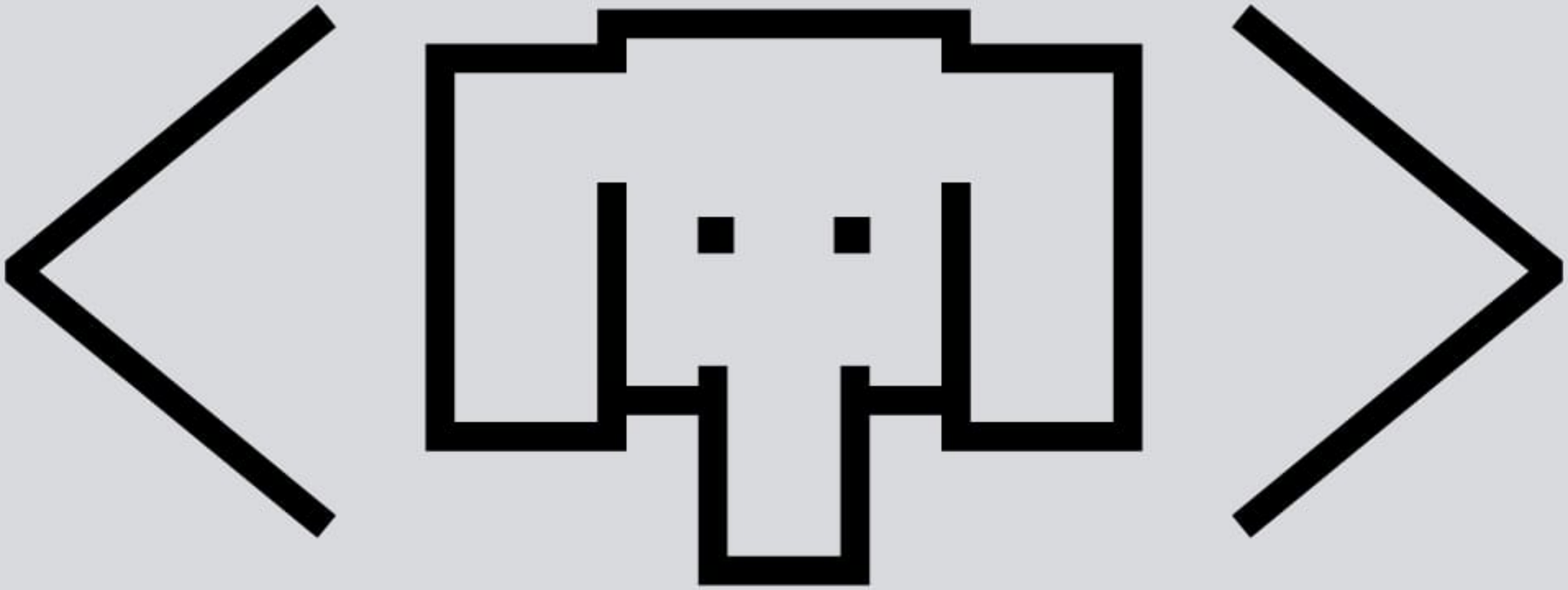


PACHY DEV'S

Gabriel Napoleão

Frontend Developer

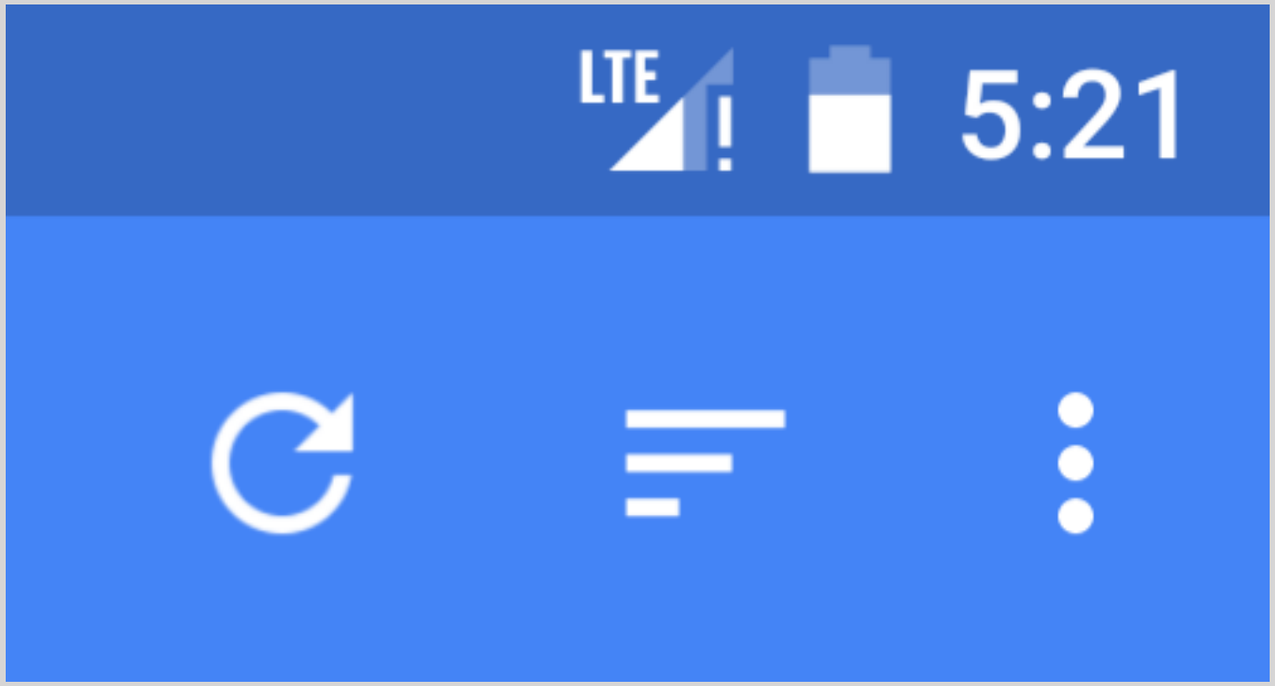
/gabrielndr

gabrielndr.github.io

Service Workers

Offline Web

Offline?


LTE
5:21

Nos primórdios do HTML5...

Application Cache API

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
```

Simples...

- 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 CACHEAR O MANIFESTO
- Usuário não pode controlar nada
- Impossível escolher o que cachear
- Potencial para detonar 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

E declarativo e mágico

SERVICE WORKERS ENTRAM EM AÇÃO

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

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

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <script>
      navigator.serviceWorker.register('oflfine.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>");
  )
}
```

Service Workers

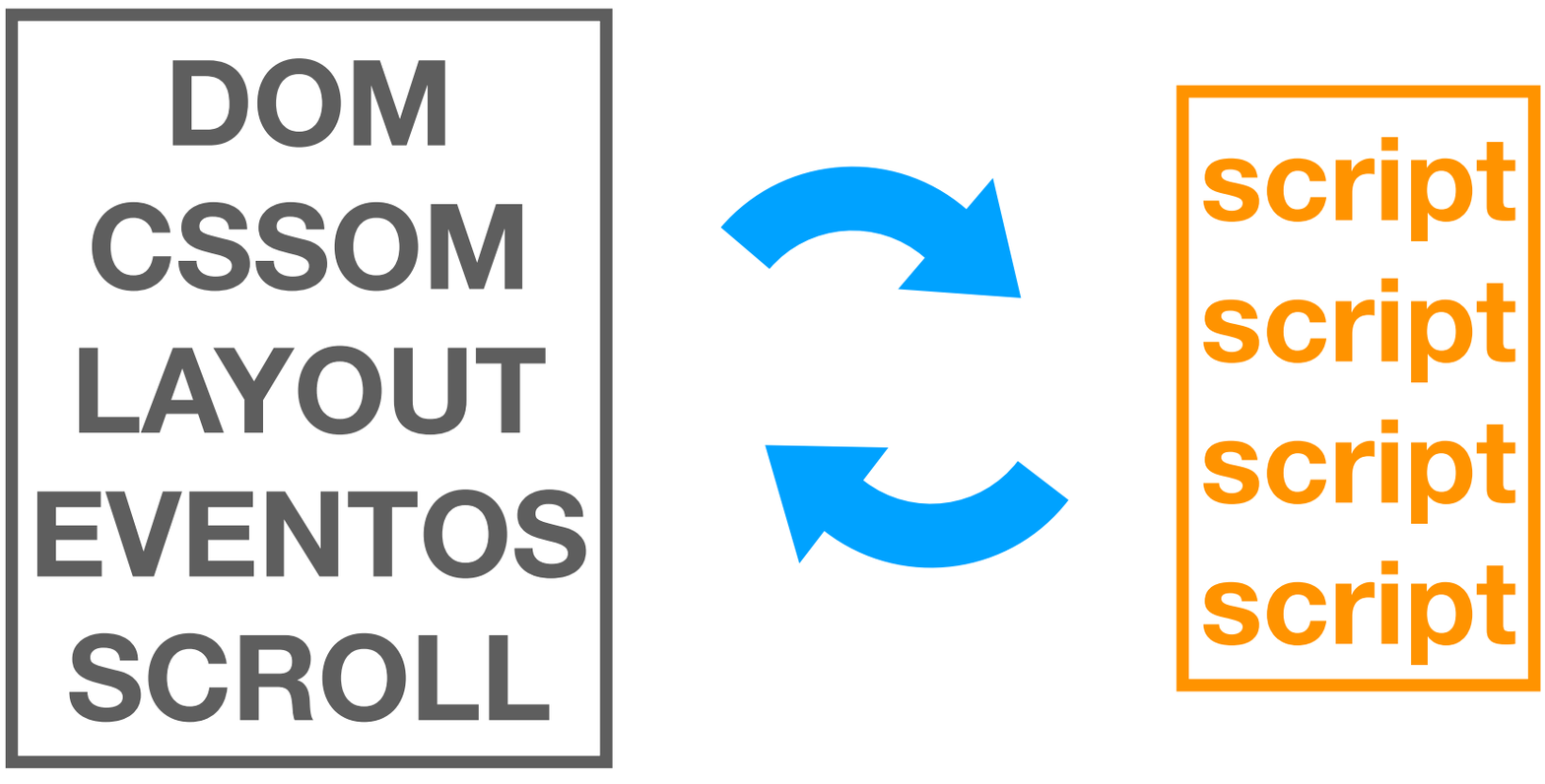
É um **Worker** orientado a **eventos**, que **controla** as páginas em **background**. Nele tudo é **assíncrono**, e ele pode interceptar chamadas de **rede** e usar um **cache** de recursos

JAVASCRIPT COMUM

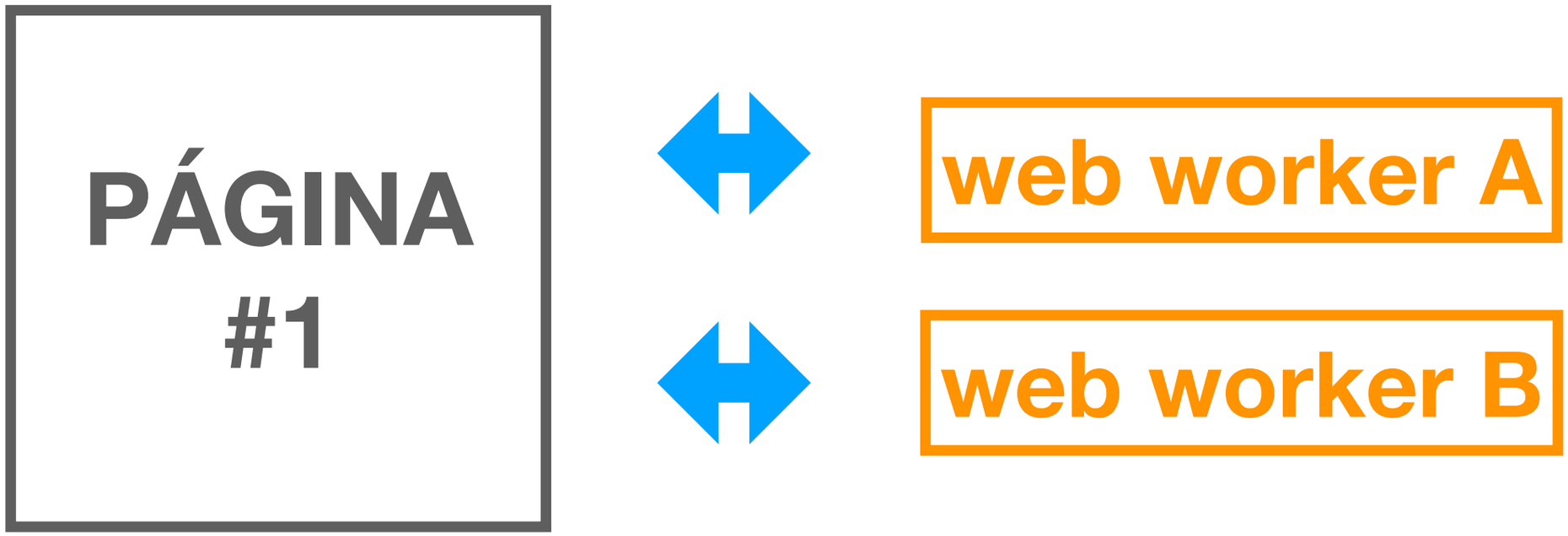
<script src="script.js" async></script>

WEB WORKERS

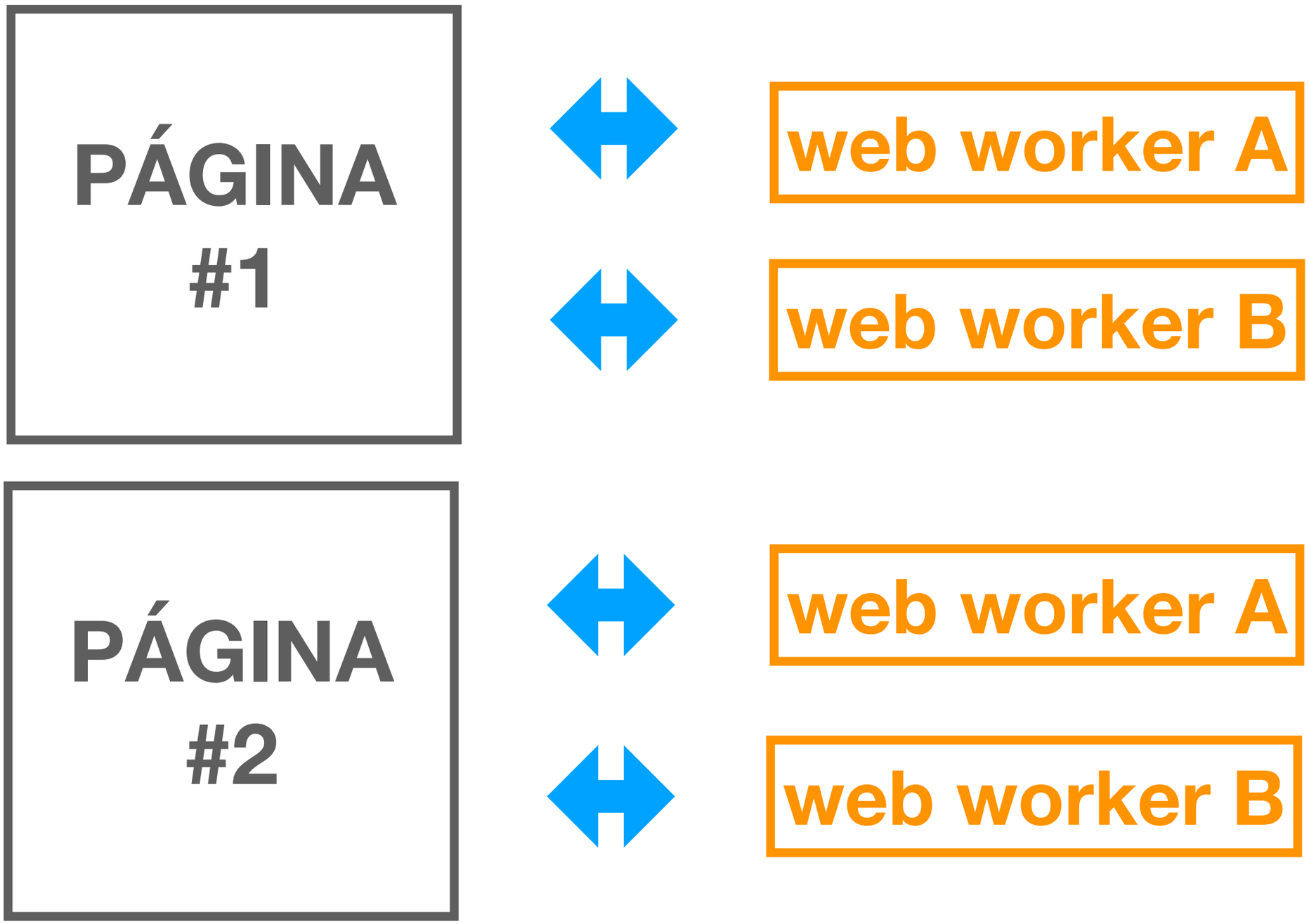
```
<script> new Worker('worker.js'); </script>
```



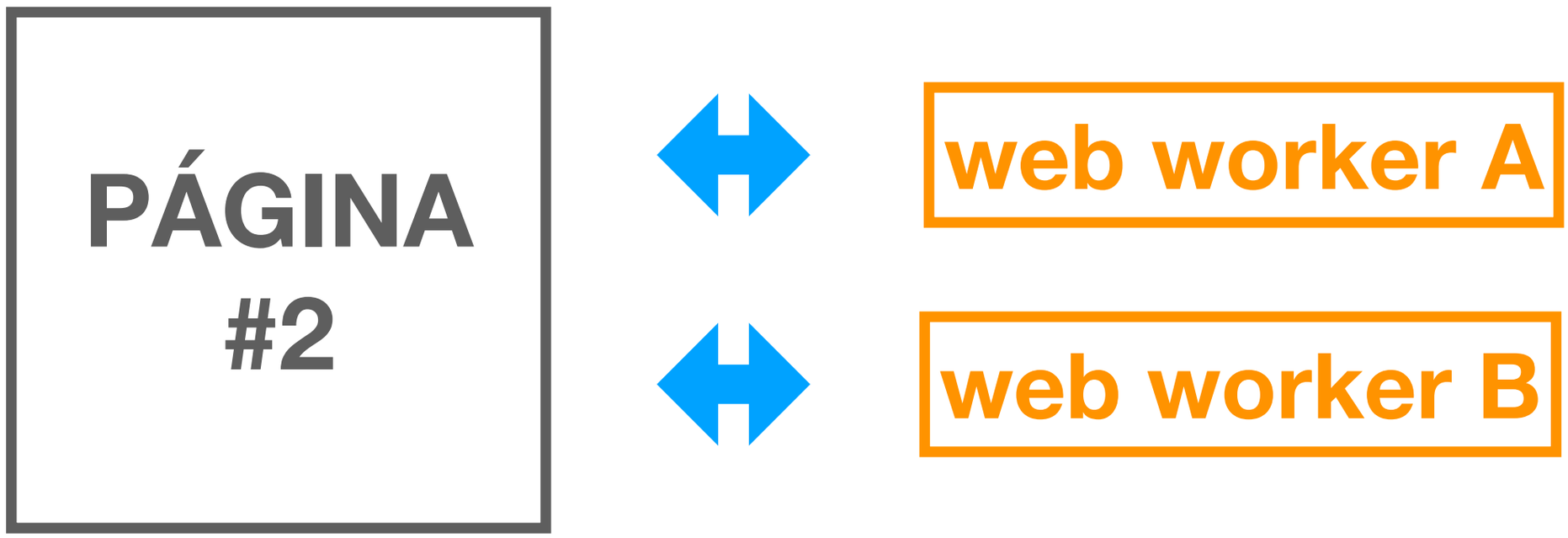
WEB WORKERS



WEB WORKERS


PÁGINA #1
web worker A
web worker B
PÁGINA #2
web worker A
web worker B

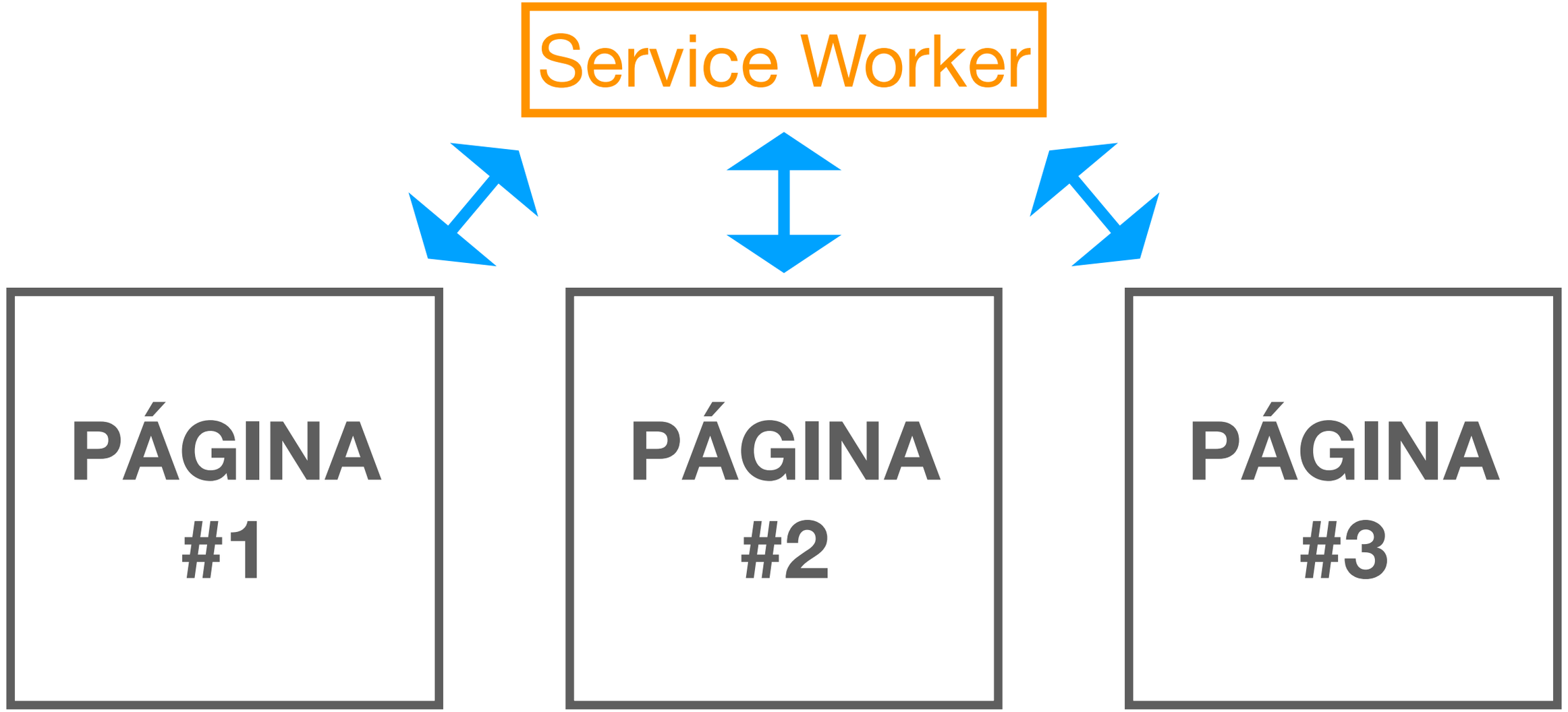
WEB WORKERS



WEB WORKERS

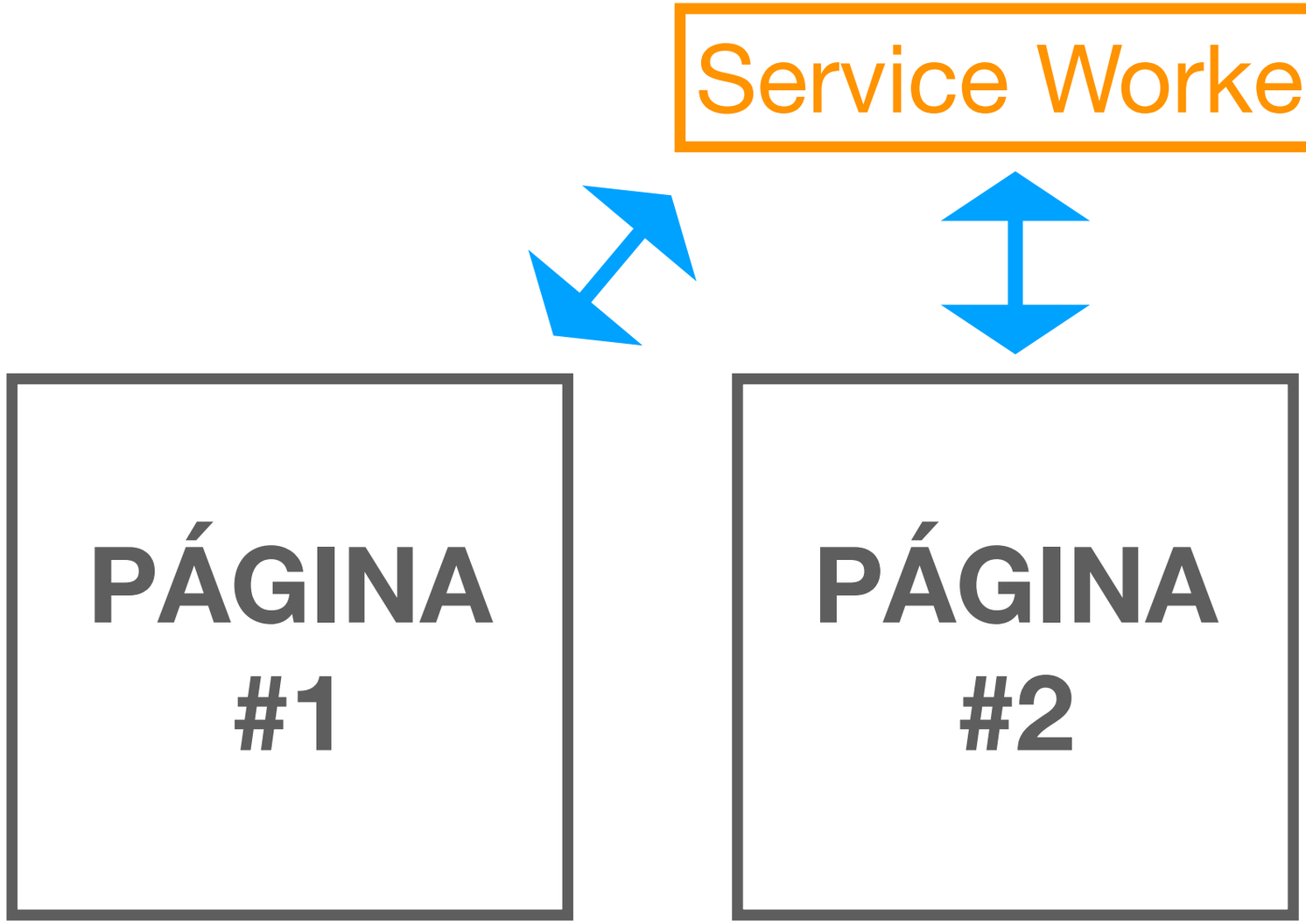
SERVICE WORKER

```
<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

```
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);
})
```

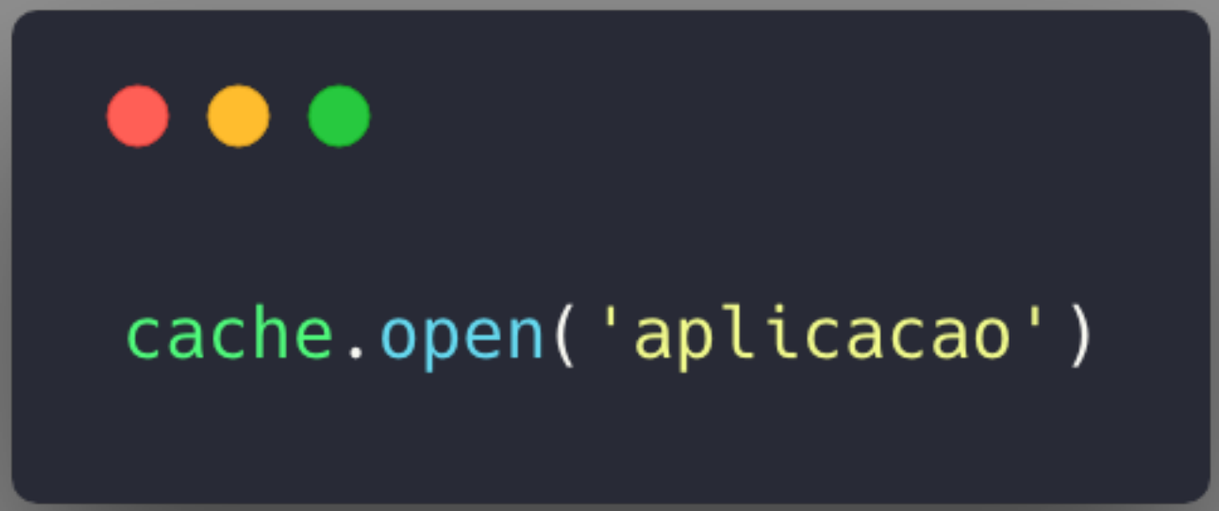
```
if ('serviceWorker' in navigator) {
  navigator.serviceWorker.register('/sw.js').then(registration => {
    console.log('Service worker registrado com sucesso:');
  }).catch(function(error) {
    console.log('Falha ao Registrar o Service Worker:', error);
  })
} else {
  console.log('Service workers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

EVENTOS

```
this.oninstall = event => {
  console.log('Instalou');
}


this.onactivate = event => {
  console.log('Ativou');
}


this.onfetch = event => {
  event.respondWith(
    new Response("<h1>Olá, você está offline!</h1>");
  );
}
```

CACHE API

```
this.oninstall = event => {
  console.log('Instalou');
}


this.onactivate = event => {
  console.log('Ativou');
}


this.onfetch = event => {
  event.respondWith(
    new Response("<h1>Olá, você está offline!</h1>");
  );
}
```


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

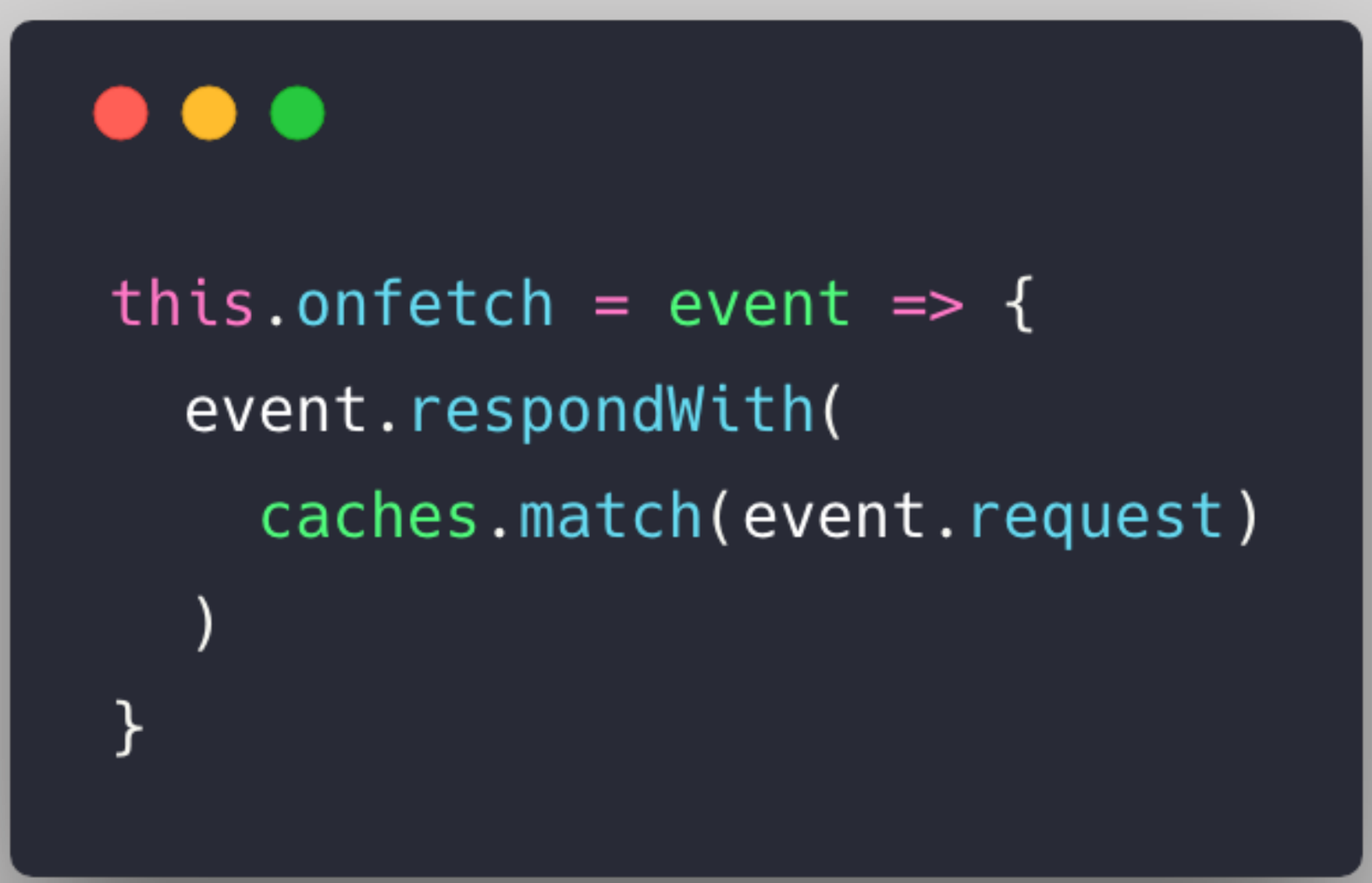
Levo em conta alguma preferência do usuário

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)
)
}

E SE NÃO EXISTIR NO CACHE?

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


  )
}
```

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


    })
  )
}
```

```
this.onfetch = event => {
  event.respondWith(
    caches.match(event.request).then(response => {
      return response || event.default();
    })
  )
}
```

SE NÃO EXISTIR NA REDE NEM NO CACHE?

FALLBACK DE URLs

```
this.onfetch = event => {
  event.respondWith(
    caches.match(event.request).then(response => {
      return response || event.default();
    })
  )
}
```

```
this.onfetch = event => {
  event.respondWith(
    caches.match(event.request).then(response => {
      return response || event.default();
    }).catch(erro => {
        return caches.match('/contato.html');
    })
  )
}
```

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

O CENTRAL DO SERVICE WORKER É

Ele dá duas vezes mais trabalho que o Application Cache para escrever

E 200 mil vezes menos trabalho, para o offline funcionar

ATUALIZAÇÕES

Mudar o **worker.js**

Detecta na próxima navegação

Dispara instalação (**oninstall**) em background

(worker original ainda comanda a página)

Fecho a página

Worker velho é desativado

Novo worker é ativado (**onactivate**)

(novo worker em ação)

Abro a página

```
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'
        ]);
    })
  )
}
```

```
this.oninstall = event => {
  event.waitUntil(
    cache.open('aplicacao-v2').then(cache => {
        return cache.addAll.([
          '/index.html',
          '/style.css',
          'logo.png',
          '/contato.html',
          'https://www.google-analytics.com/analytics.js'
        ]);
    })
  )
}
```

```
this.onactivate = event => {
  event.waitUntil(
    caches.delete('aplicacao-v1');
  )
}
```

Atualização

Totalmente em background

Não incomoda o usuário

Só troca no próximo acesso

Chrome-like

DETALHES

HTTPS Only

Tudo assíncrono

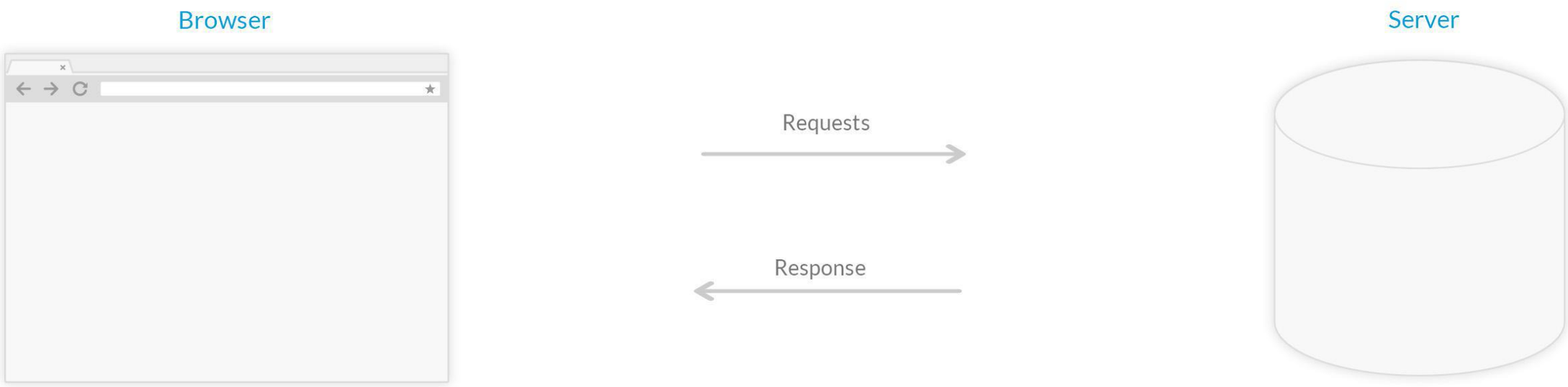
Pode ser morto a
QUALQUER MOMENTO

MUITO MAIS **PODEROSO**

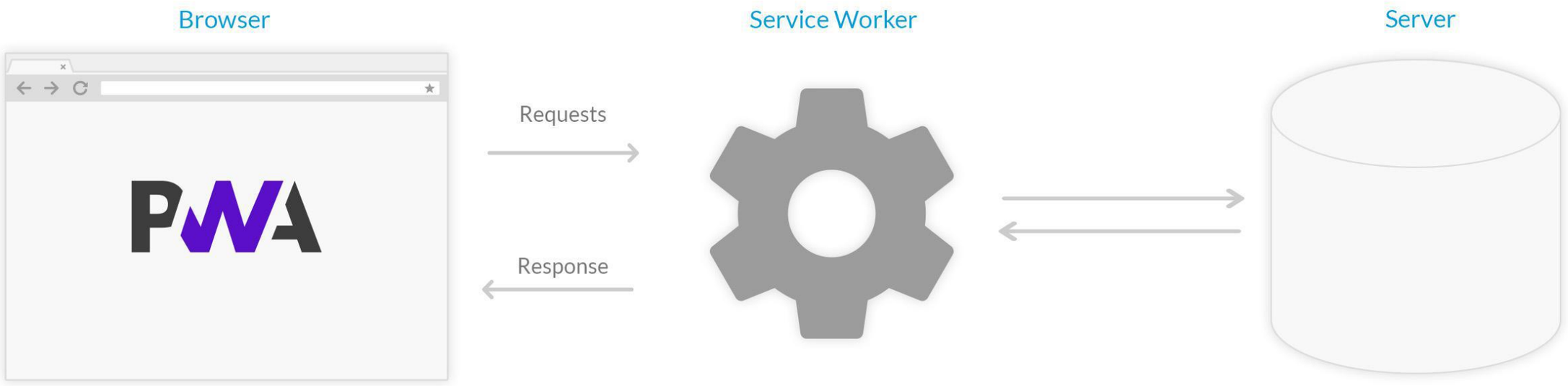
MUITO MAIS
COMPLICADO


Google
moz://a
SAMSUNG

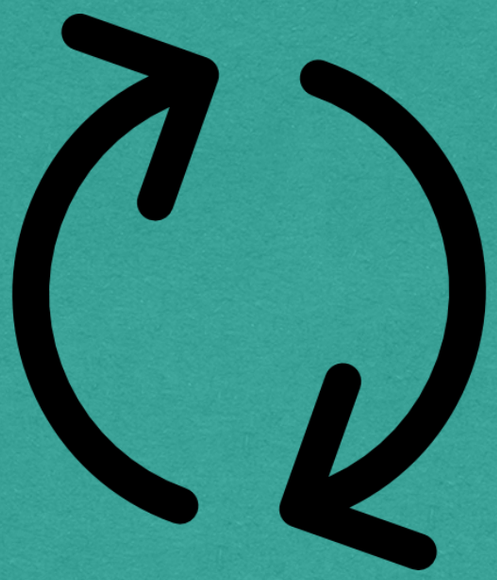
WEB APP

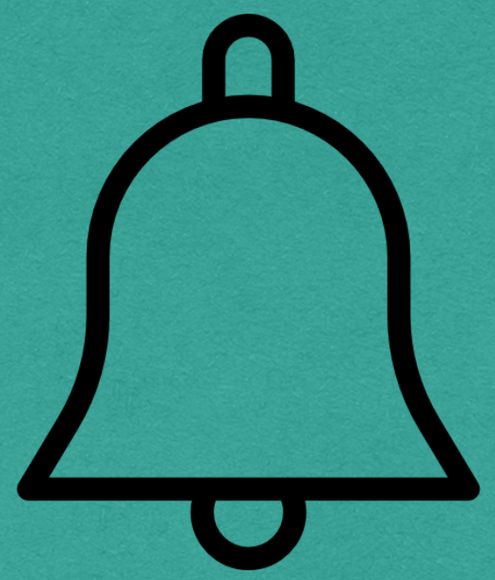


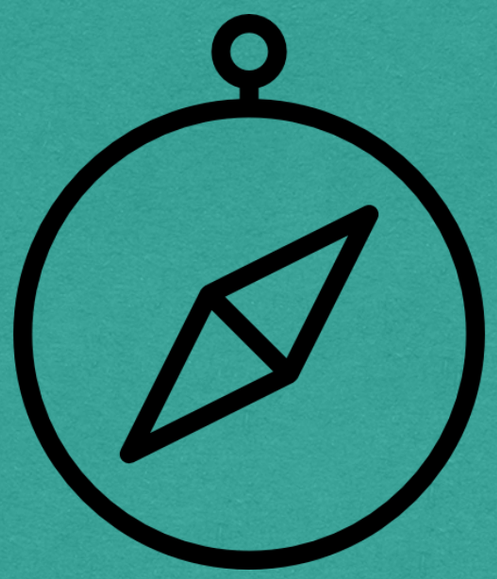
PROGRESSIVE WEB APP



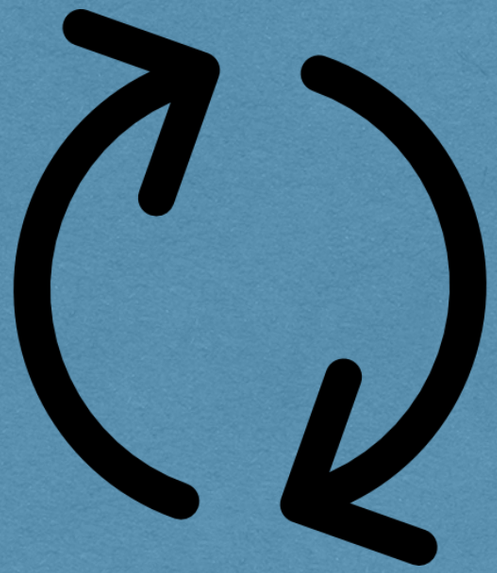
POSSIBILIDADES



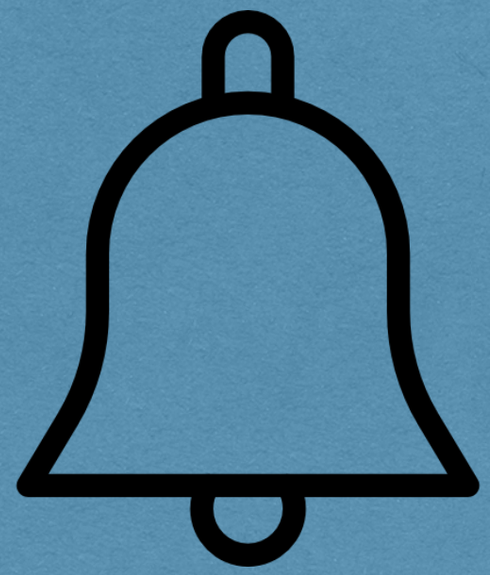




BACKGROUND SYNC



PUSH NOTIFICATION




this.onpush = event => {
}

```
this.onpush = event => {
  if(event.message.data == 'nova-mensagem'){



    }
}
```

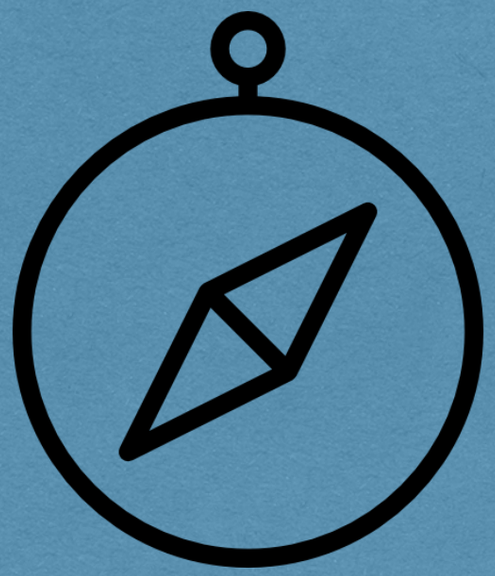
```
this.onpush = event => {
  if(event.message.data == 'nova-mensagem'){
    event.waitUntil(
      atualizaMensagens().then(() => {


      })
    )
  }
}
```

```
this.onpush = event => {
  if(event.message.data == 'nova-mensagem'){
    event.waitUntil(
      atualizaMensagens().then(() => {
        new Notification("Você tem uma nova mensagem!");
      })
    )
  }
}
```

```
this.onnotificationclick = evento => {


}
```

```
this.onnotificationclick = evento => {
  new ServiceWorkerClient('/mensagens.html');
}
```

GEOFENCING



ALARMES TEMPORAIS

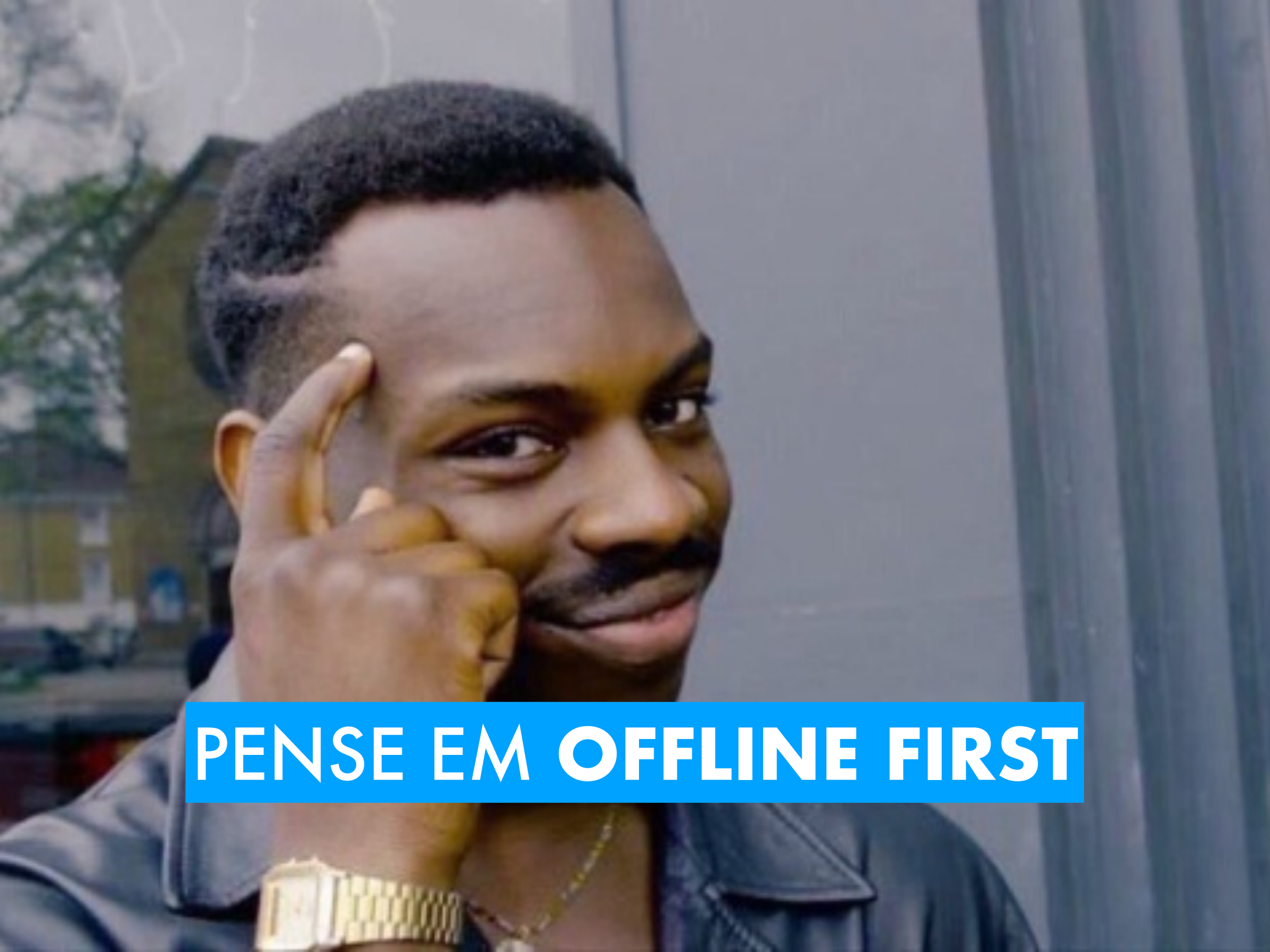
Use **AppCache** como fallback

Progressive Enhancement

```
if ('serviceWorker' in navigator) {


}
```

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

```
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!');
}
```


PENSE EM OFFLINE FIRST