

The CarPC Driving High-Tech to New Heights

The car of the future is here today and it makes those drop-down DVD players look like child's play.

Imagine driving a vehicle with an easy to use onboard PC that can serve many of your computing needs – from GPS to videos – all at the touch of your fingertips!

For NSI software support engineer Gary Stango the CarPuter, or CarPC, is reality. "Generation 3 of the CarPuter has come a long way," Stango says. "This time around I wanted to do things right."

Stango's inventive mind has produced award-winninr results, recognized in an online contest for the most innovative use of wireless access in a mobile enviroi

His CarPC uses a Mini-ITX low power consumption motherboard. It has onboard video (VGA, s-video, composite), sound, network, USB, etc. It has a 60GB laptop hard drive, runs at 1.3GHz and has 512Meg of 400MHz ram.

"What really sets it apart from normal PCs, however, is the case and power supply," Stango says. "I used both an Opus case and PSU for this project. They make very small custom cases for special installations." The case is black, compact, slim, and shock resistant.



The power supply accepts 12v DC current (car battery) and has a built-in voltage regulator.

According to Stango, "It monitors the car battery for me and knows when the car is on and off. When the car is turned on, the PC boots up on its own. When it is shut down, the computer stays on for one minute in case I turn the car back on. After a minute it turns itself off, as if a UPS had sent it a power down signal."

Remarkably, the entire CarPC is controlled through a seven inch high-definition touch-screen display that Stango custom built. "I made a case for it so that it can be folded up and tucked away into the dash while parked," Stango says. "When turned on, the computer brings you to a touch friendly



main menu." It also starts playing the media (with fading in volume) that he was last listening to from two minutes prior to its last shutdown.

In the new CarPC, he can browse any music or video file by artist, album, title, or genre. It currently holds about five-thousand MP3s and ten-hours of TV shows and movies. "However, with the new system we go beyond just music and video, and into FM-Radio, XM-Radio, DVD, and on-screen GPS. All of it is setup for the custom touch screen interface," Stango reports.



Adding new media is as easy as dragging and dropping. "When I'm at my house I copy, paste, delete, and move all the media I want to have in the car in a folder on my server. As soon as I next get into my car, I hit one button and all of the new changes are made to the car over a wireless connection," Stango says.

The project is still under way. Stango plans to add a second 'mini PC' that will dial out on a Verizon wireless card and then broadcast the Internet access like an access point. "This would then make me a mobile hotspot," Stango says. "I could allow anyone with Wi-Fi access to connect to broadband Internet if they are within 300-feet or so of my car." It would also allow his CarPC to always have broadband Internet speed as he drives, enabling e-mail, voice-over IP chat, live updates of where the car is on a tracking system and anything else that can be done with normal Internet.

Stango also is planning to install two monitors into the back headrests so passengers can watch movies or television while he has GPS on the main screen. He also wants to mount a USB hub in the center console area for various device uses, such as head-on-head gaming in the backseat with joysticks.

"All in all, it's coming along very nicely," Stango says. "And it's been a lot of fun too."