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Home Automation - an Installer's Point of View (1/1/2007)

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Automation is the step beyond mechanisation. It is also the best selling point for a custom installer. When you can see a member of the family drifting off and losing interest during a client meeting, it pays to have a 'killer' automation scenario - it could be filling the bath via a button pushed in the lounge or firing the coffee machine up from the bedroom. One of these two usually gets people's focus and brings a bit of fun into the conversation!

Lighting

As a general rule of thumb we only perform automated actions in response to an action request from the user. Lights which switch on upon entering a room sound great but if they power down midway through a DVD or up every time the cat walks in, they can quickly become annoying.

The exception to this tends to be timers. With the likes of Crestron or AMX and a small piece of code which predicts sunrise and sunset, genuinely useful actions can be performed - switch the lights on to a low level and close the blinds when dark, or water the plants whilst avoiding the glare of the midday sun.

Security

Integration of lighting with a compatible alarm system can add a lot of convenience and security. With the alarm set, the system automatically enters 'holiday mode' and replicates the last two weeks' activity. The system could even switch the radio on to a talk sport channel to give the impression of someone at home if the security lights are activated. Couple this with switching on a bedroom light, and the occupied look is complete. If installing a Crestron control system then this is very easy to achieve - most alarms will trigger a low-voltage relay when armed, which can easily be monitored. With more complex alarms you can enhance this by adding 'armed and home' or 'armed and away' to give even more features.

Home automation can aid security in other ways, as well as improving aesthetics. Imagine a plasma TV sinking into the sideboard or a projector rising into the roof. With built-in wall or roof speakers, the casual observer can easily be fooled and guests surprised. Indeed such systems are ideal for the ever-expanding holiday home market. With the addition of a custom-designed web page, heating can be ramped up ready for arrival, pool filters switched on, alarm status monitored and even CCTV cameras viewed. These controls not only improve comfort, but can save on running costs.

TV disappearing into sideboard (image courtesy of Simon Kohn Furniture)

When arriving home, the automated garage doors can now be enhanced by subtly lighting the driveway and switching on the ground floor lights should it be dark. These simple steps can improve personal security as well as convenience, with no more fumbling in the dark for keys or light switches. When in the home, intercom systems can show the occupier who is at the door before they ring the bell and only alert rooms with lights on or sources playing. This can be invaluable in family homes or when shift workers need peace and quiet.

These systems are best fitted as part of a house build or substantial remodel. Laying cables will obviously disturb the fabric of the property to some extent and although the finished look will be excellent, the process can be traumatic for the occupants. We therefore try to

schedule work during holiday periods ensuring the occupant simply sees the end result.

Products

There are many products on the market which perform the above, from systems which work over existing mains cabling to dedicated hardware and cabling. Simple X10 transmitters and receivers can enable a PC in one room to switch a desk lamp on in another room or switch the radio on, and are becoming more and more popular in the gadget world. As well as appealing to this market, there are systems that also offer lifestyle advantages. The X10 community may well be interested in how the equipment works, whereas the owner of, say, a Crestron system will be more interested in the end result.

When installing high-end systems, we always try to separate critical controls from the audio visual distribution. Using a media PC to play videos and stream music is one thing, but using the same PC to switch lighting and heating is quite another - nothing will mitigate the advantages of the macro which closes the curtains and dims the lights when the client settles down to watch a film, than them waking up in the morning to find the heating hasn't come on!

Planning

With most of the above products the key is advance planning, I shudder at the number of times we have been called to do a site survey and arrived to the smell of wet paint! Getting involved at an early stage means the cost will come down and the finished product will be better. Not just aesthetically but functionally.

We can either become a sub-contractor as part of a large programme of works or manage the whole process from beginning to end. We would ensure that the decorator arrives after the plaster, who arrives after the cabling is completed etc. By breaking the process down in to manageable parts, we can ensure that the process runs smoothly and to schedule.

The Beetham Tower development in Manchester by Ian Simpson Architects, in which a top-of-the-line system is being installed in the penthouse by Discreet Remote Control

After most meetings, people have tweaked their requirements and a reasonably long 'incubation period' between planning and implementation can allow people to think through the options and work out what they really want from a system.

Conclusion

Our job is to inform the client of the possibilities and work with them to design a system, uniquely for them. With the price of cable compared to the cost of retro-fitting, it makes sense to future proof as much as possible. If this important step has been previously missed we can design the system to work with existing cabling or with as few changes as possible, ensuring the minimum of hassle.

We are already seeing this technology being demanded in high-end apartments and houses