



Sonja Bettel

## Problem-Free Wireless?

A scene played out recently in Vienna's *Museumsquartier*: on one of the mint-colored plastic seats arranged around the courtyard of that cultural complex, a woman is writing e-mails on the notebook flipped open on her lap. A man approaches her tentatively and asks her if wireless LAN is available there. When she tells him it is, he strides off beaming with joy. A minute later he returns with his own laptop, finds a place on one of the benches, and gets to work.

Day after day, evening after evening, the *Museumsquartier* attracts so many visitors that it's tough to even find a seat—not at a table in one of the many bars and restaurants in the grounds, not on the courtyard's plastic furniture—painted a different color each summer—and not even on one of the classic park benches. Not everyone comes to partake of the free wireless Internet access but many do take advantage of the opportunity to read and write e-mails, post entries to their blogs or browse in the World Wide Web. Whether in Vienna's *Museumsquartier*, in Linz's Donaupark or on the campus of a university—wherever there's a freely accessible hotspot, people gather like thirsty animals around a watering hole. The Internet has gone mobile and it could eventually become as freely accessible as parks, benches or public drinking fountains.

The fact that providing public Internet access—and making it free of charge, if possible—is an important feature for the inhabitants of, or visitors to, a city and enhances the attractiveness of that community was recognized not too long ago. Nevertheless, this next level—accessing the Internet “out of the ether”—is still lacking for the most part in Austria. A search of diverse websites for communal hotspots turns up very few. The hotspots in Linz's Donaupark along the banks of the Danube and on the Main Square (Hauptplatz) are being made available by the city. The WLAN in Vienna's *Museumsquartier* is the result of an initiative by quintessenz, a community of IT and privacy activists whose headquarters is in Quartier 21

in the *Museumsquartier*. Otherwise, free-of-charge WLAN is offered only in a few cafés and in-bars as a service for a state-of-the-art-oriented clientele. Sometimes, as in another scene that was played out recently on a tiny square on the outskirts of Vienna, a WLAN user simply lets his park-bench neighbor and more or less random passers—by get in on the action. Pay-to-play WLAN hotspots are more common, though frequently also that much more complicated to use. It's easiest when your account with your ISP features access to other providers and the accounting is done automatically. For transient trade, though, it's much less convenient. WLAN is mostly an additional feature offered by cell phone service providers, at the top of whose agenda is serving their own customers. For all others, there are fixed time contingents. Of course, it's quick and easy to use a credit card to buy an access code for a particular provider's WLAN hotspot, but it's most common to buy a fixed time contingent, which sometimes even means a minimum of 24 hours. But who wants to sit in a café surfing in the Internet for 24 hours straight? With the rate structure currently in effect, briefly checking and sending a few e-mails or a quick Google search costs a fortune. Plus, there's the fact that people on the go need contingents from several providers because, despite efforts by the so-called Greenspot Initiative, it's been impossible to make arrangements for roaming. When you're online via cell phone, it's absolutely no problem to move around and remain accessible beyond national borders, whereas with WLAN, the hook-up gets interrupted and you have to set up a new account when you move from the transmission range of one hotspot

to another. How simple things would be if WLAN—at least in urban centers or areas of moderate population density—were simply available everywhere—and, while we're at it, if it were free!

Anyone who has had a (problem-free) wireless LAN experience will never want to do without it again. The arguments in its favor are many: the connection is established much faster and more simply than dialing in via modem; you can conveniently check your mail, search for information or send data while on the move; no more searching for an unoccupied computer or a functional network connection at conferences; no more schlepping around a handful of telephone adapters for different countries; no more searching for a local POPs; no more horrendous telephone bills in hotels. Wireless LAN gets you mobile—while traveling in distant cities and countries, throughout a high-rise office building, or in your own apartment. WLAN has already reached technological maturity, it's already available in every new notebook and will even soon be obligatory in every palmtop as well, and security issues have been solved. Voice over IP goes mobile via WLAN as well. With wireless

Internet access, there's no longer a need for expensive cable installations and it delivers total flexibility when you rearrange the furniture or relocate your office.

Furthermore, wireless Internet is an attractive alternative for areas whose location far from

Photo: Fabian Fischer



the main arteries of the Internet has meant that they do not yet enjoy broadband access. This is why certain local ISPs have gotten active in some rural regions of Austria; they can get their customers connected via a single high-performance data line and radio as the *last mile* much faster and cheaper than the big-time cable networks and telecommunications giants. Even isolated farmhouses and mountain huts have broadband Internet service thanks to a bit of creativity and custom-tailored hybrid solutions consisting of cable, directional radio and WLAN technology.

In the future, WiMax (Worldwide Interoperability for Microwave Access) will make it even simpler to provide folks out in the boondocks with broadband Internet service and thereby to bridge the *digital divide* between town and country. It's said that the new standard for wireless data transmission will make possible ranges of up to 70 kilometers and transmission rates of up to 70 megabits per second. At present, WLAN can usually handle 11 megabits per second. The first WiMax providers are already in the starting blocks; they want to get set up above all in areas where other companies have had no interest up to now. Needless to say, this service will cost at least as much as a broadband hookup via cable.

In London, Berlin, Amsterdam and Vienna, there are people who have given up waiting for commercial providers or municipal government initiatives, or they had no intention of doing so in the first place. They've spun their own data webs—at first with home-brew antennas, in the meantime with commercial equipment that has gotten cheaper and cheaper. The advantage of Community WLAN, according to the activists at *Funkfeuer* in Vienna, is that bandwidths increase when you share them—on one hand because the more bandwidth you buy, the cheaper it gets; on the other hand, because *mesh routing* makes the radio network increasingly stable, whereby even more community members are able to link up via their own antenna. However, keep in mind that anybody who would like to get involved in this has to be prepared to configure a WLAN router with their own two hands and to install their own antenna on their roof (or pay someone to do it for them). The *Funkfeuer* community offers all the know-how you need.

Taking a look at developments on the hardware-side leads to the conclusion that the future of the Internet is 100% mobile and wireless. Wouldn't it be nice if the infrastructure were totally convenient to use, cheap or even free, and available everywhere! If WLAN access is already available or planned for the near future on board express trains and urban light railway cars (as is the case France and Germany), it can't be that difficult to link up a city's most important squares and buildings to the Internet. In the USA, several communities in disadvantaged regions took the initiative in order to make up for the sins of omission of commercial providers. Fast Internet access is a municipal service just like streetlights and tap water, they figured, and therefore it ought to be made available by and for the community and financed with tax revenues. Naturally, wireless LAN was clearly the technology of choice here. The so-called free market, though, was not of the opinion that broadband Internet is completely a matter of course and a necessary technology that should rightfully be provided communally.

Translated from German by Mel Greenwald

On this subject, see Lawrence Lessig's commentary on p. 262