



PRESENTS

**Home Automation and Bluetooth:
A Guide to the Endless Possibilities**

HARNESSING BLUETOOTH, X-10 & THE INTERNET FOR HOME AUTOMATION

Every so often a new technology comes along that results in a fundamental change in the way products are designed and the way they behave. **Bluetooth** has the exciting potential to add all sorts of new functions and forms to all manor of devices, freeing electronics in all forms from the proprietary tether of cables. In the short term this will make mobile computing easier. In the longer term it will change the appearance of the products we use and usher in a new era of personal connectivity.

At its simplest, Bluetooth is a chip technology enabling seamless voice and data connections between a wide range of devices through short-range digital two-way radio. It is an open specification for short-range communications of data and voice between both mobile and stationary devices. For instance, it specifies how mobile phones, computers, PDAs and other wireless capable devices interconnect with each other, with computers, and with office or home phones. Allowing for all sorts of interaction: Dial your phone with your palm pilot or computer, have your caller ID appear on your computer screen, go online with your computer wirelessly where ever you get cell phone service, the list is nearly endless.

Bluetooth is however, only one exciting technology you can use to create a “Smart Home.” By enhancing this technology and combining it with the World Wide Web (WWW) and wireless technologies (i.e. 802.11 a/b/g standards) we can create solutions that bring us far beyond the realm of imagination and give true meaning to the words “smart home.”

The unifying theme in such solutions is a technology called X-10, which allows your computer and your appliances to communicate over the existing power lines in your home. Among the many possibilities that this technology provides is the ability for a fully automated and responsive home. Among the many appliances that can be controlled using the combination of these technologies are:

- Lights (dimming, on/off, selective lighting and more)
- Televisions
- Refrigerators
- Curtains
- Security Cameras
- Temperature Control (Air Conditioning/Heater – depending on unit installed)
- Stereo
- Computer
- Door locking mechanisms
- Jacuzzis
- Anything with a power source

HARNESSING THE POWER OF APPLESCRIPT

As we are using Apple Computer’s technology as the basis and foundation for our automation technology, we have the ability to harness the power of AppleScript, Apple’s programming language. This technology combined with the X-10 software will allow the user to send emails to his home computer in order to instruct it to, for example, heat the house to 77 degrees, turn on the Jacuzzi, and turn on the main house lights. Applescript will allow us to customize any part of this

solution for the specific needs of the client. Combining Applescript with Bluetooth technology will allow us to empower the user's cellular phone to be a wireless remote control that can complement the variety of controls available for use with our automation solutions.

CONTROLS FOR THE HOUSE

This technology can be controlled in numerous ways depending on the demands of the client. Among the technologies we employ are but not limited:

- Grounded LCD remote controls
- Bluetooth enabled cell phones
- Computers
- Wall mounted touch screen LCD panels
- The Internet and E-Mail
- Voice

SETUP AND INSTALLATION

Installing home automation can be very simple or quite involved, depending on the client's needs. For all of our packages we will need to install a small unobtrusive device between every light or appliance you want to be able to control and the outlet it is plugged into. A controller will also be required which can either plug into your computer or a standalone unit. More involved set ups can actually require the swapping of outlets with ones built to use X10 technology. For items that don't traditionally use electricity like curtains or blinds, a small motor the size of an iPod needs to be installed at the base of the window.

THE ULTIMATE HOME

Imagine coming home from a trip or a long day at the office and all you want to do is get home and relax. It is a hot summer day and you forgot to leave the A/C on before you left the house and you know it will be boiling hot when you get home. What do you do?

The solution lies with ECAD's proprietary technology of home automation. With our solution, you can use your phone, PDA, or blackberry to send an email to your house containing the following message:

“Computer, turn on the air conditioner and set it to 64 degrees. Turn on the lights in the bath room, entrance, and living room. Turn on my television in the living room and tune it to channel 10. Unlock my front door in 10 minutes. Turn on the shower and set the water temperature to preset #1. In twenty minutes close all of the curtains and blinds in my house. In twenty two minutes check my email and read them to me over the house speakers.”

There are numerous forms of controllers and you can even use your voice, when near a system microphone, to make commands. For example *“computer, tell me the weather outside and read me my appointments for the day.”* As you can see, the technology is extremely versatile and has no limits. As long as there is electricity it can be controlled.

