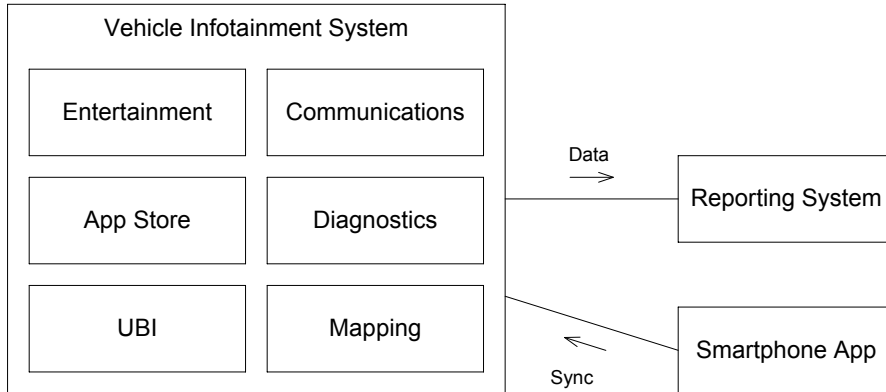


Hello,

Please see my position paper below. I am eager to attend the W3C workshop, "Shift into High Gear on the Web," as the web-connected car is an important area of technology innovation that dovetails with current research and client work I am doing on mobile apps, the user interface, and HTML5. Workshop learnings will inform the research and the solutions we deliver to our clients in both the commercial and government sectors. I look forward to participating and contributing to the workshop learnings.

Relationship Between the Car and the Mobile Phone

As a Senior Architectural Specialist at CSC, I am interested in understanding more about how apps in smartphone and tablet devices can interact with car infotainments systems using open standards such as HTML5. A non-proprietary standard like HTML5 can provide content independence and faster development times for developers of car infotainment systems, facilitate integration of car systems with smartphone apps, and keep up with advances in smartphone app development.



Currently, I am researching how HTML5 can facilitate cross-platform app development for consumer-facing enterprise applications. This research fits within a larger research effort exploring a revolution in the way applications are architected and composed into ecosystems. The car infotainment systems industry is an early adopter of HTML5, but other industries could soon follow in its footsteps.

I would also like to understand how car infotainment systems could fit within a larger ecosystem, such as a crowd-sourced traffic monitoring system. In this ecosystem example, individuals could contribute in real time to create a live map of traffic conditions, or adverse event reporting. Ideally this type of data would be captured with the aid of sensors on personal devices and with minimal user intervention. Other examples of ecosystems that could benefit from this type of integration are unified communications systems, in-vehicle payment systems and in-vehicle systems that send usage data to insurers.

CSC's M2M Center of Excellence has developed several HTML5 apps for clients to handle tasks like fleet monitoring. Understanding more about how HTML5 can be used to facilitate integration of M2M and enterprise systems will open up new markets and potential business opportunities for a services integrator like CSC. Future CSC clients will also benefit using more cost effective, platform independent solutions that are enabled by open standards.

User Interface and Context

In terms of the car-mobile device M2M example, another area of interest is the user interface, no small matter in today's world of apps and even more of a concern in a moving vehicle. How will touch, voice and other modalities be employed in automotive infotainment systems of the future? How will this contribute to apps in other everyday things, such as appliances? What are the ramifications in terms of privacy, attention (distraction), and accident liability?

Context is an all-important factor in the user interface. In the future, context-aware apps in embedded devices and infrastructure will interact transparently with each other to implement complex processes. Context-aware apps will be "everywhere," present in the user's car, home, office and work space. The user's profile will be able migrate between nearby devices, such as the phone, computer, TV, and car, and adapt content to the changed workspace context. If the user sits down at their computer their presence will be detected by all nearby unified communication tools (desk phone, IM messenger), which will adapt to the user by configuring the contact lists and user profile. If that user walks to their car, the embedded apps in the car's GPS and communications system would be linked to the same person, showing favorite destinations and recent callers. For example, suppose a user named "Amy" starts a phone conversation with "Bob" in the office. When Amy walks out of the office, the conversation is moved to her smartphone, and when she gets into her car, the conversation is picked up by the car's GPS and communications system to show Bob's address and directions to his location. Amy and Bob can continue the conversation on hands-free communication devices.

In the future, embedded apps in a car will also gather information about nearby objects, communicate with other apps in intersection sensors, and analyze this information to direct the car, with minimal intervention from the user.

At some point, the car will be so connected with its environment – so aware of its own context – that it will drive itself. We are already seeing glimpses of this with the Google Car. It seems as if we will need a self-driving car to take full advantage of the apps and infotainment of the connected car! But on a more serious note, the autonomous car is about improving safety and traffic management. With that will come a host of issues, especially liability. If the car has an accident, is it the fault of the driver, the software, the infrastructure, the car maker, or something else? Auto makers, insurers, software companies and drivers are in for a big ride.

Sincerely,

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