

MICHAEL HARTLEIB
P.O. Box 7078
Laguna Niguel, CA 92607

FILED VIA ECFS

October 14, 2007

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: Comments Filed; Consolidated Application for Authority to
Transfer Control of XM Radio Inc. and Sirius Satellite Radio Inc.
MB Docket No. 07-57

Dear Ms. Dortch:

Attached for your consideration, in connection with the above-referenced
merger of XM Radio Inc. and Sirius Satellite Radio Inc., please find a copy of
**DaimlerChrysler Research, Engineering and Design North America Inc.,
Stanford Senior Software Project Ideas, Friday, February 23, 2007.**

In accordance with Section 1.1206 of the Commission's rules, 47 C.F.R. §
1.1206
and the Commission's Public Notice dated March 29, 2007 (DA 07-1435), a
copy of this letter and the attachment are being filed in the docket via ECFS.

I believe this confirms the broad and increasingly diverse in-vehicle
applications competing for the consumers' attention and "ear share".

Please note OEM's are working to provide constant connectivity to vehicles
via WiMax and WiFi which will allow many new and exciting in-vehicle
applications, some of which are outlined in this report.

I submit Sirius and XM will continue to face competition from existing and
new content delivery platforms.

Respectfully,

Michael Hartleib

DaimlerChrysler Research, Engineering and Design North America Inc.

Stanford Senior Software Project Ideas

Friday, February 23, 2007

- 1) **VIIV /TIVO / ITUNE WIFI (802.11N) SYNCH WITH THE CAR**
- 2) **PANDORA IN THE CAR**
- 3) **WIFI - BLUETOOTH GATEWAY FOR IN-VEHICLE HOTSPOT**
- 4) **UWB BASED REAR SEAT ENTERTAINMENT**
- 5) **WEATHER INFORMATION DISPLAY IN NAVIGATION/MAP**
- 6) **LBS PHONE SERVICE IN-CAR INTEGRATION**
- 7) **IN-VEHICLE ELECTRONIC PROGRAM GUIDE**
- 8) **MULTI-TOUCH DISPLAY FOR THE AUTOMOBILE**
- 9) **XGL BASED IN-VEHICLE TOUCH SCREEN**
- 10) **THE CAR GOES SOCIAL**

(see details below)

Detailed Descriptions

- 1) **VIIV /TiVo / iTune WiFi (802.11n) Synch with the car**

Outline

Demonstrate content synchronization or streaming to the vehicle. WiFi is already a commodity technology that could support content synchronization to the vehicle, and moving forward we foresee broadband-like speeds for wide area connectivity to the vehicle which would enable on-demand streaming of content stored at home.

Project Scope / Demo :

As this project is not very well defined, it could take many forms. Here are some examples:

- Use TiVo's Home Media Extensions (HME) toolkit to build a user interface allowing a user to manage the content (from their TiVo and optionally other sources within the home) that is synchronized to the vehicle. You could then, if you're feeling adventurous, implement the in-vehicle side and synchronize the content to an in-vehicle playback engine.
- Use Intel Viiv (or DLNA) to build an in-vehicle implementation of a streaming media client. You should be able to connect to a media server, browse content on the server, and play back the selected content.

Technologies

TiVo HME, DLNA, Viiv, UPnP, C/C++

Contact: Chris Carde, 650-845-2533, Christopher.Carde@dcx.com

2) Pandora in the car

Outline

Build an in-vehicle Pandora client, allowing passengers to tune and listen to, create, and modify (thumbs up/down) stations from their Pandora (<http://www.pandora.com/>) account.

Project Scope / Demo :

Two possible levels of complexity / scope – the more complex one paying out with a much better demo!

1. Implement the Pandora network API using an appropriate technology for network services targeting our embedded environment (QNX) such as Python.
2. Use the API implementation to create an application for our in-vehicle prototyping QNX/C framework to expose the typical Pandora features (station tuning, station creation, and station editing) on a Chrysler and/or Mercedes radio.

The demo will, of course, depend on the accomplishments (#1 vs. #2 above). A demo of #1 could involve a simplified HMI simulation running on a desktop. A demo of #2 would, of course, be running on hardware that looks very similar to production hardware (this part would be provided by DaimlerChrysler).

Technologies

QNX, Python, C, XMLRPC

Contact: Chris Carde, 650-845-2533, Christopher.Carde@dcx.com

3) WiFi - Bluetooth gateway for in-vehicle hotspot

Outline

Implement a Wifi hotspot using a Bluetooth cell phone for the upstream (WAN) connection.

Project Scope / Demo :

Using a hardware platform of your choosing (suggestions: embedded Linux-capable PC such as Soekris or a PDA), implement a Wifi hotspot that uses a Bluetooth cell phone and the PAN (Personal Area Network, preferred) or DUN (Dial-Up Networking) profiles to connect to the internet. Much of this can be accomplished with off-the-shelf software and drivers under Linux. One interesting design problem will be that of HMI: how do you make it easy for the owner/user to provision a cell phone – that is, to pair it with Bluetooth and configure the specific network-dependant information required to connect to the internet. (Hint: this is why we prefer the PAN profile!)

A demo will consist of two things:

- Showing the HMI design for device pairing and network connection information
- Showing WiFi devices connecting to the internet via your hotspot – and since this is intended to be in a car, bonus points for finding an interesting Wifi device/use case for a passenger in a vehicle!

Technologies

Linux (not a requirement), WiFi, Bluetooth (PAN or DUN profiles)

Contact : Chris Carde, 650-845-2533, Christopher.Carde@dcx.com

4) UWB based Rear Seat Entertainment

Outline

Ultrawideband (UWB) is a new wireless technology for bandwidths up to 480Mbits. For this reason it allows to stream multiple videos at the same time over the same link.... Or any other high bandwidth activity (room for creativity!!!)

Project Scope / Demo :

Create the application for a portable media player that e.g. allows the control of multiple video streams and show capability with an in-vehicle prototype using the car's Rear Seat Entertainment System Technologies UWB USB dongles, mini-PC (UMPC) or other portable media player, Any programming language or streaming app.

Appropriate.

Contact: Thomas Bock, 650-845-2570, Thomas.bock@dcx.com

5) Weather Information Display in Navigation/Map

Outline

Today's web site and desktop enable you to have weather information embedded easily and everywhere. We want to bring this information into the car as well Project Scope / Demo : Combine the weather information with the Navigation Map display in a convenient way, so that the driver is able to access weather information of, home, destination, etc.

In-vehicle Navigation prototype, focusing on HMI/Display and getting the data wireless to the car.

Technologies

XM Radio, SPOT, XML, RSS or any source of weather info Wireless Communication (GSM, ...)

Any platform or programming language.

Contact: Thomas Bock, 650-845-2570, Thomas.bock@dcx.com

6) LBS Phone service in-car integration

Outline

Nowadays any kind of mobile phone comes with some kind of Location Based service, e.g. Google Mobile Maps.

Since phone's are inherently connected devices they can pull always the newest information. We want to integrated this "connected" functionality so that we can use this up to date information, e.g. for POI search.

Project Scope / Demo :

Showcase a connection to a mobile phone where information is pulled thru and delivered to the car. POI or any kind of "online" information (Room for creativity!!!)

Technologies

J2ME or any phone application technology.

Bluetooth or USB for phone to car connectivity. Windows, C or Java on Vehicle side.

Contact: Thomas Bock, 650-845-2570, Thomas.bock@dcx.com

7) In-vehicle Electronic Program Guide

Outline

DVB-H is an open standard for bringing mobile TV into handsets and it is currently being rolled out in Europe and the United States . The bandwidth here in the US allows for about 10-20 channels

Project Scope / Demo :

Investigate, design and implement an in-vehicle electronic program guide with the metadata provided by DVB-H, taking into concern the constraints from the current HMI and controls.

Technologies

Should be implemented on a current Chrysler or Mercedes Radio using the C-language.

Contact: Anders Kihl, 650-845-2552, Anders.Kihl@dcx.com

8) Multi-touch display for the automobile

Outline

Apple amazed the world with their multi-touch display demonstration on the iPhone back in January at Macworld 07. (In case you missed it: <http://events.apple.com.edgesuite.net/j47d52oo/event/>). What can multi-touch interaction bring to the automobile? Easy navigation of maps? Intuitive selection of music? A whole new feature only possible with multi-touch?

Project Scope / Demo :

Investigate and implement the multi-touch interface on an automotive-related demonstration (of your choice) that illustrates the power of such technology. There is some documentation from previous year's ME310 team that implemented a capacitive touch screen, but some low level driver development may be necessary.

Technologies

Multi-touch sensing

Capacitive (most likely) touch pads

Contact: Sushi Suzuki, 650-845-2531, atsushi.suzuki@daimlerchrysler.com

9) XGL based in-vehicle touch screen

Outline

Xgl (<http://en.wikipedia.org/wiki/Xgl>) is an intriguing graphics technology that allows for new modes of on-screen visualization and interaction. How could this technology be used to enhance the current applications in automobiles (music, radio, navigation)?

Project Scope / Demo :

Research, design, and implement a touch screen based car radio using Xgl technology. While you don't need to design the whole system, do implement enough car features to show the advantages of Xgl and demonstrate the feasibility of integration.

Technologies

Xgl

Touch Screen

Contact: Sushi Suzuki, 650-845-2531, atsushi.suzuki@daimlerchrysler.com

10) The car goes social

Outline

It's inevitable that cars will become connected entities on the internet allowing for a plethora of new applications.

While the more obvious applications such as connected navigation and internet radio have been implemented by 3rd party devices, there are many more hidden opportunities that take advantage of the true social nature of the internet.

Project Scope / Demo :

Research what's available in the web and brainstorm and prototype potential social applications for the connected automobile. Keep in mind that the primary task of the driver is driving. GPS will most likely be omnipresent in ten years, so opportunities exist in using location information.

Technologies

GPS

Web 2.0 (is that a technology?)

Whatever it takes to implement this

Contact: Sushi Suzuki, 650-845-2531, atsushi.suzuki@daimlerchrysler.com