A Next Generation Delivery Context Interface

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Abstract

Within Web applications, a devices capabilities and operational environment can shape the output presented to the user via a browser. The development of DCCI originated from the need to create a simple declarative model of property value exchange used in a Multimodal interaction to signal an adaptor to modify its content. The subsequent DCCI implementation leverages a DOM-based framework. Such implemenations allow arbitary property hierachies to be developed and properties modified dynamically. The DCCI is logically contained within the browser itself. Such implementations demand a rich browser. This paper suggests that an alternative context can be envisioned *without* a rich client browser. Instead the DCCI can be resourced remotely allowing thin clients to access adapted content.

Content

1.0 Background

A delivery context client interface can be best demonstrated on mobile devices where the constraints of the device and the environment dictate which modes get utilized. Typical properties involve dynamic status information such as presence, mobile signal strength, location and display orientation that often vary during a session and need to be signaled to the application to adapt to the new environmental conditions.

The Open Mobile Alliance [OMA] has developed a set of properties call User Agent Profiles [UAPROF] describing static characteristics of mobile phones. Device vendors are expected to define additional properties for proprietary features. Such properties can be mapped into a DCCI framework.

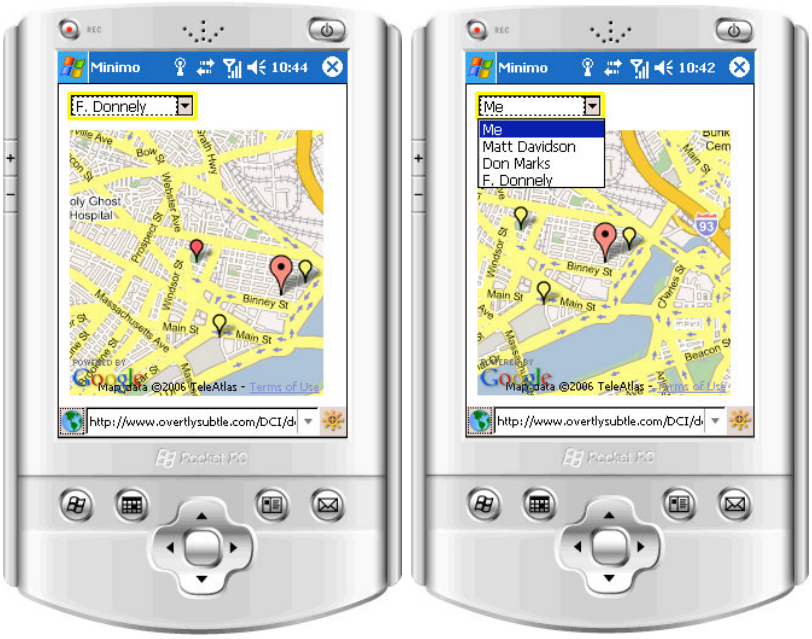

Figure 1: A presence and location DCCI implementation mashup.

An example of a mobile application is illustrated in Figure 1. This application utilizes dynamic properties of location and presence to indicate individuals proximity to one another on a Google map. Figure 2 illustrates the property hierarchy layout used. By signaling property value changes of the devices **Position** a unique application can be created.

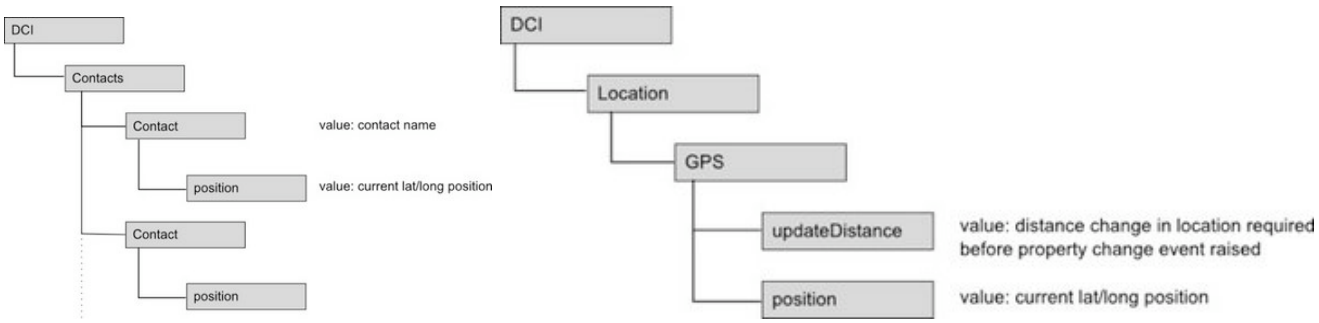

Figure 2: The property tree hierarchies for the mashup example.

The implementation described requires a rich browser in which DOM-based properties can be manipulated. The implementation has been created as a browser plugin.

2.0 A Network Approach

Many of today's mobile devices are capable of running full rich browsers. In tomorrows connected *"Web-of-Things"* there will be thin, lightweight devices requiring connectivity to content servers. In such cases, a rich browser that supports a DCCI framework may not be

technically possible. This position paper suggests that a network approach can fulfill this need.

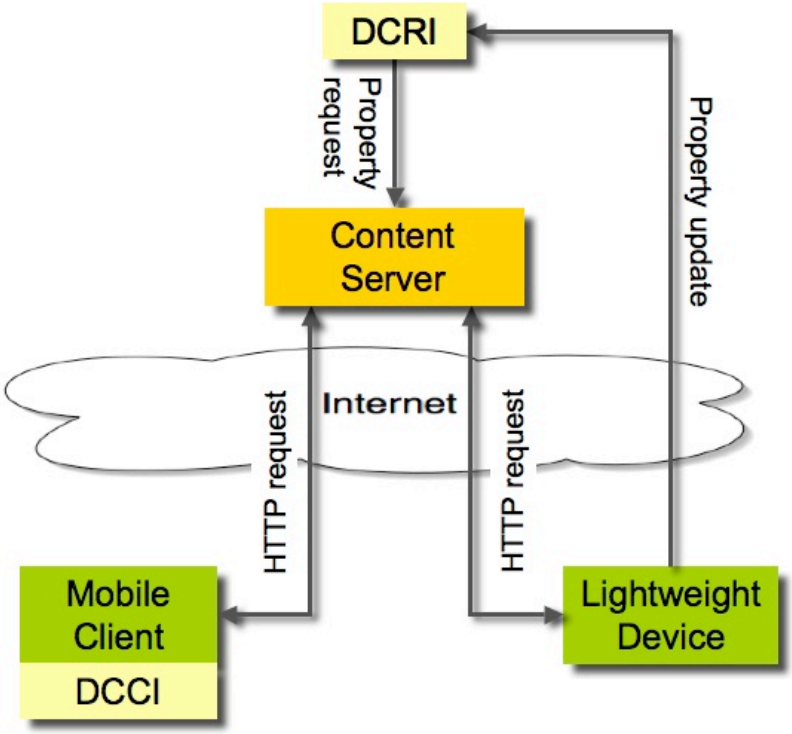

Figure 3: The Delivery Context Remote Interfaces (DCRI) is a net-based delivery transaction.

Figure 3 illustrates the differences between the Delivery Context Client Interfaces (DCCI) and the Delivery Context Remote Interfaces (DCRI). DCCI implementation on a mobile device requires a rich browser (left), while the network-based DCRI is accessed by a lightweight device (right).

In the browser-based DCCI implementation, all delivery context data is handled by the device itself. The content provided by the content server contains code for adapting presentation based upon the DCCI state.

In the network-based implementation, the lightweight client updates the DCRI on the network server as necessary. The content provider retrieves DCRI state and serves already-adapted content to the device.

3.0 Conclusion

This paper identifies a need to extend delivery context client interfaces to a network-based DCRI approach for lightweight connected devices. This is a stated goal in the Ubiquitous Web Applications charter that identifies a wide range of devices and effectors that require remote and local access capabilities.

4.0 References

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