

Going Native: Are web apps the future?

There has been a consistent mantra when developing applications for mobile devices: performance, performance, performance. With limited hardware resources and a restricted interface, applications had to be designed specifically for a given handset. Each batch of code tweaked to extract the maximum from the chosen device.

But that is beginning to change. With plentiful bandwidth, growing processing power and falling data charges, mobile applications are increasingly connected and even fully web-based. But will mobile web-based applications ever completely displace those that are native to the handset?

Certainly the example from the PC world would suggest this is the future. More and more of our day-to-day applications exist on the web rather than the desktop. Even the most desk-bound software increasingly relies on connectivity for data and regular updates. Microsoft recently announced that it is working on a [web-based operating system](#) designed to leverage the increased connectivity of all our devices.

But PCs are permanently connected at high speeds. Even with the planned developments in mobile networks over the coming years, wireless broadband coverage is never going to be as dependable as a cable. The maximum available speeds are unlikely to be a recognisable reality for people outside the most densely populated urban areas. Even if nationwide coverage hit 100% for any one network, there's still trains and planes, tunnels and basements, where devices will be out of range, or where speeds will be limited.

As mobile devices increasingly become our primary tools for productivity and entertainment, we are unlikely to accept long periods where they are out of range and hence out of action. But even if this issue could be overcome, the original challenge returns: performance. Handsets may be growing more and more powerful, but the content they handle is getting richer in parallel. Delivering this content efficiently requires local optimisations.

Many of the most popular web applications for PCs rely on a 'runtime environment'



supporting more heavyweight code that is downloaded and executed locally. This provides the application-like feel of many popular sites. The underlying technologies - JavaScript, Flash, Java - are increasingly supported by mobile devices, providing developers with a 'third-way' approach to developing web-centric software that relies on connectivity but makes full use of the processing power available on the device. They provide some of the performance benefits of local applications without the horrors of application signing, tricky downloads and clunky installations.

This third way is currently receiving a great deal of attention, but it isn't perfect: in not being optimised for the handset on which they run, these applications miss out on some of the phone's most exciting and innovative capabilities. This can only be overcome with vertically integrated models (e.g. iPhone).

The reality is that both web and native applications will co-exist for the foreseeable future. Web applications are a fantastic prototyping environment, and overcome one of the biggest developer challenges by being truly cross-platform. But for pure performance and advanced features, native applications will remain the strongest choice.

News Links:

Read more about native and web-based applications:

Symbian's David Wood on the web vs native challenge

<http://www.dw2-0.com/2008/07/mobile-development-in-hurry.html>

Check out some widgets for the popular mobile web browser, Opera

<http://widgets.opera.com>

Check out this cross-platform widget environment: Widsets

<http://www.widsets.com/>

Penrillian will be speaking and exhibiting at this years Smartphone Show

Penrillian is offering free half hour consultancy sessions at the forthcoming Symbian Smartphone show, 21 and 22 October at Earls Court in London. Penrillian's experts will help you to assess the feasibility of new product ideas, suggest porting approaches, and confirm whether they could assist with your planned project. To book an appointment, email Rachel Johnson at rachel.johnson@penrillian.com.

Choosing between web and native?

Penrillian works across all the major mobile platforms - including the web. Whether you are looking to dip your toe in with a web app, or create a highly optimised native tool, we can help. To book a free one hour consultancy session contact Rachel Johnson at rachel.johnson@penrillian.com.