One of the more interesting talks I saw at SXSW this year was HTML5 APIs Will Change the Web: And Your Designs by Jen Simmons.

While she covered many interesting aspects of upcoming browser technology, there was an inescapable conclusion that was not talked about. Apps and the app stores that distribute them have an existential threat on the viewable horizon: the growing capabilities of browsers.

Several specific capabilities of browser and web technologies inexorably lead to the aforementioned threat:

1. File access APIs - long ago, when browsers were first created, the concept of the walled garden emerged where web browsers could not have any access to certain system resources in an effort to both mollify and obviate security concerns and risks. [A new breed of API is being evaluated by the W3C](http://www.w3.org/TR/FileAPI/) to to give browsers standard abilities to create and manipulate files on a user's computing device. While this is currently the sole province of installed apps, it hasn't always been so. The oft reviled VBScript that Microsoft put into the original versions of Internet Explorer could had file manipulation capabilities much to the chagrin of the technology community at the time who labeled it as "inherently insecure".
2. Device APIs - a working group of the w3c is currently working on [a set of device APIs](http://www.w3.org/2009/dap/) to create a set of client-side APIs to enable web browsers to talk to and interact with device services such as Calendar, Contacts, Camera, etc. This innovation, once again, sounds eerily similar to early criticisms of anything that busted through the barriers of the "walled garden" that was the browser.
3. Full Duplex Communication - The people at Kaazing are offering a high performance 2-way communication pipe between browsers and servers. While it is for sale now, someone will open source one sooner or later. Current web technology allows only one party at a time to be "talking on the line". Imagine if you were in the act of talking on the phone, and because you were talking you could not hear what was going on or being said on the other end. If you're tired of the little spinning wheels on your browser, [check out the demos and see what's on the horizon](http://kaazing.com/demo)
4. Webinos - the EU backed webinos project is doing more than busting the barriers of the garden, it's then leaping the backyard fence, running down the street and leaving town. Webinos is working on a multi-device application platform based on web technology with the sole idea of breaking beyond the current mobile device concepts. Webinos is staffed with professionals from 22 different companies and is creating a slew of new APIs all based on open, non-proprietary web technology. [The Vehicle API](http://dev.webinos.org/specifications/draft/vehicle.html) for example is being created to gather information from your car to be used and shared in web applications.

Talking to devices and working with files are right now the sole province of apps and when browsers open up the domains currently restricted to Apps, there are only a couple of forces that Apps have left to define their reason to exist - Fear, Performance and Fun.

Fear - Users currently have some level of awareness that Apps are, currently, by definition less secure than websites. [App and AppStore companies have faced some backlash](http://www.npr.org/2012/02/16/146965427/apple-urged-to-fix-apps-that-access-address-books) when they overstep into areas that users feel are intrusive. These new capabilities, when added to browsers will enable security minded users to fear browsers as much as native apps. It's not that the fear will drive users one way or another, it's that the security fears will delay mass adoption of these APIs by browser makers.

Performance - Currently, Apps have a very clear performance edge on the mobile web, but advances in hardware will sooner or later make that edge a distinction without a difference.

Gaming - Games have been the big success story for Apps in that they are the only category of Apps that have sustained a high level of user interest. If hardware will solve performance concerns, game designers will find a way to exceed the performance specifications of the most advanced hardware. Games are like a gas in that they fill up whatever space contains them and exert pressure on their containers.

Packaging - Games and Packaging go hand in hand, as wrapping software into an App package allows for a very tactile and discrete distribution model that has clearly worked very well for App developers and AppStore managers. The question here is if users will continue to download and/or buy them if equivalent products and services can be freely had upon demand through a browser.

Given that these new fangled APIs are still in development, App makers are safe for now. Even if everything was released tomorrow, there would still be a long tail of App development. But the stars are aligning in a way that does not look good for AppStores and the Apps on their shelves. This morbid prognosis doesn't bother me that much, how many photo sharing apps does the world need anyway?