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Wireless project breaks new ground / Pecan Park users may test new medical devices

By DOUGLAS BRITT, Houston Chronicle Correspondent

Pete Soto had his doubts at first.

As the 34-year-old Pecan Park resident stood in his doorway, listening to a stranger ask permission to mount an antenna for a neighborhood-wide Wi-Fi network to the side of his house, he heard something that sounded too good to be true.

"He kept saying (Internet access) was going to be free," Soto said of Joseph Camp, a Rice University doctorate candidate.

Camp, along with other local partners, is working to provide free wireless Internet service to anyone living or working in the Pecan Park neighborhood.

"That does get your attention, but a lot of times when something is pitched to you like that for free, you're kind of skeptical," Soto said.

Technology For All

Soto relented, however, and nearly a year later counts himself both a user and a fan of the TFA-Wireless project.

The project is a collaboration between Rice faculty and students and Technology For All, a nonprofit organization at 2220 Broadway.

"I think it's a great thing," he said.

"You shouldn't have to have money (to access the Internet).

"You shouldn't put a price on information."

While other Houstonians wait for the city to settle on a private partner to build a citywide wireless broadband network, the antennas on houses like Soto's have enabled his neighbors to enjoy free wireless Internet access since September 2004.

Soon, a handful of Pecan Park residents also will help researchers test Game Boy-size medical devices on the TFA-Wireless network as tools to help treat chronic disease, said Clifford Dacso, the John S. Dunn Sr. research chair at the Methodist Hospital Research Institute.

"We're in the process of developing some biosensors," Dacso said.

"They measure the unique physiologic properties of the (patient)."

The biosensors on the devices will be used to monitor the condition of people with chronic diseases such as hypertension, diabetes and asthma and to notify patients when their readings show there's a problem, said Jim Forrest, TFA's managing director.

"Your device sends an alert that you need to take some intervening action," he said.

"These devices have to be cheap.

They have to be throwaway."

Exactly what the devices look like, and how they communicate with patients, will depend partly on what Dacso and Forrest hear from Jerome Crowder, an assistant research professor of anthropology at the University of Houston, who is talking with Pecan Park residents in hopes of finding culturally sensitive ways to introduce the devices into the community.

"(Crowder)'s working with us on understanding how people use information and how people relate to information," Dacso said.

"It's not clear that a text message or that type of written communication is the way to go."

Older patients, for example, might have trouble using devices that too closely resemble the high-tech gadgetry embraced by today's youth, Crowder said.

"We can't give them a Playstation 2 with a touch screen and expect them to understand how to use it," he said.

"How can (researchers) create this so that it mimics or represents something that (seniors) are already familiar with?"

The first phased study, pending approval from Methodist's institutional review board, will kick off "a fair amount of pretty elaborate testing," Dasco said.

"We're not going to roll (the device) out for community use until we're absolutely, concrete, dead certain that it does what we say we're going to do," he said.

"This is not ready for prime time.

This isn't going to be at a Walgreen's near you in July."

Advance testing

Still, the fact that Pecan Park already has a wireless network means that testing the devices won't have to wait until the citywide network is deployed, a process that should take two years once the city's partner is selected among the two finalists, said Janis Jefferson, the city's deputy director and chief technology officer for infrastructure.

While covering 600 square miles in two years may sound like a tall order, the city and its partner won't have to go door-to-door finding antenna host families the way TFA staff and Rice researchers do, Jefferson said.

"This city has over a million light poles," she said.

"It's everywhere, and it's an ideal mounting platform."

Soto, meanwhile, says he's glad he agreed to host the TFA-Wireless antenna at his house, particularly after having met other host families, some of whom were unfamiliar with the Internet before being approached by TFA or Rice.

"It just really moved me, because these are people who had no idea that the Internet even existed," Soto said.

"I think every family should be afforded the opportunity, especially the families that are low-income families" he said.

"Don't get me started, I could preach for days."

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HOW IT WORKS

About the area: The TFA-Wireless network currently covers the southern quadrant of Pecan Park, a 1.2-square-mile area, and has 1,700 total users, or between 100 and 200 daily users. The network's goal is to expand to 1.6 square miles and 4,000 total users. A goal is to extend service to the northern areas of the community by the end of the year.

The Connection: While the free TFA-Wireless network is faster than dial-up connections, it's slower than commercial broadband speeds.

The Technology: For more information about the wireless mesh network technology Rice researchers are deploying, visit http://tfa.rice.edu/.

Access: Anyone in the coverage area who has a computer with wireless capability can access TFA-Wireless for free either as a guest or a registered user.

For information on training on wireless or other computer technology, contact TFA at 713-454-6400.