Universal application platform for telecom operators

by Embedded Systems

Telecom operators are switching from being companies that are providing data

transport services

to being application providers

(Skype, Waze etc.)





There is a big competition between telecom operators who are providing this service to app providers This is risky as mobile operators is a wobbling part between app provider and end user A position of App provider

A position of App provider would be more stable and secure than just data transport provider

To keep and increase income levels, in our opinion, telecom operators should migrate to service model which is related to core business areas e.g.:

Security systems

Engineering systems (HVAC, Lighting etc.)

Superlocal services (web services for audiences like Home, Microdistrict etc.)

Business apps (related to operation with sensor networks, analytics, big data etc.)

Taking into account an explosive development of Internet-of-Things, we think the following should be done

1. Create and push a universal App platform which would unite all sensors/actuators:

Capable to mate with all regular sensors of security systems

Supporting all standards of engineering systems (KNX, ModBus, BACnet etc)

Providing a possibility of fast and easy App creation with both user interface and back-end parts (user interface is done in web-browser and can be shown on any back-end device)

There are many developers available who are capable of creating apps

2. By installing a universal device we can create different user Apps without changing existing hardware:

If initially we have installed such device as a security system for perimeter protection, in the future we can integrate it with any engineering systems without additional expenses (there are necessary interfaces and protocol support on board)

This approach is related to the fact that hardware has excess functionality

This approach is compensated with flexibility and lack of necessity to invest money in new hardware in next project phases

3. Superlocal services:

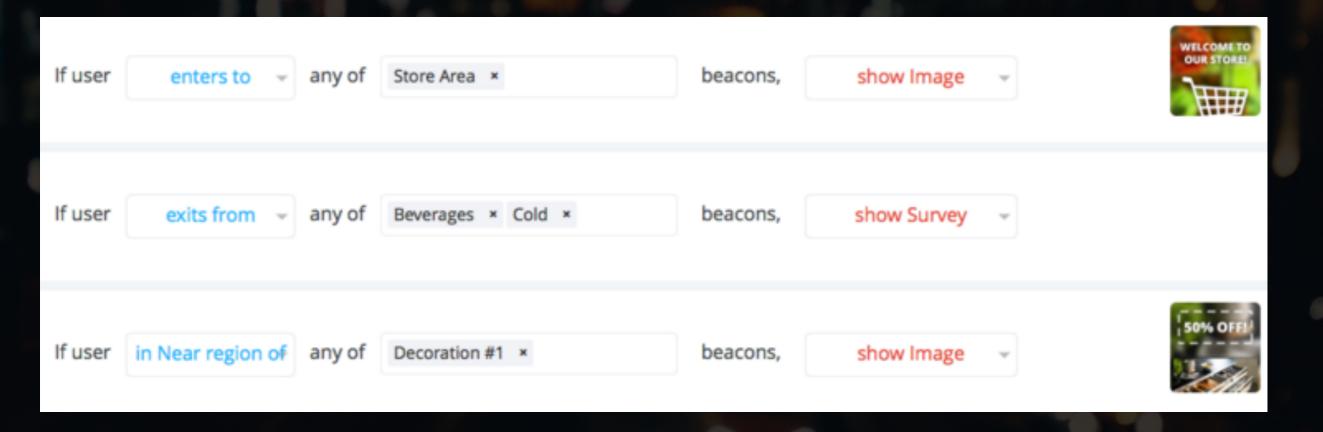
Apps which can tell status of property (like water, gas reading)

e.g. water or electricity counters would be mapped to context like Apartment, House, Microdistrict and service subscriber would see visualization pages related to him.

Best approach is to generate the content and host it directly on client devices

4. Business applications

E.g. Coupons or internet shops with beacon technologies



Returning to Home Automation market, our ideas are as follows

Home Automation can be separated in 3 parts:

Plug&Play installations

Professional installers

Installers of telecom companies



For telecom installers it requires little knowledge on a level of router configuration to accomplish home automation tasks

This market exists but it is not covered yet



This universal system acts as
App platform for cloud
applications (centralized
provisioning, configuration and
system upgrades) which can be
used both locally and externally



Possible operation based on Ontology

Push button is defined as a sensor for light switching and «Kitchen» is defined as its location

Relay module is **defined as an actuator** for light switching and «Kitchen» is defined as its location

Connections are made automatically based on function and location, user only needs to acknowledge them



Convergence product

In one device we have different functionality – sensor platform, gateway, visualization platform, notification center, integration into IT systems, hub for wearables and smart devices etc.

We can create a huge amount of use cases which are limited by fantasy rather then hardware!

LogicMachine Ambient platform



Sensors



VOC for control of air quality

Air Quality – with greater CO part than VOC (it can be used where there are CO sources like ovens)

Temperature which allows to make smart thermostat

Humidity

Barometer

Ambient light sensor with light spectrum sensor

Gesture control (swipe right/left, up/down, front in/out; works starting from 20cm)

The other way of notification

RGB LED lighting which allows to use device as ambient light source as well as interface device. E.g. red flashes means some security trigger

Built-in **beeper** allows to make sound notifications

Built-in indicator / locator of swap zone



Communication

interfaces

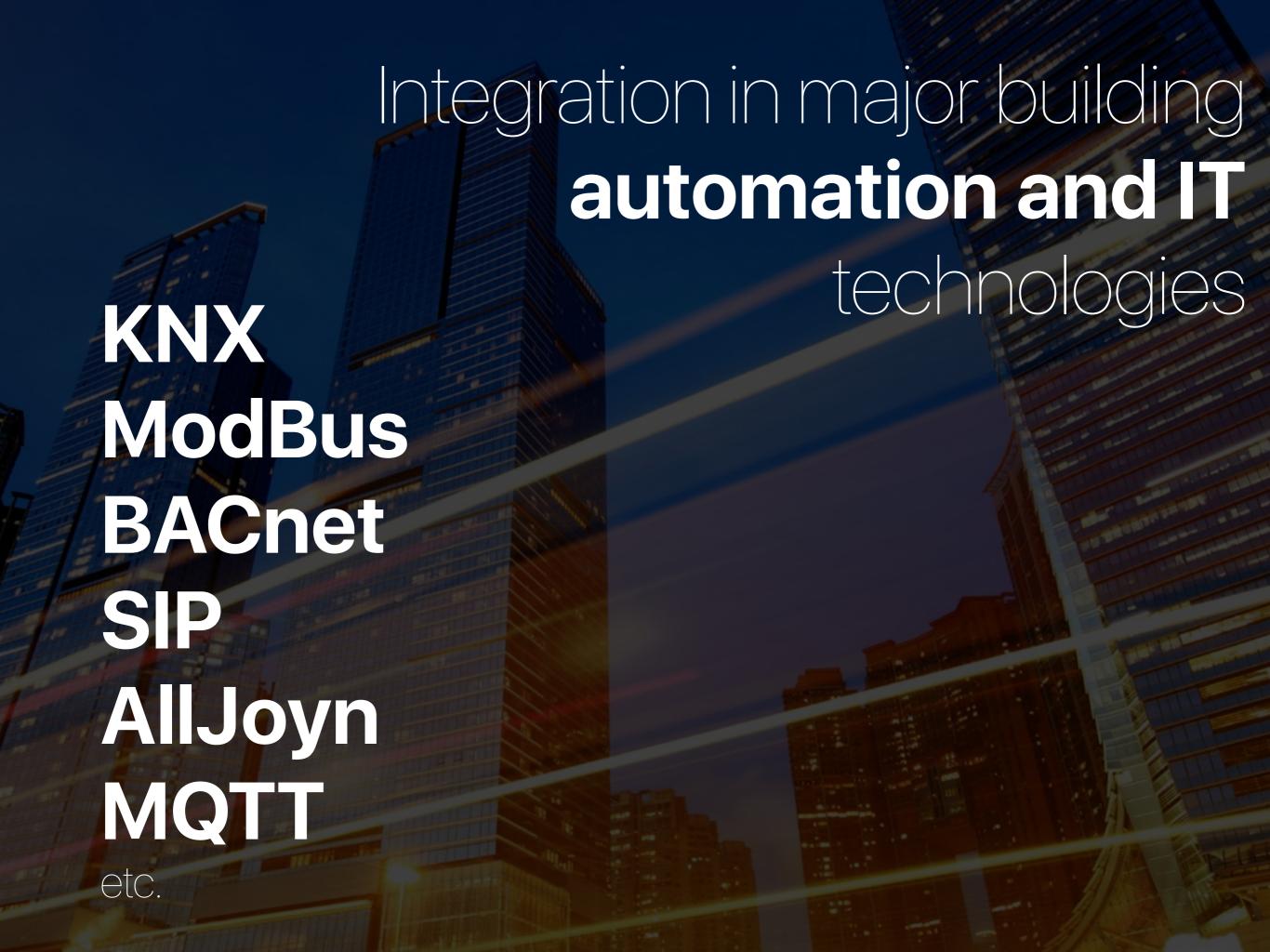
Ethernet with PoE powering

Bluetooth module

1-Wire interface for I/O extension

Optional: EnOcean; WiFi, GSM, Z-Wave etc. through USB stick





Design

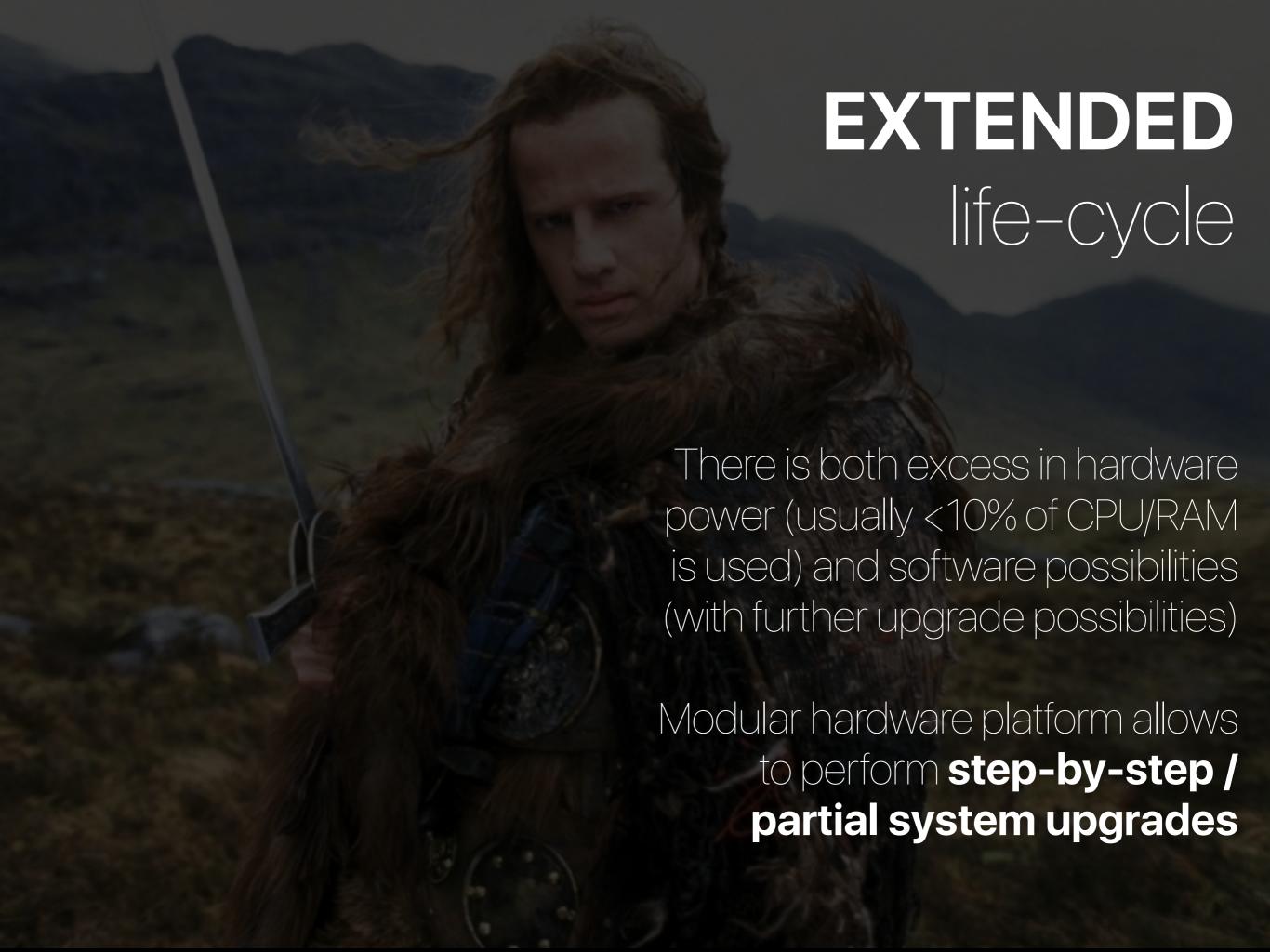
Form-factor: we plan to have close to standard pushbutton

We put it on a wall (and not inside) because:

- we have sensors which requires air flow
- integrated ambient lighting

We plan to offer enclosures made of exotic wood, natural wood, gold/silver plating, painted and other designs





One more thing

There was an idea for one of Telecom operators to install security systems in each house

We can easily make
custom design devices
(when agreed on possible
interfaces) and can fully
realize security system
functionality + integrate all
possibilities described
above

In short about embedded Osystems

We are working in automation field for **over 7 years** already

We have made our **own stack and hardware for all** major de-facto, de-jure market **standards** (KNX, EnOcean, Modbus, Bacnet etc.)

we are trying to make unique products which are not available on the market, besides every product is necessarily a part of something larger

We have a **complete eco-system** based on our own hardware and software, consisting of devices, application platform and developers

Lets build the right future together

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