

PWA

PROGRESSIVE

WEB

APP

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Frontend Developer



[/whoamindx](#)



whoamindx.github.io



[@whoamindx](#)

APP

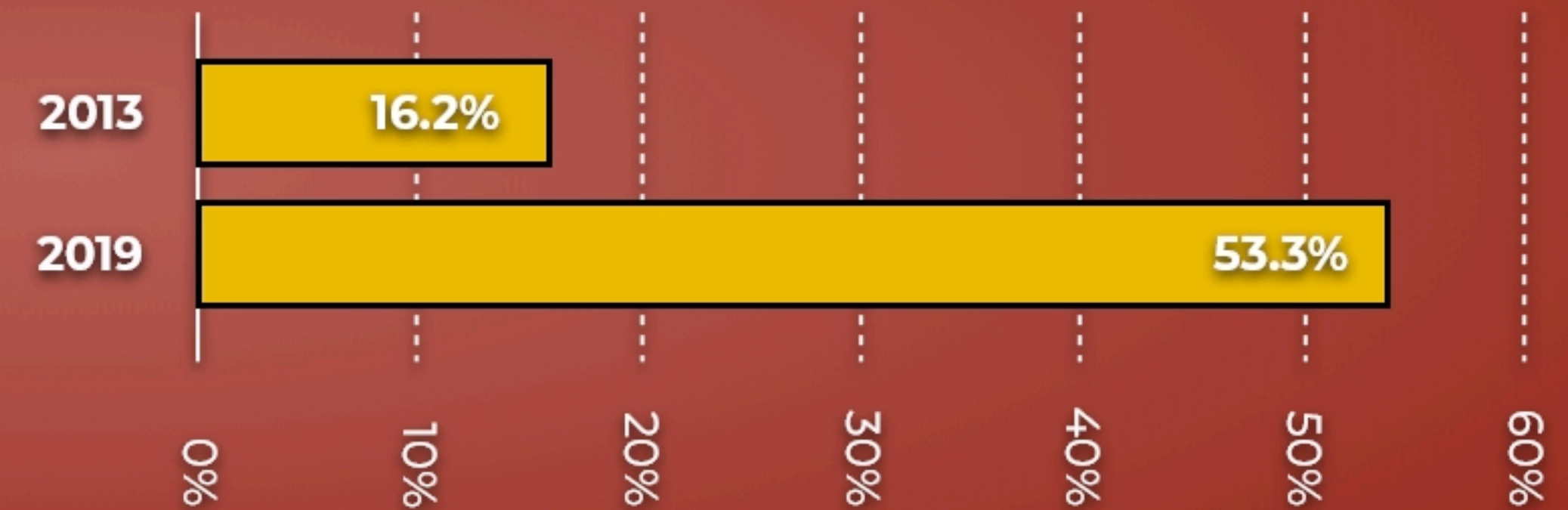
VS

WEB

MOBILE TRAFFIC

↑ up **222%**
IN THE LAST 7 YEARS

Combined Traffic Worldwide 2013 vs 2019



Share of Traffic



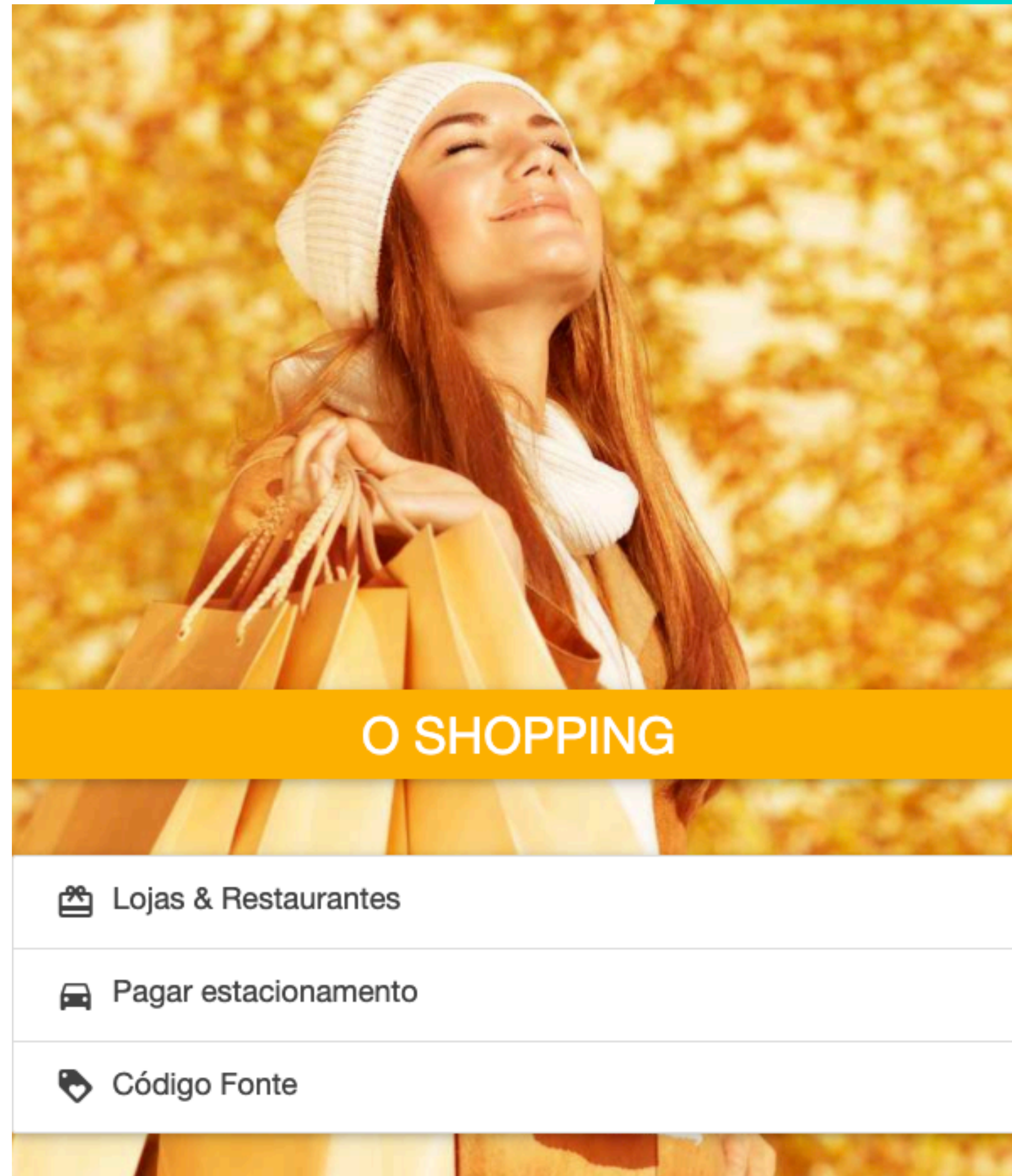
SUPPORT

W3C[®]



moz://a

CASO



URIs

<https://shopping.com>

<https://shopping.com/adidas>

https://shopping.com/pagar_ticket

<https://shopping.com/contato>

URIs

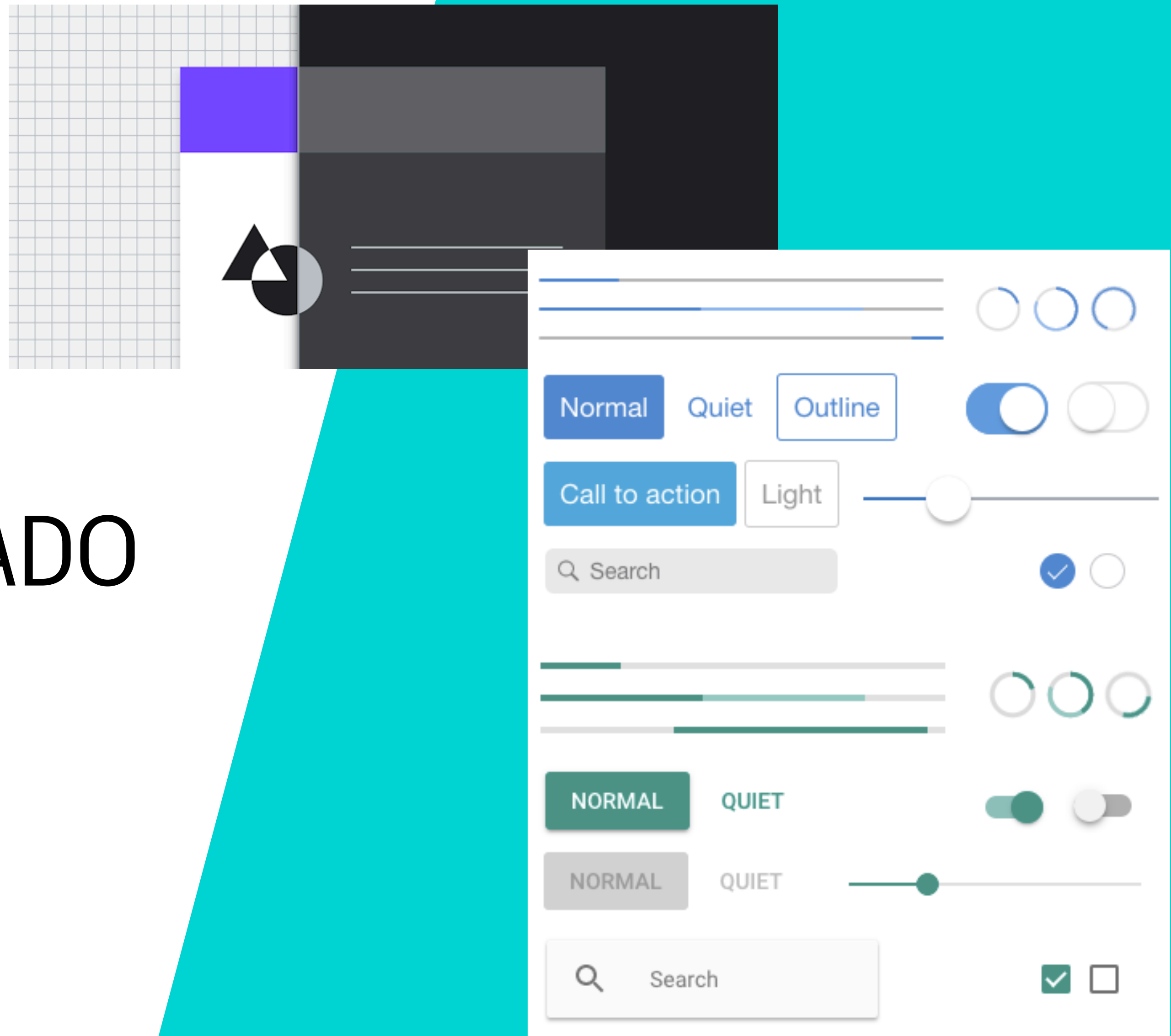
<https://shopping.com>

<https://shopping.com/adidas>

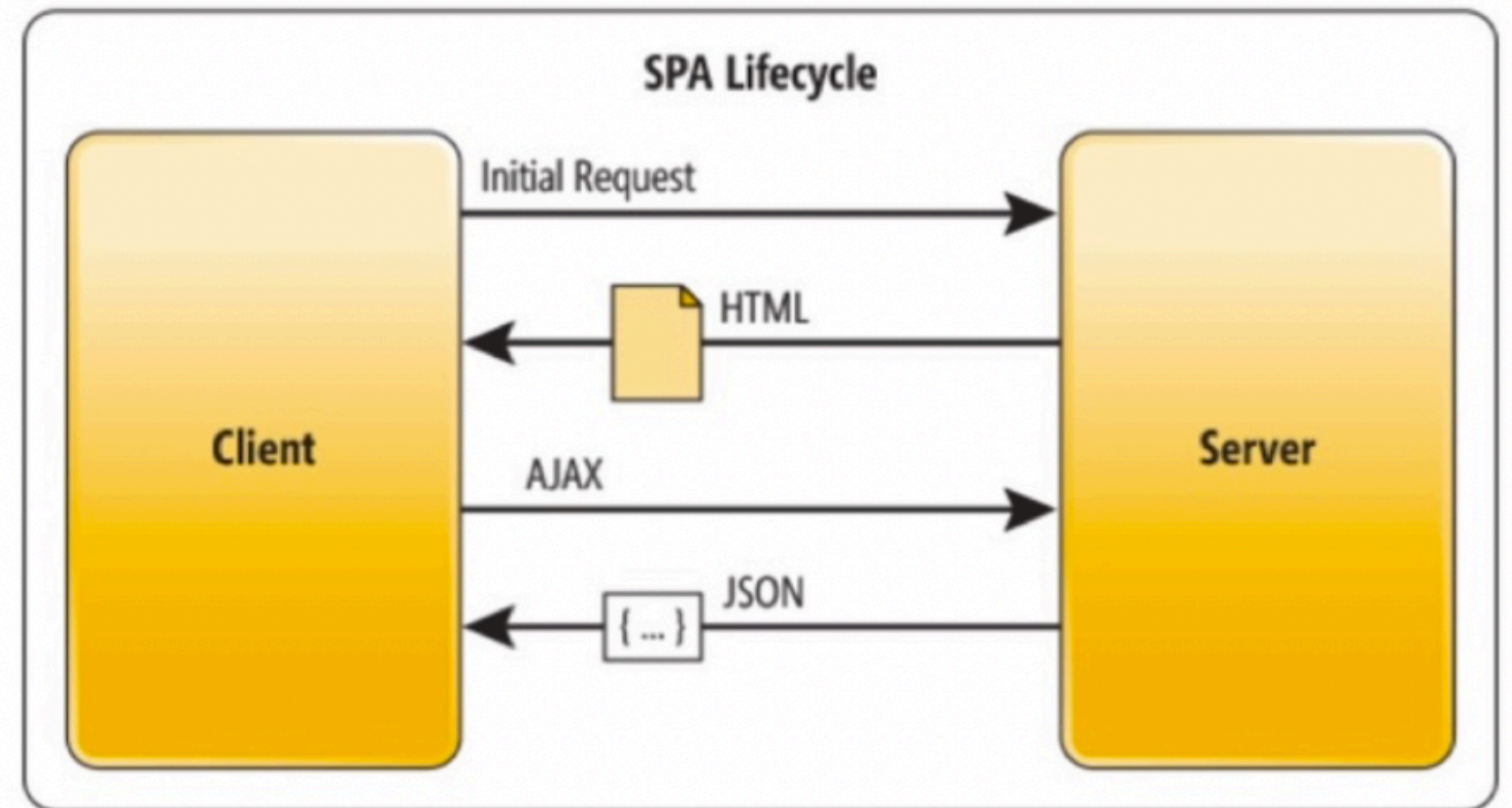
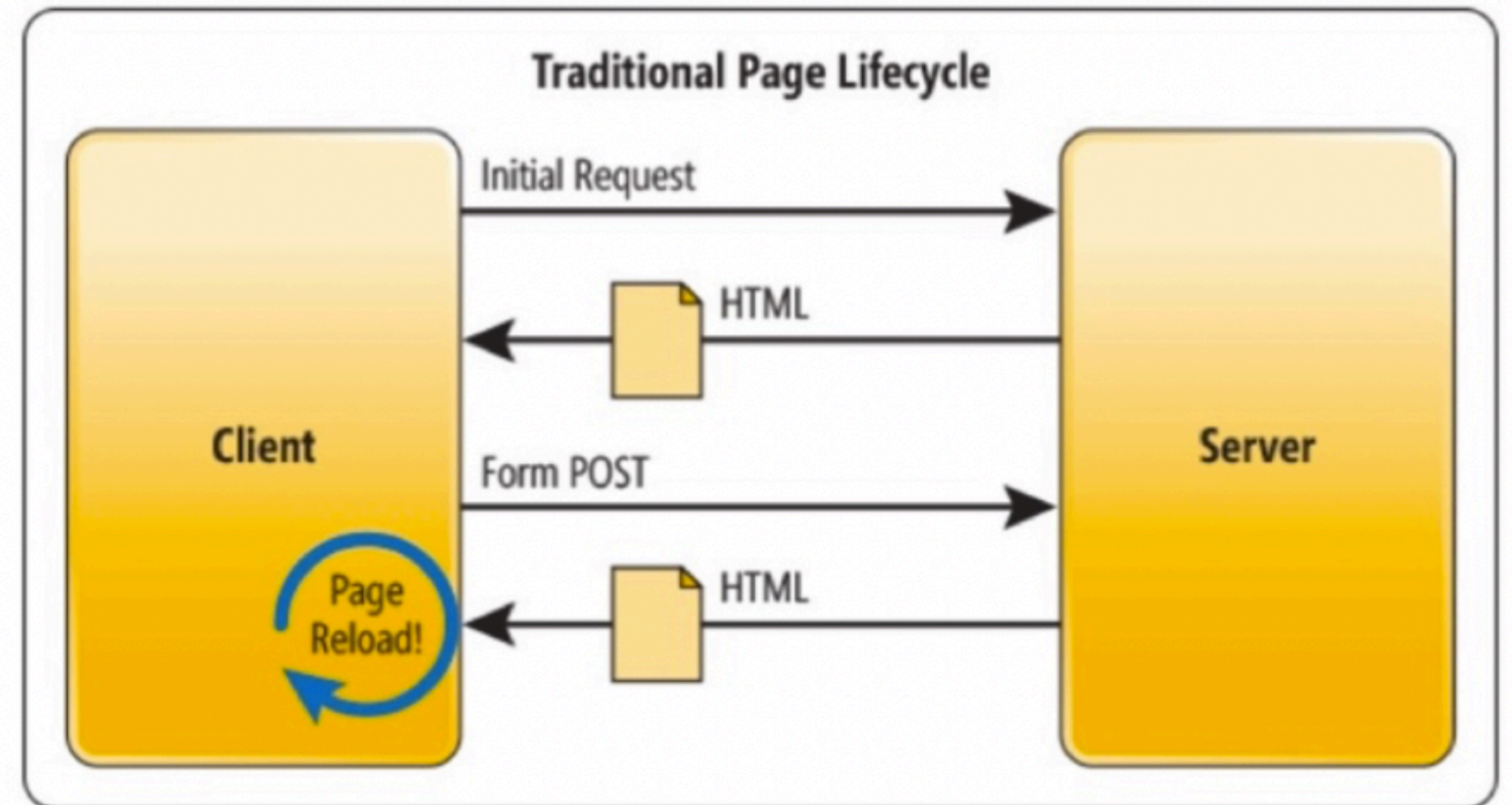
https://shopping.com/pagar_ticket

<https://shopping.com/contato>

VISUAL APPFICADO

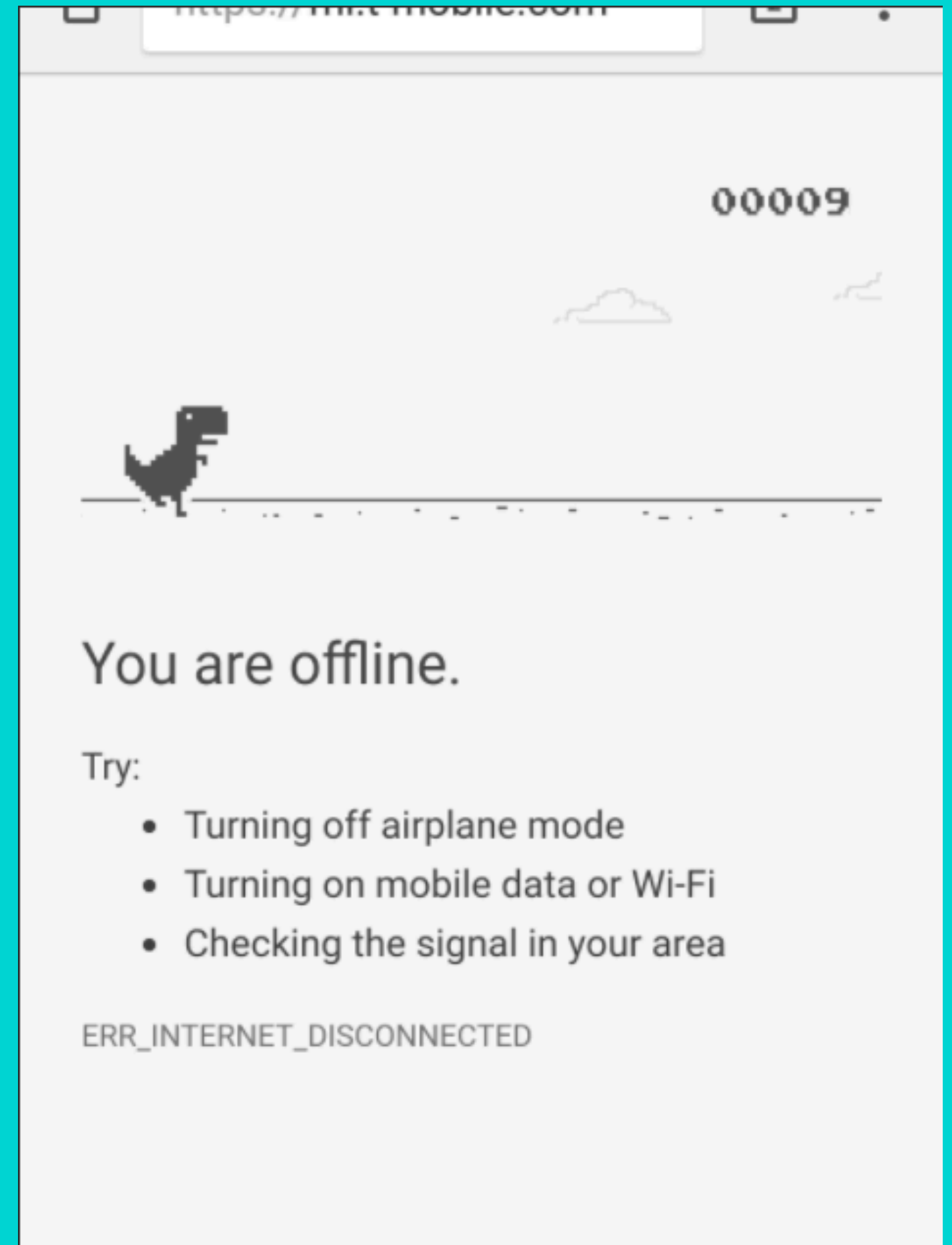


SPA AJAX



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 USAR O MANIFESTO**
- Usuário não pode controlar o cache
- Impossível controlar o cache
- Potencial para congestionar o 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( 'Contéudo' );  
  )  
}
```



```
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>
```

DOM

script

CSSOM

script

LAYOUT

script

EVENTOS

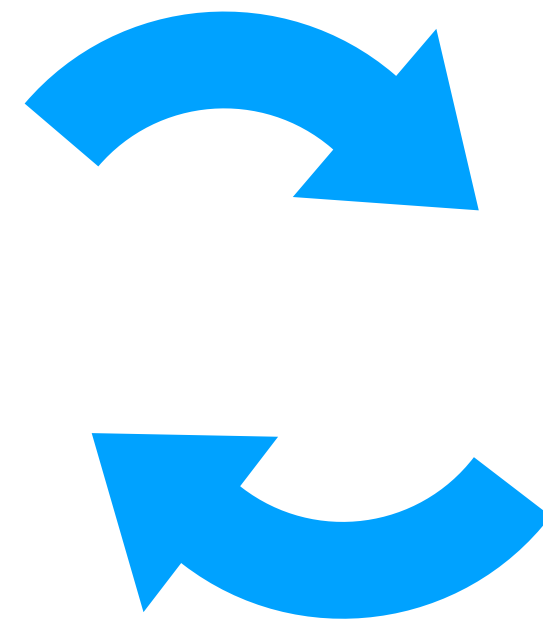
script

SCROLL

WEB WORKERS

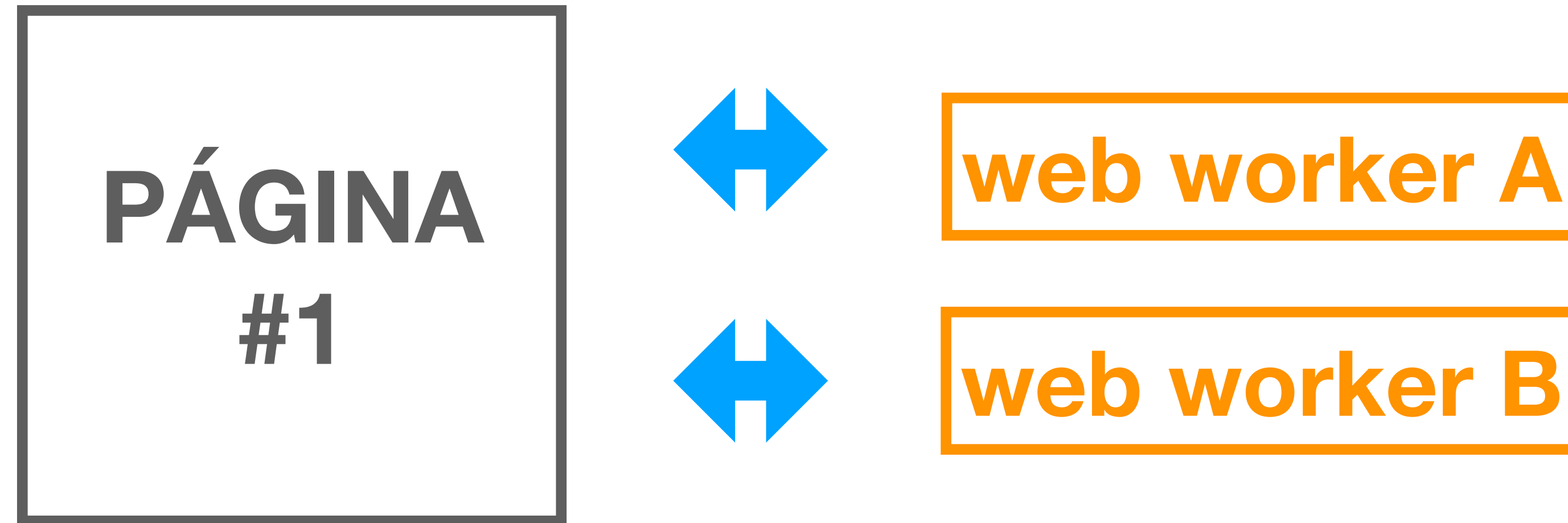
```
<script> new Worker('worker.js'); </script>
```

DOM
CSSOM
LAYOUT
EVENTOS
SCROLL

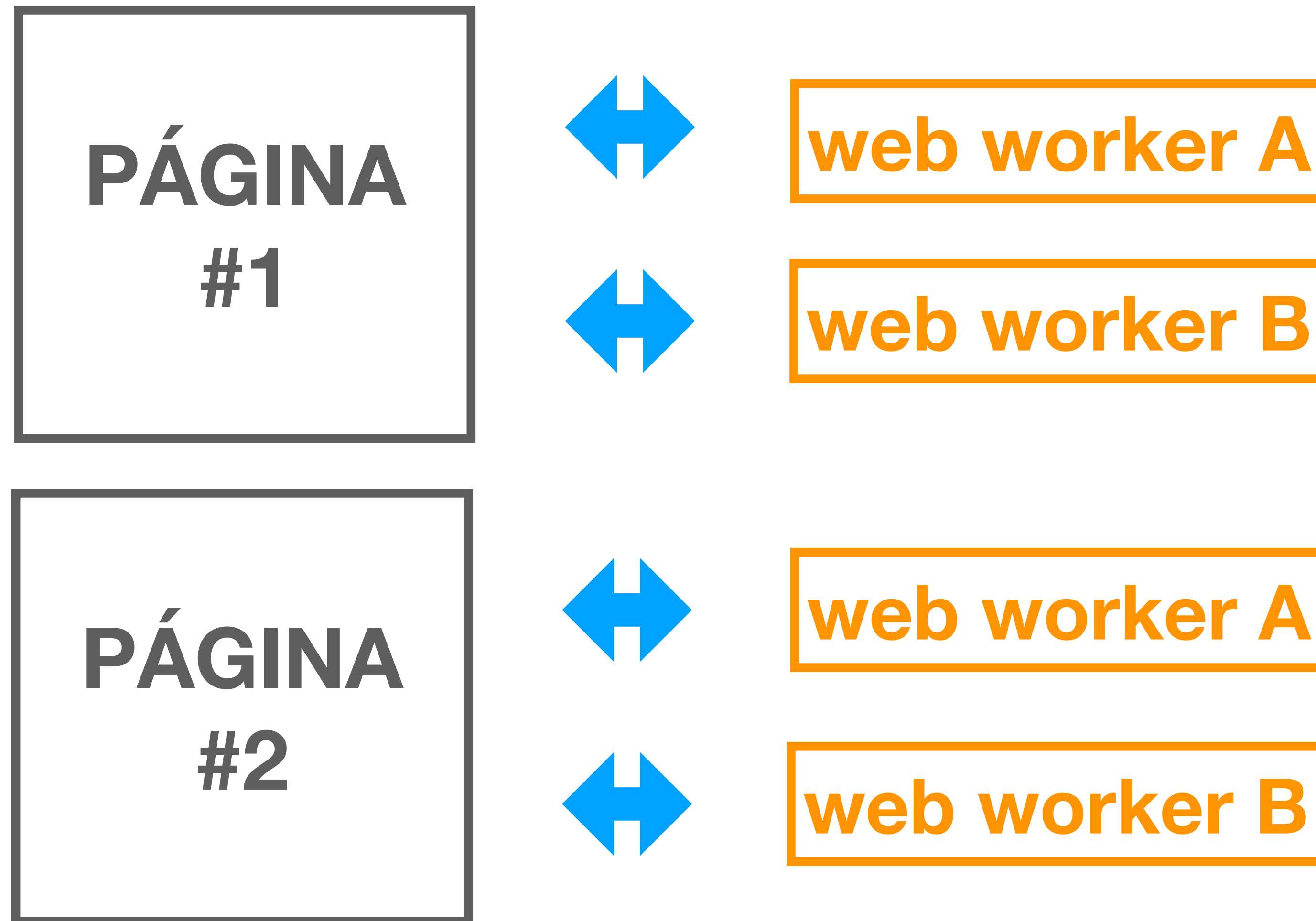


script
script
script
script

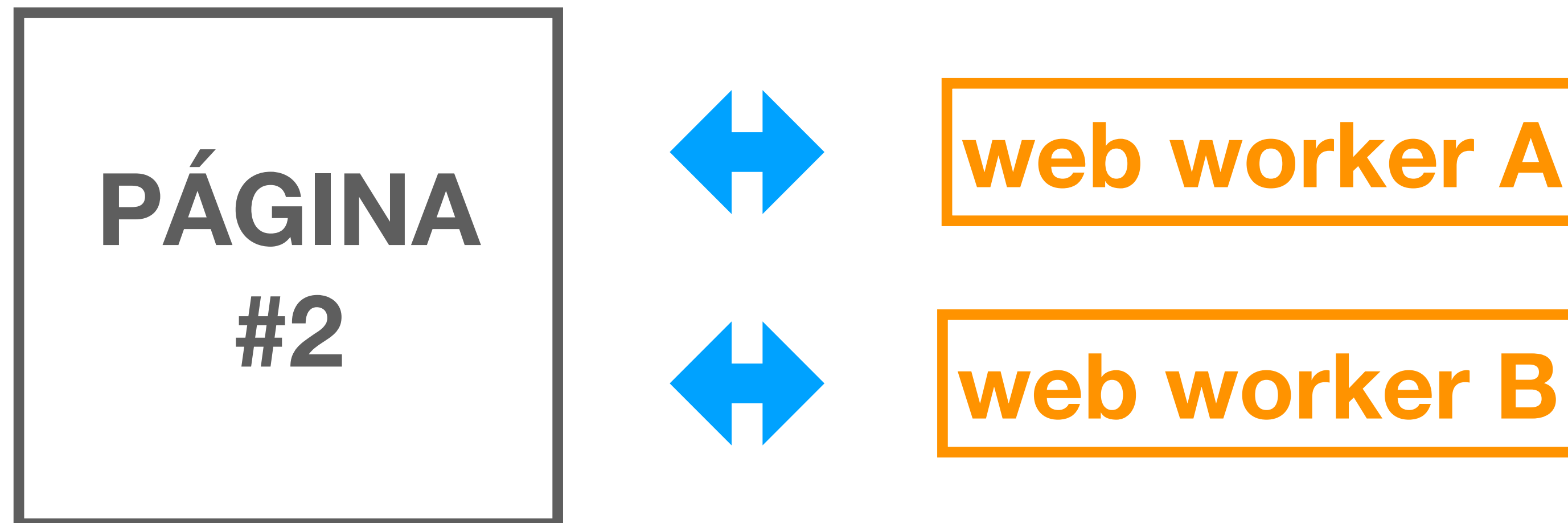
WEB WORKERS



WEB WORKERS



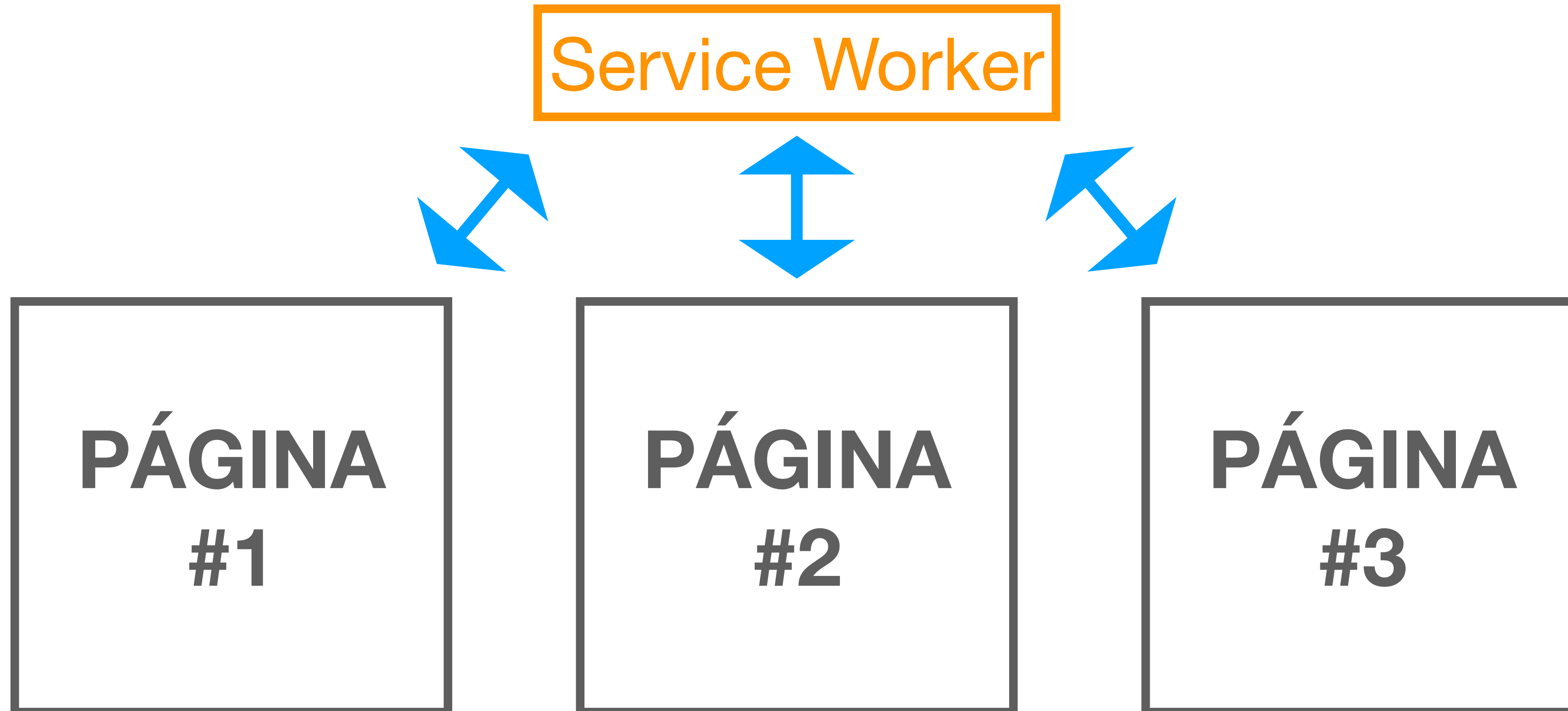
WEB WORKERS



WEB WORKERS

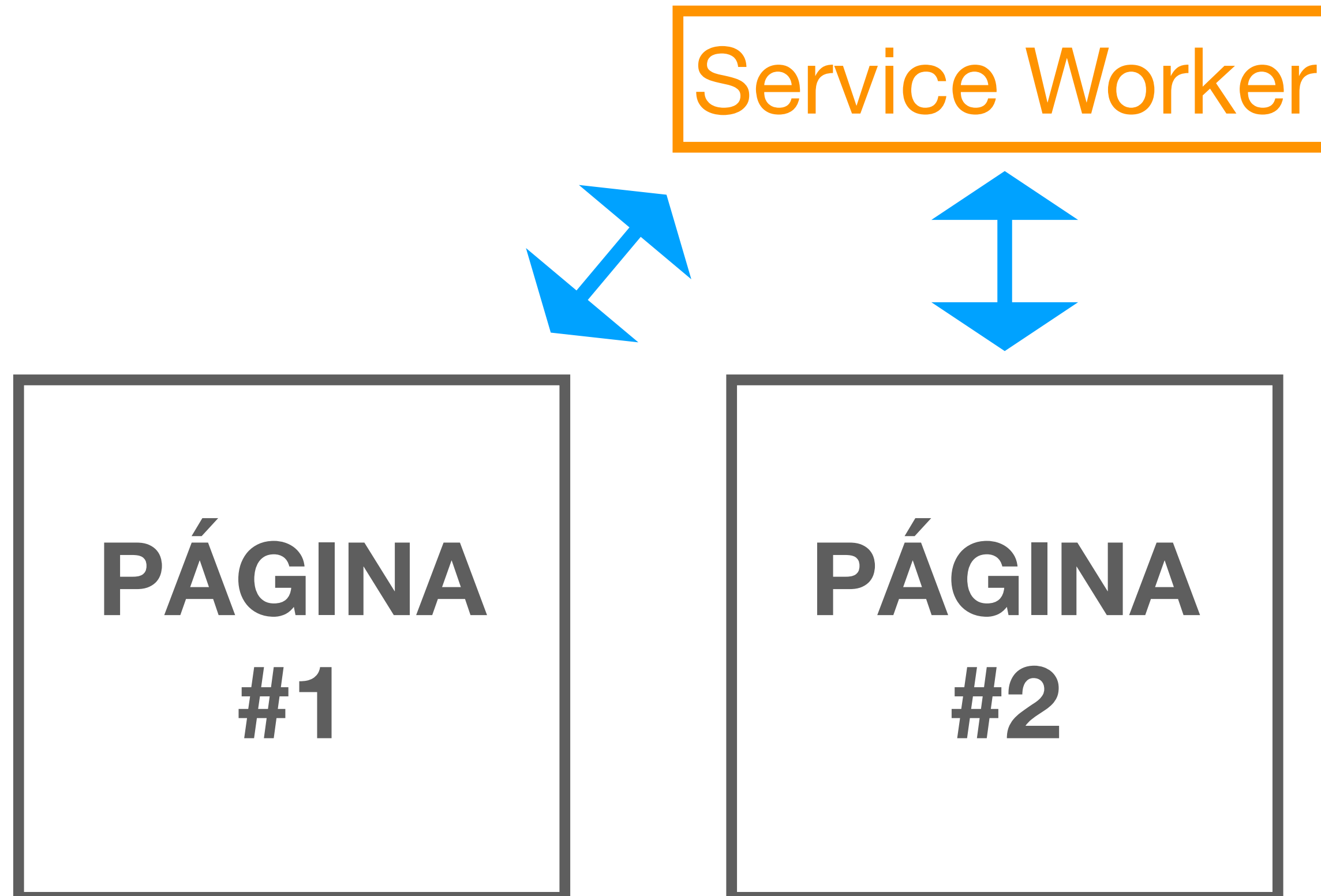
SERVICE WORKER

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



SERVICE WORKER

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

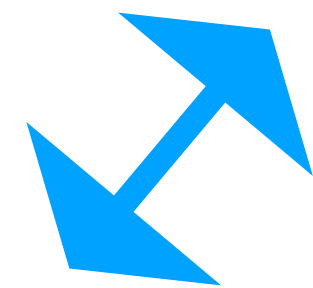


SERVICE WORKER

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

Service Worker

PÁGINA
#1



SERVICE WORKER

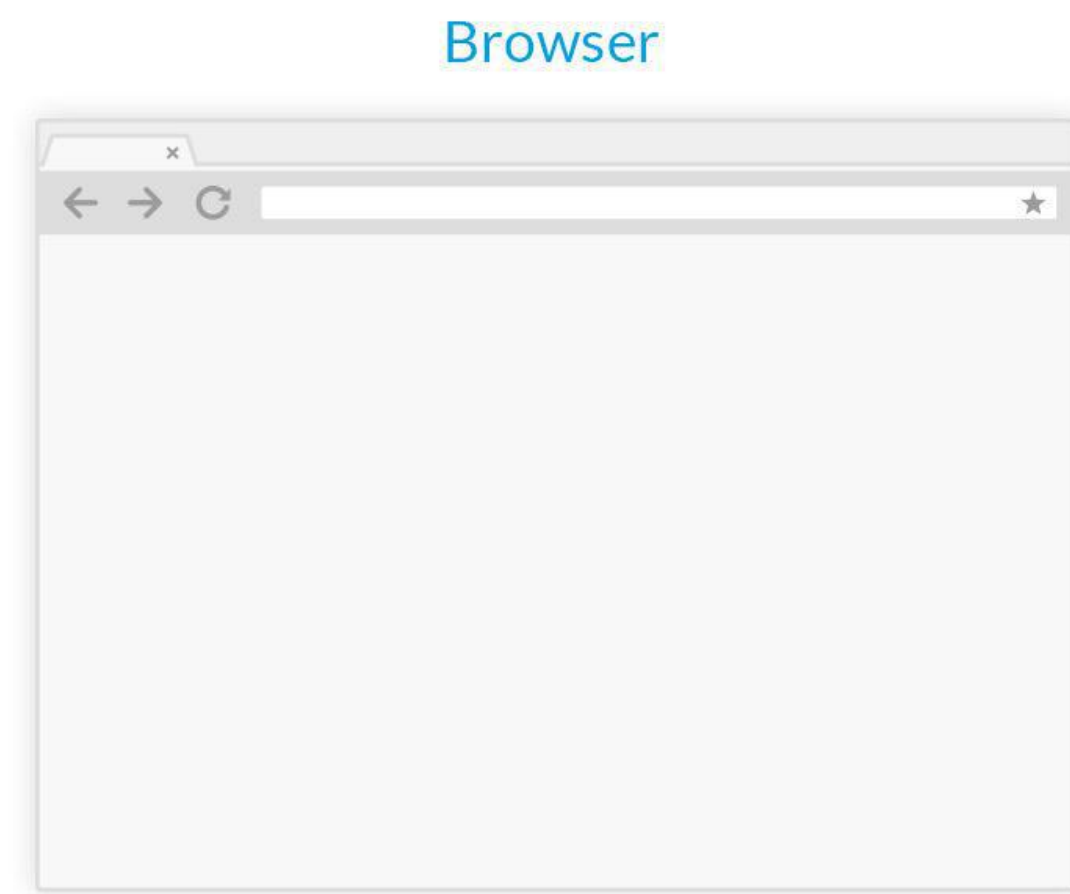
```
<script>  
navigator.serviceWorker.register('sw.js');  
</script>
```

Service Worker

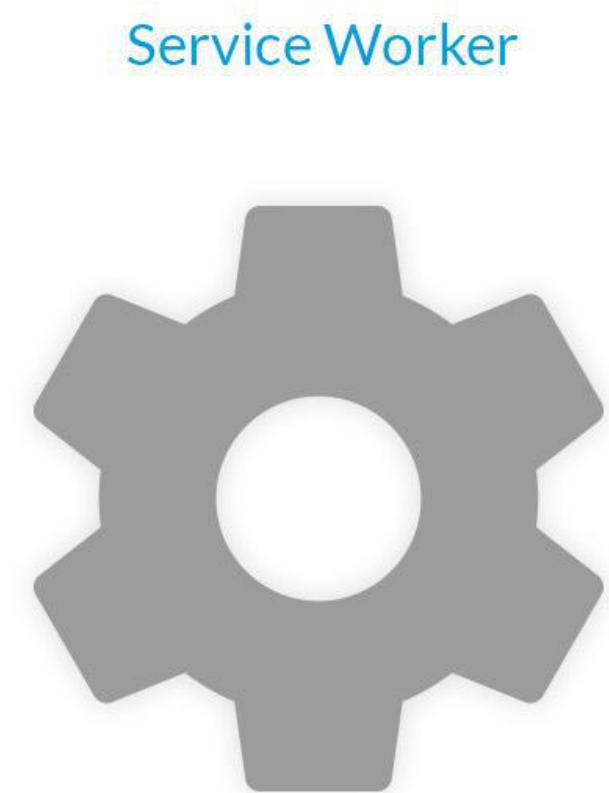
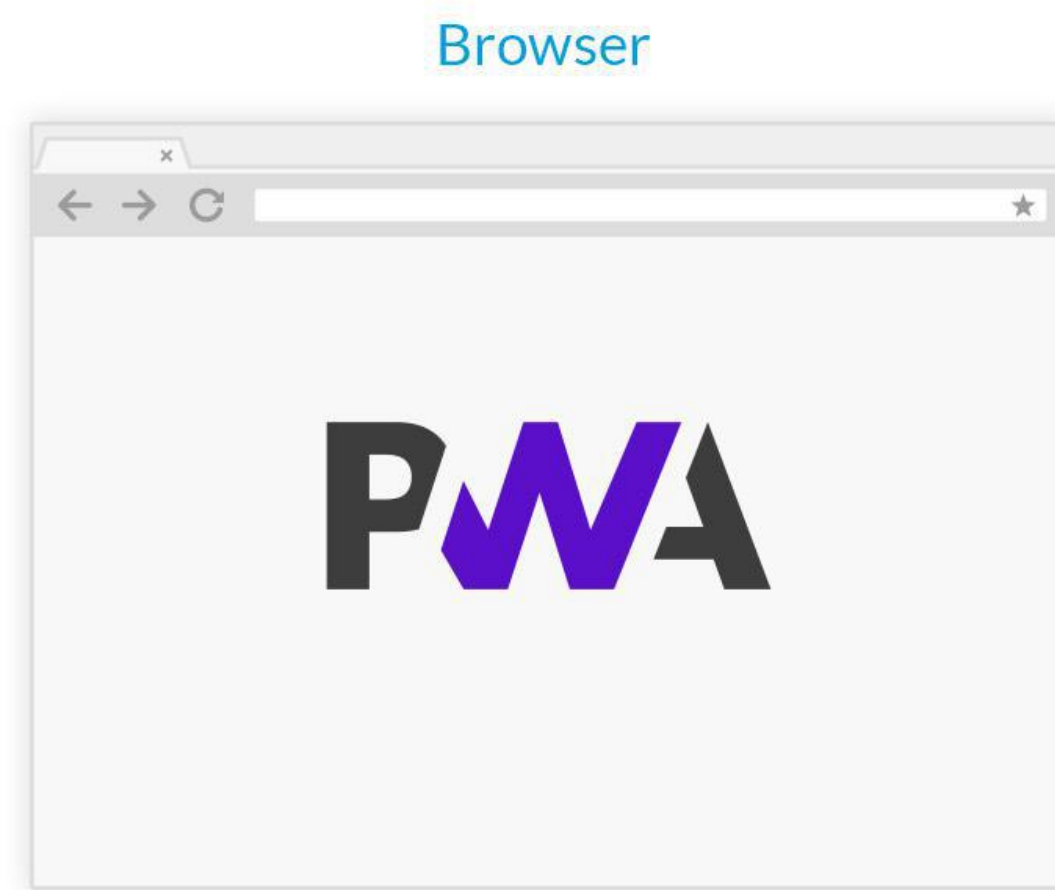
Service Workers

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

WEB APP



PROGRESSIVE WEB APP



**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://



Workbox

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

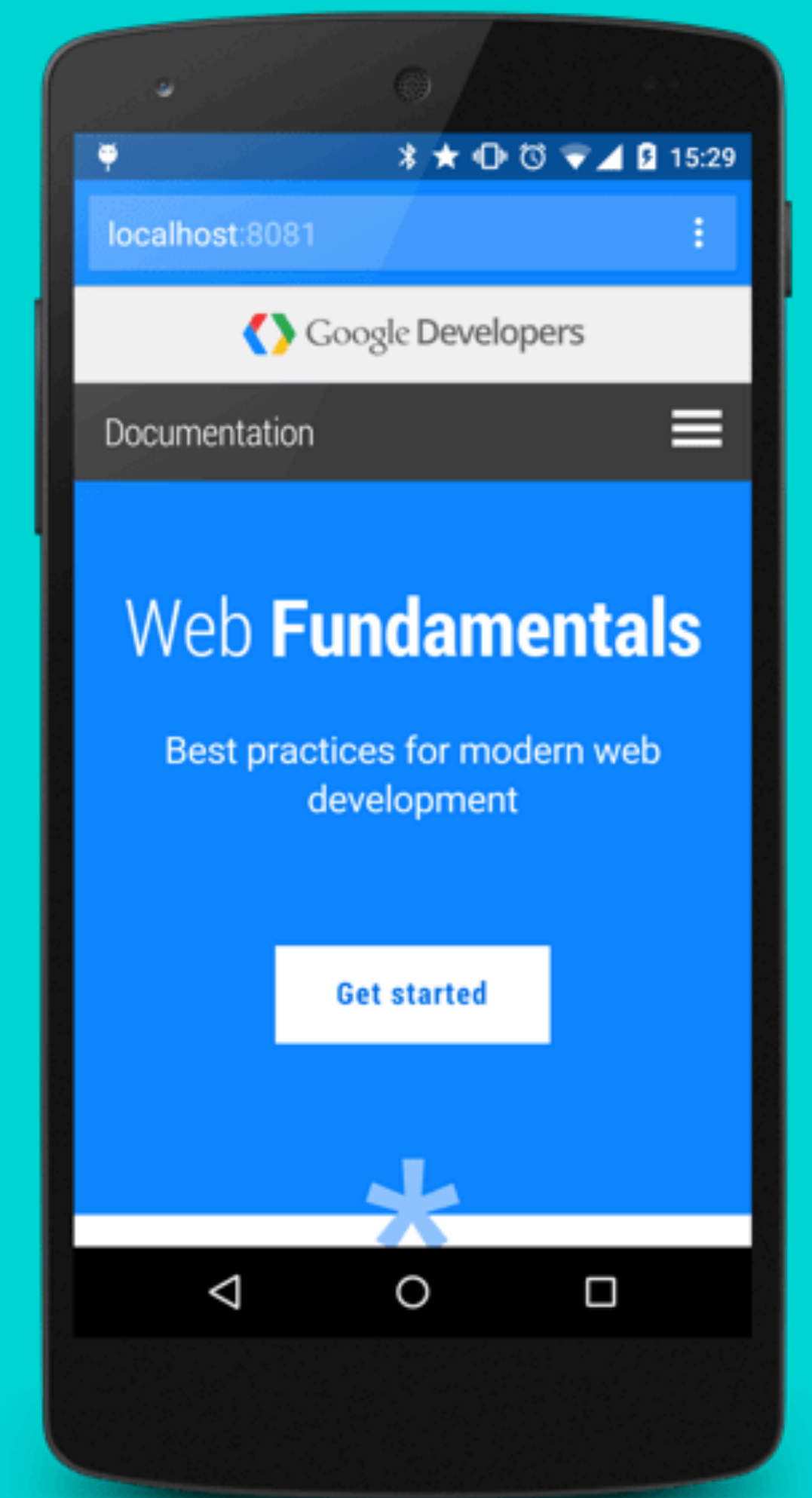
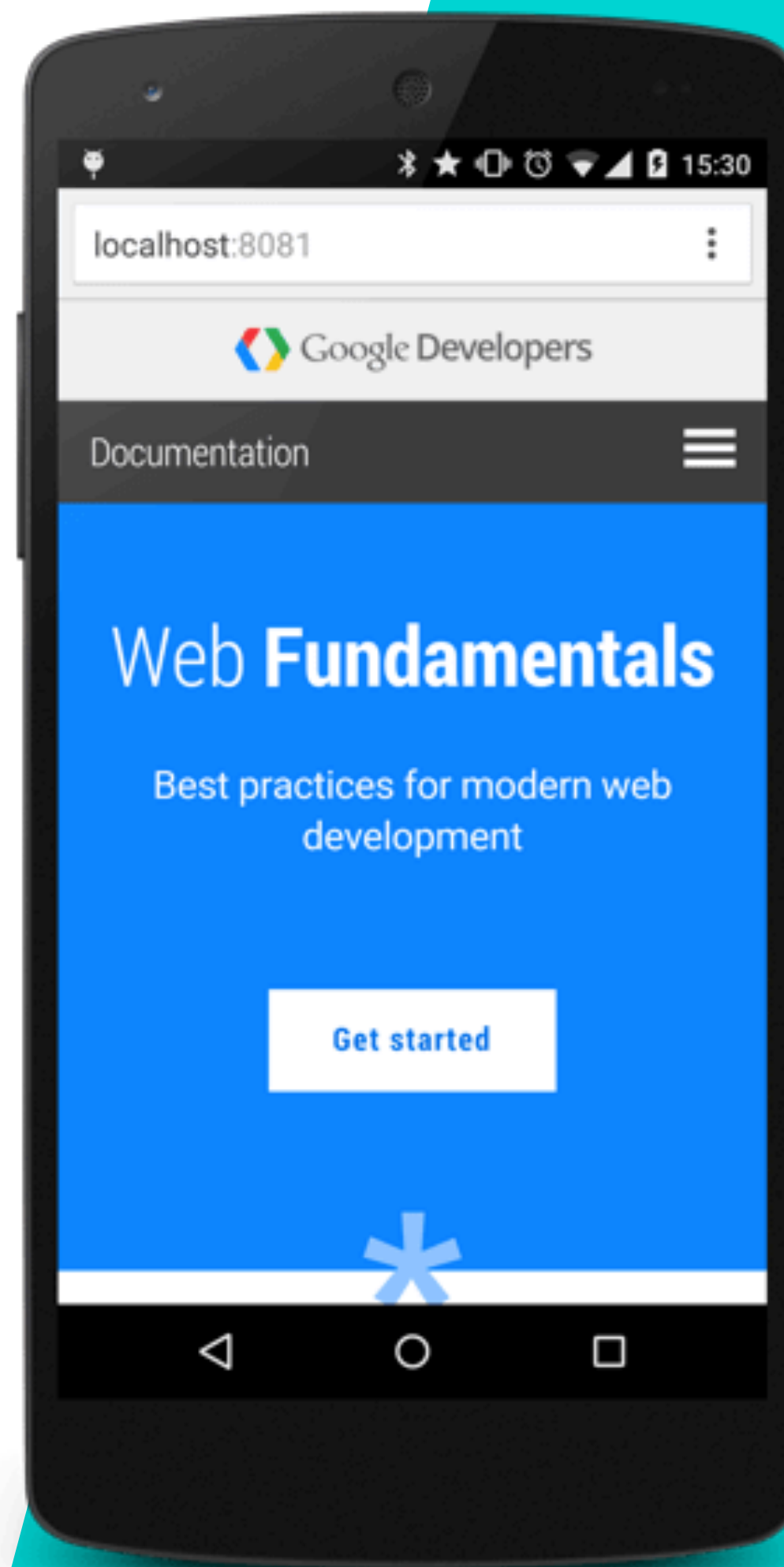
```
workbox.routing.registerRoute(  
  /\.(?:css|js)$/,  
  new workbox.strategies.StaleWhileRevalidate({  
    "cacheName": "assets",  
    plugins: [  
      new workbox.expiration.Plugin({  
        maxEntries: 1000,  
        maxAgeSeconds: 31536000  
      })  
    ]  
  })  
);
```

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",  
}
```

```
}
```

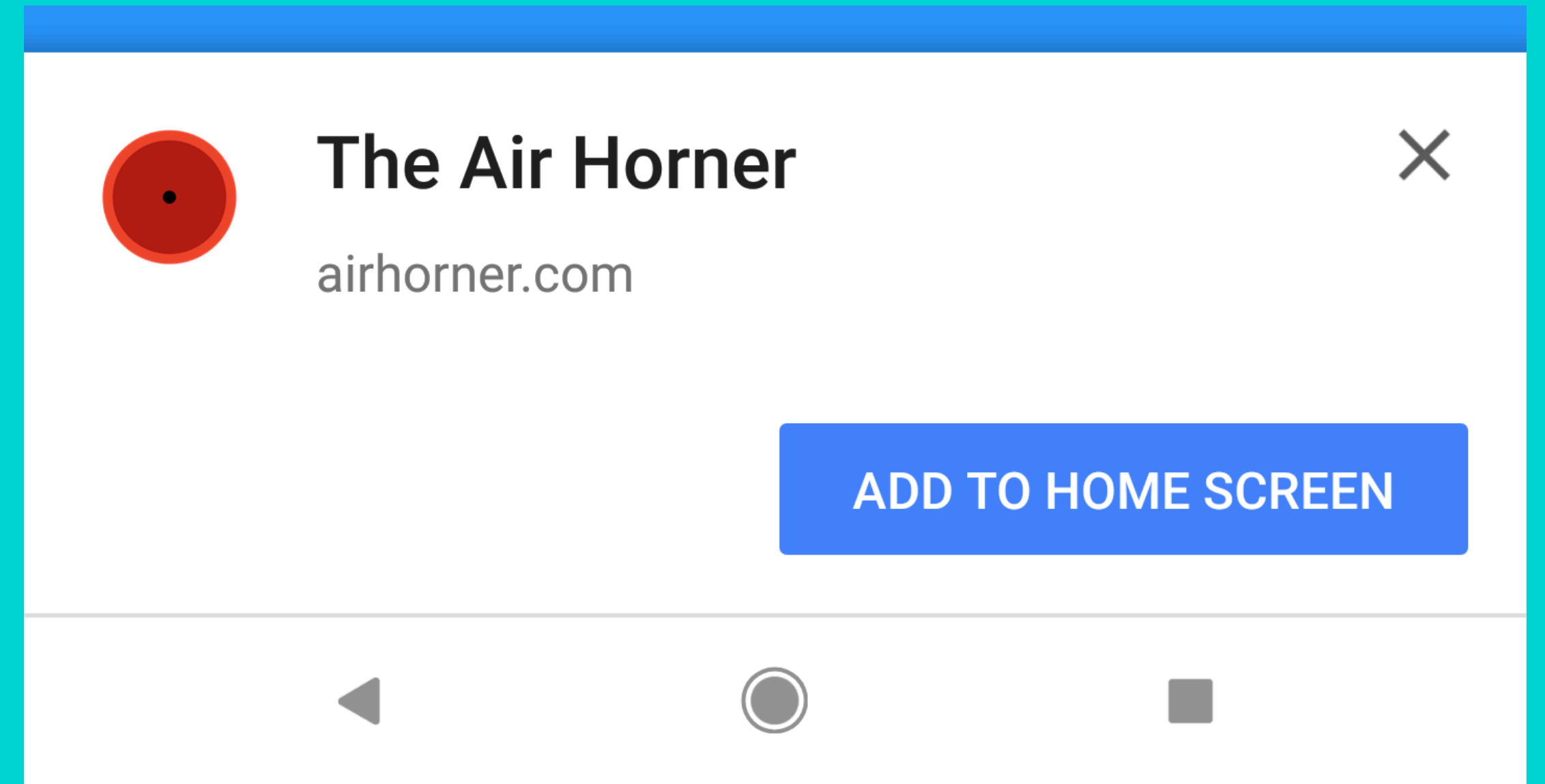
```
{  
  "name": "HackerWeb",  
  "short_name": "HackerWeb",  
  "icons": [{  
    "src": "images/touch/homescreen48.png",  
    "sizes": "48x48",  
    "type": "image/png"  
  }],  
  "start_url": "index.html",  
  "display": "standalone",  
  "orientation": "portrait",  
}
```

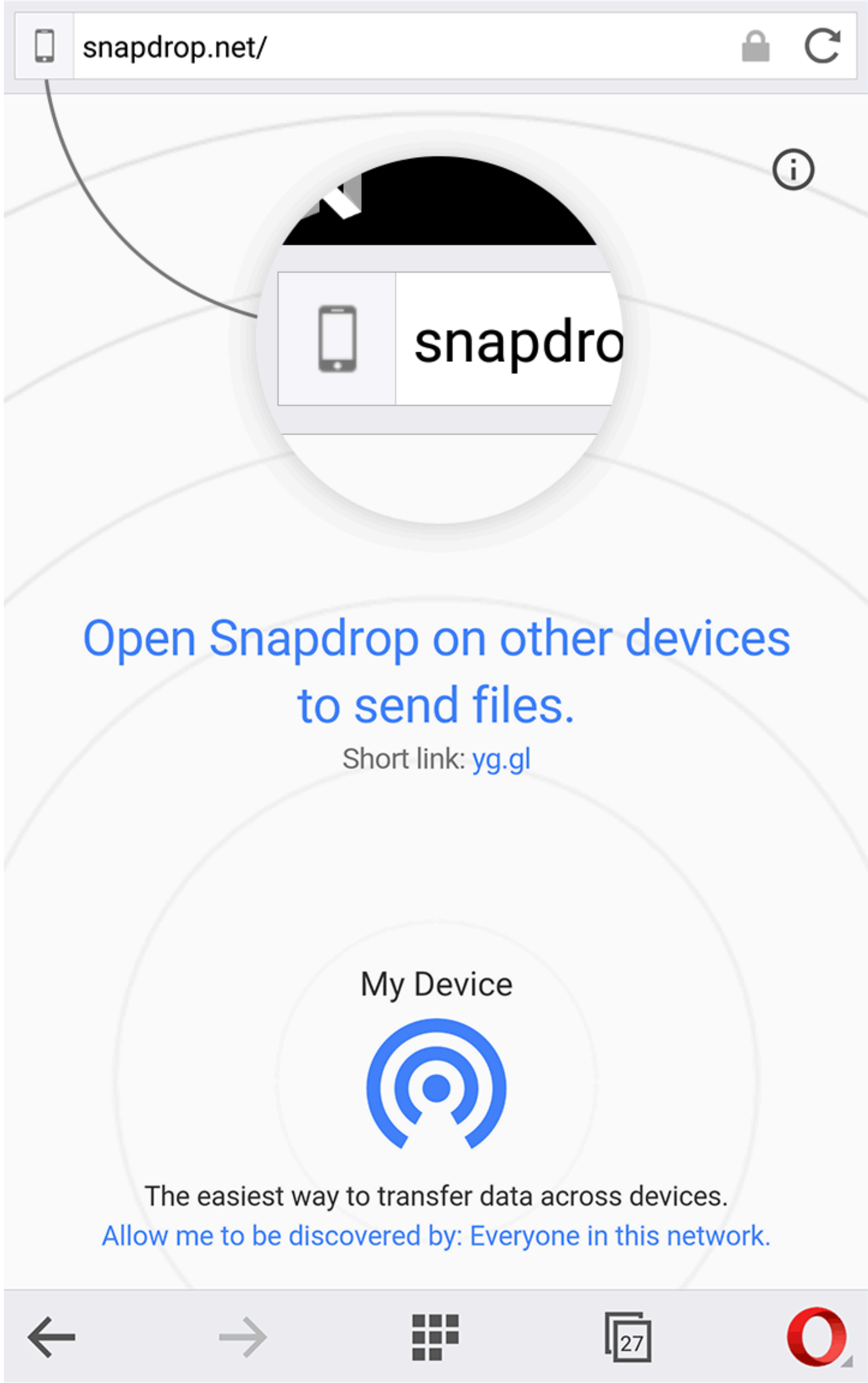
```
}
```



```
{  
  "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' )
```

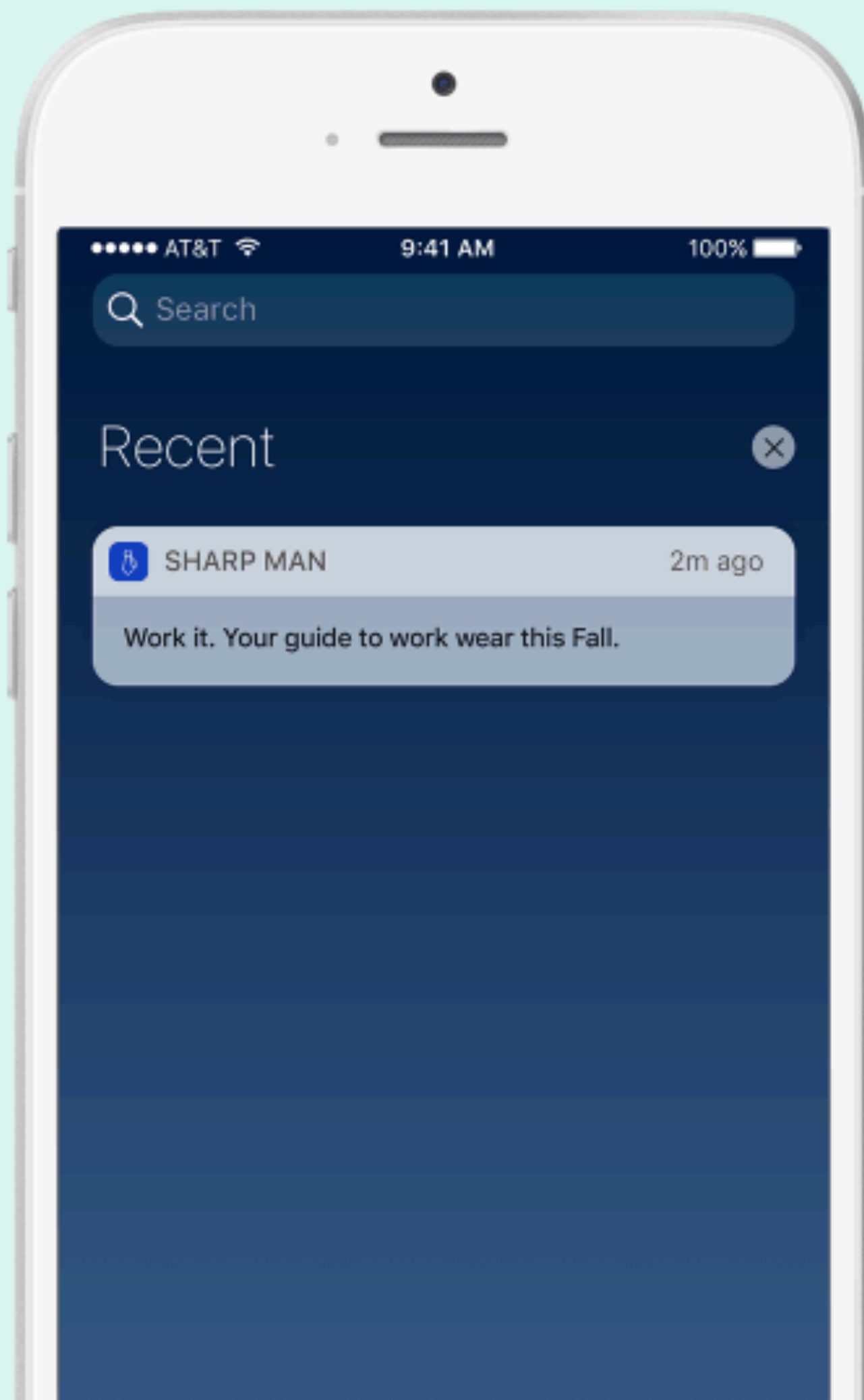
```
Notification.requestPermission() => {  
  new Notification('Pagamento confirmado', {  
    icon: 'img/icon.png',  
    body: 'Saída liberada até 15h45'  
  })  
})
```

PUSH NOTIFICATIONS



PUSH NOTIFICATIONS





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>