

# Smart house stuck in '70s

## Home automation sounds swell, but technology behind it hasn't evolved / **Simson L. Garfinkel**

**W**HEN I WAS IN 10th grade, I automated my bedroom. I could lie in my bed and press a button and have lights dim, have my stereo switch on, and then have the whole thing shut down automatically when I was ready to go to sleep. Not very useful, over-all, but hey, I was only 15.

The technological magic behind my scheme was a bunch of so-called "X10" equipment from a company called BSK. There was a light switch that I put into the wall, a few plug-in modules that could control lamps, a special appliance module that I used to switch the stereo, and a remote control device that worked by radio. A lot of the stuff was clunky, but it was 1980 and most electronic things were kind of dinky.

When I went to college a few years later I took my X10 stuff with me. Then when I moved out of the dorms and got my own place, I went jog wild. Rather than just sticking to my bedroom, I went to Radio Shack (which also sells X10 equipment) and bought enough light switches and controllers to do my entire house.

Probably the most useful feature of the entire system, which cost hundreds of dollars to purchase and took more than a dozen hours to install, was that I could turn off all of the lights by hitting

a single button labeled "all off." The year was 1989.

Now it's 1998 and IBM has become the latest company to get into the X10 business. The company is selling more or less the same equipment that I was playing around with when I was a teenager, except now it is all labeled with IBM's big blue letters.

Just about the only thing that X10 has going for it is that it's cheap and it works. X10 is great if you want to control a lamp from a light switch and you don't want to run any more wires. The system sends digital messages through household wires, letting you turn lights on and off, or dim them.

Besides the switches and the remote controls, you can get X10 motion detectors, thermostat setback devices, and even a fancy computer control. The computer control lets you turn every light in your house into a timed switch that automatically turns on when you come home and turns off when you go to sleep. And the computer control can follow "outines," so when you turn on one light, lots of other lights will turn on at the same time.

But the X10 technology is also annoying. The system is slow. Push a button and the light takes one or two seconds to respond.

**IBM's Home Director lets you program your house, making lights turn on and off at certain times.**

There are only 16 "house codes" and 16 "light codes," which means if your neighbor uses X10 it's possible that you will soon be turning on and off each other's lights.

And there are deeper problems as well. Just ask Bob Frankston, one of the pioneers of the personal computer revolution who happens to live in a house that is completely X10-controlled. X10, says Frankston, is designed for "home automation." Unfortunately, most people don't want to live in an automated house.

"Is your life so predictable that you want your lights turned on at the same time every day?" asks Frankston.

The real problem, explains Frankston, is that "none of this stuff has sensors. It's good for the more than 'gee whiz' toys."

People don't want home automation, says Frankston. Instead, they want houses that are respon-

sive. If you always turn the lights off before you leave your house, and then one day you leave the lights on by accident, your house should call you up and say "Excuse me, would you like to have the lights turned off now?"

Another place where responsiveness could make a big difference is electric bills. I just got my bill for July - \$165, the result of two air conditioners and too many computers. But with a home computer that actually monitored my electric consumption and understood the layout of my house, I probably could have saved two-thirds of the expense.

An even smarter system might shut down the air conditioner and turn on the a/c fan on occasion, depending on the differential between the indoor temperature and the outdoor temperature.

Unfortunately, dreams of such a "smart house" are still more than a decade away. Despite IBM's effort, the technology behind X10 is hopelessly stuck in the 1970s. Meanwhile, overly ambitious industry efforts such as

CEBs ([www.ceb.com](http://www.ceb.com)) and "Home Plug & Play" seem to be going nowhere. The reason, says Frankston - who served on the Home Plug & Play committee while working at Microsoft - is that the current generation of home-automation schemes are too complicated to work in practice.

Frankston thinks that ultimately it will be the Internet that ties out home appliances together. Ten years from now, he says, my microwave, dishwasher, and air conditioner will all have network jacks. By plugging them together and into my home PC, and by adding a few sensors and perhaps a voice-recognition unit, I will be able to create a fully customized electronic household.

It's not such a far stretch: Already my microwave, dishwasher, and air conditioner are equipped with computers that are powerful enough to speak the Internet protocols, and a network interface can be built for less than \$10.

What's really needed, though, is for a home appliance company to have the vision and the daring to actually build this equipment.

And perhaps most importantly, that company needs to provide technical details so any hobbyist and entrepreneur can build the product based on the appliances.

But I'm not holding my breath. Frankston is right. X10 has great "gee whiz" appeal, but after 20 years it's still not terribly practical.

X10's home pages is at [www.x10.com](http://www.x10.com). You can learn more about IBM Home Director at <http://www.pc.ibm.com/us/accessories/homedirector/>.

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