

# Building a personalised network of digital devices

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Plans to develop protocols and devices that link together all the audio and video gadgets that clutter homes, handbags and briefcases will unleash an incredible array of new, personalised and location-based services.

Imagine your alarm wakes you up an hour early because it knows you're flying abroad, and there's a traffic jam on the way to the airport. Your coffee maker turns on an hour early too, while the alarm clock gives you the latest headlines about your destination.

Your electronic doorkeeper automatically alarms the house as it senses your mobile phone leaving the house, your car provides traffic updates as you travel, suggesting a detour to avoid congestion. Once at the airport, you buy duty free with your mobile phone. When you reach your destination you can buy movies and videos online, which will be sent directly to your home media centre.

These are the types of service that the ePerSpace project wants to enable, and once that functionality is there, inventive companies will be able to design a host of new, currently impossible, services.

"We demonstrated our technology for a number of standalone devices in February," says Pierre-Yves Danet, ePerSpace project coordinator and Head of the Services for the Home R&D unit at France Telecom. "Now we're integrating those devices together for a demonstrator in January. This will show the system working in a cohesive network," he says.

The soul of the system is the user profile, which defines user preferences in news, TV and music. It will contain information about the users' friends and family, and it will be linked to their calendar to keep it up to date on their work and life schedule.

The profile resides on a Home Gateway, the hardware system that will be the heart of your digital life, pumping binary oxygen to all the elements of your extended network. "The gateway links with all the individual devices and provides them with information as they need it," says Danet.

The Gateway links to all the other essential services in the chain: the content, service and location management platforms, so your music, videos and news, your banking and gym membership, and your travel and schedule are all handled from one point. The Home Gateway will host the user profiles of all the family members, so each one gets the content and services they need.

To make the system work each device requires a piece of software that identifies itself as part of the network and details the format it needs to see and display information.

"This is quite difficult because all devices have different formats and different form factors," says Danet. Again, the Home Gateway is designed to deliver information in the most appropriate format, ultimately sidestepping the intractable problems caused when each device tries to translate the data on the fly.

Data is transferred through three primary networking technologies: broadband, WiFi and Bluetooth. All are mature technologies, which manufacturers are already integrating into different products. Still a lot of integration work remains to be done before the personalised network of science fantasy becomes science fact. "This is a research project. To

develop it into a commercial application will require another 2-4 years of collaborative effort" says Danet.

Security is also still a big issue, as is finding the best business model to deploy personalised types of services. "Privacy and security are big problems, but we are working with the regulations on privacy and security developed by the EU and national governments," says Danet.

ePerSpace uses the mobile SIM card containing that data. If a user wants to open the front door with his or her fingerprint, the Home Gateway compares the fingerprint to the data on the mobile phone. In the ePerSpace system the Gateway could identify friends in the same way, either admitting them to the home or putting them in contact with the user.

Even so, Danet recognises that while all these services provide the ultimate in convenience and comfort, they present a potential worry, too, and part of ePerSpace's plans include solving the security and privacy issue, and addressing user concerns.

Source: [IST Results](#)

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