IoT

Internet of Things done securely.

IoT devices can use a range of technologies for communication, Wi-Fi, Bluetooth, Zigbee, Z-Wave, Thread, Matter ...

Companies like Tuya provide smart chip integration for existing devices of other manufacturer's, so the quality of varioius <Company>-enabled devices can vary.

IoT devices tend to have a lot of issues:

- Run closed source firmware which is not secure from the get go
- The manufacturer gives up on supporting it near immediately
- The manufacturer requires a subscription to keep it running
- The device is impossible to integrate with open source solution like Home Assistant

Important resources:

- LibreTiny chip list
- Elektroda.com - Forum with teardowns, home of OpenBeken
- OpenBeken device list
- Tasmota device support
- Zigbee device support
- ESPHome device list
- Custom firmware for Zigbee 3.0 IoT devices

Zigbee:

- Zigbee2MQTT
- ZHA

Wi-Fi has much higher power consumption than other solutions like Zigbee, therefore do not rely on Wi-Fi for devices that are battery powered, you'll end up replacing the battery way more often.

Zigbee is a mesh network - battery powered devices are generally only End Devices, but AC powered devices usually also act as a Router.

LEDs:

- LED lights have various configurations like RGB, RGBW, RGBCW, RGBCCT, ... read more about that here - some sellers will state combined wattage of the light when selling lights, for example, so 3(R)+3(G)+3(B)+5.5(CW)+5.5(WW) would be 20W, and then you may be surprised that a 9W light is brighter in CW/WW mode.

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