eHealth new horizons with the Internet of Things

David Bordonada
KAM Online Channel
d.bordonada@libelium.com
Libelium technology impacts in the world:
Powering the IoT revolution
The Standard Platform for the IoT:
Main target - Interoperability

We identify three elements common to all IoT projects:

- Sensor
- Protocol
- Cloud
Interoperability for the IoT:
Waspmote, Meshlium and Plug & Sense!

Connect any Sensor using any wireless technology
to any Cloud Platform

Join us at any point
Telemedicine:
New Market, New Solutions
A sight into the world
The main problem

More than 2 billion people can not access to a healthcare system so neither to an early diagnosis when a first symptom is detected.

Population in Western countries is growing rapidly so diagnostics through telemedicine from home will prevent hospital collapses.

In small and remote villages there are no hospital diagnosis rooms or a first medical intervention able to analyze a first symptom and give a diagnosis.
Advantages of New Solutions:
Self-monitoring
Advantages of New Solutions:
Remote access to the patient data
Saving $3 billion yearly to public health services in avoidable admissions to hospital, reduced length of stay and fewer demands on primary care with self health care monitoring technology could. (According to 2016 CSIRO report).

Main purpose: Enhancing the universal accessibility to a healthcare system for more than 2 billion people worldwide.
Finding the Solution: The objectives for a complete eHealth solution

1) There are **not medical platforms in the market oriented to substitute a entire hospital monitoring room** with a single device.
2) All the information gathered by the sensors goes to a **unique Cloud platform** what allows doctors to have an holistic view of the patient history.
3) **Cost reduction** 100 times: from 100,000$ to 1,000 $.
4) **Smaller size** to be used in remote places with no need to be installed in a specific room.
Using the same IoT philosophy: From the Sensors to the Cloud
Easy apps for everyone:
Including local and remote access
Finding the Solution:
To launch a complete system for remote monitoring

- eHealth platform based on a hospital Emergency Observation Unit
- Measuring the key parameters that are usually monitored there reducing the cost 100 times and making it portable
eHealth: low cost sensors for early detection of childhood disease for Project HOPE NGO

Challenge: Developing a device, INSPIRE, to aid in the efficient detection of tachypnea, an indication of pneumonia in children.

Service for Project HOPE NGO with Inspire Living.
eHealth: low cost sensors for early detection of childhood disease for Project HOPE NGO

The INSPIRE device measures **patterns of breath recognition** with an algorithm that analyses the data and displays the information to be **easily read by non-skilled field personnel**.

**Benefits:**
- Project HOPE can respond to disaster, prevent disease, promote wellness and **save lives**.
- The device **tests breath rate in 15-second intervals**.
- It can conduct multiple tests within a one-minute time frame, permitting healthcare workers time to **observe other signs of patient distress**.
Reducing maternal deaths in Dominican Republic
Improving health services in poor and rural areas

“13 babies younger than 28 days die every day being the 80% of these deaths preventable”.

Dominican Republic’s study by UNICEF
The preeclampsia, also known as toxemia of the pregnancy, is a **disease related to the hypertension**.

**Benefits:**
- Obtaining information that indicate the immediate risk of convulsing and could receive assistance before this happens.
- **Enhancing accessibility** to a healthcare system to places where the assistance is very complicated.
- Remote monitoring of the most important biometrical parameters in pregnant women and premature babies.
New experiences using the new technologies:

Testimonials

● “MySignals offers an exceptional opportunity to monitor mothers at the risk of maternal mortality”

  ● Dr. Angelica Florén (Teacher of Pediatrics at the University of Miami)

● “The eHealth platform is phenomenal; I find it very useful as it evidences that the technology can bring us the development of the sanitary attention in the country that we really need”

  ● Jose Carlos Bautista (National University Pedro Enríquez Ureña, Santo Domingo)
Thank you!

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