What is the Real Smart Home?

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You are ready and packed to leave on a holiday trip and for the first time, you agreed that your teenage son can stay home alone. The control freak in you is already making long lists of daily and weekly tasks and to-do's to keep the pets and plants alive, and the calamity predictor in you wants to anticipate for flooded bathrooms and burning fryers.

Is it really wise to leave this kid alone in the house?

The Real Smart Home becomes your ally as you will carry your portable home dashboard with you, across the world as you travel.

A Real Smart Home is a home where the rooms are continuously monitored via sensors for usage and evaluated for security, comfort and convenience. This evaluation takes place "in the cloud" and enables the home owner to control and monitor the various systems throughout the home from any web connected device, anywhere in the world.

This includes arming the house if no one is home and turning on a light if your son is entering the garage. If a window gets left open, the system is smart to turn off the air conditioning or heating in that room to ensure no power gets wasted. You even may be able to remotely close and lock the window, or at least send a text to your teenagers and get them to do it.

That is the real Smart Home, which will help us to improve security, comfort and convenience while reducing energy costs.

But indeed there is much more, and as we will be able to write our own mobile apps, based on a diverse cornucopia of sensors in and around the house, the applications you need are only limited by your own imagination.

You want your son to get up in the morning? An occupancy sensor in his bed will tell you when he’s still asleep, or even better, when he came to bed the night before. You can control the alarm and the blinds in his bedroom to make sure he’s awake early.

To make sure he eats, you want the fridge to hold healthy food. Every time your son takes something out, the barcode is scanned and listed in the online grocery store. Your approval and adding a couple of frozen pizzas is all you need to make sure the groceries get delivered and your son is not starving.

The cat’s water bowl has a level sensor that will prompt a reminder to your son’s mobile phone and the plants and lawn have a moisture sensor that does the same. This app is linked to the weather station and will only sprinkle the lawn when no rain is predicted. No more withered houseplants or sunburnt lawn at your return. And the cat will not have to eat at the neighbor’s house.

Your curbside mailbox is equipped with an accelerometer or a position sensor that will transmit a when the postman drops off the mail.It can even text your child a gentle reminder if he does not empty the mailbox the same day.

But let’s stay realistic. Your son will throw a party when you’re far away. He can link the music from his iPhone playlists to the mood lights in the living room. The invigorating blue you use to concentrate will turn in romantic reddish when the pace of the music slows down.

You, by then in the holiday resort far way, will notice peaks in energy consumption in the middle of the night and be able to trace it down to the TV screen, pizza in the oven and the washing machine running, after spilling beer on your son’s girlfriend’s favorite sweater. You can just restrain yourself and not turn on the security cameras to find out who exactly is partying in your house. Or in your bedroom…

As a novice chef, your son will want to impress his friends and it is good to have an oven that can do the cooking for him. With a built-in tablet, users can search for step-by-step cooking instructions for their meals in realtime. What's more, your son can remotely control the oven from his smart phone, adjusting bake times or temperatures on-the-fly when another friend calls in and they decide to take a swim before eating.

With leak detection in the bathroom, gas detection in the kitchen, and smoke detectors in every room, you know your property and expensive interior and equipment to be protected from the risks of costly damage. When a water leak is detected, not only could an alarm be sent, but it could also turn off the water supply to the house to prevent additional damage and text you a contact list of nearby plumbers who are open and available right now.

The next morning, the cleaning lady cannot get in because your son will not hear the bell. Your home security system with connected doorlocks will allow you to open the door from your mobile phone’s app, just when you’re having your breakfast thousand miles away from home. However, when the cleaning lady sees the mess your son’s party has caused, she refuses to clean up and returns.

Your son will have to take care of cleaning up himself and can switch on the robot vacuum cleaner with its dust awareness sensors as his best friend in the after party cleaning battle.

Great, but how does this work in real life?

As we do now, putting intelligence in single devices and sensors - all with their own smart phone app - is unsustainable and misses the bigger picture. You will need one

dashboard application that integrates all individual apps and links their functionality in one convenient platform. You do not want to scroll through fifty different apps to monitor your home.The same occupancy sensor for the burglar alarm will be used in the light control application and climate customization of each room when nobody ispresent.

Also, by using sensors on the windows, not only can an alarm be sent if a window is broken or opened, but a signal is also sent to turn off the heating or air conditioning to that room to prevent energy loss.

The real smart home of the future begins with:

1) Solid plumbing ... this is ZigBee, an open standard that wirelessly connects devices to the set-top box or gateway, and makes them controllable from any place in the house or anywhere in the world with a smart phone app;
2) Existing applications will be first, with devices that people are using regularly, not with devices that people hardly touch ... security, comfort, convenience and energy management;
3) Cable and Internet service operators, capable of defining products (business/service models) including making installation easy/infra-structure are already in place to make money on the roll out.

The challenge of the Smart Home, the house of the future is not the vision- it is the implementation of the intermediate steps needed to get us there.

Currently, Operators are rolling out ZigBee RF remote controls and ZigBee security services that fulfill these three requirements – and creating intermediate steps towards the real Smart Home that we all wish we can live in. In the near future, we will be able to leave on a holiday and let the kids stay home alone, safe and secure. Our home will be as aware as we want to be – providing the eyes and ears to know what is going on as well as the long arms to make the needed changes and corrections.

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