Let's dive deeper into the EasySmartHouse structure and examine its object model closely. You can view its classes here in this module.

To make it clear it will be depicted as UML class diagram. If you suddenly forget how to read these charts, I'll remind you.

For the first, look at the most basic entity of the project: device. It's represented by an interface "Device" in the diagram and describes every hardware device in house's network. As you see, it must have address, label, description and the type of device. Then it's extended by the interface called "Sensor" and “Actuator”.The last one may be interpreted as “Switch Actuator”, which may has “switched on” or “switched off” state, and “Adjustable Actuator”, which can change it's state gradually.

For example, if you want just to turn on or turn off the light in your room you may use some type of “Switch”. But if you want to make lighting a little darker, adjustable instance may be used.

The next type of “Device” interface is called “Sensor” and includes thermometers, barometers and other measuring devices. The application may only read its state (temperature, for instance) by calling “getValue” method, but cannot impact on device's behavior.

“DeviceModule” interface in the upper-left corner of the diagram just contains and groups devices. It implies so called “Aggregation” relationship where the device can exist independently of the module. The devices can be excluded from the module and included in a different one.

Then, independently of these devices, "Signaling Element" describes some device's condition when something important happens. For example, it may be a flood sensor in your bathroom which increases resistance suddenly and creates a gap in the network. This event should be selected and accented.

For similar reason “Trigger” and “TriggerCondition” interfaces were introduced. They allow to describe more complex logic for this "emergency" event selection and something that should be triggered afterwords. For example, it is convenient when you have 100 flood sensors and one actuator for tap closing.

By the way, using “Trigger” variant, the alert and the trigger are less coupling and that is expressed via dotted arrow in UML.