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## **Accessible apps**

Madison tech evangelist Kevin Jones reminds developers to design for the blind

BY LIZ MERFELD SEPTEMBER 26, 2013 2:00 PM

For most of us, smartphones make life more convenient and fun. We route trips, game, buy things and share ideas on the go. But for blind users, smartphones can be survival tools. An app or web page that's not accessible is more than an annoyance -- it disconnects and disorients.

Kevin Jones is one such user. Blind since birth and a lifelong Madison-area resident, Jones is a technology evangelist and an emerging force in the local web and app development community. He's on a mission to help developers understand how to make their content accessible to the blind.

If you're having trouble imagining how a blind user navigates a smartphone, head to your phone's accessibility settings, turn on the screen reader (VoiceOver on Apple iOS, TalkBack on Google's Android platform), shut your eyes and try catching up on today's news or tweeting.

This is Jones' modus operandi. He wears an earbud in one ear and carries with him a folding keyboard that connects via Bluetooth. "I can type on the screen but I don't like to," he points out, as his fingers relax onto his keyboard as if sitting down to play his favorite Mozart sonata (which happens to be No. 8 in A minor K. 310; Jones is an accomplished pianist).

As we sip chai tea on an outdoor patio at Hilldale Mall, he explains that one of the central hangups blind users face online or in an app is images. Screen readers can't "see" a picture, and therefore can't tell the listener what the image is. Too often, important information is embedded in images, like an illustration that is key to interpreting an article, or a command to "click here," "search," "log in" or "buy now."

A thoughtful developer will spend a few seconds assigning meaningful "alt text," or alternative text, to describe the image within the code. If it exists, the screen reader then reads it aloud. But without it, Jones might hear something like "article php" or "png oo2," the filename, and be left to guess its purpose and content.

Another advantage sighted users have is the ability to scan a web page or app in order to jump right to the content they want. In comparison, screen readers trudge through each page from start to finish, like a book. Jones himself is what you might call a "speed listener," with the tempo on his screen reader prattling at a *presto* pace.

He also uses some tools that offer shortcuts. First, the "rotor" on his screen reader lets him skip to a page's headings or links. With his rotor set to headings, he can, for example, scroll to the desserts section of a menu on AllMenus without hearing every appetizer, salad and entree.

Second, Jones uses InstaBrowser, a mobile web browser that strips a web page of styling and JavaScript, leaving just its HTML content (including image alt text, if it's there), the real meat of the page.

But the success of these workarounds hinges largely on the whims of the developer. There is no accessibility police cracking down on web standards. The experience is enough to make most people hurl their phone at the wall. But Jones is a good sport, and gracious. He remembers life before smartphones.

He was 17 when his parents gave him his first computer, an Apple IIe. Smitten with technology, Jones went on to earn a B.A. in computer science from Edgewood College in 1989, followed by a degree in IT Network Security at Madison College in 2006.

Now he's leveraging his expertise to help developers build apps (specifically native apps, as opposed to web-based) that are more usable for the blind.

Last February, the organizers of the Madison Ruby programming group asked him to speak at their mobile

development conference Snow\*Mobile on the topic. Two speaking engagements followed in August: Barcamp Madison, part of the 2013 Forward Fest, and #HYPEHARVEST, another Madison Ruby event.

You might not peg Jones as a public speaker at first. His voice is warm and pensive -- everything the commanding, robotic-like voice of his screen reader isn't. His manner is gentle, like a kindergarten teacher's. Before speaking, always, he pauses thoughtfully. But this is his calling. He aims to make consulting and speaking on accessibility a full-time endeavor.

He has already had success. DarkSky is a weather forecasting app that uses a phone's GPS along with sensors placed around town to alert you if you're about to be rained on, for instance. "But it wasn't accessible at all," Jones says. Recognizing "how useful this could be for blind users," who can't see clouds looming in the sky, he emailed the developers. They accepted his suggestions.

In early September he contacted the developers of Mobile UW, an app that includes Madison Metro route info. He was using the app religiously to catch buses, until something changed suddenly.

It used to be that tapping on "Stops Near Me" pulled up a list of nearby bus stops, using his phone's GPS. But what he couldn't see was that the developers had replaced the list with an interactive map of Madison featuring tiny green pins. You could double-tap a pin to access information about that bus stop. It was an enhancement for sighted users, but a dead end for Jones. He's now talking with the developers about making it more accessible.

On foot, Jones gets his bearings in new territory using an app called BlindSquare. As its name implies, it integrates with FourSquare as well as Open Street Map to clue him in to his surroundings. As he walks, BlindSquare rattles off the names of restaurants, shops, hotels and other spots he passes.

BlindSquare takes turn-by-turn directions seriously ("Turn left 30 degrees, then walk 15 feet"). But Jones doesn't trust it to get him safely across a parking lot -- "a blind problem," he says. As I guide him back across the lot to where we met, I dither at a throng of people blocking our path. "Just run them over," he deadpans.

It's funny because it's so counter to his personality -- the opposite of his approach to the precarious landscape ahead.

Jones knows his work is cut out for him, and he's eager to take the lead.

Interested readers can follow Jones on Twitter: @kevinrj.

[Editor's note: This article is corrected to note Kevin Jones received his degree from Madison College in 2006.]

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