Project summary

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Main Objective
The development of a Zigbee communication interface that can simplify the access to the Elster meter's data, without the end user's involvement.

Sub-Objectives
To make students become more familiar with the major stages in development process;
To study different alternatives for PIC MCUs usage;
To design and manufacture the DASB prototype board;
To prepare a comprehensive report on the design.

Abstract
ZigBee Smart Energy offers utility companies *secure, easy-to-use* wireless home area networks (HAN) for managing energy. Smart Energy gives utilities and their customers the power to directly *communicate* with *thermostats* and other *smart appliances.*
New *advanced metering* and *demand response* programs can be implemented in homes easily and securely because of ZigBee wireless technology. Now utilities can easily *implement energy management and efficiency programs* to meet changing government requirements.
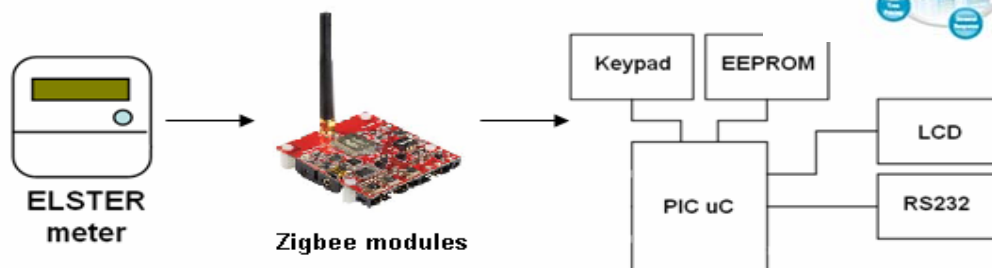
Development Tools
EasyPIC4 Development Board (Mikroelektronika)
Extension Boards (AD Converter, IrDA interface, RS485 interface, RTC)
Bluetooth module
PICmikroC Compiler (Mikroelektronika)
PIC MCU (Microchip)
Oscilloscope, Signal Generator, Digital Counter
Testing boards, electronic components
PC
Documentation

Skills and Requirements
The student should have good knowledge of data acquisition systems, microcontroller's architecture, C programming (intermediate), assembly programming (intermediate), analog and digital circuits, electronic instrumentation. English is compulsory.

Elster Rometrics
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