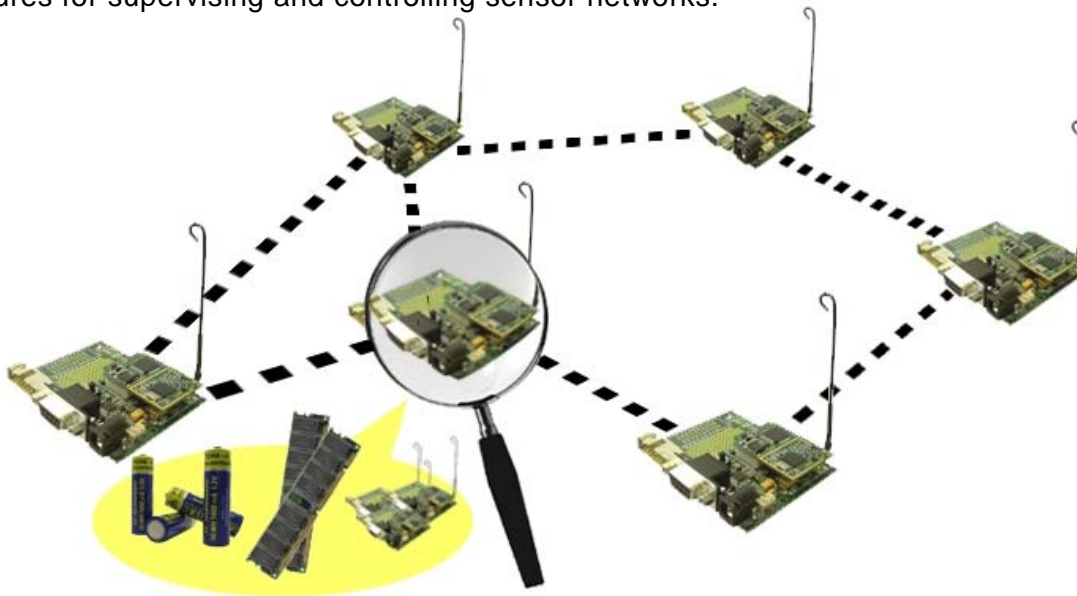


Diploma/Master Thesis “Controlling Wireless Sensor Networks”

To deploy a sensor network, numerous small, low-powered devices with an integrated radio are spread throughout an area. These so called sensor nodes then have to build a self-organizing wireless network and run tasks such as monitoring the environment. Due to the decentralized nature of the applied algorithms it is often difficult to verify the correct behavior of their actual implementations. Therefore, we want to build a framework providing features for supervising and controlling sensor networks.



This framework consists of two parts: On the one hand a monitoring program needs to be written which can be compiled into any application running on the sensor nodes. This program needs to monitor the state of the nodes and for example collect their one-hop neighborhood. On the other hand a Java application for the PC needs to be developed which visualizes the information collected by the monitor. Finally, the framework should also allow sending commands from the PC to any sensor node in the network.

A current semester thesis provides a proof of concept implementation of such a system with limited functionality and can be used as a base for further development. For a more in-depth description of the topic feel free to contact us.

Required

- Advanced programming skills
- Sound Java knowledge
- Basic C knowledge
- Interest in working with an embedded platform

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