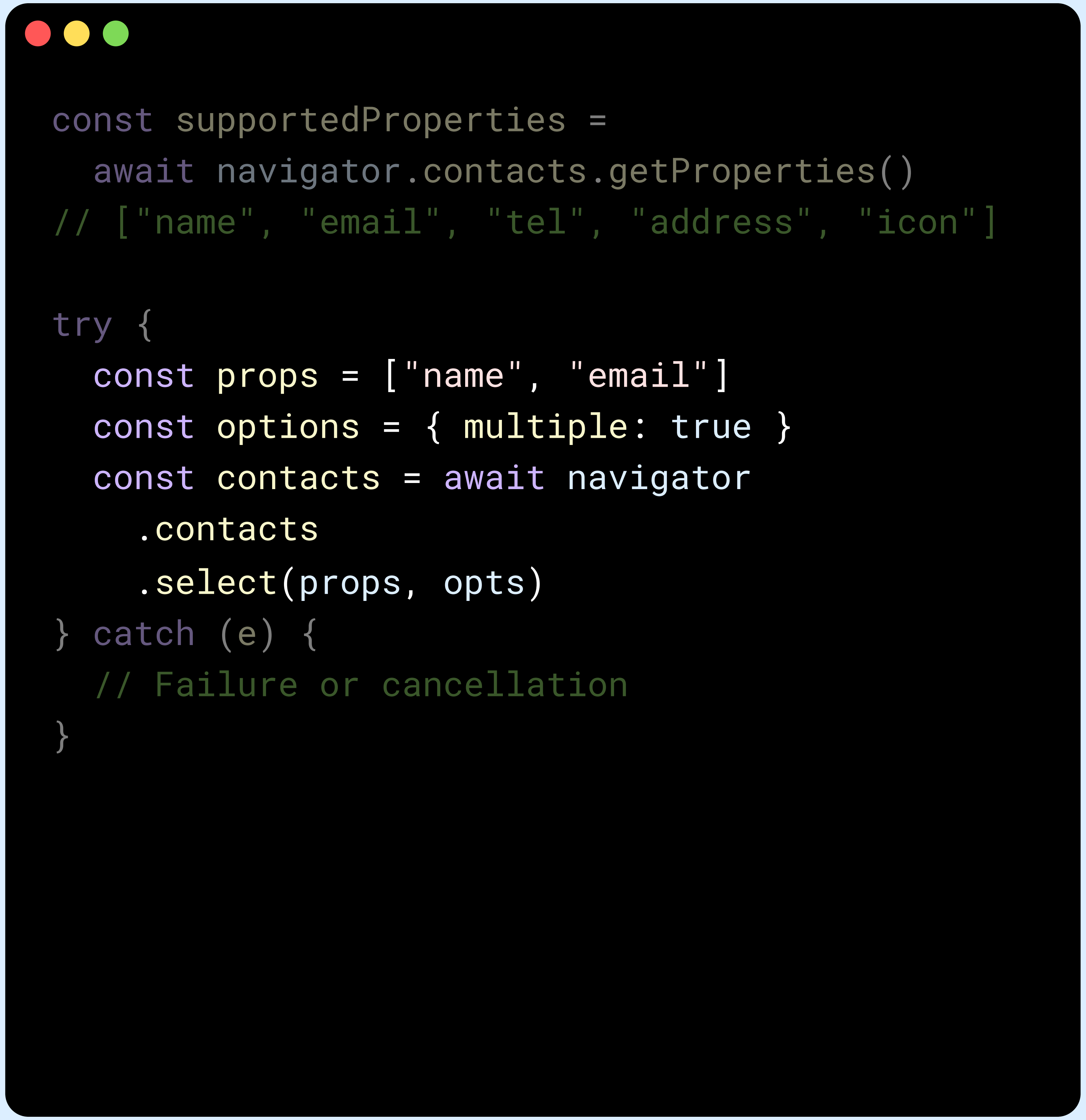
```
const supportedProperties =
  await navigator.contacts.getProperties()
// ["name", "email", "tel", "address", "icon"]

try {
  const props = ["name", "email"]
  const options = { multiple: true }
  const contacts = await navigator
    .contacts
    .select(props, opts)
} catch (e) {
  // Failure or cancellation
}
```

04

CONTACT PICKER API

Let users select from their device contacts list with the native picker



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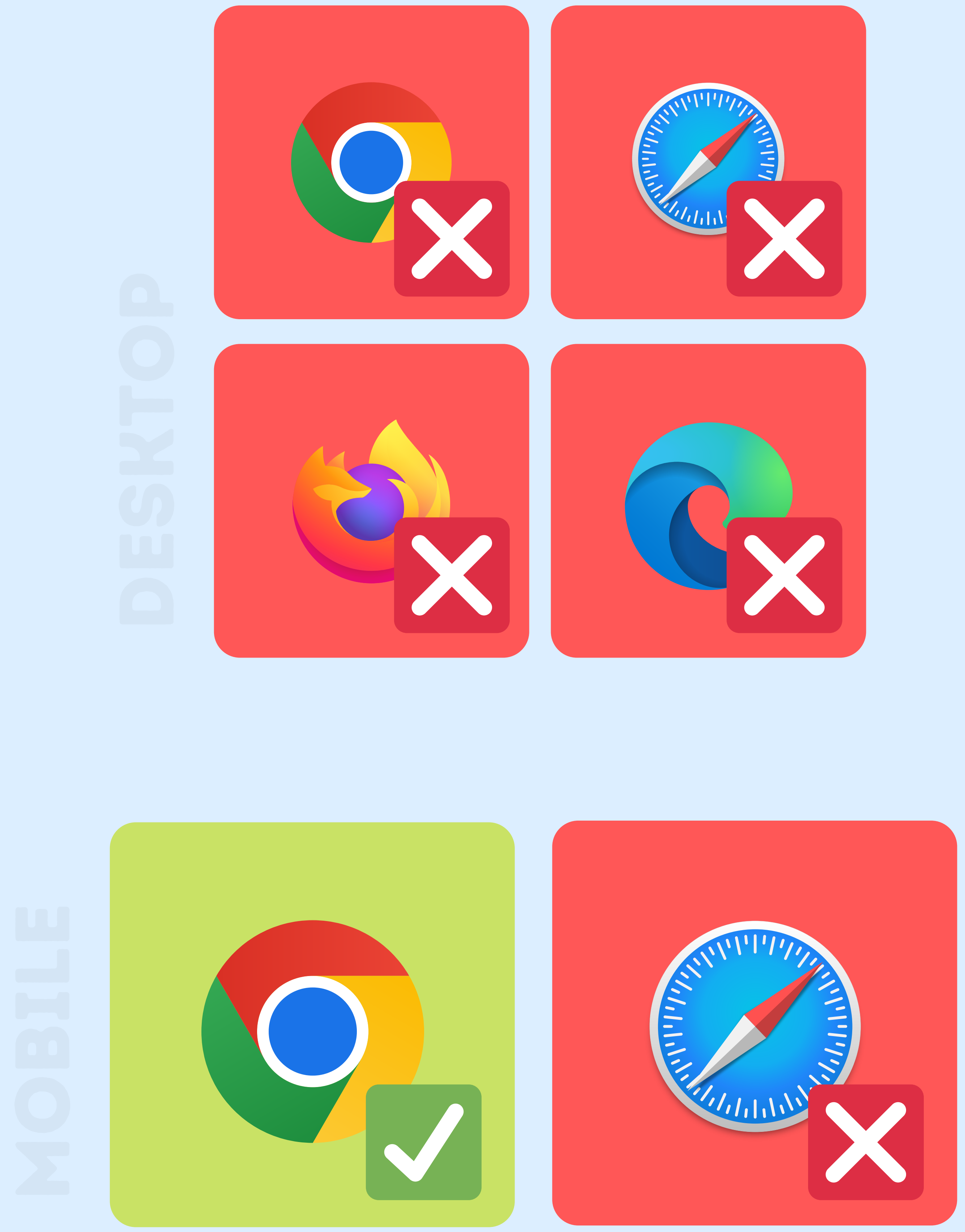

04

WEB SHARE API

Allow users to share content through any of their installed apps using the native picker

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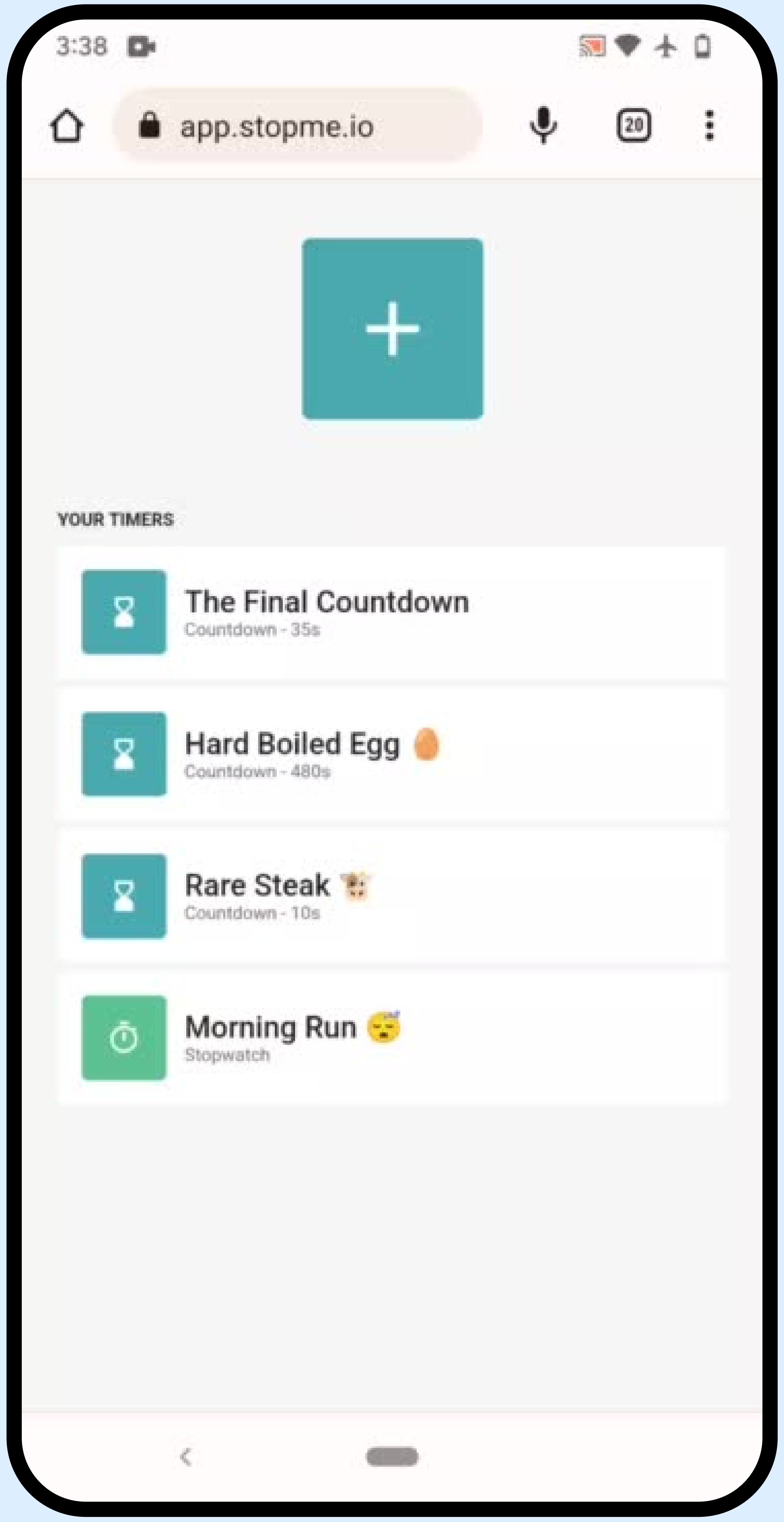
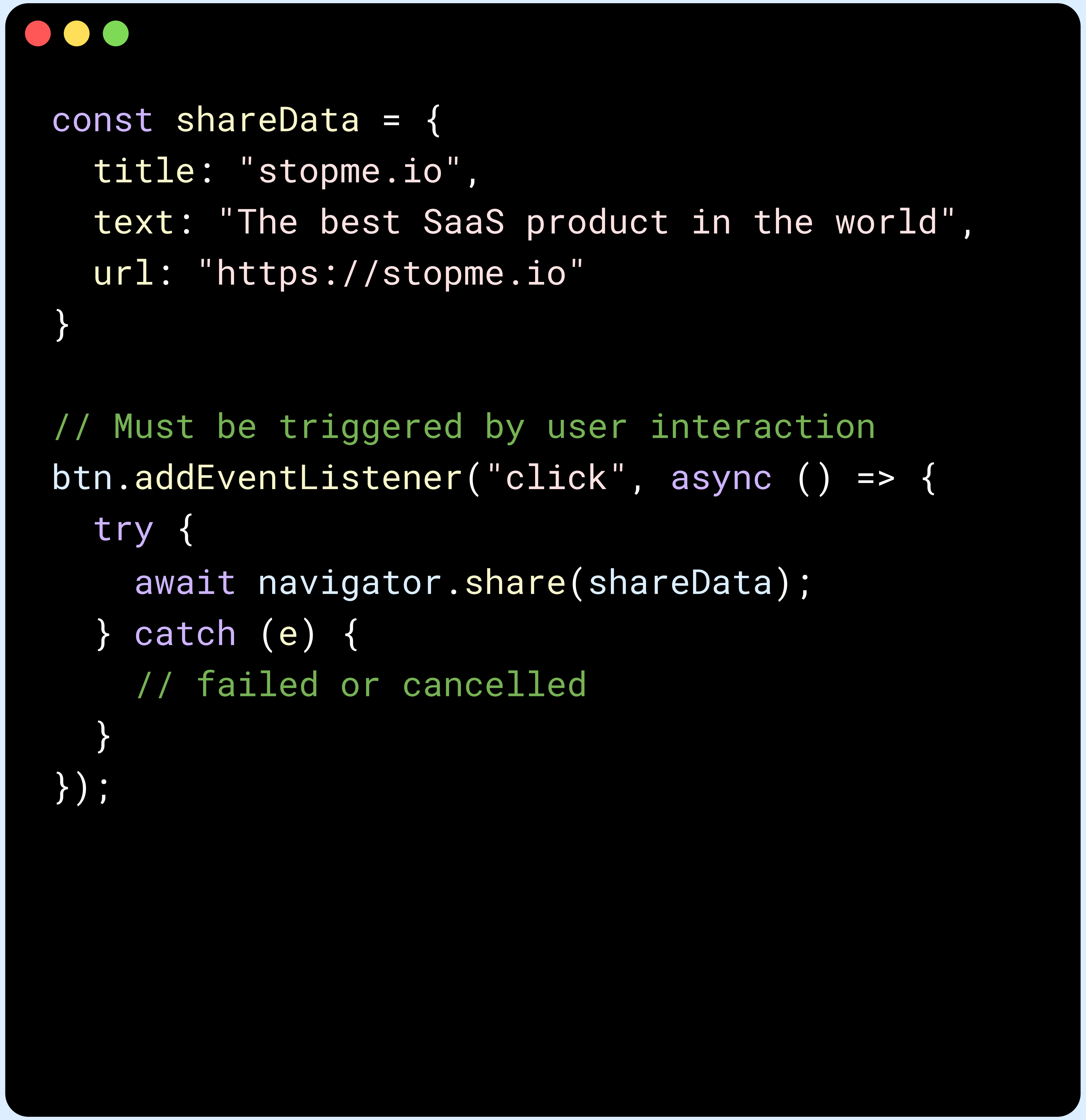


WEB SHARE API

Allow users to share content through any of their installed apps using the native picker

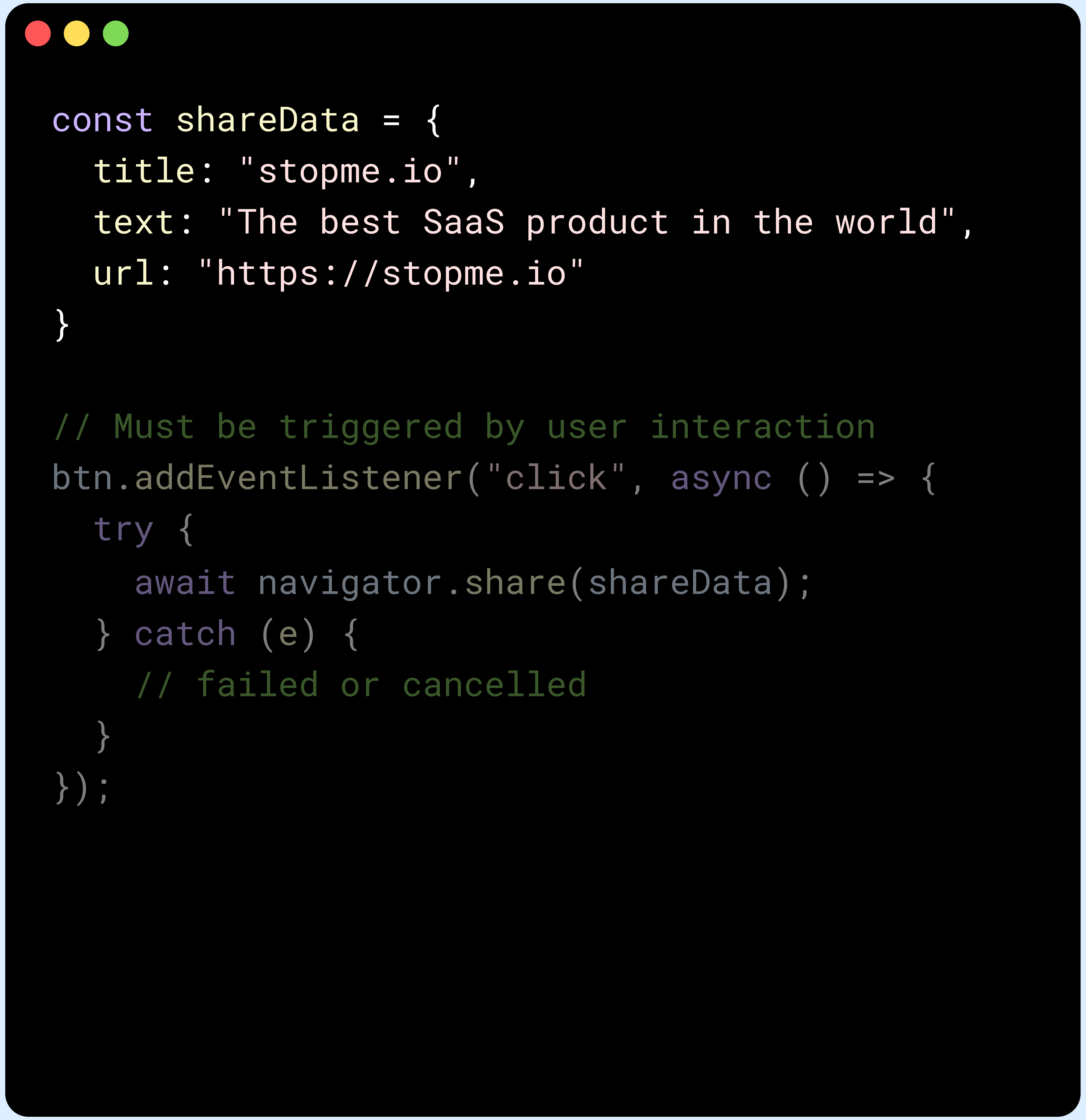


```
const shareData = {
  title: "stopme.io",
  text: "The best SaaS product in the world",
  url: "https://stopme.io"
}

// Must be triggered by user interaction
btn.addEventListener("click", async () => {
  try {
    await navigator.share(shareData);
  } catch (e) {
    // failed or cancelled
  }
});
```

WEB SHARE API

Allow users to share content through any of their installed apps using the native picker



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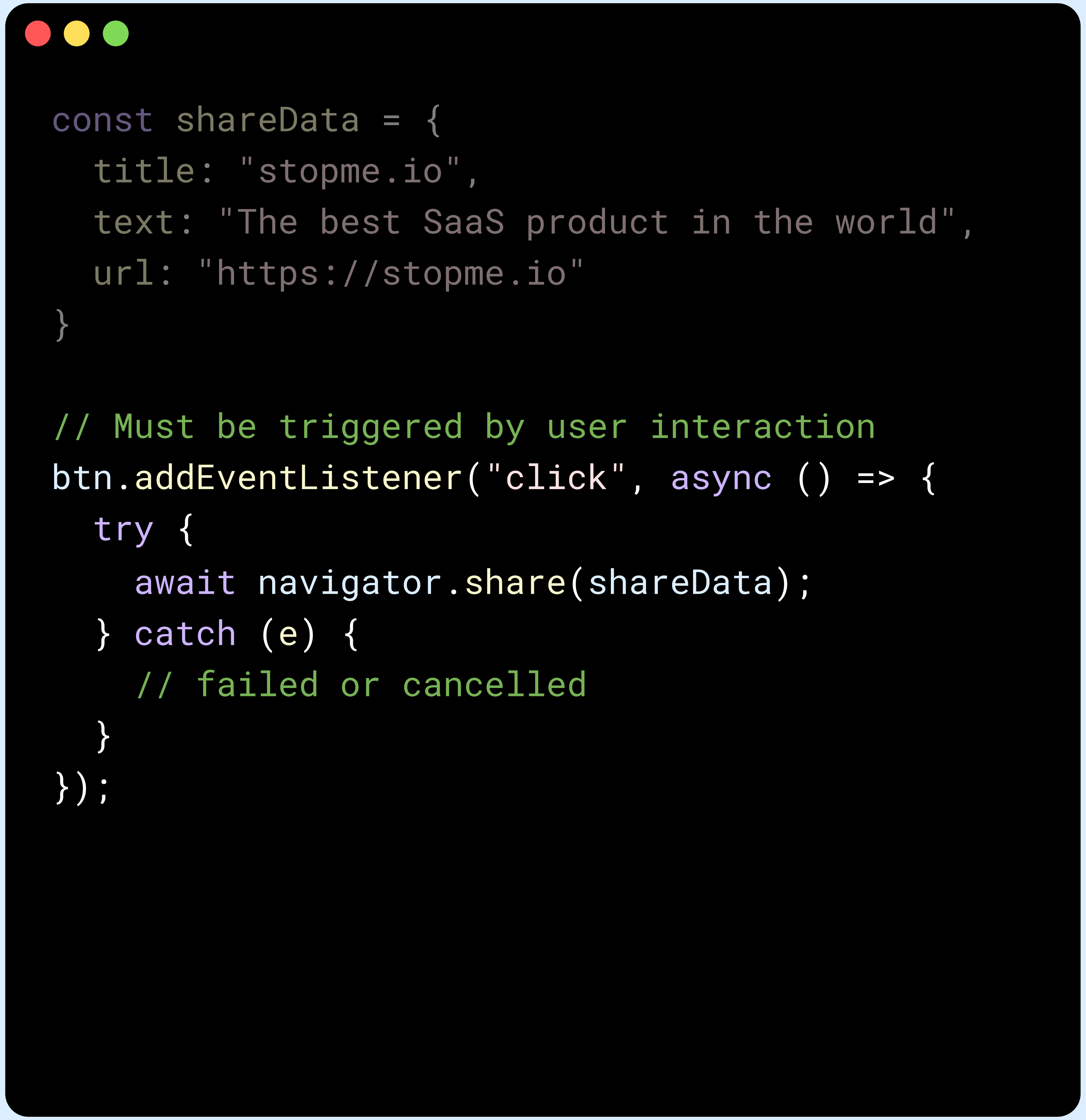
WEB SHARE API

Allow users to share content through any of their installed apps using the native picker



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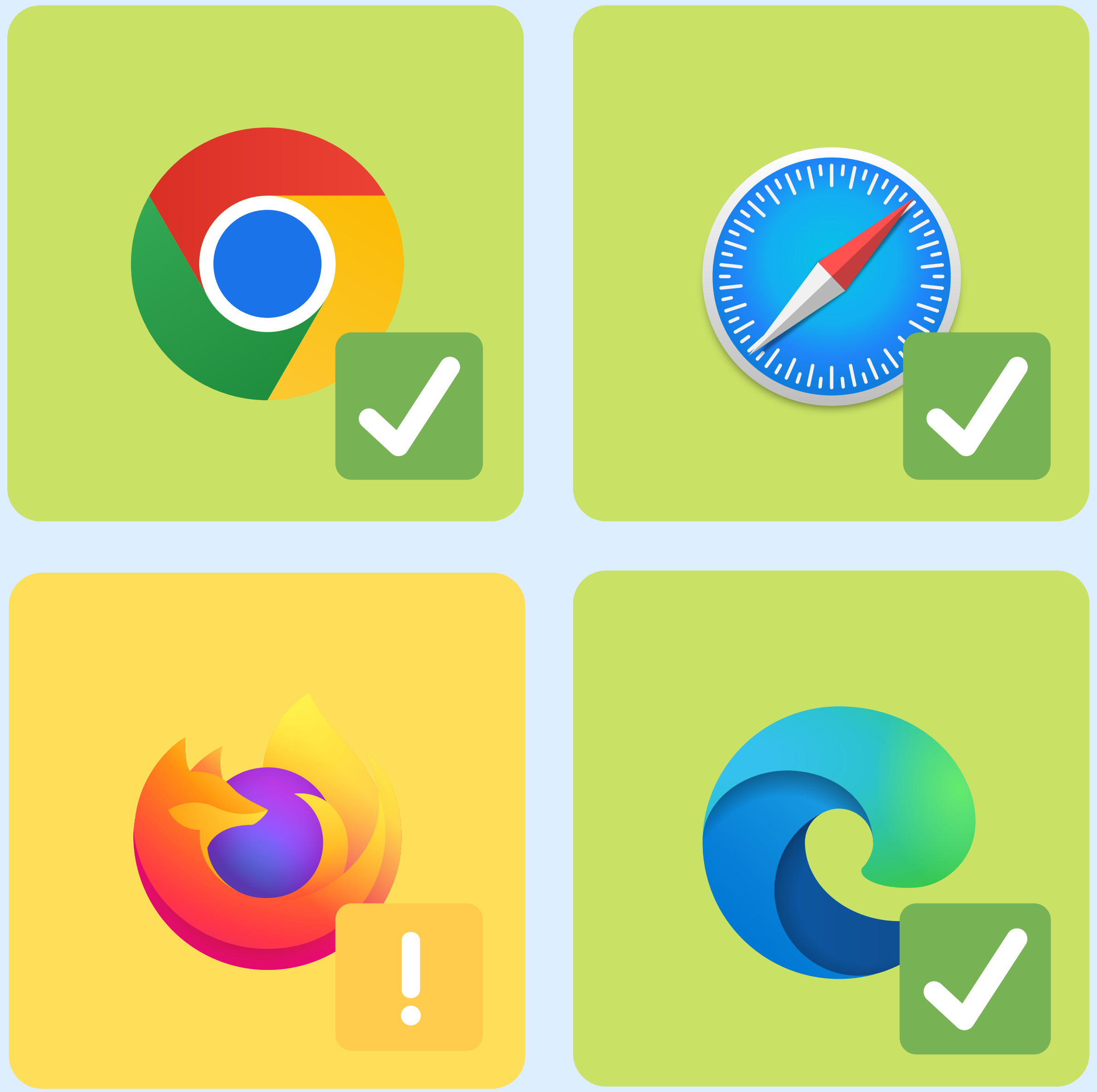
04

WEB SHARE API

Allow users to share content through any of their installed apps using the native picker



END

HONORABLE MENTIONS

END

HONORABLE MENTIONS

```
// Bluetooth API
const devices =
  await navigator.bluetooth.getDevices()

const device = await navigator.bluetooth
  .requestDevice({
    filters: [{ services: [A, B] }]
  })

// USB API
const devices =
  await navigator.usb.getDevices()

const device = await navigator.usb.
  .requestDevice({
    filters: [{ vendorId: id }]
  })
```

END

```
// Geolocation API
// Old but gold
navigator.geolocation
  .getCurrentPosition(pos => {
    // pos.coords.latitude
    // *.coords.longitude
  })

const watchId = navigator.geolocation
  .watchPosition(pos => {
    // ...
  })

navigator.geolocation.clearWatch(watchId)
```

HONORABLE MENTIONS

HONORABLE MENTIONS

```js
// File System Access API
const options = { types: [ A, B ] }
const [handle] =
  await window.showOpenFilePicker(options)
const fileData = await handle.getFile()

// Handling directories
const dirHandle =
  await window.showDirectoryPicker()

// Saving files
const options = {
  types: [{
    description: "Text file",
    accept: { "text/plain": [".txt"] },
  }]
}
await window.showSaveFilePicker(options)
```

END

HONORABLE MENTIONS

```
// Clipboard API
await navigator.clipboard.writeText(txt)

const text =
  await navigator.clipboard.readText()
```

END

HONORABLE MENTIONS

```
// Presentation API
const urls = [ presentationUrl, altUrl ]
const request = new PresentationRequest(urls)

const availability =
  await request.getAvailability()

availability.onchange = () => {
  // availability.value
})

const connection = await request.start()
connection.close()
```

END

HONORABLE MENTIONS

```javascript
// Web Speech API

// Recognition
const recognition = new SpeechRecognition()
recognition.start()

recognition.onresult = (event) => {
  const word = event.results[0][0].transcript
  // event.results[0][0].confidence
})

// Synthesis
const synth = window.speechSynthesis
const words =
  new SpeechSynthesisUtterance(txt)
synth.speak(words)
```

END

HONORABLE MENTIONS

```
// And soo many more...

// Check out:
// https://developer.mozilla.org/en-
US/docs/Web/API
```

THANKS!

@JBURR90 / JULIAN BURR

HTTPS://WWW.JULIANBURR.DE/
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