What is a web application?

You've probably heard the term used in lots of different contexts, but what exactly is a "web application"? How does it differ from a "website"? What about "native" and "hybrid" applications—what are they? In this paper, we'll take a look at each of these questions. By the end of it, you'll know exactly what all of these terms mean.

How is a web application different from a website?

Firstly, there's no one, single answer to this question—the line between these two concepts is grey. As a rule of thumb, though:

> If you're mostly reading information in a one-way fashion, it's a website. If you're interacting with it in some significant way, and especially if you're putting information back into it, it's a web application.

To some extent, the difference is historical. In the early days of the web, websites were entirely static collections of pages. User interaction was generally limited to navigation between pages using hyperlinks. Gradually, the technology developed to allow greater levels of user interaction: the familiar *web form* was one of the earliest (and still one of the most common) ways a user could interact with a website.

As interactivity grew, a new term developed to differentiate static document collections from sites that exhibited two-way interactivity with their users: "web applications" were born. You've probably used lots of web applications before. Gmail, Hotmail and other "webmail" services are all web applications. Strava, eBay, even Google—they're all web applications. Sometimes the site you interact with in your browser is only one of several different ways of using a service. Netflix, for example, has a web application front-end, but you can also view Netflix on your phone, tablet or even TV.

How is a web application different from a mobile app?

The answer here hinges on a further question: where does the software *run*? A "mobile app", or, more specifically, a "*native* mobile app", is software that runs directly on your mobile device. You probably install it from an app store, it lives on your phone, and it has access to all of your device's hardware features, such as the camera, GPS, microphone, and so on. Web applications, as discussed in the previous section, can mimic native apps to some extent, but ultimately they still rely on interaction being channelled through a web browser, such as Safari or Chrome.

Sitting between native and web applications is a newer class of app for mobile: hybrid applications. Generally, hybrid apps behave much like native apps: you install them from an app store, and they live on your phone. They have access to most or all of your device's hardware. The difference is that "under the hood", a hybrid app is running in a web browser (so, like a web application), but the browser is embedded in the app. An advantage of hybrid applications is that they can often be developed to target different mobile platforms from a common codebase.

Should we be build a web, native or hybrid application?

Not surprisingly, the answer is: "it depends". The choice here is based on some trade-offs:

Time and cost. This is probably the big one. All else being equal, a web application will be the cheapest to develop, followed by a hybrid application, and then a native application. If your project is time or cost sensitive, go with a web application. When planned and built well, you'll be able to re-use a lot of the application's back-end if you later decide to develop a native or hybrid app.

Look and feel. Web applications can look great on mobile, but native apps probably still have an edge here. Hybrid apps sit somewhere between them.

Hardware features. With HTML5, web applications have access to some of a device's hardware features. Hybrid application frameworks will cover most features. A native application will give your product access to everything.

Further reading

"Mobile: Native Apps, Web Apps, and Hybrid Apps" Raluca Budiu, Nielsen Norman Group https://www.nngroup.com/articles/mobile-native-apps/

"What's the difference between a web site and a web application?" Stack Overflow http://stackoverflow.com/questions/8694922/whats-the-difference-between-a-web-site-and-a-web-application

"A history of HTML" Dave Raggett https://www.w3.org/People/Raggett/book4/ch02.html

Contact

Still got questions? Contact us at Logic Squad: hello@logicsquad.net.