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DIGITAL
INNOVATION
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PWA

O que é uma PWA?

É uma metodologia de desenvolvimento de software para criar uma aplicação que possa ser executada tanto na Web quanto em dispositivos Mobiles.

É uma alternativa ao desenvolvimento nativo para mobile.

A criação do termo PWA

2015 - Google - Frances Berriman & Alex Russell

2007 - iPhone - Experiência dos usuários

2000 - XMLHttpRequest/Ajax

“(...) you can write amazing Web 2.0 and Ajax apps that look exactly and behave exactly like apps on the iPhone. And these apps can integrate perfectly with iPhone services. And guess what? There’s no SDK that you need! You’ve got everything you need if you know how to write apps using the most modern web standards to write amazing apps for the iPhone today. So developers, we think we’ve got a very sweet story for you. You can begin building your iPhone apps today” - Steve Jobs, Apple

Outubro 2007 - SDK iPhone

Julho 2008 - Apple Store

Plataformas que criaram experiências semelhantes

- Adobe AIR Applications
- Windows Store Apps
- Chrome Packaged Applications
- Firefox OS Packaged Applications
- Cordova/PhoneGap and Crosswalk Apps
- BlackBerry WebWorks Apps
- W3C Widgets (these enjoyed several implementations)
- WebOS Apps
- Chromium Embedded Framework
- Electron

“Alex Russell, Senior Staff Software Engineer at Google”

Atributos para o desenvolvimento de uma PWA

- **Responsive:** to fit any form factor
- **Connectivity independent:** Progressively-enhanced with Service Workers to let them work offline
- **App-like-interactions:** Adopt a Shell + Content application model to create appy navigations & interactions
- **Fresh:** Transparently always up-to-date thanks to the Service Worker update process
- **Safe:** Served via TLS (a Service Worker requirement) to prevent snooping
- **Discoverable:** Are identifiable as "applications" thanks to W3C Manifests and Service Worker registration scope allowing search engines to find them
- **Re-engageable:** Can access the re-engagement UIs of the OS; e.g. Push Notifications
- **Installable:** to the home screen through browser-provided prompts, allowing users to "keep" apps they find most useful without the hassle of an app store
- **Linkable:** meaning they're zero-friction, zero-install, and easy to share. The social power of URLs matters.

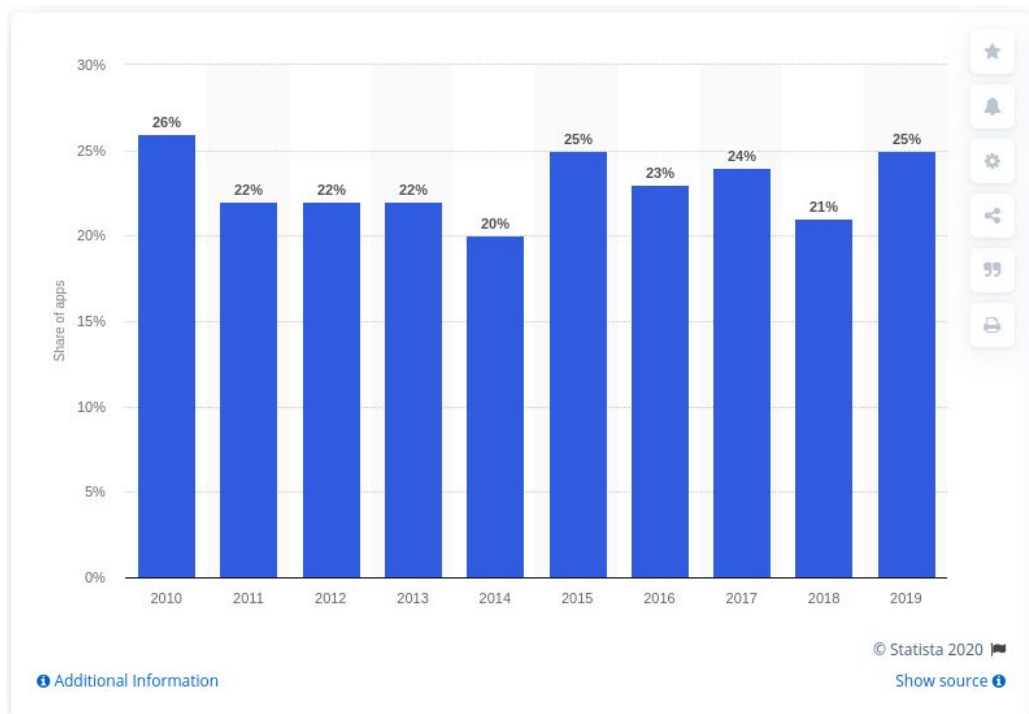
Vantagens

- Tamanho pequeno
- Suporte a offline
- Boa performance em redes ruins
- Rápido carregamento
- Atualizações em instantes
- Não precisa de enviar para um agregador de apps (PlayStore/AppStore)
- Utiliza features nativas do browser

Vantagens para o seu negócio

- Nenhum intermediário envolvido no download e instalação do aplicativo
- Independência no processo de atualização do aplicativo
- Tempo de carregamento curto, mesmo com internet ruim
- Suporte nos resultados de pesquisa (Mobile First)
- Integração direta a partir de canais sociais (Instagram, etc.). e maior ROI de marketing
- Custo reduzido de aquisição de usuários
- aumento da conversão
- processos completos de desenvolvimento, atualizações e informações sobre produtos

Vantagens para o seu negócio



<https://www.statista.com/statistics/271628/percentage-of-apps-used-once-in-the-us/>

Vantagens para o seu negócio

- Abordagem moderna de desenvolvimento
- Não há necessidade de desenvolvimento de aplicativos separado para iOS e Android OS
- Não há necessidade de contas de desenvolvedor pagas na App Store ou no Google Play
- Utilização de apis nativas do browser
- independência do back-end com soluções independentes de plataforma PWA
- Web responsivo
- Não há a necessidade de aprender outra linguagem

Desvantagens

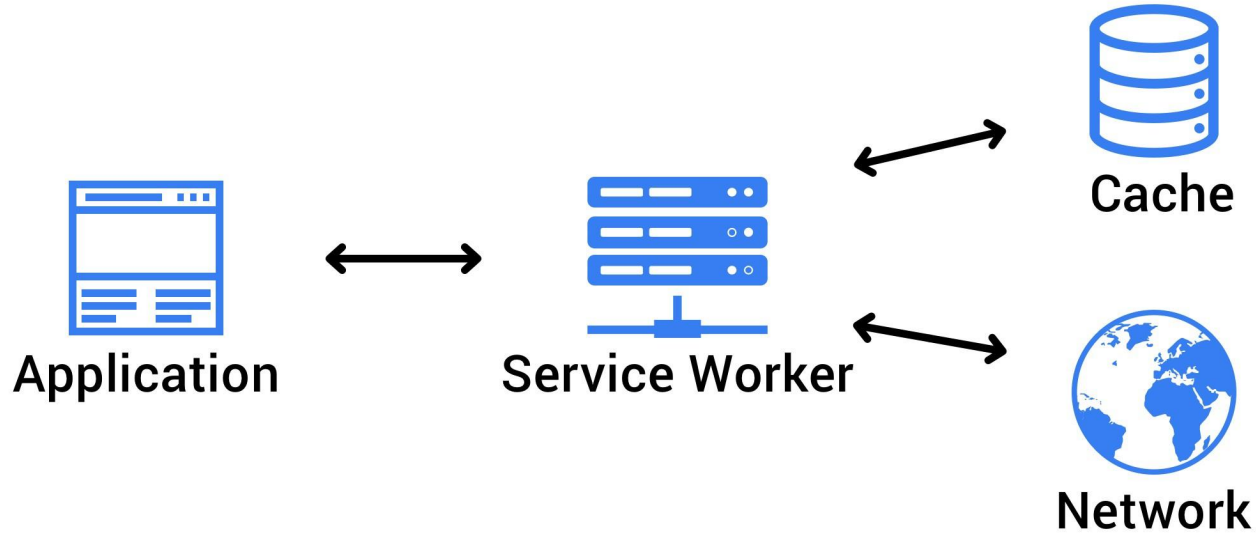
Limitações de permissões

Resistência da Apple para aderir a PWA

Bluetooth

NFC

Service Worker



Service Worker

Worker lifecycle

INSTALLING

This stage marks the beginning of registration. It's intended to allow to setup worker-specific resources such as offline caches.

⚡ install

Use `event.waitUntil()` passing a promise to extend the installing stage until the promise is resolved.

Use `self.skipWaiting()` anytime before activation to skip installed stage and directly jump to activating stage without waiting for currently controlled clients to close.



INSTALLED

The service worker has finished its setup and it's waiting for clients using other service workers to be closed.



ACTIVATING

There are no clients controlled by other workers. This stage is intended to allow the worker to finish the setup or clean other worker's related resources like removing old caches.

⚡ activate

Use `event.waitUntil()` passing a promise to extend the activating stage until the promise is resolved.

Use `self.clients.claim()` in the activate handler to start controlling all open clients without reloading them.



ACTIVATED

The service worker can now handle functional events.



REDUNDANT

This service worker is being replaced by another one.



Events

⚡ install

⚡ activate

⚡ message

Functional events

⚡ fetch

⚡ sync

⚡ push

CODE

Quem utiliza PWA?

- Google
- Microsoft
- Flipkart
- Alibaba
- Luiza Labs
- Petlove
- covid19pwa.netlify.app
- Forbes
- AliExpress

Links importantes

<https://pwa-wnews.netlify.app/>

<https://github.com/Tautorn/pwa-news>

<https://github.com/Tautorn/pwa-news-api>

<https://covid19pwa.netlify.app/>

<https://www.pwastats.com/>

<https://www.pwabuilder.com/>

<https://app-manifest.firebaseapp.com/>

Referências

<https://divante.com/pwabook/chapter/03-pwas-in-the-mobile-first-world.html#what-is-the-mobile-first-approach>

<https://divante.com/pwabook/chapter/02-the-history-of-pwas.html#the-history-of-progressive-web-apps>

<https://infrequently.org/2015/06/progressive-apps-escaping-tabs-without-losing-our-soul/>

https://pt.wikipedia.org/wiki/Progressive_web_app

<https://developers.google.com/web/fundamentals/primers/service-workers?hl=pt-br>

https://developer.mozilla.org/pt-BR/docs/Web/API/Service_Worker_API/Using_Service_Workers

<https://www.netlify.com/blog/2017/10/31/service-workers-explained/>

<https://codelabs.developers.google.com/codelabs/your-first-pwapp/#0>

<https://medium.com/@vipulnema2610/understanding-service-worker-life-cycle-b6580aa4eb50>

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