Smart Home

There is a place for intelligent, affordable and technology-led design in most homes. The eco-friendly and energy efficient house, packed with technology is the home of the future. Smart homes offer opportunities to change the way we live and reduce energy consumption. Through a smartphone, we can operate lights, alarms, open windows, curtains or manage renewable energy system.

The smart house is the one that has at least one thing connected with the Internet of Things (IoT). IoT is the network of physical devices, for instance learning thermostat, various sensors, switches, lights, remotely controlled power outlets, a wireless hub, a smartphone app to manage lighting, etc. Most of these devices have to be connected wirelessly to a hub which sends all information, for instance to the hub and mobile app. These devices monitor the activity of house inhabitants to establish the most efficient energy consumption plan. Monitors, cameras, smoke and carbon monoxide detectors monitor the home to cut the house running costs. Home cameras offer live, high-definition video streaming to a phone or computer. Features also include night vision and video history. The existing electricity and gas meters are replaced with the modern digital devices that are networked so that the utility company can send a bill without having to check the consumption. Also, the smart meter gives the possibility to decide when to consume the electricity. They can switch on the washing machine and dishwasher when the tariff is lower. Also for the utility company the smart meter gives the option to disconnect the electricity supply if the customer is not paying. Other wifi connected devices also feedback information on how they were used to become more efficient and effective. For instance, Nest the learning thermostat collects the information about the energy usage without the need of programming. Approximately 20% on utility bills can be saved with Nest thermostat and such brands like Whirlpool or Phillips works with Nest scheme.

The technology can take care of the home. There is an option of the whole-house automation or just the control of the lighting or heating. There're no limitations when it comes to the smart home. However, most technology nowadays is focused on conserving the energy through automated lighting and intelligent heating.

Some smart devices which are designated to reduce the utility bills and make the home more secure.

TECHNOLOGY AT HOME

Central control point

Home automation entry point - can be turn on/off from a smartphone, schedule it to come on automatically, or managed.

The Thermostat - uses algorithms to monitor daily routines of house inhabitants. It adjusts the timing and temperature of your home's heating and cooling systems to minimise energy use.

Webcam- can monitor a home and send alerts when it detects unusual activity.

The smoke detector- monitors smoke and carbon monoxide levels. In addition to sounding an alarm, it sends mobile phone an alert in case of fire.

Smart bulbs- brighter and more efficient, lights when the power goes out, turn on automatically triggered by doorbell or alarm or replay typical lighting patterns.

Smart smock detector- can be used without wifi, issue a loud warning, can detect electrochemical CO, heat, humidity, occupancy or ambient light

Presence detector, Alarm sounds, **Fans, Door Contacts, Windows Contacts, Temperature sensors, Heating zones, Lights, Blinds , Locks, Multiroom audio, Smart lock.**

Before planning a home automation, it is recommended to arrange the consultation to decide what smart devices will be the most appropriate for a particular home. The high-performance controllers can manage numerous devices through the home of any size. Also, phone applications allow receiving alerts, trigger actions, communicate with the house from everywhere. Central point controller can distribute music, control thermostat, door locks, cameras, shades, security, lighting, heating and much more. There is a technology of the voice control of house so dimming the lights, playing the music or turning the fan can be done with voice commands.

The high resolution, multi-room audio systems provide premier music experience and the remote entertainment system control all the entertainment equipment in the house like blue-ray, satellite boxes, game consoles, TVs, etc.

The disadvantage of smart homes is that the privacy might be affected due to security holes in the wifi networked technology. The increased connectivity has an impact on the personal safety. Moreover, there is an issue with the networking in the smart house. If too complicated it might cause problems of freeze or hackers activity. Also, many hubs or controllers are not compatible with some devices, so there is still confusion what works with what. Ideally, all devices should work with the central control system. The smart home is not yet intelligent enough to pick up on each family member's routines which change from time to time. For instance, the bedtime routine tends to change with seasons and with age so the lighting, tv or temperature control should adjust too. Lastly, the smart house might be less secure as everything that is connected to the internet is not entirely secure.

The home automation system is custom built to fit the lifestyle and needs of inhabitants. From control of a single room to the automation features for the whole house. The home of future is the network of compatible devices. One hub and one app plus all devices provide limitless possibilities for the intelligent living.

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