Homework

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1 PWA CONCEPTS AND FEATURES

1.1 What are they?

PWAs are commonly defined as Apps that bring together the best of web and native applications, even being understood as a middle ground or an evolved form. They are based on web pages, but use technologies that make their aesthetics and operation very similar to a native App. They are accessed through a browser, but a direct access can be anchored in our device. They do not depend on operating systems and incorporate native functionalities of the device.

1.2 Features

- Responsive: Currently, most websites have responsive design that allows them to adapt to different devices.

- Updated: PWAs will always show their latest version to the user, with the use of automatic updates.

- Secure: The HTTPS secure protocol is always used, which is also necessary for the installation of the Service Worker.

- Fast: Generally, a PWA is optimized for both loading and browsing speed.

2 DIFFERENCE BETWEEN PROGRESSIVE AND SERVICE-ORIENTED WEB APPS

PWAs are web applications that use APIs and emerging web browser functions along with a traditional incremental enhancement strategy to deliver a native application on the other hand, a service-oriented application focuses on service architecture, dividing functionalities into independent components that communicate with each other.

3 ADVANTAGES AND DISADVANTAGES OF PWA

Advantages:

- Low cost

- Requires fewer resources

- They are secure

- Always up to date

- Offline access

Disadvantages:

- They do not appear in the app stores

- They consume a lot of battery

- Limited use of native functionalities

- Audience is used to native Apps

4 DEVELOPMENT AND IMPLEMENTATION TOOLS FOR PWA

4.1 Requirements

- A site must be visited twice with an interval of 5 minutes to qualify: It is not the most reliable way of verification, but it is a simple way to determine the user's interest.

- Valid secure HTTPS connection: By having a secure connection to the progressive web app, users can feel relatively safe allowing permissions to the PWA.

- Valid JSON Manifest installed: By providing a data extract in JSON format, it is possible to cache this information with the help of the service worker.

- Service Worker installed: As we said, the service worker is responsible for caching all files, push notifications, content update, data manipulation.

4.2 Better environment

Flutter, Google's new environment, is a good example of technology that adapts perfectly to PWA development, achieving native performance and cross-platform development.