n-Blocks

n-Blocks PRO

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n-Blocks PRO

- **n-Blocks** is a modular open source low power embedded systems platform based on a modular form factor. n-Blocks adopts a plug and play concept where computing, sensor, energy harvesting/powering, and communication boards can be plugged together to achieve particular embedded system platform capabilities.

- A number of embedded processors are used based primarily on the ARM Cortex series. Wireless communication capabilities include boards with for example Bluetooth Low Energy, LoRa, WiFi, IEEE802.15.4/Zigbee, and NB-IoT.

- The sensing capabilities include temperature, humidity, acceleration, light, VOC, CO_2, air quality, and others.

- The n-Blocks platform is built with the following principles in mind:
    - **Modularity**- boards that can be plugged together like bricks in an efficient and seamlessmanner to create wireless nodes or industrial style controllers with varying computing, communication and sensing capabilities
    - **Functional Scalability**- boards have 240 pins divided into four 60 pin standardized low profile connectors to expose as many functions as possible and create a scalable platform that is not limited by communication capabilities between boards
    - **Processing performance scalability**- from the ARM Cortex M family of microprocessor to support a wide range of software applications starting from battery-powered ultra-low power wireless sensor applications running onCortex M0 to Linux OS based applications running on Cortex A8

- Following these principles, we have created a range of n-Blocks PRO boards, initially for use within industry sponsored R&D projects in the Nimbus Research Centre..

- The most important n-Blocks PRO boards are being assembled and are in the testing phase. We are migrating our standard n-Blocks (about 100 different n-Blocks) to the new n-PRO form factor

- n-Blocks has been evaluated in a number of academic-industry pilot projects for use cases covering:
    - Wireless Sensor Networks
    - Motion Control
    - Industrial Control
    - Environmental Monitoring
    - Smart Buildings
    - Healthcare

Form Factor

mbed Enable

Low Power

Customization

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