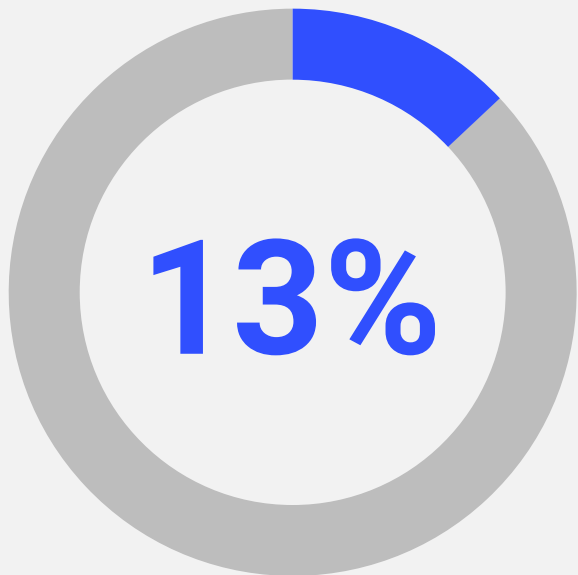


Progressive Web Apps

Next Generation of Mobile Web

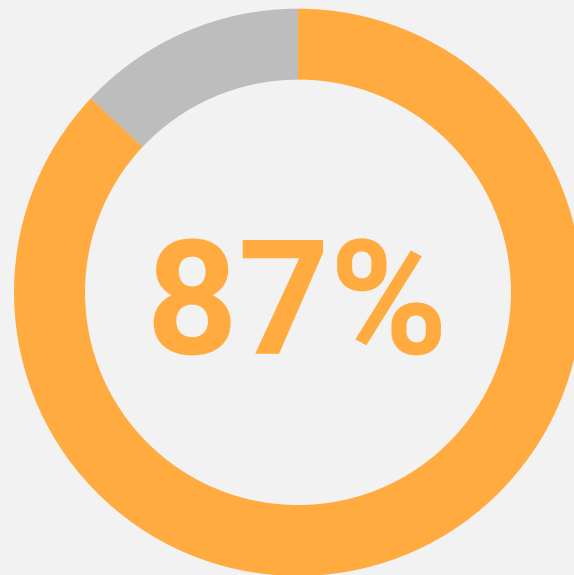
Андрей Липатцев
Июнь 2017





Моб. Веб

vs.



Приложения

80%

ВРЕМЕНИ

В

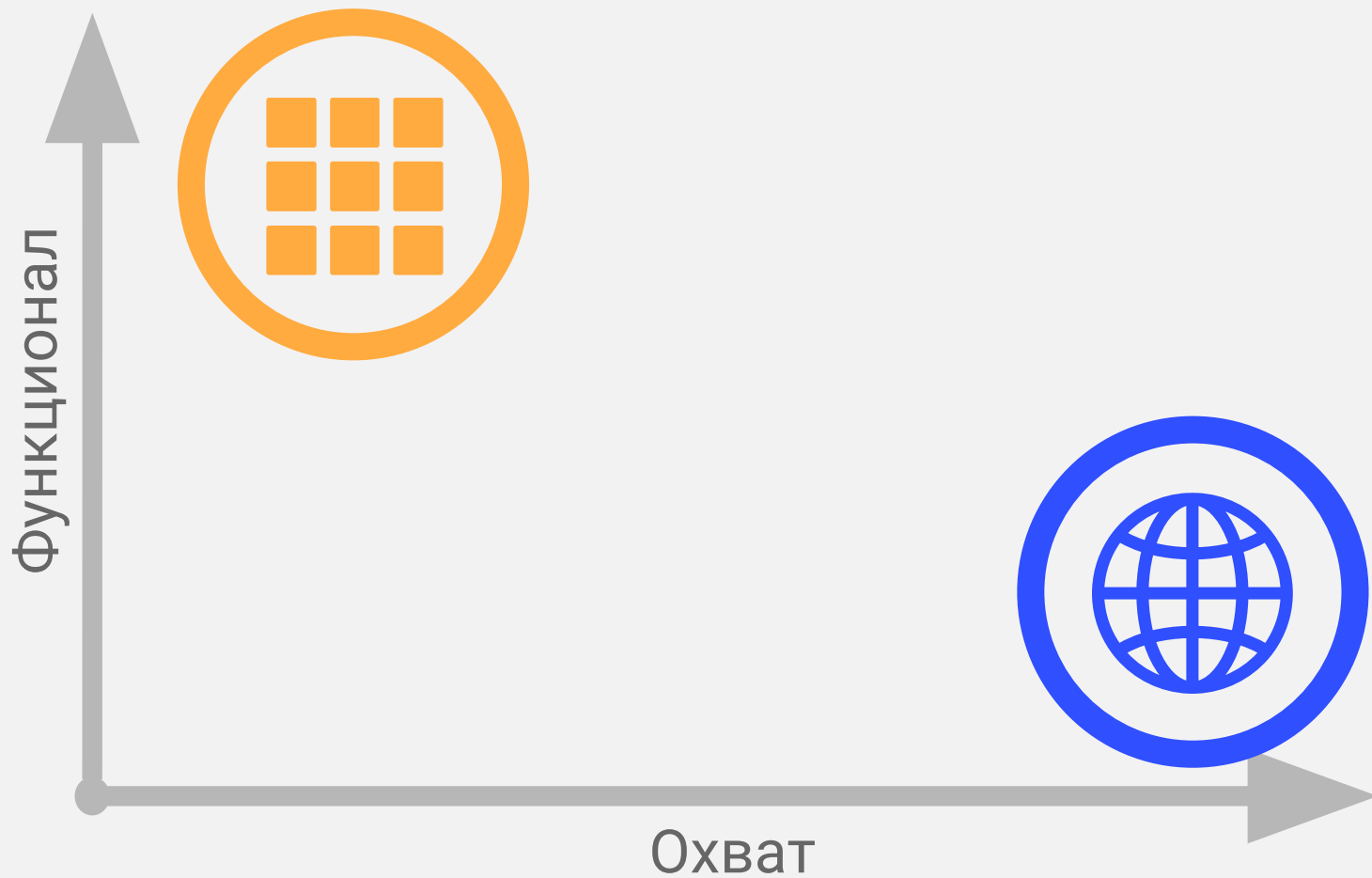
3 ПРИЛОЖЕНИЯХ

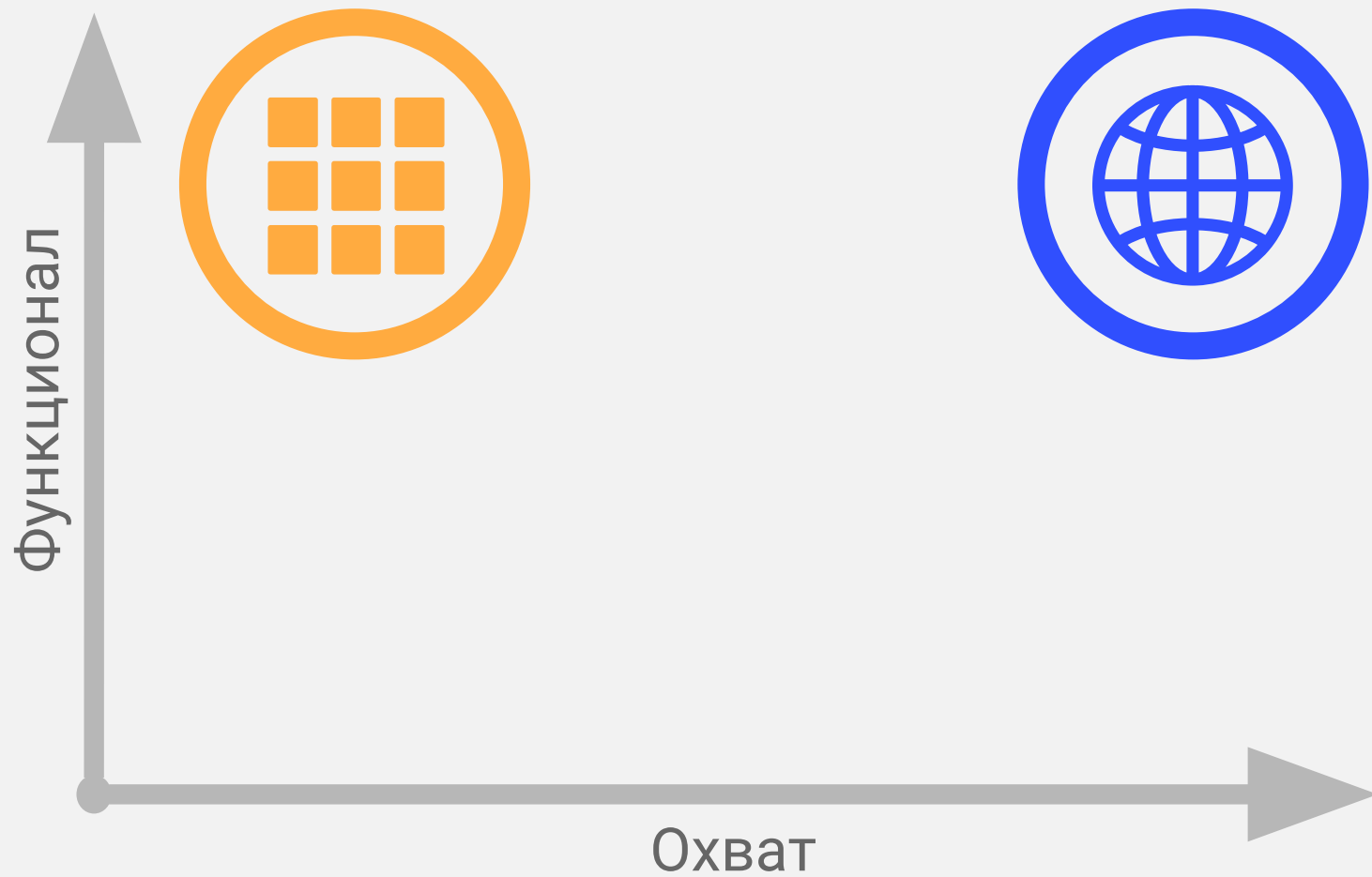
Source: comScore Mobile Metrix, U.S., Age 18+, June 2015

НОЛЬ

В СРЕДНЕМ НОВЫХ
ПРИЛОЖЕНИЙ
В МЕСЯЦ

Source: comScore Mobile Metrix, U.S., Age 18+, June 2015





Progressive Web Apps

– это забота о пользователе на
совершенно новом уровне

Опыт должен быть...



Надёжным

Reliability means never showing
the offline dinosaur



Опыт должен быть...

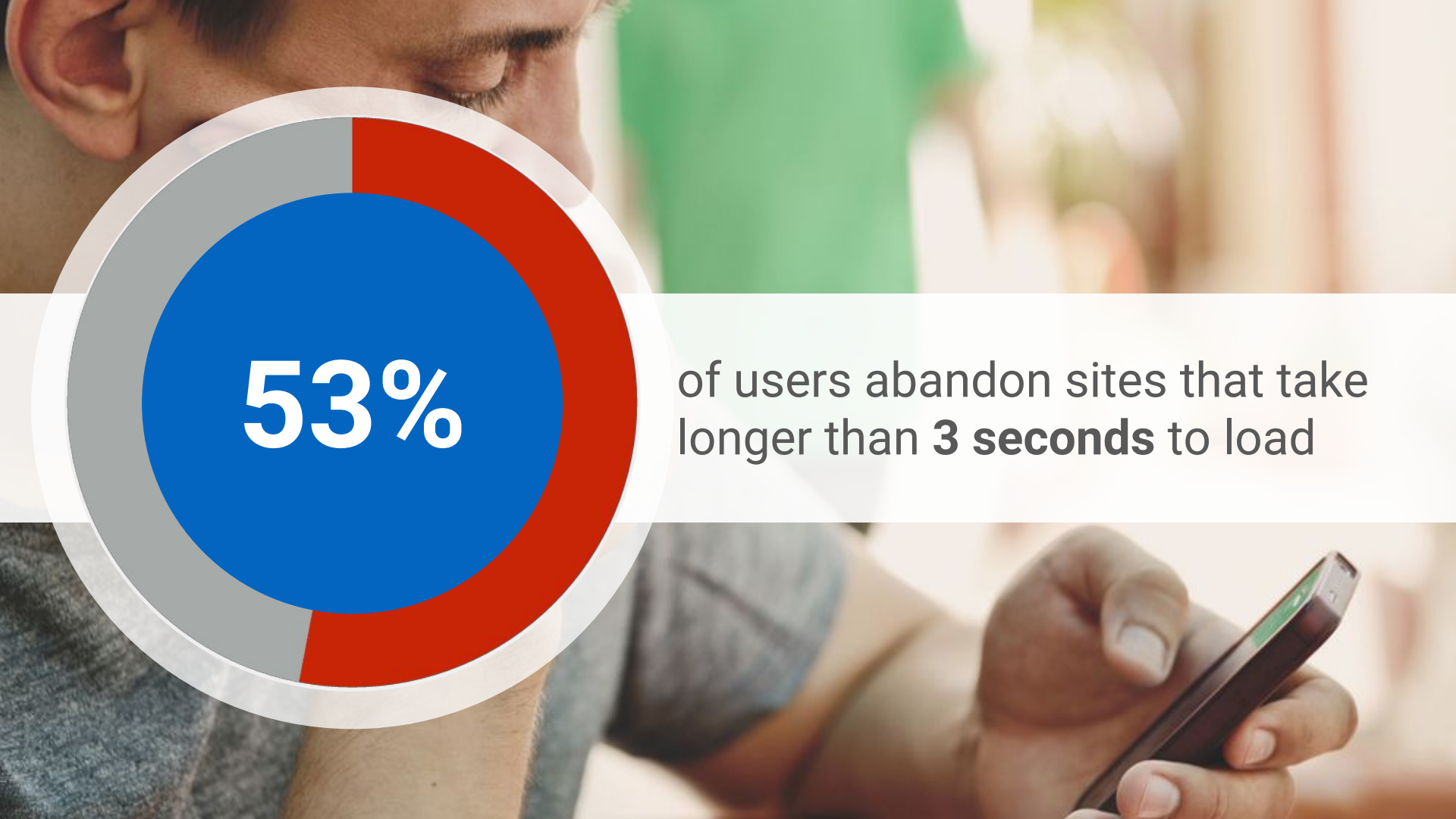


Надёжным



Быстрым



A close-up photograph of a person's face and hand holding a smartphone. The person is looking down at the device. Overlaid on the left side of the image is a circular infographic. It consists of a blue inner circle with the text '53%' in white, and a red outer ring that covers approximately 53% of the circle's circumference. The background is a blurred outdoor scene with other people.

53%

of users abandon sites that take longer than **3 seconds** to load

Опыт должен быть...



Надёжным



Быстрым



Глубоким

Глубина

Погружение



Полный
экран, тема,
ориентация
и т.д.

Экран



Добавление
на главный
экран

Уведомления



Пуш-
уведомления

Progressive Web Apps –



Надёжные



Быстрые



Глубокие

С чего начать?

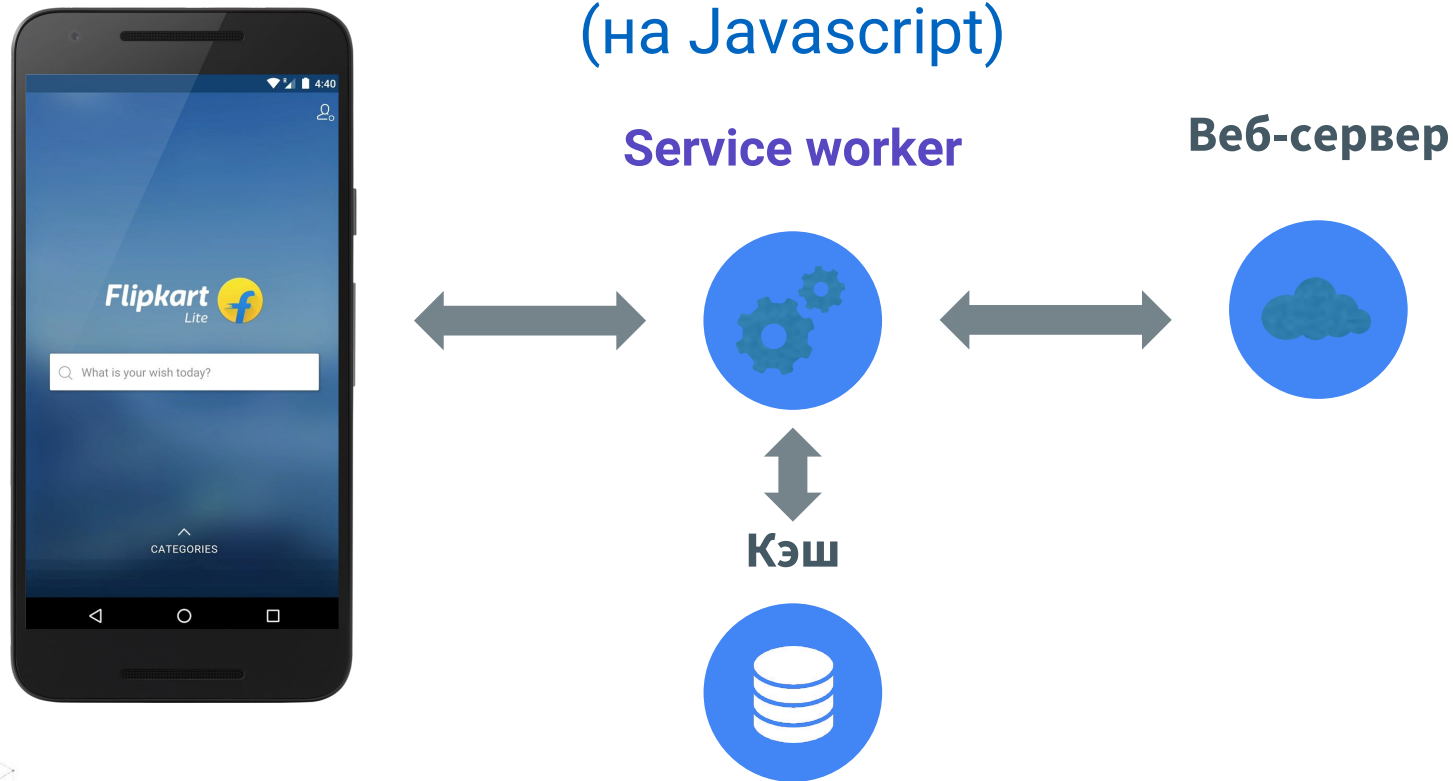
Безопасность



Service Worker



Service Workers – прокси на клиенте (на Javascript)



Жизнь Service Worker

Register

Install

Activated

Error

Idle

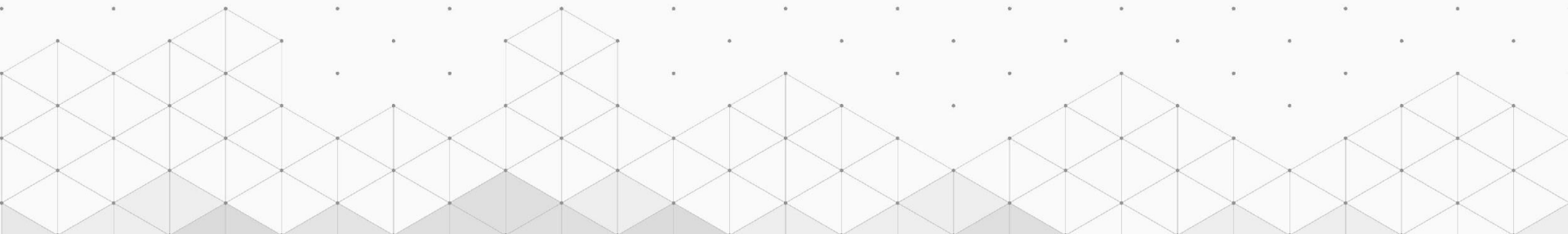
Active

Terminated

- Страница как приложение
- Просыпается по команде OS
- Только системные события

Service Worker

для ВТОРОГО захода



Создание простого Service Worker



Регистрация Service Worker

Register

Install

Activated

Error

Idle

Active

Terminated

Регистрация Service Worker

```
if ('serviceWorker' in navigator) {  
  navigator.serviceWorker.register('/service-worker.js')  
    .then(function(reg) {  
      console.log('Service Worker Registered', reg);  
    })  
    .catch(function(err) {  
      console.log('Error registering Service Worker', err);  
    });  
}
```

Регистрация Service Worker

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


Добавить Event Handler для установки

Register

Install

Activated

Error

Idle

Active

Terminated

Pre-fetch ресурсов приложения

```
var cacheName = 'app-shell-cache-v1';  
var filesToCache = ['/', '/index.html', ...];  
  
self.addEventListener('install', function(event) {  
  event.waitUntil(  
    caches.open(cacheName).then(function(cache) {  
      return cache.addAll(filesToCache);  
    }).then(function() {  
      return self.skipWaiting();  
    })  
  );  
});
```

Pre-fetch ресурсов приложения

```
var cacheName = 'app-shell-cache-v1';  
var filesToCache = ['/', '/index.html', ...];  
  
self.addEventListener('install', function(event) {  
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Pre-fetch ресурсов приложения

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var cacheName = 'app-shell-cache-v1';  
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self.addEventListener('install', function(event) {  
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    caches.open(cacheName).then(function(cache) {  
      return cache.addAll(filesToCache);  
    }).then(function() {  
      return self.skipWaiting();  
    })  
  );  
});
```

Добавить Event Handler для активации

Register

Install

Activated

Error

Idle

Active

Terminated

Добавить Event Handler для activate

```
self.addEventListener('activate', function(e) {  
  e.waitUntil(  
    caches.keys().then(function(keyList) {  
      return Promise.all(keyList.map(function(key) {  
        if (key !== cacheName) {  
          return caches.delete(key);  
        }  
      }));  
    }));  
  });  
  return self.clients.claim();  
});
```

Почти готово...

Register

Install

Activated

Error

Idle

Active

Terminated



Unable to connect to the Internet

Google Chrome can't display the web page because your computer isn't connected to the Internet.

ERR_INTERNET_DISCONNECTED

[Details](#)

Добавить Event Handler для fetch

```
self.addEventListener('fetch', function(e) {  
  e.respondWith(  
    caches.match(e.request).then(function(response) {  
      return response || fetch(e.request);  
    })  
  );  
});
```

Добавить Event Handler для fetch

```
self.addEventListener('fetch', function(e) {  
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    caches.match(e.request).then(function(response) {  
      return response || fetch(e.request);  
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Добавить Event Handler для fetch

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Добавить Event Handler для fetch

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  e.respondWith(  
    caches.match(e.request).then(function(response) {  
      return response || fetch(e.request);  
    })  
  );  
});
```

Ready to Go!

Register

Install

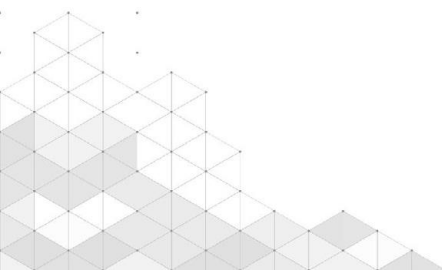
Activated

Error

Idle

Active

Terminated



Scope

```
if ('serviceWorker' in navigator) {  
  navigator.serviceWorker.register('/service-worker.js')  
    .then(function(reg) {  
      console.log('Service Worker Registered', reg);  
    })  
    .catch(function(err) {  
      console.log('Error registering Service Worker', err);  
    });  
}
```

Scope

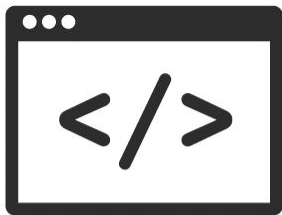
```
if ('serviceWorker' in navigator) {  
  navigator.serviceWorker.register('/scripts/s-worker.js')  
    .then(function(reg) {  
      console.log('Service Worker Registered', reg);  
    })  
    .catch(function(err) {  
      console.log('Error registering Service Worker', err);  
    });  
}
```

Стратегии кэширования

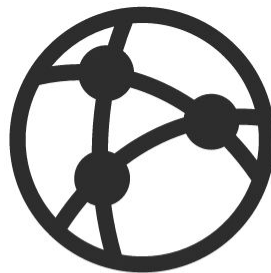
сеть контролируешь Ты



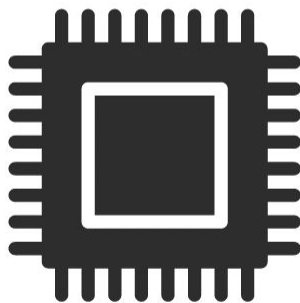
Сначала Кэш, потом Сеть



Page



Network

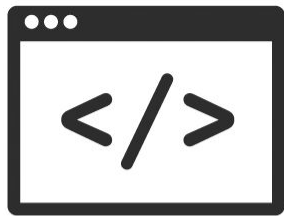


ServiceWorker



Cache

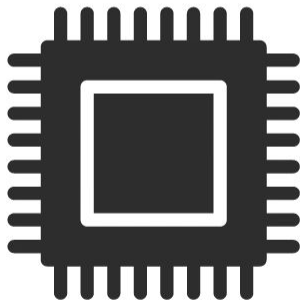
Сначала Сеть, потом Кэш



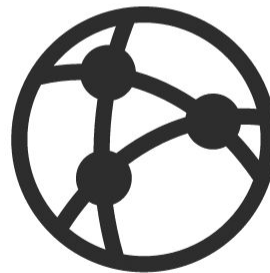
Page



Cache

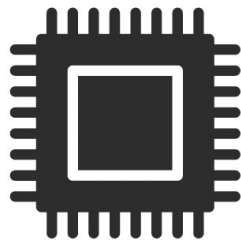


ServiceWorker

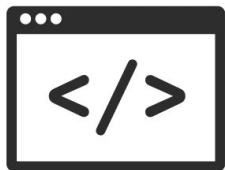


Network

Кэш и Сеть



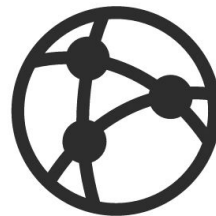
ServiceWorker



Page

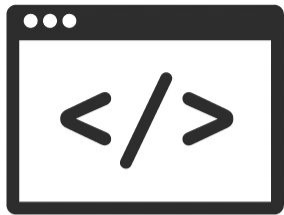


Cache



Network

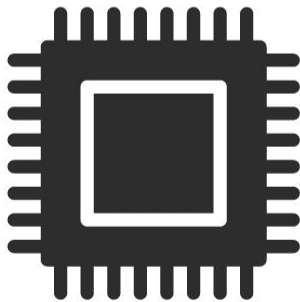
Фол-бэк на Кэш



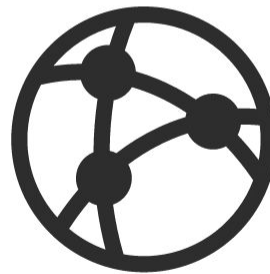
Page



Cache



ServiceWorker



Network

Стратегии кэширования всем!

The offline cookbook - JakeArchibald

← → ↺ ⌂ <https://jakearchibald.com/2014/offline-cookbook/> ☆ 📄 ↻ ⋮

Jake Archibald wrote...

The offline cookbook

Posted 09 December 2014

Update: Together with Udacity I created a **free offline-first interactive course**. It involves taking an online-only site to full offline-first glory. Many of the patterns in this article are used.

When AppCache arrived on the scene it gave us a couple of patterns to make content work offline. If those were the patterns you needed, congratulations, you won the AppCache lottery (the jackpot remains unclaimed), but the rest of us were left huddled in a corner **rocking back & forth**.

With ServiceWorker (**intro**) we gave up trying to solve offline, and gave developers the moving



Hello, I'm Jake and that is my face. I'm a developer advocate for Google Chrome.

Elsewhere

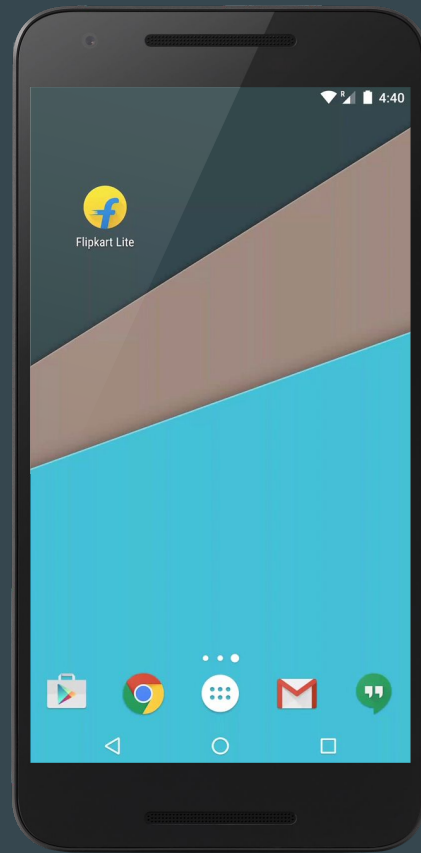
[Twitter](#) [Lanyrd](#)

[Github](#) [Google+](#)

[Flickr](#)

Service Workers

обеспечивают работу
Progressive Web Apps

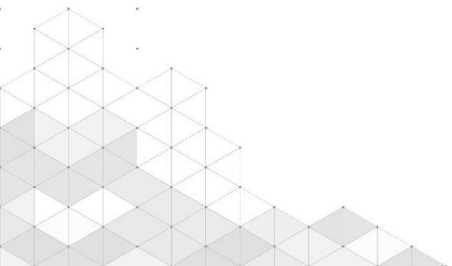




<https://developers.google.com/web/progressive-web-apps/>

<https://codelabs.developers.google.com/?cat=Web>

<https://jakearchibald.com/2014/offline-cookbook/>





мяу!



**Айда
кодить!**