Position Paper for the W3C Workshop on the Future of Off-line Web Applications

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LG Electronics is interested in the offline web applications. Since a device may not be always on-line, supporting offline is indispensible to realize a fully web-based platform. As a device vendor producing a variety of smart devices including phones and TVs, we believe that the Open Web Platform is a potential candidate for an application platform to be used across all devices, and supporting offline web applications is also one of the most attractive advancement it provides.

While reviewing existing technologies to support offline web applications, we have found out some issues to discuss.

According to the current specification of the offline web applications, there is no way for an application cache to be updated as long as the user does not visit the website again, even though the device keeps connected to the Internet. Compared with native applications, it is a weakness of offline web applications that should be overcome. Native applications have an application manager or an update manager, such as Android market app, which periodically checks the application store where each installed application was downloaded to check if it has an update or not. To support this functionality, while the Internet is connected, a web browser can have a new feature: it periodically checks manifest files of cached web applications to see if it is updated. In other words, a web browser can serve as an update manager for offline web applications. Since the size of manifest file is quite small and the comparisons between the timestamps of files listed in the manifest file are not expensive, we don't need to worry too much about the additional overhead. Thanks to this functionality, applications can be kept up-to-date, and it would make preparations easier for unexpected getting out of network coverage.

When a manifest file is updated, all the resources specified under its CACHE section will be re-

downloaded. Image and video files may be large whereas network bandwidth is still a limited resource, and it can be a burden to users depending on the price plan. Thus, it may be worthwhile to test whether each file is updated before downloading, and download only updated files.

Furthermore, offline web applications may need support for periodical update of their data. There are a lot of applications dealing with real-time data such as news, stock, weather, and sports applications. Even though you have not visited a news web site, it would be frustrating to see news reported ten days ago when you are in the middle of a desert. Those web applications can store their data by using web storage or indexedDB if they can be run (background) periodically.