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WHAT IS A PWA?

PROGRESSIVE WEB APP

THE
TECH
TEACHER

What is a PWA?

PWA stands for Progressive Web Application or (App) for short. It can be known as a Web App or Mobile App.

Progressive Web Apps (PWA) are built and enhanced with modern APIs to deliver native-like capabilities, reliability, and installability while reaching anyone, anywhere, on any device with a single codebase.

Capable | Reliable | Installable

These are the three main features that help to transform a website into a blazing fast native-like application.
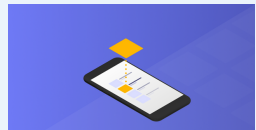
Three main features

Capable

Progressive Web Apps must be capable of certain functionalities. For example with a native app, you can access storage, hardware like the camera, GPS location etc. Nowadays with HTML5 and modern web APIs and components, a lot of these things are actually doable now.

Reliable

Speed and performance for a PWA is absolutely crucial. These apps need to perform efficiently under any types of network speed. How do we ensure that? Properly minified code, cached assets and optimised images with properly rendered data.

Installable

Installed PWA's run in "standalone" mode instead of in a web browser window (like a website). This allows the app to be launch-able from the users homescreen or app drawer, adding to that native-like feel. This point really changes how a user thinks when it looks and acts like an app.

Requirements for a PWA

HTTPS

Hypertext transfer protocol secure (HTTPS) is the secure version of HTTP, which is the primary protocol used to send data between a web browser and a website. HTTPS is encrypted in order to increase security of data transfer.

Web App Manifest

The web app manifest is a JSON file that tells the browser about your Progressive Web App and how it should behave when installed on the user's desktop or mobile device. A typical manifest file includes the app name, the icons the app should use, and the URL that should be opened when the app is launched.

Service Worker

A service worker is a script that your browser runs in the background, separate from a web page, opening the door to features that don't need a web page or user interaction. Today, they already include features like push notifications and background sync.
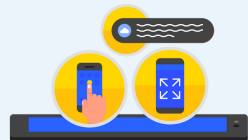
Design trends

Responsive

You've most likely heard of this buzz word in the world of web development. It has never been more important in PWA's. As it's an app like website, you need to ensure that the layout and images/elements are responsive to multiple mobile device screen sizes.

App-like Interactions

One of the most important things about a PWA is making it feel like a native app. How can we do that? Incorporate in app like interactions. Examples of these are things like a burger menu, side slide out menu, tab menu bar along the bottom, optimised elements like multi selects for mobile etc.

Fresh, Slick Looking

Take a look at the most popular social media apps. What do they all have in common? They are clean, simple, slick and to the point. Ensuring your design is modern and clean, means that it'll feel more like an app. It needs to be fresh and inviting, with no intrusive content or images. Keeping it simple works best.
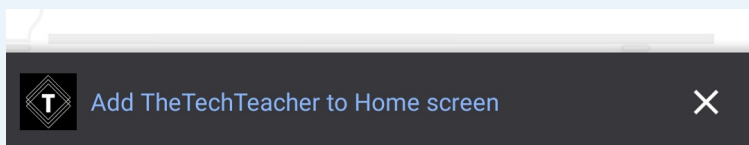
Assets needed

Icon / Favicon

A PWA will use your websites favicon at first as the app icon. This is the icon the user will see on their homescreen, for example the "f" Facebook app icon you see on the app. You can also specify icons/logos within the Web App Manifest which are 192x192 and 512x512. These will also act as the splash screen icon.

Title Name

You need to ensure you give your web app a proper name. This can be done through the Web App Manifest with the key of "name" and "short_name". This will act as the app title or app name which you will see accompanying the app icon and on the splash screen.

Add TheTechTeacher to Home screen ✕

Why use a PWA?

Modern Trend

Not only is it "cool" as a developer to develop a PWA, but for a business or for a portfolio it can be an excellent way to adapt to a modern trend that is fast becoming a norm. To give your users the ability to add your content to their smartphone homescreen as a functional app is a huge benefit and advantage.

Continue Engagement

Imagine having to type in the Facebook URL every time you wanted to browse Facebook? It's not very convenient is it? Even though the Facebook app is a native app and not a PWA, it is the same principle. Having your website bundled up as a Progressive Web Application and on the homescreen of your users is very convenient. They don't need to remember your URL, or go searching for you. They can simply open up your app, check for updates, browse etc like a normal app.

Example of PWA

TheTechTeacher

Do you want to see a live example of how a PWA performs? From the moment you type the URL into the browser to getting the progressive web application on the homescreen?

Head over to my website on a mobile device
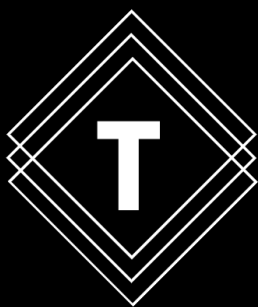https://thetechteacher.info

If you are on an Android device, by default you'll get a popup to Add To Homescreen, if you don't get the popup, click the three dots > Add to homescreen.

If you are on an IOS device, click the share button > Add to homescreen.

Now check out the app from your homescreen!

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