

KEY TRENDS OF SMART HOME DEVELOPMENT

In today's world technology is advancing with a fast pace, radically changing our lives. A lot of companies which produce various household appliances and gadgets implement some kind of artificial intelligence technologies in them. Moreover, these devices can be linked into a single network. This enables them to "communicate" with each other and with the host, thus forming a system of "smart house". Of course, such systems are a far cry from real smart homes from science fiction shows, where systems of artificial intelligence behave like a human, fully in charge of the house and are able to create Virtual Reality. But this is only the beginning. In the past the concept of "smart home" often meant a system of remote control of light, heating and washing machine. Today this concept has become much wider. Nowadays there are "smart" materials, programs for smartphones that allow you to control appliances at a distance. They can do cleaning for you and many more. We have identified three main technologies that can change our houses and become their integral part in the future.

1. Drowning In To-Do Lists

For my smart home podcast series, I've been interviewing my friends to find out what tools they use to manage their list of to-do's. "I keep them in a Google doc," one friend told me. "I keep it multiple Google Docs," said another friend. "Each one is dated, and I when I think I'm no longer serious about following a list, I simply create another one with a new date." One guy used Evernote. Best of all was a friend of mine who explained how his to-do lists are memorialized with stickies on his bedroom wall, much to the chagrin of his wife.

While the tools were all different, the one thing that everyone seemed to have in common was a general feeling of failure when it came to crossing enough things off their list and an abiding belief that there was too much to do in too little time. Everyone seemed to be searching for a magic elixir that would save them more time

I often wonder how technology can improve our lives. One area in particular that fascinates me is identifying tasks that technology can handle so that they don't need to appear on my to-do list, and just as importantly, so that they won't occupy space in my mind. I read once about the dressing habits of people like Steve Jobs and Mark Zuckerberg who seemingly wear the same outfit everyday. Upon closer inspection, it turns out that both men have multiple identical pants and identical shirts. The reason for wearing the same outfit every day? If you always wear the same thing, then there is no decision to make. You can then turn to more important decisions and lead a more productive life.

How, you might ask, are to-do lists and clothes connected to the smart home? I've explored how technology like the smart thermostat or smart lighting could save me money if they only turned on when I was in a room in need of heat or air conditioning or light. That's interesting, but what's infinitely more exciting to me is if the smart home could offload my decisions and work by completing tasks independently of me. Fewer decisions that I need to make means more time for me to focus on the things that really matter.

2. A Smart Home Driven By Artificial Intelligence

In many industries, when you interview an ambitious leader, he or she will talk with you about how they will reinvent factory-built housing or the fitness space or retail. However, in some, people will talk about how they are part of an ecosystem and how their success is in large part predicated on the success of other companies in the ecosystem. In the case of the smart home, almost all of the players I interviewed talked about a future where the holy grail was a home driven by Artificial Intelligence.

Think of Artificial Intelligence as computing power that is able to perform particularly complex tasks that would otherwise require a human brain to perform. A motion sensor might trigger a light to turn on. But if a home had Artificial Intelligence, it might consider the time of day, the person walking around the home, and where she was walking in deciding which light to turn on and how long to keep it on for. Not every person I spoke to used the words “Artificial Intelligence.” A hot phrase you’ll hear again and again from experts is that a house needs to be “aware” or “contextually aware” before you can bring Artificial Intelligence into the home.

Let’s imagine the universe of things a house can be aware of: it can be aware of the presence of the people who live in the house (along with their personas); it can be aware of what they’re doing; it can even be aware of what every device in the house is doing. If you want the house to think like a human, the house needs to be able to analyze the data a human would analyze before making a decision.

3. Your Home As Your Personal Caretaker

How would it work for a smart home to free me of some of my decision-making? How could it lighten the load for me, literally and figuratively? Let’s imagine a day together. You wake up in the morning and your alarm goes off. It’s not a buzzer. You want to discover new music on Spotify and this song is on your suggested Discover Weekly list. What’s really interesting, though, is not the song. It’s the fact that you didn’t have to set the alarm the night before.

That’s because there is some level of intelligence in the cloud that’s watching over you and trying to simplify your life. It knows that today you have a spin class because it checked your workout goals, which then checked availability for a class at SoulCycle, which then purchased the class, which then put it on your calendar. The system was smart enough to calculate travel time and set the alarm appropriately.

You stagger out of bed and walk down the stairs to the kitchen. The coffee just finished brewing. You have your smart home to thank for that. Your yogurt and granola is ready in the exact proportions you want inside the refrigerator. The refrigerator knew earlier in the week that you were running low on breakfast foods and placed an order online. You’re in a rush, so you walk out the door and leave for the gym.

There’s no time to set the alarm or draw the blinds (which is something you do when you leave the house so that people can’t look in while you’re away). You don’t think to turn off the music or the lights or lower the heat, as you won’t need to heat the house to 72 degrees while you’re away. It’s not that you forget to do all of those things. You just don’t have to think about them, because the house knows that you left. It knows to lock the door behind you, to turn off the coffee maker, to pull the blinds, to reduce the heat, to shut off the music, and to turn off the lights.

Today is shopping day. Really, every day is shopping day. The sensors in your drawers measure the toilet paper that is left, and the sensors in the closet monitor cleaning supplies and laundry detergent. You’re running low on a few things. The

online order is placed. When it arrives, the cameras at your front door will recognize the FedEx truck and coordinate with the lock to pop open your front door. The delivery man's picture will be taken and a gentle voice will come on over your speakers, asking him to set down the packages just inside the house. Cameras will be watching him from beginning to end, and the door will close on its own behind him when he leaves. Your home's robot then proceeds to unpack the items and place them where they belong.

4. A wonderful time for progress ... But there are also difficulties.

Artificial intelligence is a key element of human interaction with a machine. However, the implementation of even simple functions, such as turning on and off the light, is a complicated task, since commands can be formulated very differently: "Turn off the lights in the bedroom" or "Keep the lamp in the baby".

Teaching home assistants to understand different linguistic senses is an important step towards positive user experience. Voice biometrics and intelligent decision-making will help you to come here. For the phrase "Play my favorite song," the home assistant must be able to distinguish the voice of a person and choose music according to their preferences.

To implement the potential of intelligent home systems, market leaders need to collaborate and form unexpected partnerships. This will ensure the emergence of high-quality new devices and services interconnected, which will make the life of the user even easier. Currently, the focus of the experts is the global benefits of smart homes, and for a long time such systems should move from the "bad mother" category to the "must have" category.

In the end, security and reliability are key parameters that should remain at the height of the evolution of technology for housing. For example, given the fact that the voice command can activate the security-related function, it is necessary to ensure the exact delimitation of a certain person's live voice and audio recordings in order not to hit the catchers. And soon we can all have Iron Man technology or a computer to manage our home, car, and home appliances.

Undoubtedly, artificial intelligence and systems of "smart house" are our future. And this is not only convenient, but it also preserves the planet's condition and saves our time.

REFERENCES

1. A smart home can finally become your home Available at: https://www.globallogic.com/ua/gl_news/the-smart-home-finally-comes-home/
2. 4 smart home trends to watch in 2018 Available at: <http://smarhome.reviewed.com/features/4-smart-home-trends-to-watch-in-2018>
3. How Homes Powered By Artificial Intelligence Will Know & Care For You <https://www.forbes.com/sites/andrewweinreich/2018/02/08/the-future-of-the-smart-home-how-homes-powered-by-artificial-intelligence-will-know-care-for-you/>