

Position Paper:



*The Mobile App Debate*  
**HTML5: Hype or Help?**



Probably the most significant decision a developer needs to make when deciding to develop a mobile app is the underlying technology that's going to drive it. There are two basic options: To create the app as a piece of stand-alone software designed for the particular mobile device's operating system (a "native app"); or to design the app to use a device's web browser as a conduit that essentially presents the user with web pages *simulating* an app's various screens, controls, and visual elements.

Today, virtually any app developer who uses the browser-based approach is deploying the app using HTML5: the next-generation of the coding language that's been running web pages for about two decades. HTML5's primary innovation is to present rich, interactive media content without add-ons and plug-ins like Flash. HTML5 has plenty of other advantages, but for our discussion, suffice it to say that it's simply the next evolution of the Web's standard markup language.

The motivation to use HTML5 on mobile is simple: **adaptability**. (Note: This discussion is specifically



about HTML5 for *mobile* devices; more than a third of the world's commercial web sites use HTML5. A desktop web browser doesn't involve most of the issues we're discussing here). Developers create a single version of their app, and any mobile phone or tablet with a browser will use that single copy of the code — really just a web page — to simulate its own representation of the app.

This technique yields an ongoing development process that's inexpensive because it does not require the substantial work to support a long list of app-specific devices and their always-evolving operating systems.

This may sound like a logical and prudent solution... for the *developer*. But the consumer (or customer in a business-oriented app) does not necessarily reap the benefits. In fact, he generally loses out.

There are six primary reasons for this:

- 1) **Speed and Connectivity** — It is universally acknowledged that HTML5 is not as fast or as fluid as a native app. This applies to all aspects of the app's use: page reload times, data transfer and user interface elements. HTML5 generally needs an internet connection to at least load, if not actually use. And while there is an option for local data storage, it is currently limited and not sufficiently reliable as connectivity quality fluctuates. In addition, the platforms intentionally limit even the functionality that a browser should have when used as a "container" for an HTML5 app. These limitations are thought to be motivated by the desire of Apple and Google to promote native apps found in their respective stores.
- 2) **Device Features** — Developing an app that works within a browser on all devices means that,

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by definition, the app cannot take advantage of all a specific device's tools. Because the HTML5-based app is running in a browser, the features it can access are limited to what the browser itself has access to...and that's not much. For instance, it cannot easily integrate with the user's calendar or address book, it can't capture and store photos, video or product barcodes via the device's camera, gyroscope or compass, or access data about device components like the battery or network status. An app built specifically for the device can maximize use of these elements. Note — a hybrid solution, where an app is technically native but is designed mainly as a "container" for HTML can get around this specific challenge, but also does require the developer to keep each app updated.

3) **"Familiar" Standardization** — Creating a web-based app means the designer (who may or may not be the actual developer) has free reign to create whatever style app he wants, using whatever design elements appeal to him. While this is perhaps an aesthetically pleasing and flexible approach, it means that the learning curve for the user is steeper. The user won't recognize familiar user interface paradigms ("Where is the Setting screen?" "How do I edit this field?") and thus, will experience less than ideal productivity. Platform manufacturers like Apple, Google and Microsoft provide rich toolsets, interface elements and software development kits (SDKs) to speed up the development process and access the full power of the device, while yielding a consistent user experience.

4) **Security** — The security of the local database is a potential problem. If a malicious hacker is able to manipulate the page's HTML or Javascript code, it means he can access the device — or even the company's data on the server —and steal or change data.

5) **Browser and size variables** — while HTML5-

based apps are meant to be viewable across all browsers and devices, it means that the design itself is *never* optimal; it's nearly impossible to create a single page structure that looks good on screens that are wide, narrow, tall, short, large or compact. Yes, they technically work. But the fine-tuned craft of an application designer is sacrificed in the name of flexibility.

6) **The Offline Storage "Wall"** — The most popular storage mechanism that HTML5 offers for offline data capabilities (called WebStorage) tops out at 5 MB on most platforms and browsers. This means that if your app may need to store and transfer even a single hi-res image or other large data element (PDF, video, sound), it may be a show-stopper for any off-line use.

So with all these drawbacks, what's all the hype about HTML5? Well, in that question lies the answer: It's still *hype*. As of today, HTML5 is still very much a platform in the works. And as opposed to IOS, Android or WP8, it's also being developed by multiple stakeholders, around the world, each with unique priorities. So while the results of this massive group effort will no doubt one day be impressive and become a standard, *HTML5 in its current state is still underperforming.*



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Facebook founder Mark Zuckerberg confirmed this in a September 2012 TechCrunch Disrupt conference: "Betting on HTML 5 for the app is one of the biggest mistakes if not the biggest strategic mistakes we've ever made," he announced. "On iOS and Android, you can do so much better by doing native work, and we need to just do that."

Now for some app developers, these drawbacks may be fine for casual use — but not for business-critical demands in the field. As an enterprise-level software developer, FieldOne is not providing a "nice to have" feature; our clients aren't paying for mediocre results. Mobile management of a tech's day can lead to hundreds — or thousands — of dollars in savings (or expenses) per day. Features like status

updates, inventory info and orders, billing, and job assignments can literally freeze a tech in his tracks if not instantly and intuitively accessible. As such, we have made a strategic business decision in which we differ from most of our competitors: **we are investing substantially in native app development so that user experience is as fast, efficient and impressive as can be.**

While we look forward to the day when HTML5 can offer all the features, reliability and speed of native apps, FieldOne puts its customers first and will continue with customized, well-crafted mobile apps to help drive your field management team's success. While our developers may grimace at the workload, our customers are smiling at the results.

## About FieldOne

Our goal at FieldOne is simple: To help your service company increase efficiency and productivity by leveraging technology that was built for your business's specific needs. We take great pride in knowing that we assist enterprises around the world, across a broad range of industries. Our clients share a similar desire to better manage the complex nature of their service organizations, and nearly everyone across the company can benefit from our software - from the owners to the service managers, the warehouse crew to the administrative personnel, and the schedulers and dispatch managers to the technicians in the field.

Founded in 2001, FieldOne is an innovative, secure and scalable service management system providing field service companies with powerful tools to streamline their business processes. From up-to-the-minute technician scheduling and status information to on-site wireless data entry, complete inventory control and automatic invoice creation, FieldOne is an easy to use, all-in-one software solution.

Our innovative, secure and scalable software enables our customers to spend less time entering and managing data, freeing up valuable time for revenue-generating work. With FieldOne, organizations can more efficiently handle all of their day-to-day activities without wasting hours on duplicate work. Most importantly, they can spend more time helping their own customers and growing their business.

We have had the privilege to help in industries including property management, HVAC, medical and diagnostics, IT and technology, mechanical, janitorial, landscaping, contracting, plumbing, electrical, roofing, irrigation and security companies.

For more information or to learn more about the benefits of FieldOne, or how our solutions can help you grow your business, please schedule a free demo or contact us.