Description
Study and development of a low power and compact wireless sensing system based on Bluetooth 4.0 Low Energy and STM32 ARM-Cortex M4 microcontroller. Innovative sensors such as environmental, inertial, acoustic and ranging acquisition, processing and transmission for Internet Of Things applications.

Skills required
- C, MATLAB programming (optional Android app development)
- Wireless sensing and communication system concepts

Skills acquired during the work
- Embedded system design
- Signal processing and firmware development for innovative sensors
- Emerging wireless technologies
Stage in STMicroelectronics

Wireless sensor nodes for 

Smart City

www.st.com

Description

Study and development of an embedded system for distributed sensing over Sub-GHz wireless network in a Smart City context. Sensors acquisition for data processing and events detection. Experimentation on innovative sensors such as environmental, inertial, acoustic and ranging.

The activity is part of an EIT ICT Labs project - www.eitictlabs.eu

Skills required

• Wireless sensing and communication system concepts
• C/C++ programming

Skills acquired during the internship

• Embedded system design
• Signal processing and firmware development
• Emerging wireless technologies

Contacts

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Description

Study and development of applications based on MEMS digital microphone arrays:

• Audio DSP algorithm development (Source Localization, Beamforming, Acoustic Echo Cancellation, Audio compression and streaming)
• Embedded implementation and optimization
• Audio acquisition systems design
• Host side application development (Android, Windows)

Skills required

• C, MATLAB programming
• Basic audio DSP skills

Skills acquired during the work

• Embedded system design
• Signal processing and firmware development for innovative audio solutions

Contacts

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