Home automation & security system solution base on IOT

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Agenda

- History of home automation.
- Gerontology 1991 to 1998.
- Revelation .
- Home automation protocols .
- Home automation base on IOT.
- Future of the home automation .

History of home automation.

- In 1975, the first general purpose home automation network technology, X10, was developed. It is a communication protocol for electronic devices. It primarily uses electric power transmission wiring for signalling and control, where the signals involve brief radio frequency bursts of digital data, and remains the most widely available. By 1978, X10 products included a 16 channel command console, a lamp module, and an appliance module. Soon after came the wall switch module and the first X10 timer..

Gerontology 1991 to 1998.

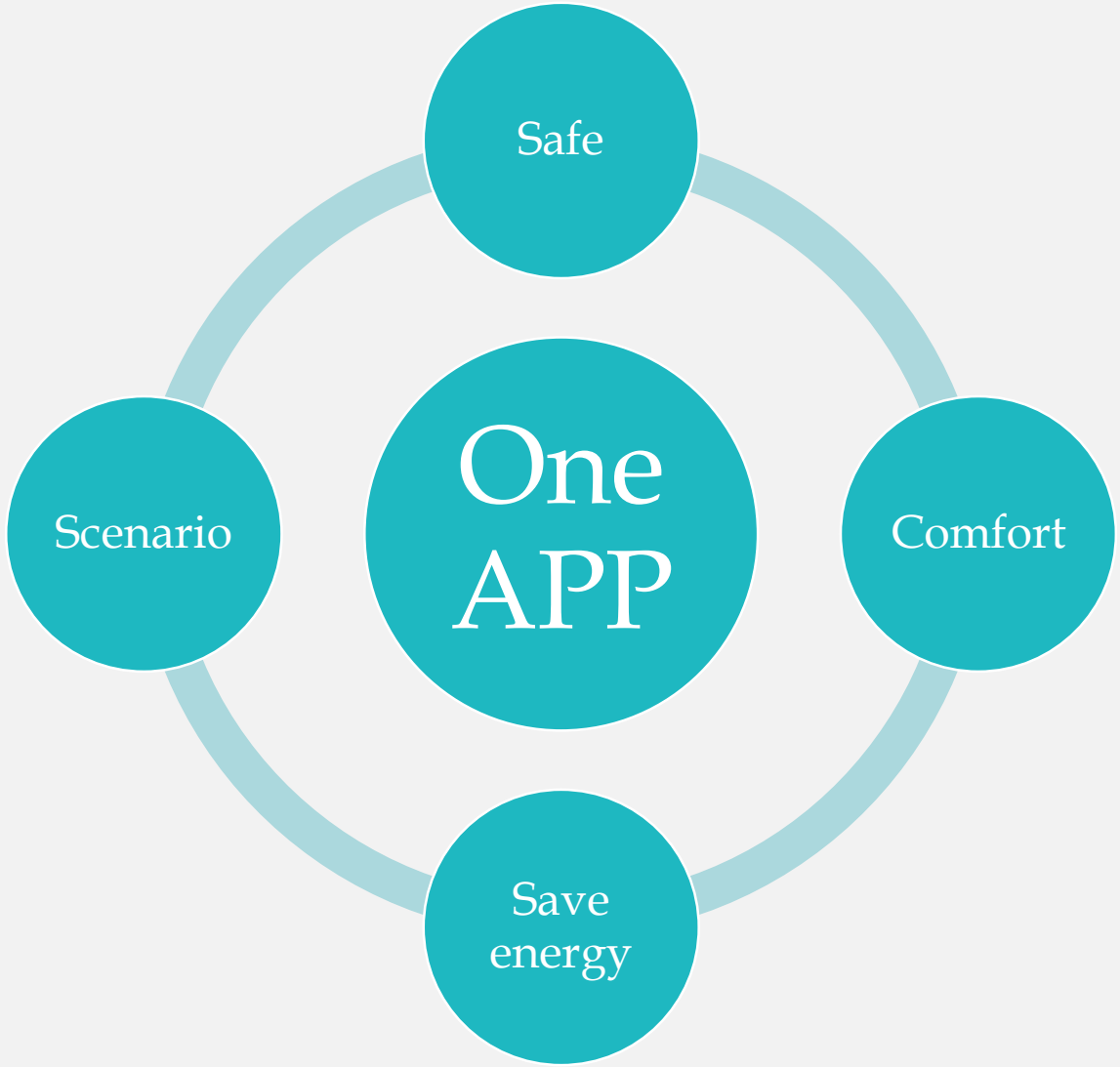
- Gerontechnology combines gerontology and technology and makes the lives of senior citizens easier. In the 1990s, there was a lot of new research and technology in this sector. Remember, “I’ve fallen and I can’t get up?” Life Alert is one example of gerontechnology

Revelation

- **1998 – Early 2000s – Smart Homes** –Smart homes, or home automation, began to increase in popularity in the early 2000s. As such, different technology began to emerge. Smart homes suddenly became a more affordable option, and therefore a viable technology for consumers. Domestic technologies, home networking, and other gadgets began to appear on store shelves.

- **Today's Smart Homes –** Today's smart homes are more about security and living greener. Our smart homes are sustainable, and they help to ensure that our homes aren't expending unnecessary energy. They also help alert us to intruders (whether we're home or not).

Revelation



Home automation protocols.

KNX.

C-Bus system.

ZigBee.

Zwave .

Other protocol .

KNX

Association, as of 1 March 2014, had 339 members/manufacturers from 37 countries.

KNX is designed to be independent of any particular hardware platform. A KNX Device Network can be controlled by anything from an 8-bit microcontroller to a PC, according to the needs of a particular implementation. The most common form of installation is over twisted pair medium.

C – Bus

The C-Bus System can be used to control lighting and other electrical systems and products automatically or via remote control and can also be interfaced to a home security system, AV products or other electrical items. The C-Bus system is available in a wired version and a wireless version, with a gateway available to allow messages to be sent between wired and wireless networks.

ZigBee

is an IEEE 802.15.4-based specification for a suite of high-level communication protocols used to create personal area networks with small, low-power digital radios, such as for home automation, medical device data collection, and other low-power low-bandwidth needs, designed for small scale projects which need wireless connection. Hence, Zigbee is a low-power, low data rate, and close proximity (i.e., personal area) wireless ad hoc network.

Z WAVE

wireless communications protocol used primarily for home automation. It is a mesh network using low-energy radio waves to communicate from appliance to appliance, allowing for wireless control of residential appliances and other devices, such as lighting control, security systems, thermostats, windows, locks, swimming pools and garage door openers.Like other protocols and systems aimed at the home and office automation market, a Z-Wave automation system can be controlled via the Internet from a wireless keyfob, a wall-mounted

Home automation base on IOT

Home automation base on IOT

Internet of Things (IoT) conceptualizes the idea of remotely connecting and monitoring real world objects (things) through the Internet. When it comes to our house, this concept can be aptly incorporated to make it smarter, safer and automated. This IoT project focuses on building a smart wireless home security system which sends alerts to the owner by using Internet in case of any trespass and raises an alarm optionally. Besides, the same can also be utilized for home automation by making use of the same set of sensors.

Home automation base on IOT

- Echo & Alexa Devices

Alexa is an intelligent personal assistant developed by Amazon, first used in the Amazon Echo and the Amazon Echo Dot devices developed by Amazon Lab126. It is capable of voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, playing audiobooks, and providing weather, traffic, and other real-time information, such as news. Alexa can also control several smart devices using itself as a home automation system you can change "Alexa's" name and many other things.

Home automation base on IOT

- Echo & Alexa Devices

In the home automation space, Alexa can interact with devices from Belkin Wemo, ecobee, Geeni, IFTTT,[22] Insteon, LIFX, LightwaveRF, Nest Thermostats, Philips Hue, SmartThings, Wink,and Yonomi The Home Automation feature was launched on April 8, 2015

Home automation base on IOT

Its not only internet of things
Its internet of everything's

Future of the home automation

Future of the home automation

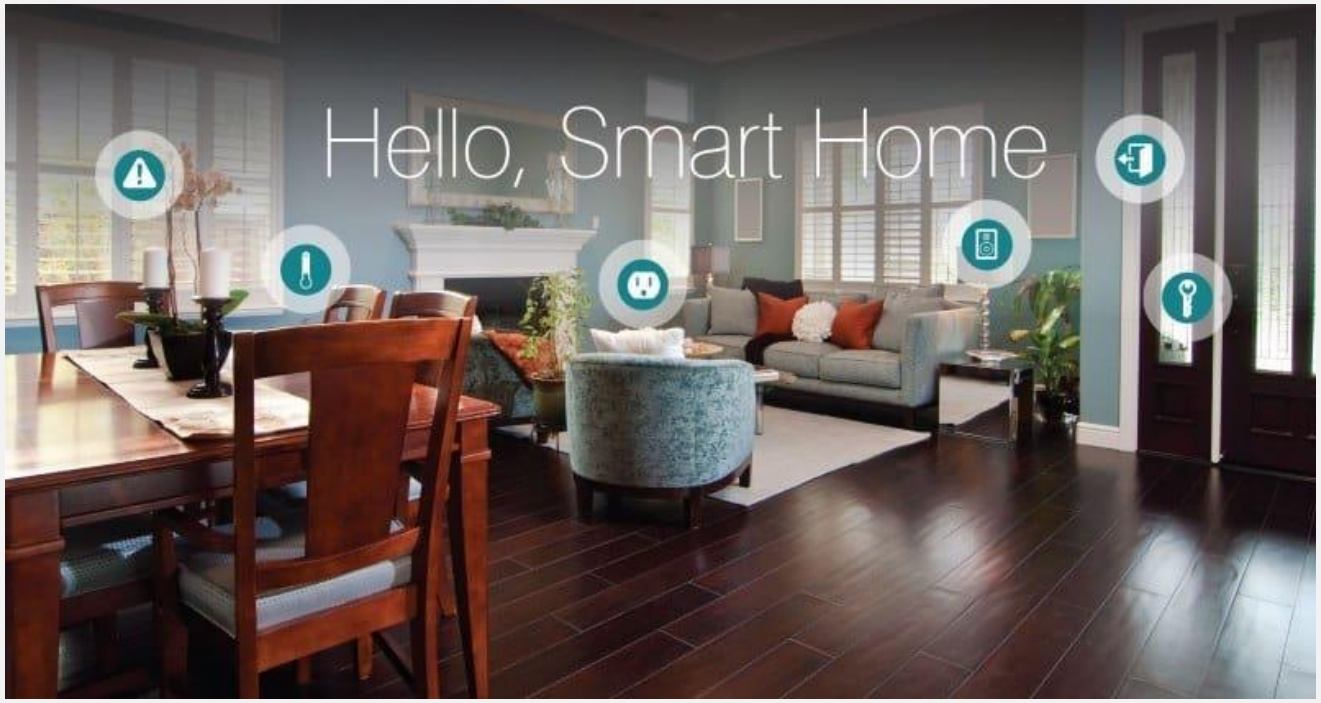
The future would be of advanced sensors and artificial intelligence.

Till date home automation has been looked upon as something to only on/off your devices from mobile phone, but the scenario is changing rapidly, regular automation combined with smart wireless network of sensors started to understand the human environment. Sensors like motions sensor, temperature sensors, light intensity sensors, smoke detectors, humidity sensors etc. are being accommodated with home automation and the data from these sensors would further be used to analysed to understand use patterns and in-turn with deep learning used for the intelligence of the device itself

Future of the home automation

According to a Research analyst, The global market for home automation is expected to witness an outstanding 26.3% CAGR form 2014 to 2020. The market has been projected to rise from a valuation of US$4.41 bn in 2013 to a worth US$21.6 bn by the end of 2020. The global market for home automation has been segmented on the basis of application into entertainment in the form of home video and audio, HVAC or heating, ventilation, and air-conditioning, security and safety, lighting, robotics, and healthcare, among others

Future of the home automation



- In the near future smart home system will become as common as the internet today , Other wise it will be outdate just like the home today without internet .

Future of the home automation

SMART HOME

البيت الذكي

Thank You

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