

UNIVERSITÉ CATHOLIQUE DE LOUVAIN



LINGI2252

SOFTWARE MAINTENANCE AND EVOLUTION

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# Home Automation System – Lab 1

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# 1 Lexicon

**Sensor** Physical device that measures the magnitude of real-life variables.

**Light sensor** Sensor that measures the quantity of light in a room (lights being off or on).

**Consumption sensor** Sensor that detects and records the consumption of different resources (power, water, etc).

**Clock** Sensor that measures the time flying by (and can be used to set alarms at certain times).

**Actuator** Physical device that is able to take actions in the physical world (make noise, light, move, etc).

**Heavy appliance** Home systems that use lots of electricity (washing machine, dishwasher, oven, etc).

**IoT** Internet of Things, the use of the internet for appliances like watches, clothes, ...

**Hub** Physical and/or digital system to centralize a group of systems.

# 2 Example Scenario - Leaving baby home alone

It is time to fetch the kids at school and nobody else is available to bring them back. Your baby is in his bed and you have no choice but to leave him for a moment. You know it is a bad idea but hopefully you can rely on your *Home Automation System*.

You leave home and setup the system via your smartphone. Your *smart door* locks itself up and redirects its *intercom* feed to your smartphone since your door has a *video sensor*. Because you also opted for a *motion sensor* in the entrance, the *anti-burglar* turns on and is ready to set the *alarm* off, just in case. On your smartphone, the *audio sensor* in the baby's room calibrates itself to pick any irregularity up and acts as a *babyphone*. The temperature in the baby's room will be kept constant thanks to the automatic heating system, so the baby is not too hot or too cold.

### 3 Feature Model

