

# PWA

PROGRESSIVE  
WEB  
APP

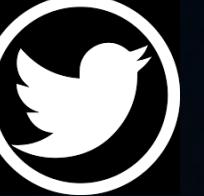
# Gabriel Napolião

## Frontend Developer



 [/whoamindx](https://github.com/whoamindx)

 [whoamindx.github.io](https://whoamindx.github.io)

 [@whoamindx](https://twitter.com/whoamindx)

APP

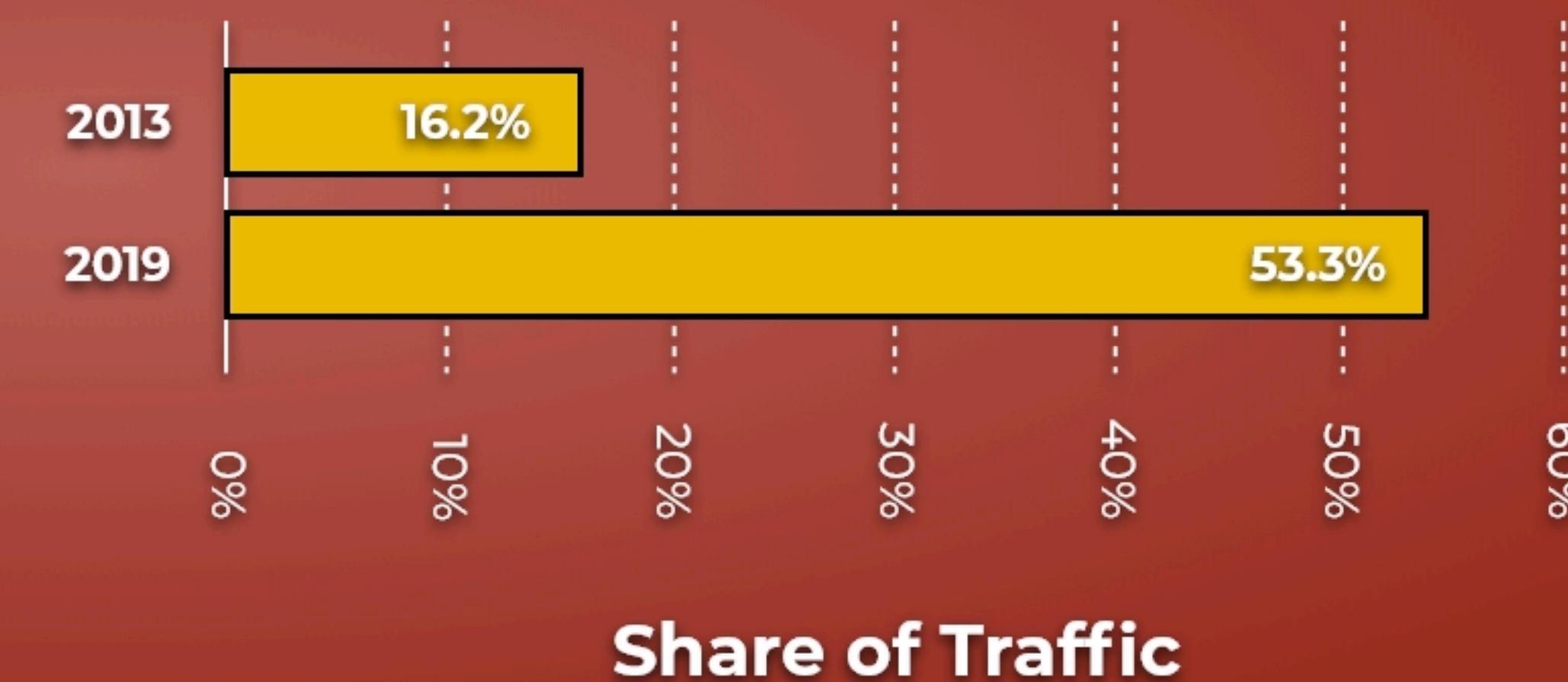
VS

WEB

# MOBILE TRAFFIC

**up 222%**  
IN THE LAST 7 YEARS

Combined Traffic Worldwide 2013 vs 2019



# SUPPORT

W3C®



# CASO



O SHOPPING

-  Lojas & Restaurantes
-  Pagar estacionamento
-  Código Fonte

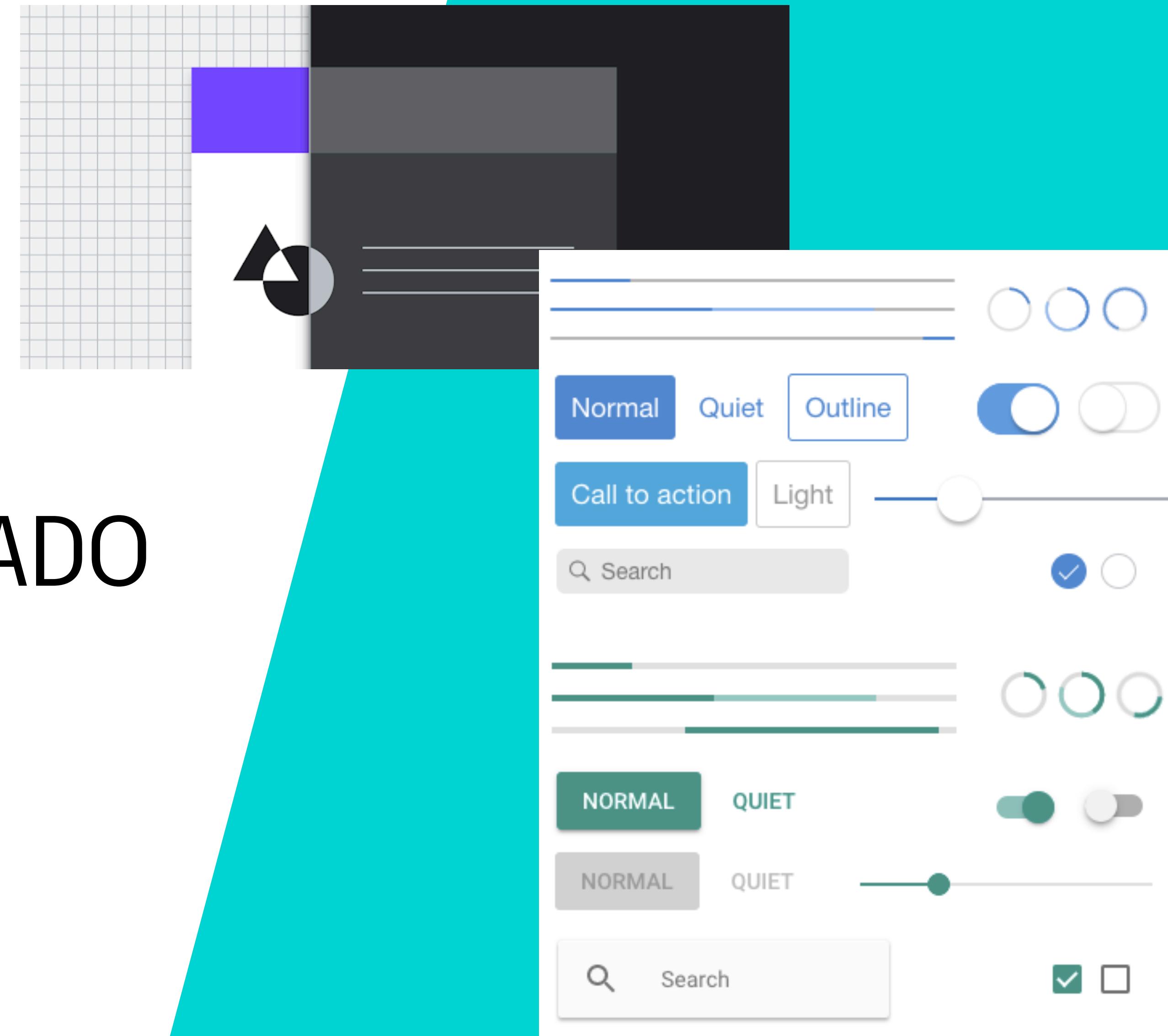
# URIs

<https://shopping.com>  
[https://shopping.com/\*\*adidas\*\*](https://shopping.com/adidas)  
[https://shopping.com/\*\*pagar\\_ticket\*\*](https://shopping.com/pagar_ticket)  
[https://shopping.com/\*\*contato\*\*](https://shopping.com/contato)

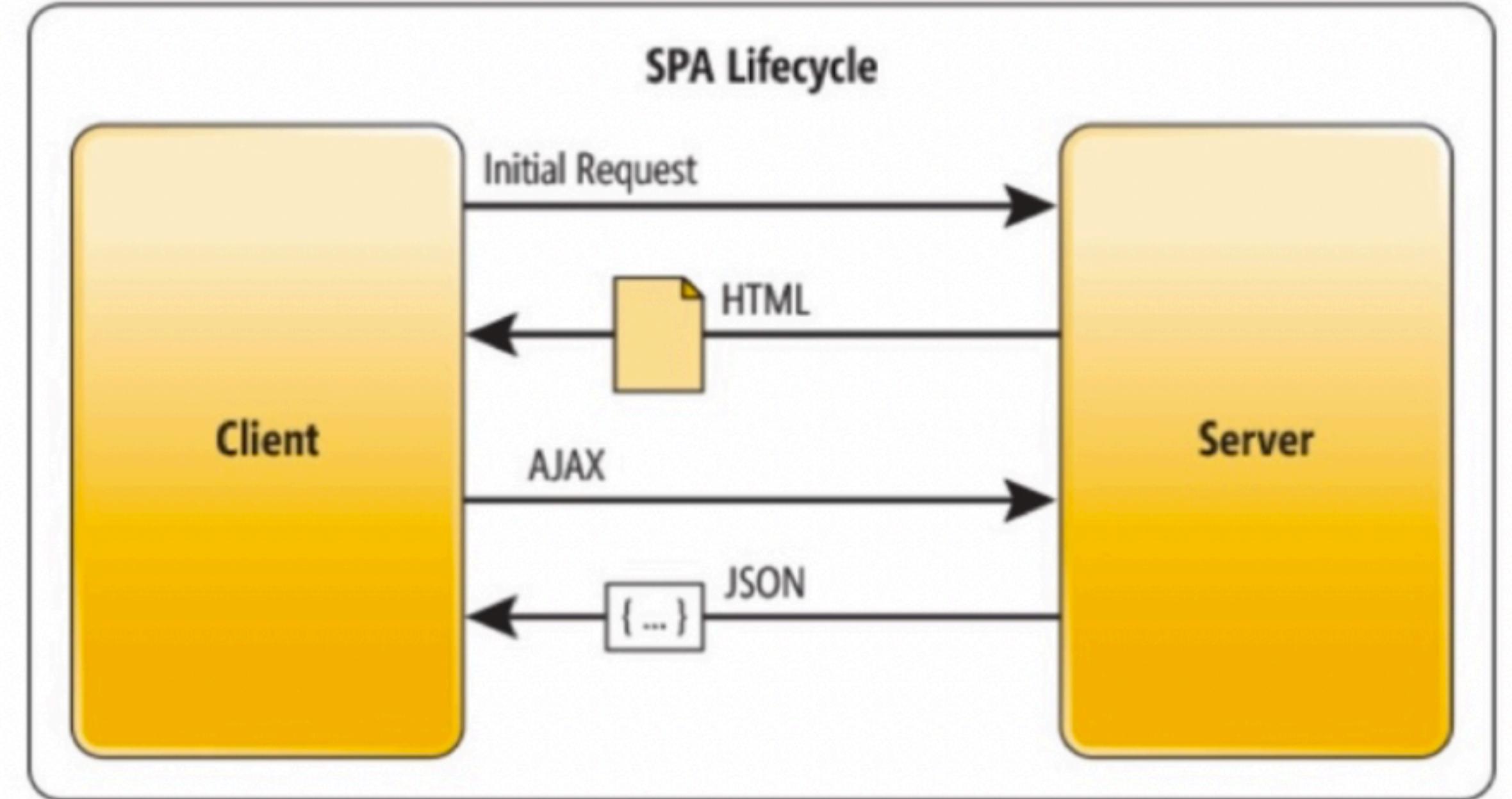
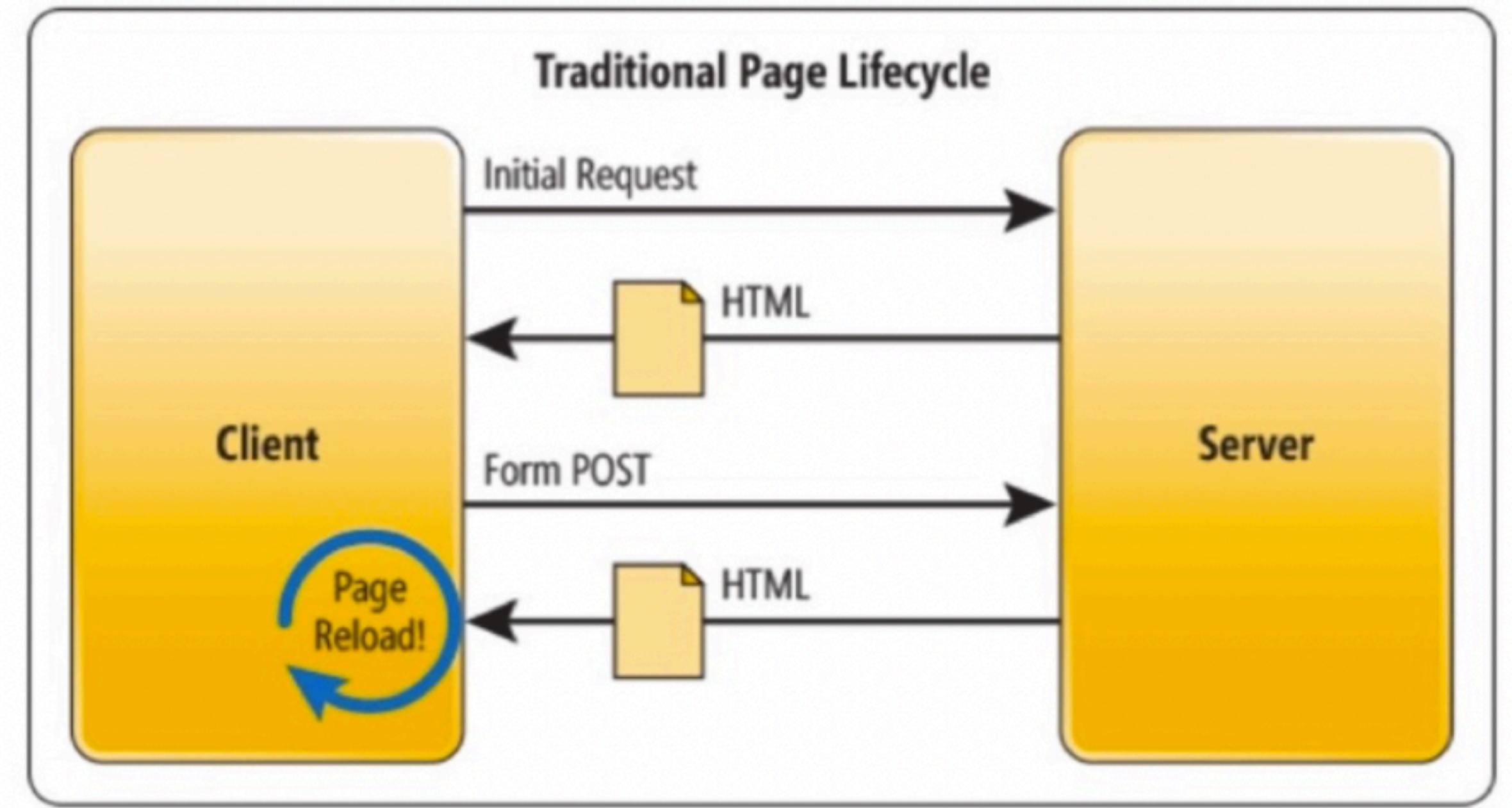
# URIs

<https://shopping.com>  
[https://shopping.com/\*\*adidas\*\*](https://shopping.com/adidas)  
[https://shopping.com/\*\*pagar\\_ticket\*\*](https://shopping.com/pagar_ticket)  
[https://shopping.com/\*\*contato\*\*](https://shopping.com/contato)

# VISUAL APPFICADO

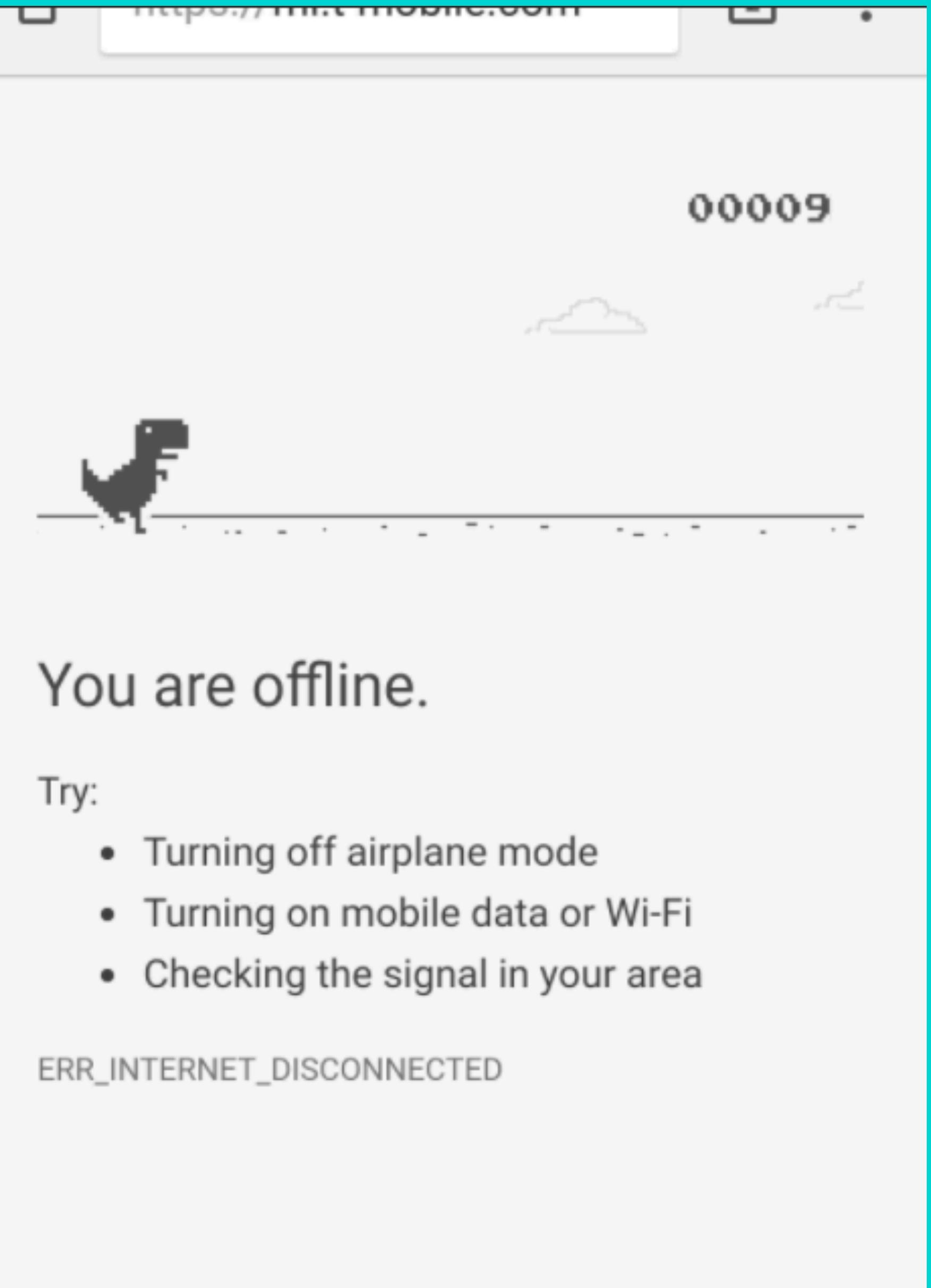


# SPA AJAX



# Offline?

# OFFLINE



**OFFLINE**

Application Cache  
Service Workers \*

# index.html

```
<html manifest="arquivo.appcache">
```

# O Manifesto:

```
CACHE MANIFEST  
/index.html  
/img/logo.png  
/css/style.css  
/js/app.js
```

NETWORK:

<https://google-analytics.com/ga.js>

FALLBACK:

/feed.html

# Application Cache

- Tem que acertar o mime-type no servidor
  - Não pode esquecer nenhuma URL
  - Sempre cacheia a página
  - Nada pode dar erro 404 ou 500
  - CUIDADO PARA NÃO FAZER O MANIFESTO
  - Usuário não pode desfazer cache
  - Impossível controlar o que é cacheado
  - Potencial para耗尽带宽 e耗尽 3G do usuário
  - Remover do cache é um parto
  - Não posso impedir update automático
  - Terrível para desenvolver e debugar
- AppCache é chato, limitado e complicado



## Deprecated

This feature is no longer recommended. Though some browsers might still support it, it may have already been removed from the relevant web standards, may be in the process of being dropped, or may only be kept for compatibility purposes. Avoid using it, and update existing code if possible; see the [compatibility table](#) at the bottom of this page to guide your decision. Be aware that this feature may cease to work at any time.



## Secure context

This feature is available only in [secure contexts](#) (HTTPS), in some or all [supporting browsers](#).



**Using this *application cache* feature is highly discouraged;** it's in the process of being removed from the Web platform. As of Firefox 44+, when [AppCache](#) is used to provide offline support for a page, a warning message displays in the console advising developers to use [Service workers](#) instead (bug [1204581](#)).

# SERVICE WORKERS

JavaScript Code



```
<!DOCTYPE html>
<html lang="en">
  <head>

  </head>
  <body>
    <h1>Página Offline</h1>
  </body>
</html>
```



```
<!DOCTYPE html>
<html lang="en">
  <head>
    <script>
      navigator.serviceWorker.register('offline.js');
    </script>
  </head>
  <body>
    <h1>Página Offline</h1>
  </body>
</html>
```



```
this.onfetch = event => {  
    console.log(event.request.url);  
}
```



```
this.onfetch = event => {
  event.respondWith(
    new Response("<h1>Página Offline!</h1>");
  )
}
```

# CACHE API



```
cache.open('aplicacao')
```



```
cache.open('aplicacao').then(cache => {  
})
```



```
cache.open('aplicacao').then(cache => {  
    cache.add('pg.html');  
    cache.add('style.css');  
})
```



```
cache.open('aplicacao').then(cache => {
  cache.addAll([
    '/index.html',
    '/style.css',
    'logo.png',
    '/contato.html',
    'https://www.google-analytics.com/analytics.js'
  ]);
})
```



```
cache.open('aplicacao').then(cache => {
    return cache.addAll([
        '/index.html',
        '/style.css',
        'logo.png',
        '/contato.html',
        'https://www.google-analytics.com/analytics.js'
    ]);
})
```



```
this.oninstall = event => {

    cache.open('aplicacao').then(cache => {
        return cache.addAll([
            '/index.html',
            '/style.css',
            'logo.png',
            '/contato.html',
            'https://www.google-analytics.com/analytics.js'
        ]);
    })

}
```



```
this.oninstall = event => {
  event.waitUntil(
    cache.open('aplicacao').then(cache => {
      return cache.addAll([
        '/index.html',
        '/style.css',
        'logo.png',
        '/contato.html',
        'https://www.google-analytics.com/analytics.js'
      ]);
    })
  }
}
```

# CACHE Programático & Controlável

Cacheio URLs como eu quero

Gero endereços num for com certa regra

Recursos diferentes dependendo do browser

Levo em conta alguma preferência do usuário

Mudo de acordo com o hardware e contexto

# RESPOSTA OFFLINE



```
this.onfetch = event => {  
  
    console.log(event.request.url);  
  
}
```



```
this.onfetch = event => {  
  event.respondWith(  
    new Response('Conteúdo');  
  )  
}
```



```
this.onfetch = event => {  
  event.respondWith(  
    caches.match(event.request)  
  )  
}
```

# CACHE Programático & Controlável

Busco no cache

Busco na rede

Devolvo fallback

Construo a resposta na mão

Tudo com lógica e a sequência que você quiser

# Service Workers

É um **Worker** orientado a **eventos**, que **controla** as páginas em **background**. Nele tudo é **assíncrono**, e ele pode interceptar chamadas de **rede** e usar um **cache** de recursos

# JAVASCRIPT COMUM

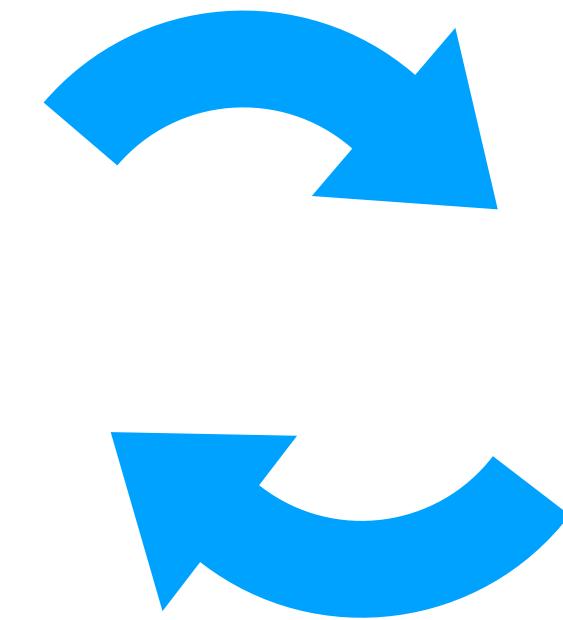
<script src="script.js" async></script>



# WEB WORKERS

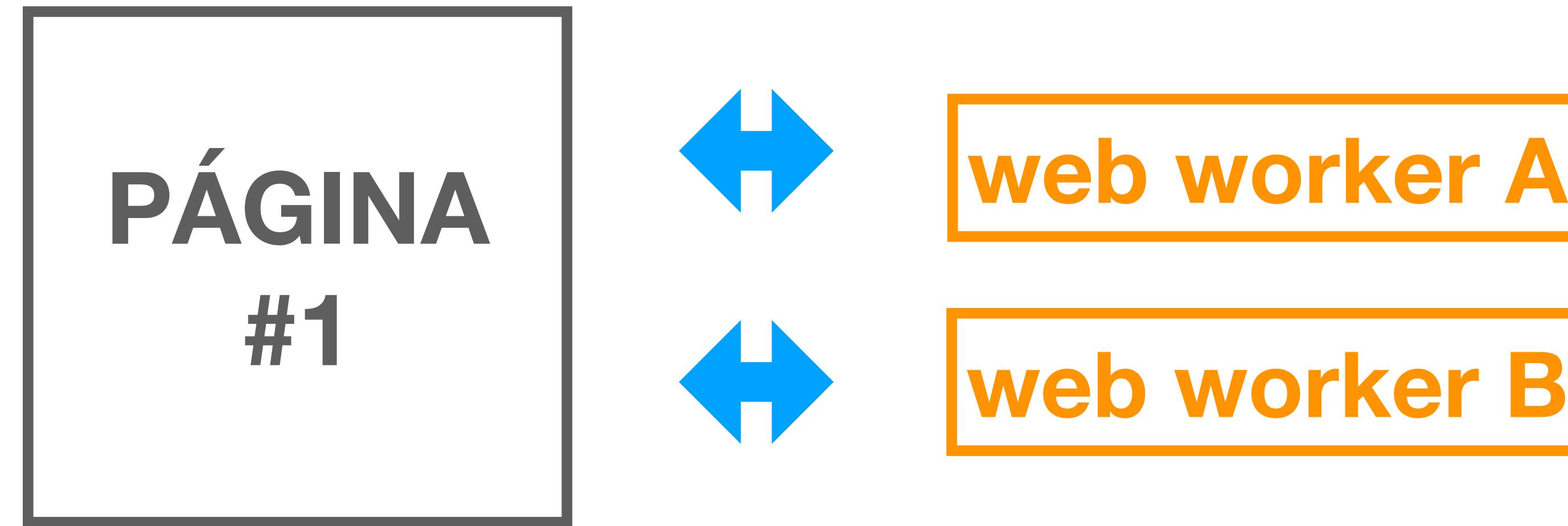
```
<script> new Worker('worker.js'); </script>
```

DOM  
CSSOM  
LAYOUT  
EVENTOS  
SCROLL



script  
script  
script  
script

# WEB WORKERS

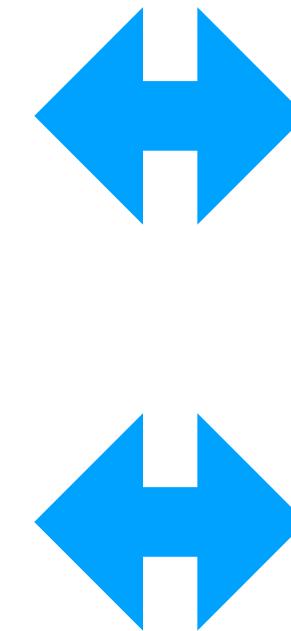


# WEB WORKERS



# WEB WORKERS

PÁGINA  
#2

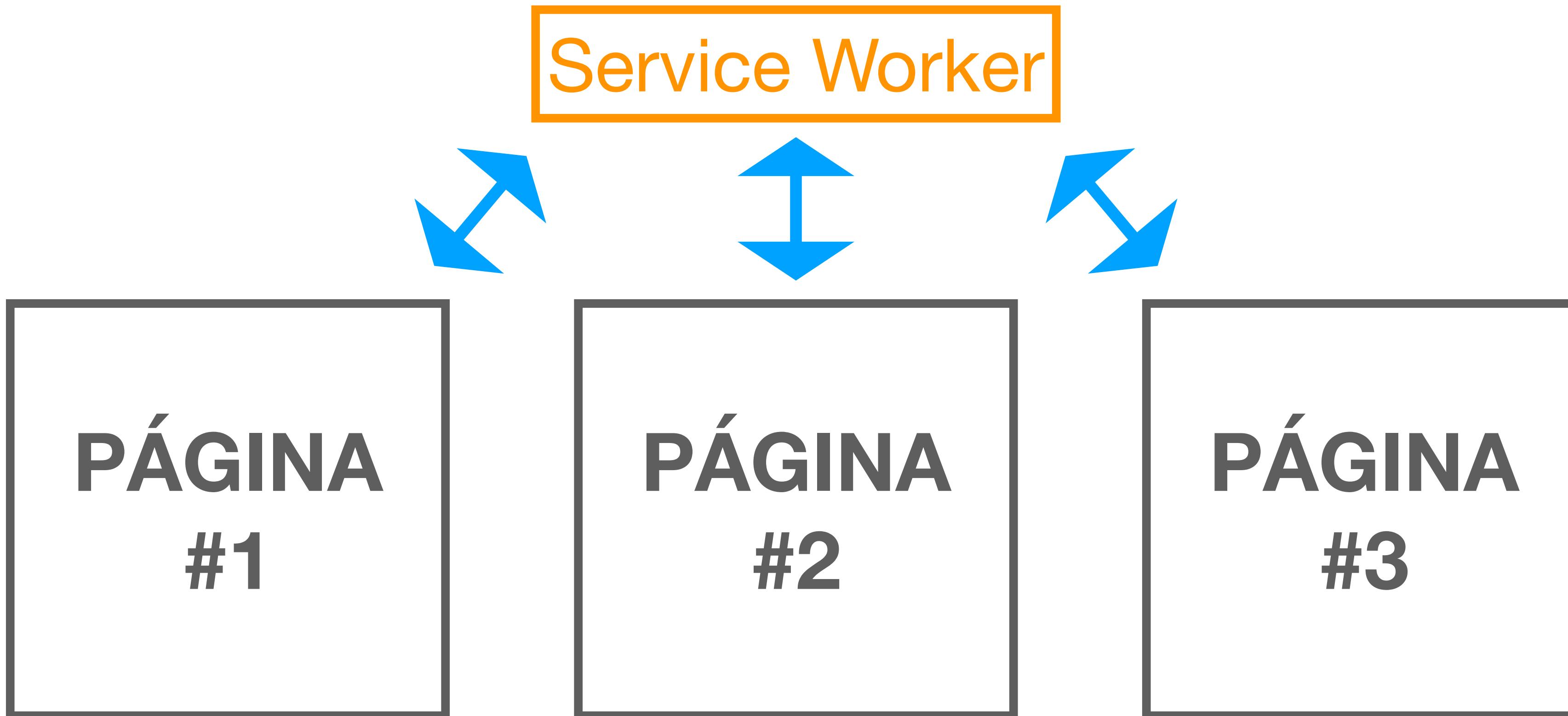


web worker A  
web worker B

# **WEB WORKERS**

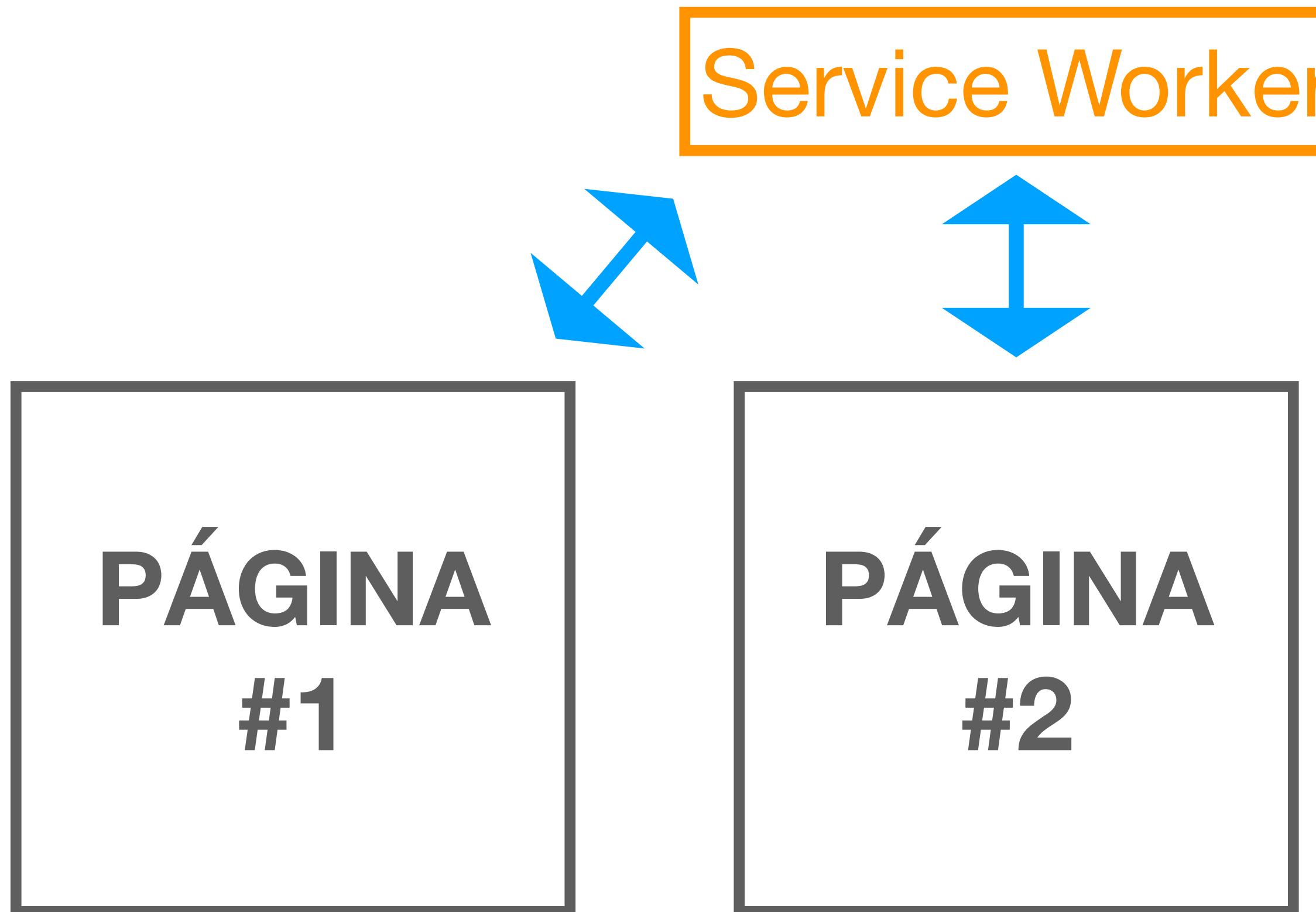
# SERVICE WORKER

```
<script>  
navigator.serviceWorker.register('sw.js');  
</script>
```



# SERVICE WORKER

```
<script>  
navigator.serviceWorker.register('sw.js');  
</script>
```



# SERVICE WORKER

```
<script>  
navigator.serviceWorker.register('sw.js');  
</script>
```

Service Worker



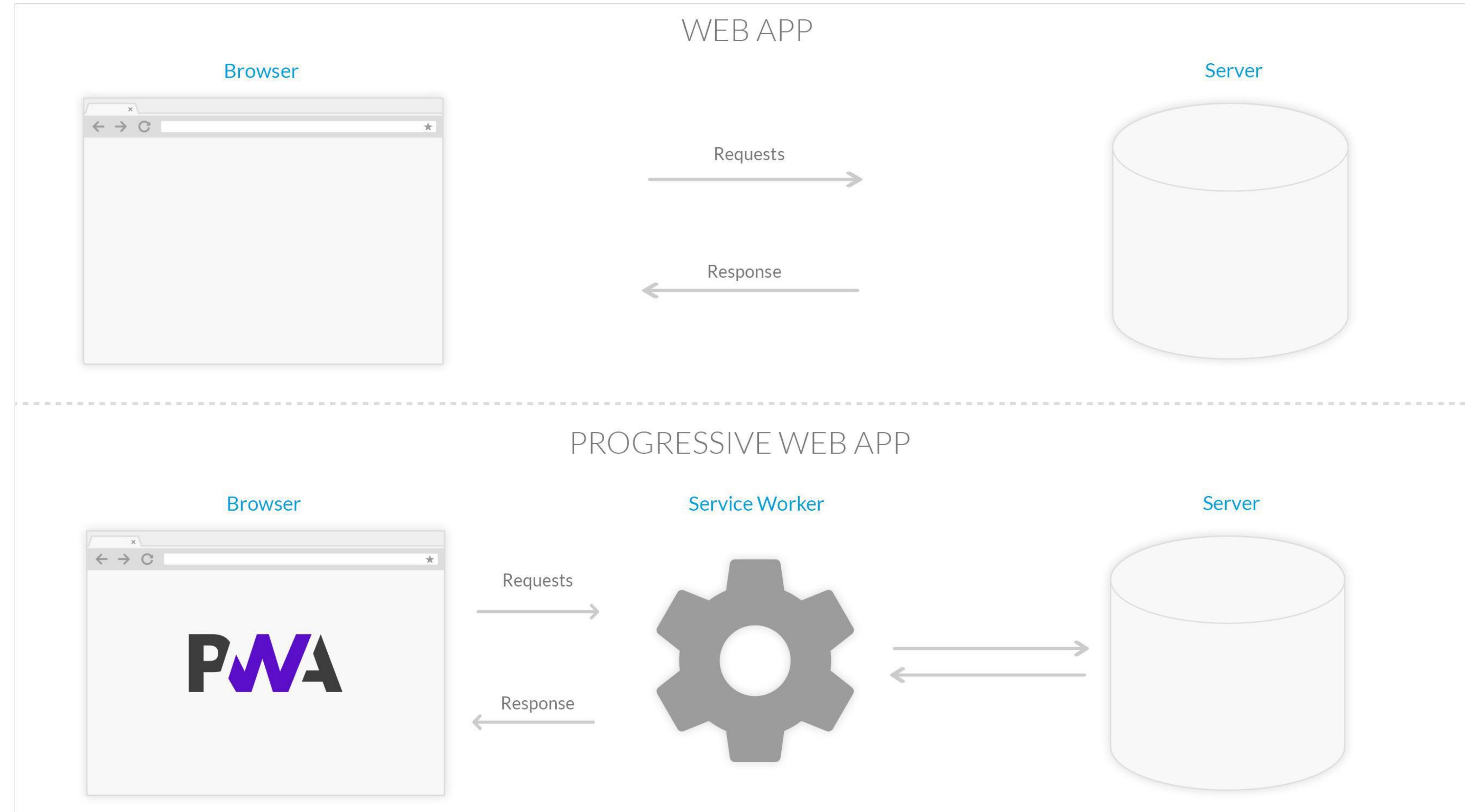
# SERVICE WORKER

```
<script>  
navigator.serviceWorker.register('sw.js');  
</script>
```

Service Worker

# Service Workers

É um **Worker** orientado a **eventos**, que **controla** as páginas em **background**. Nele tudo é **assíncrono**, e ele pode interceptar chamadas de **rede** e usar um **cache** de recursos



# PROGRESSIVE ENHANCEMENT

Não quebrar  
compatibilidade



```
navigator.serviceWorker.register('/sw.js').then(registration => {
  console.log('Service worker registrado com sucesso:');
}).catch(function(error) {
  console.log('Falha ao Registrar o Service Worker:', error);
})
```



```
if ('serviceWorker' in navigator) {  
    navigator.serviceWorker.register('/sw.js').then(registration => {  
        console.log('Service worker registrado com sucesso:');  
    }).catch(function(error) {  
        console.log('Falha ao Registrar o Service Worker:', error);  
    })  
} else {  
    console.log('Service workers não suportado!');  
}
```



Cosméticos  
**Jequiti**  
Brasil no corpo e na alma

**HTTPS ONLY**



**https://**



```
importScripts("https://storage.googleapis.com/workbox-cdn/releases/4.3.1/workbox-sw.js");

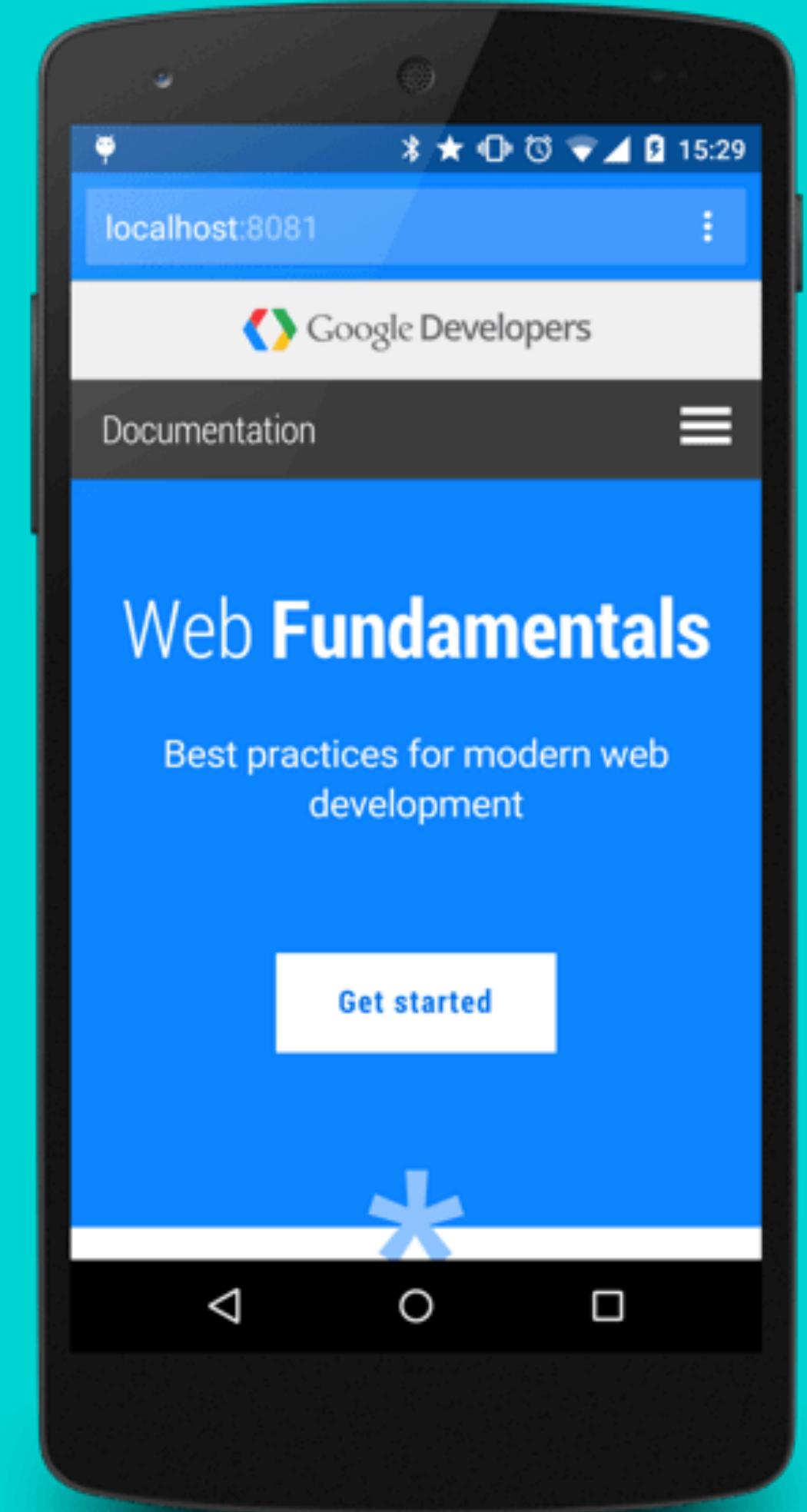
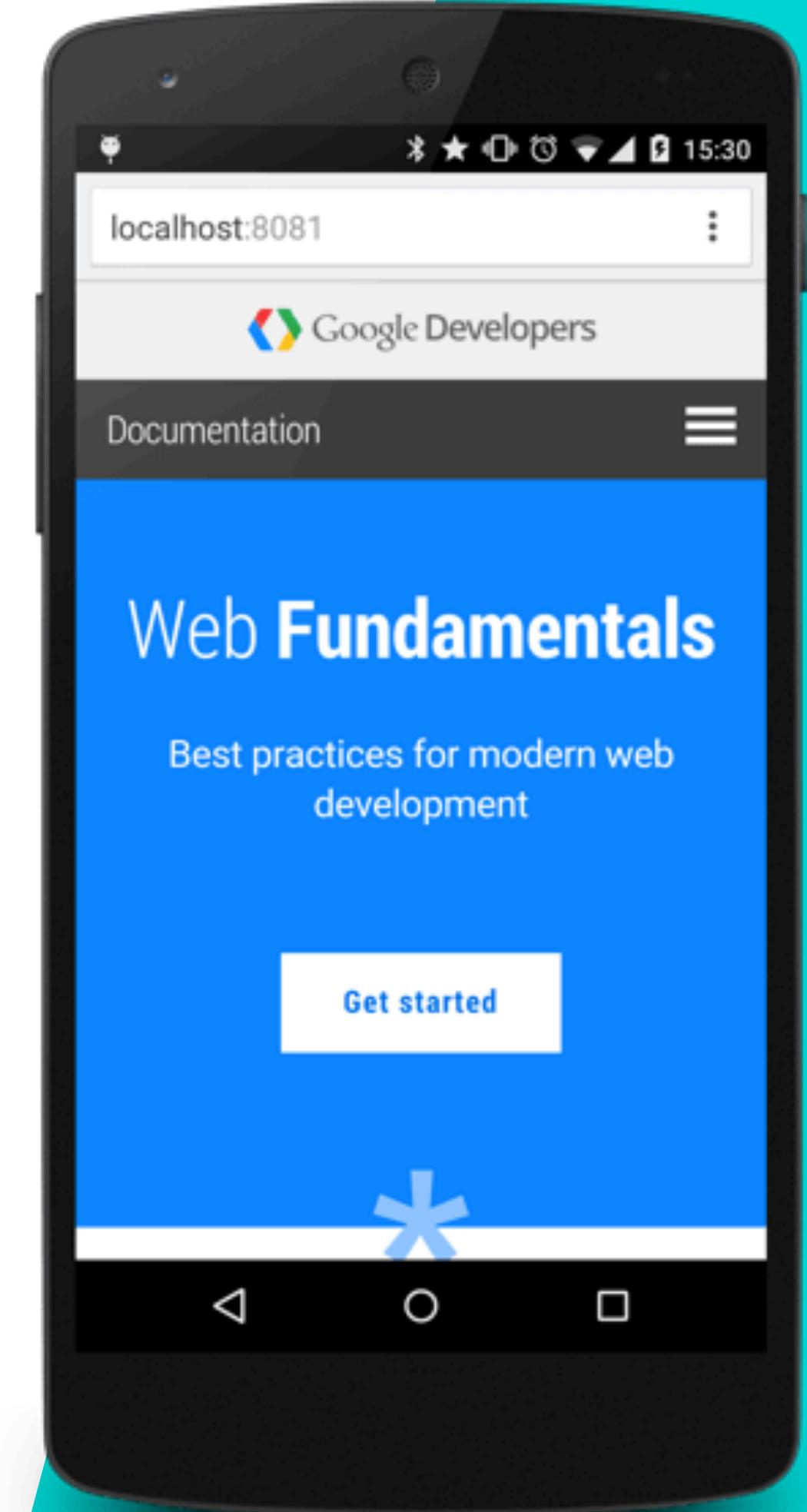
workbox.routing.registerRoute(
  /\.(?:css|js)$/,
  new workbox.strategies.StaleWhileRevalidate({
    "cacheName": "assets",
    plugins: [
      new workbox.expiration.Plugin({
        maxEntries: 1000,
        maxAgeSeconds: 31536000
      })
    ]
  })
);
```

**INSTALÁVEL**  
iOS

```
<meta name="apple-mobile-web-app-capable" content="yes">
<meta name="apple-mobile-web-app-title" content="Shopping">
<meta name="apple-mobile-web-app-status-bar-style" content="black-translucent">
<link rel="apple-touch-icon-precomposed" href="img/icon.png">
```

# THEME COLOR

```
<meta name="theme-color"  
      content="#0033CD">
```



# INSTALÁVEL

## Web Manifest

```
<link rel="manifest" href="/manifest.webmanifest">
```

```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
}
```

```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{}  
    {"src": "images/touch/homescreen48.png",  
     "sizes": "48x48",  
     "type": "image/png"}],  
}  
}
```

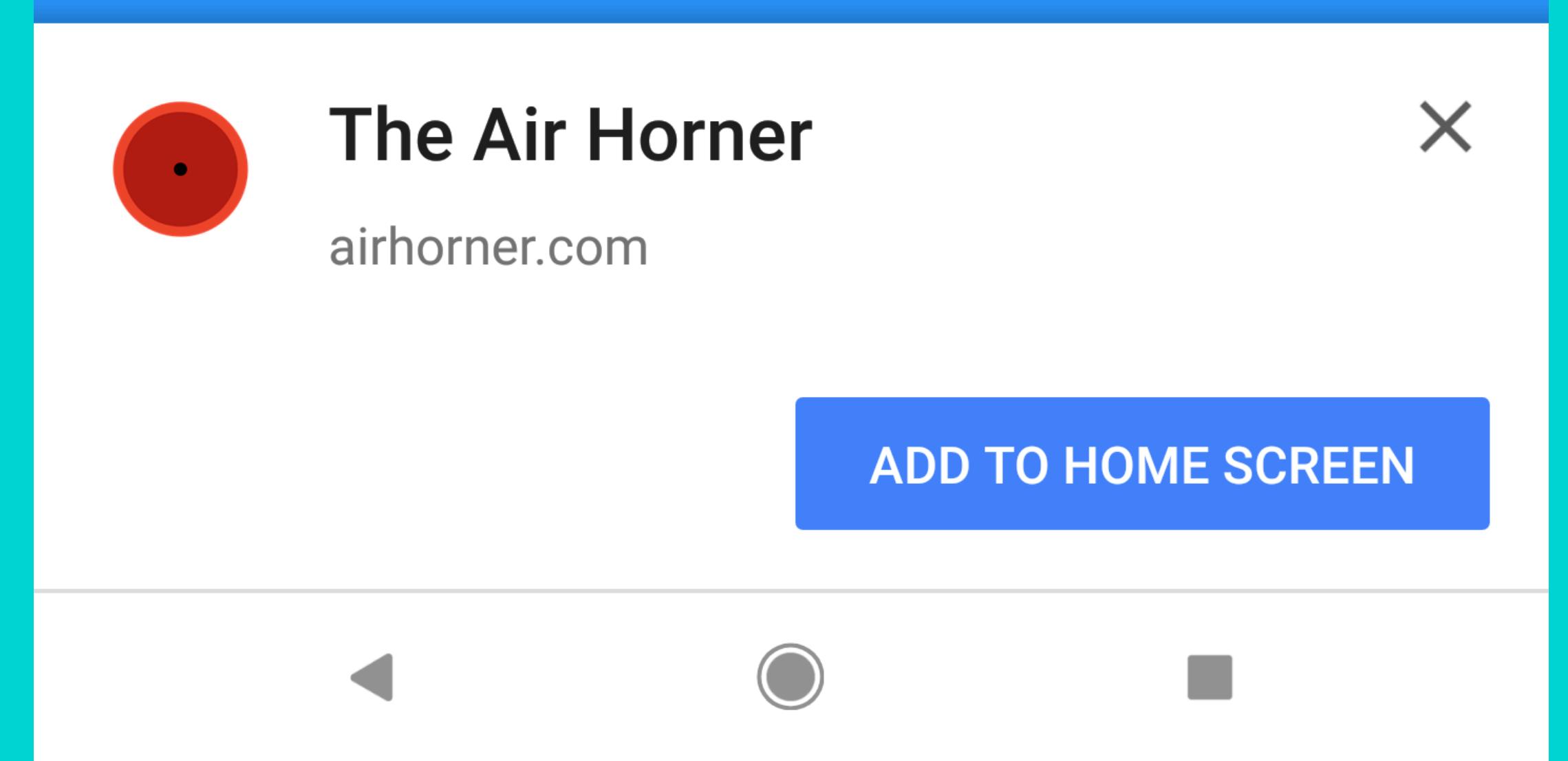
```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{  
    "src": "images/touch/homescreen48.png",  
    "sizes": "48x48",  
    "type": "image/png"  
  }],  
  "start_url": "index.html",  
}  
}
```

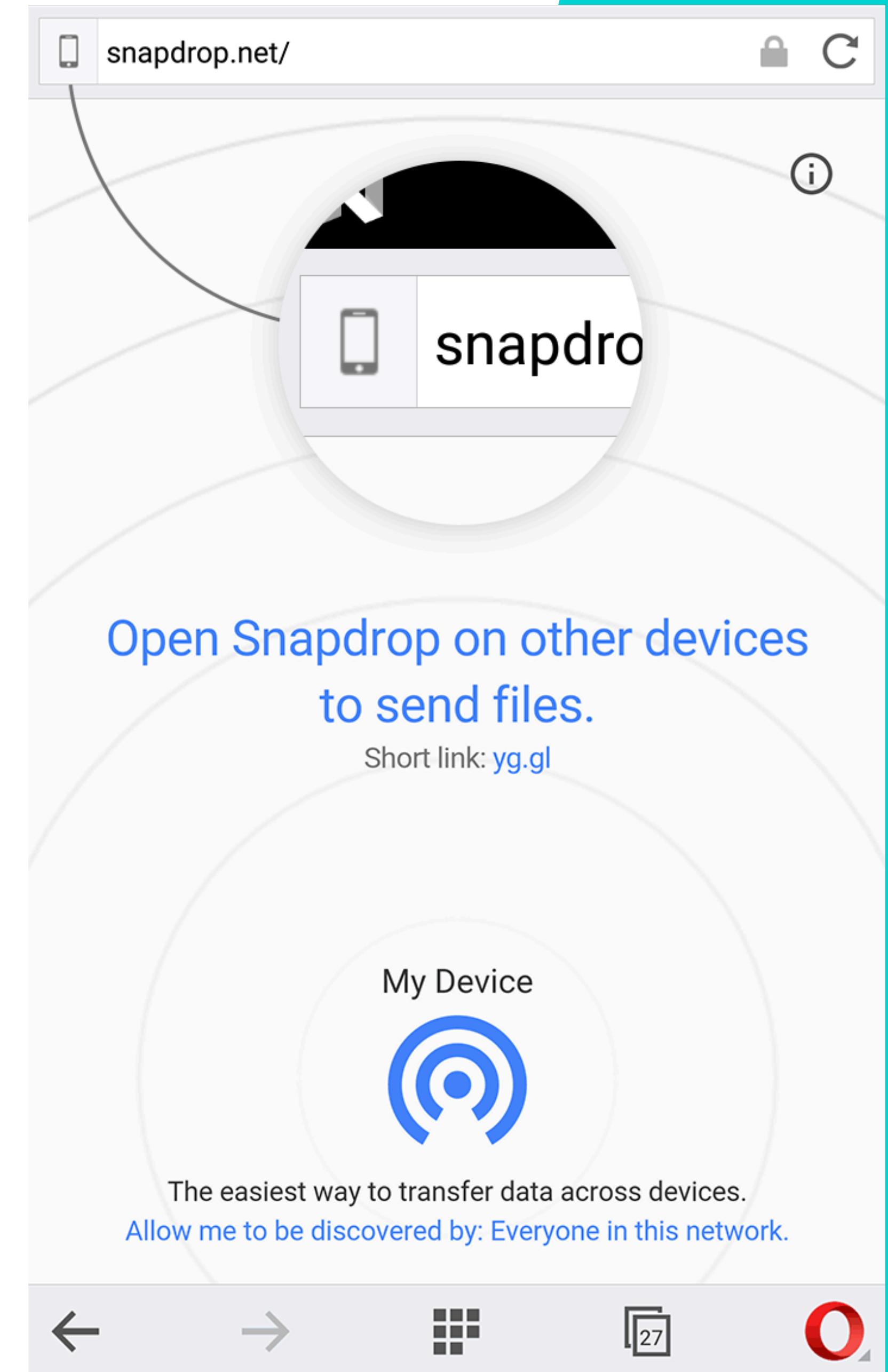
```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{  
    "src": "images/touch/homescreen48.png",  
    "sizes": "48x48",  
    "type": "image/png"  
  }],  
  "start_url": "index.html",  
  "display": "standalone",  
}  
}
```

```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{  
    "src": "images/touch/homescreen48.png",  
    "sizes": "48x48",  
    "type": "image/png"  
  }],  
  "start_url": "index.html",  
  "display": "standalone",  
  "orientation": "portrait",  
}  
}
```

```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{  
    "src": "images/touch/homescreen48.png",  
    "sizes": "48x48",  
    "type": "image/png"  
  }],  
  "start_url": "index.html",  
  "display": "standalone",  
  "orientation": "portrait",  
  "background_color": "#fff",  
  "theme_color": "#fff",  
}
```

# INSTALL BANNERS





# INSTALL BANNERS (BUG)?

<https://gist.github.com/whoamindx/2b721dbd6fa851b47caaecd84e2a5470>

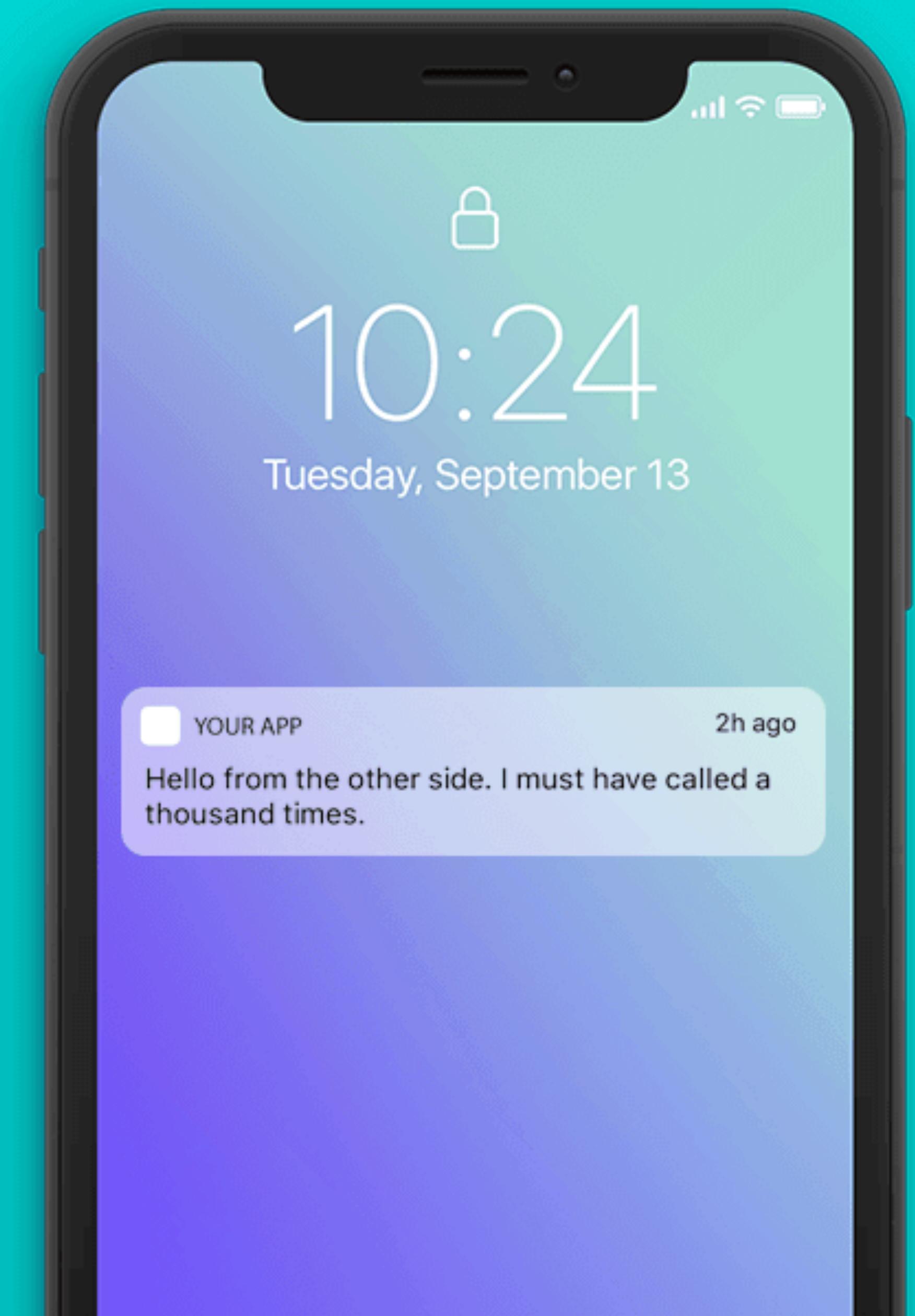
# NOTIFICATIONS



```
new Notification('Notificação')
```

```
Notification.requestPermission() => {
  new Notification('Pagamento confirmado', {
    icon: 'img/icon.png',
    body: 'Saída liberada até 15h45'
  })
})
```

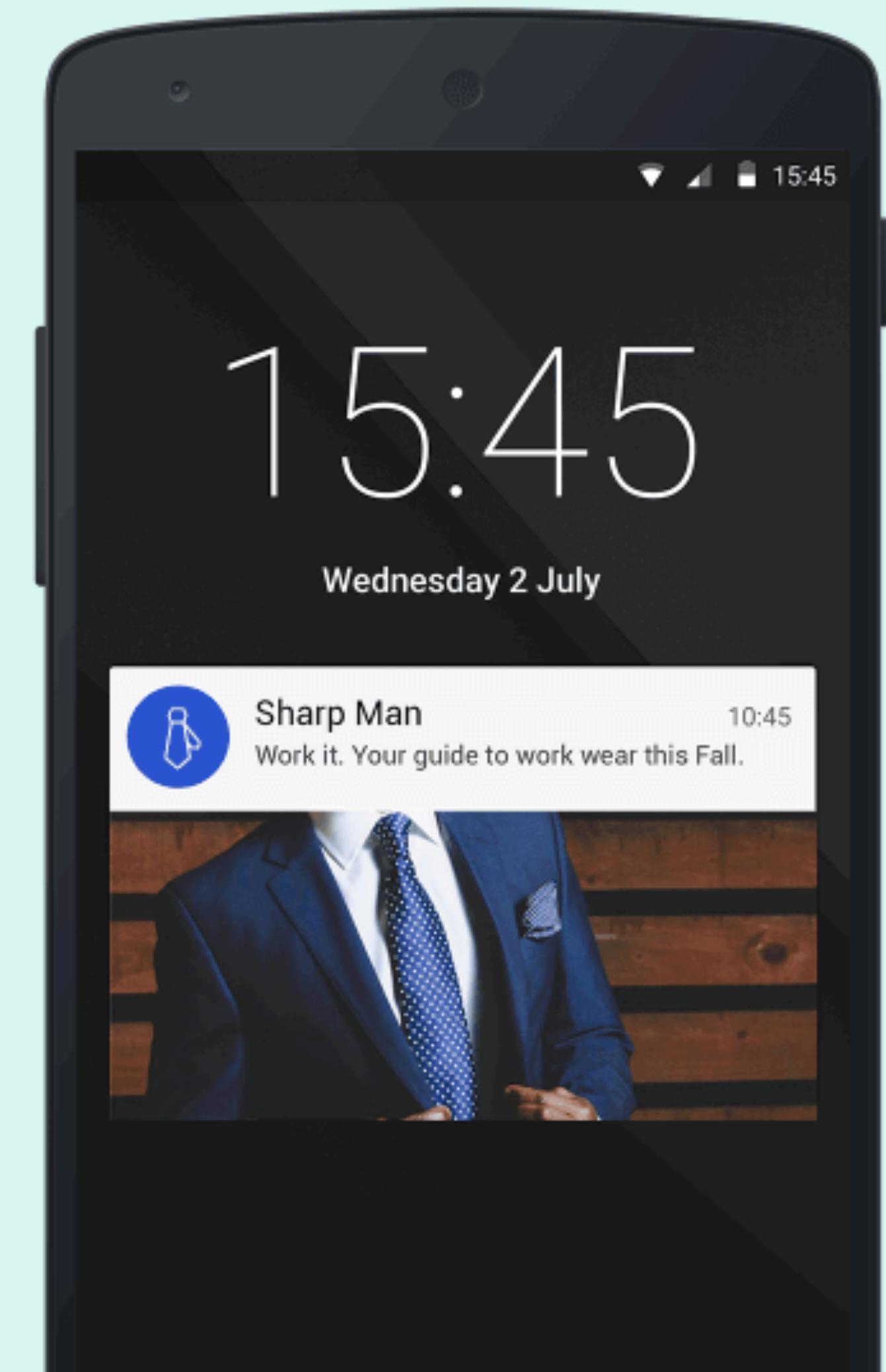
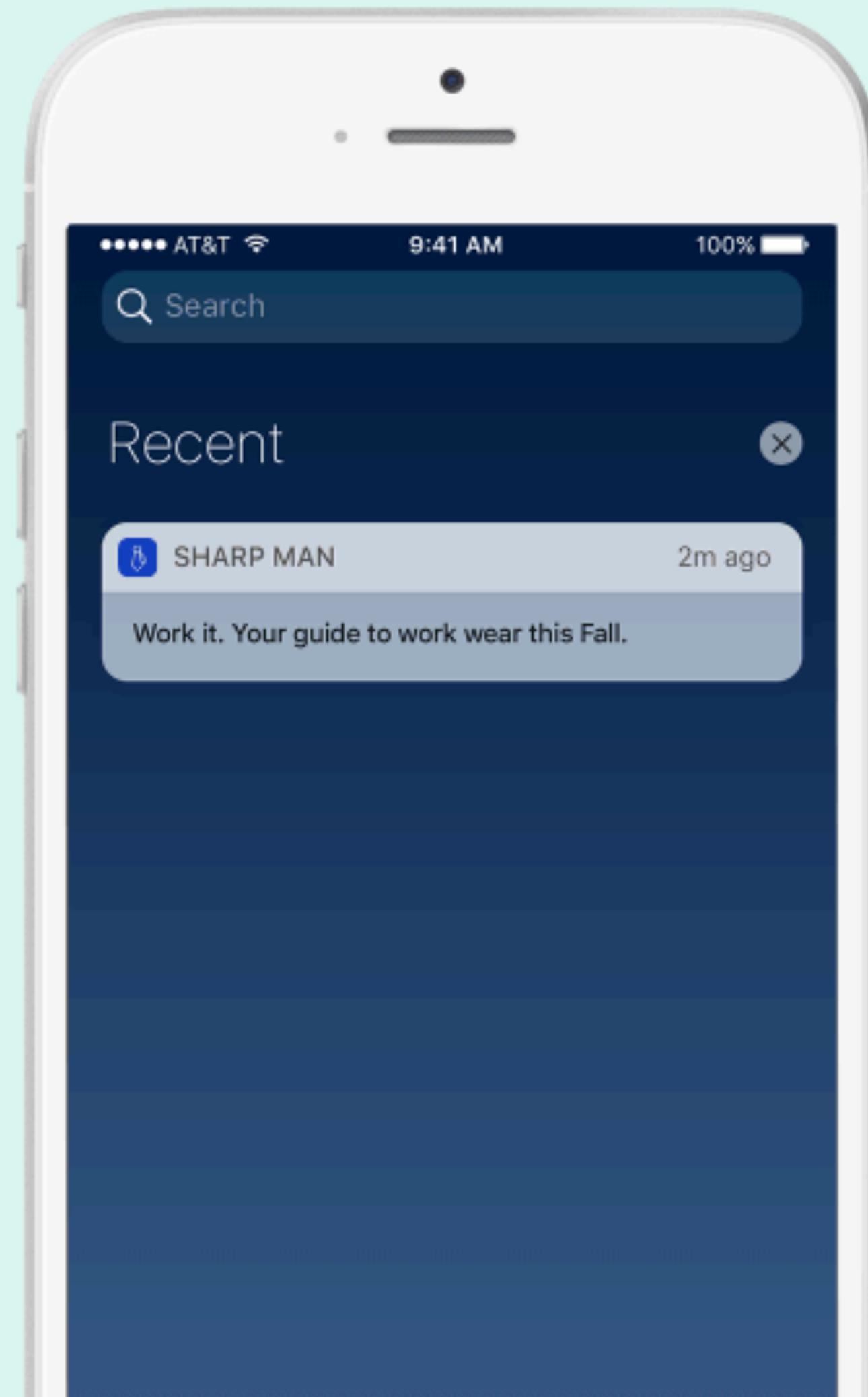
# PUSH NOTIFICATIONS



# PUSH NOTIFICATIONS



One Signal



**BACKGROUND SYNC  
GEOFENCING  
ALARMES TEMPORAIS**

GEOLOCALIZAÇÃO  
VIBRAÇÃO  
CÂMERA  
MICROFONE  
BATERIA  
NET INFO

# LINKS IMPOTANTES

<https://youtu.be/tECW-YJXV1o> - PWA  
<https://github.com/sergiolopes/shopping> - Shopping  
<https://youtu.be/mchPQdKbbus> - Service Workers  
<https://developers.google.com/web/tools/workbox>