

Smart Building Lab

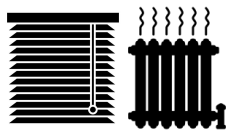
Part 3: Beacons

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Lab 1 : Smart Building

Smart Building Software
(High Level Functionalities)

KNX
Network



Z-Wave
Network



BLE
Beacon



Application
layer

Support
layer

Network
layer

Perceptual
layer

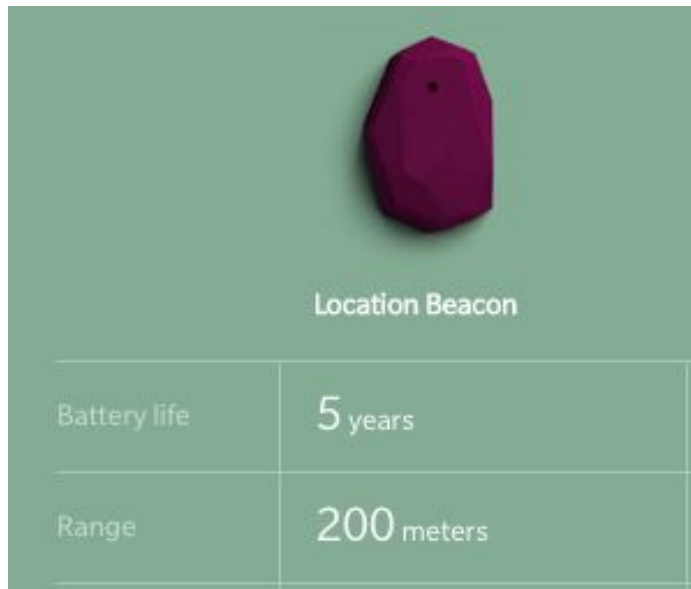
Environmental monitoring
Intelligent transportation
Information service

Cloud computing
Edge computing

Mobile communication networks
Network infrastructure and
communication protocols

Sensors
Actuators
RFID tags

Beacons



<http://estimote.com/>

- Broadcast packets containing Beacon ID

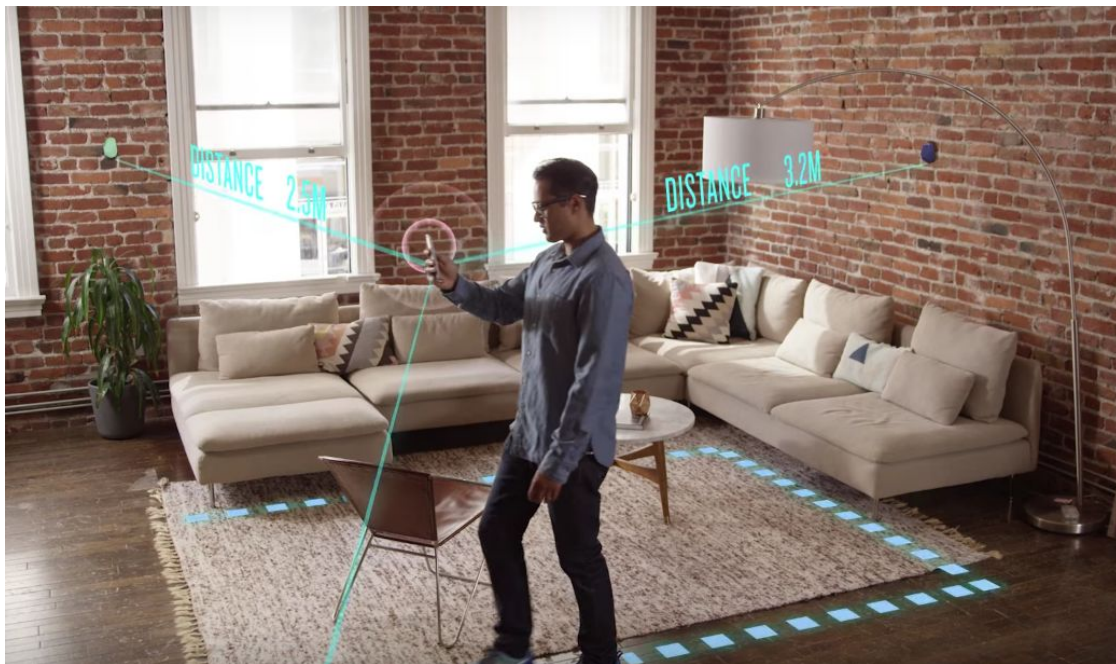


- Beacon ID (20 bytes) :
 - UUID (16 bytes)
 - major number (2 bytes)
 - minor number (2 bytes)

Beacons

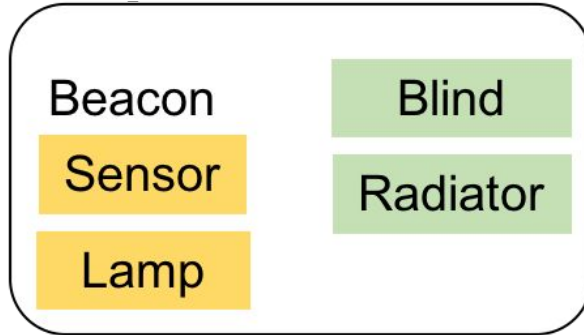
Uses cases

- Indoor positioning

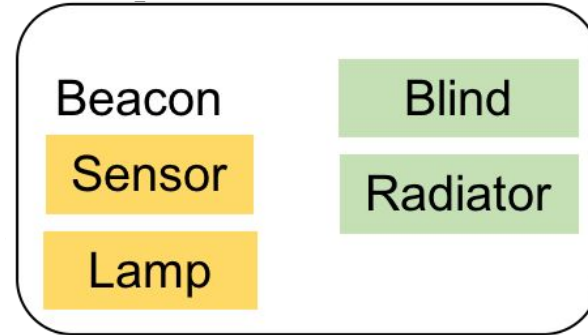


Beacons

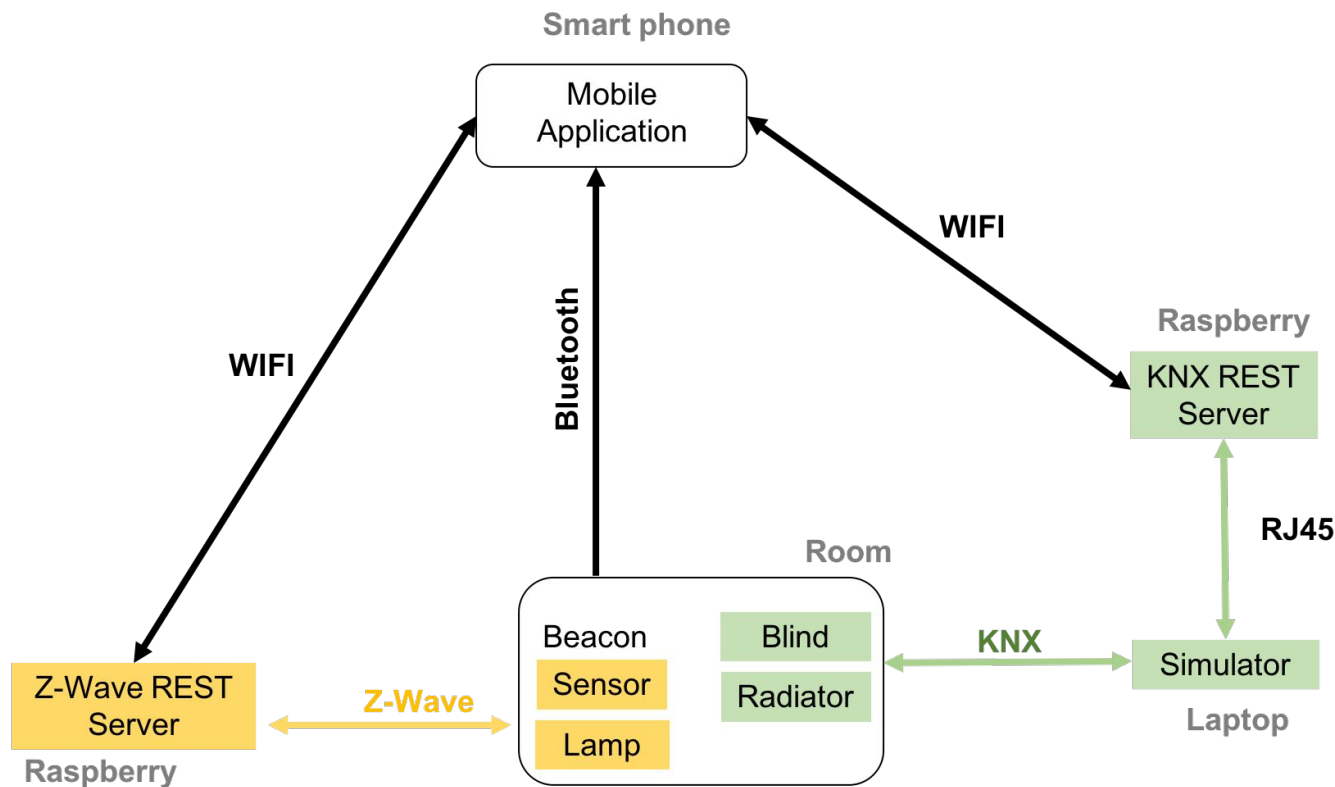
Virtual Room 1



Virtual Room 2



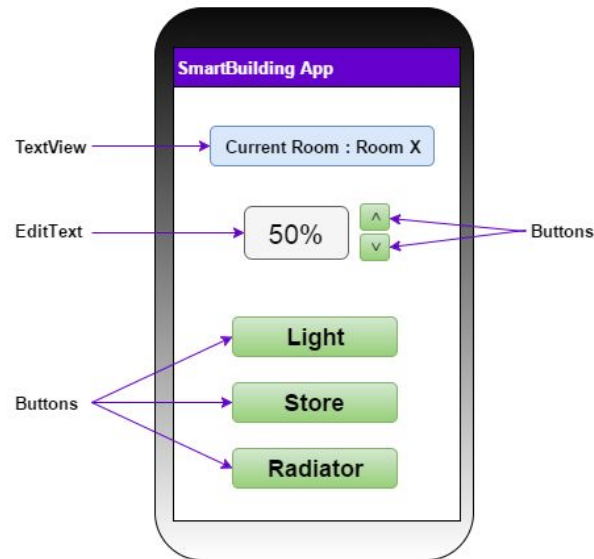
Beacons



Beacons

Template of mobile application:

```
git clone https://githepia.hesge.ch/llds/BeaconsApp.git
```



You should add :

- Indoor location using the “Estimote SDK”
- Command the stores, radiators and lights using the KNX / Z-Wave REST servers