



IoT Sensor Firmware Development

Innovative Sensor Project – Informatics Project Study (IDP)

About SoilSpy

SoilSpy is a Munich-based start-up developing a nanoelectronics-based sensor system, which precisely detects the concentration of elements in liquids. Employing this technology in agriculture, Farmers can analyse the concentration of multiple specific nutrients precisely, quickly, cost efficiently, and directly on field. Through optimal fertilization according to the analysis results of the nutrient levels and therefore needs of the plants, yield can be maximized while minimizing the usage and costs of fertilizer and sustainably reducing the pollution of ground water.

Would you like to contribute to the development of a leading-edge, nanoelectronic-based sensor system, work self-sufficiently within a strong team and take with us the first step towards the elimination of ground water pollution? **Then you should join us: SoilSpy**

Your Tasks

- Review existing electronics and software and get familiar with the technology
- Develop a provisioning system to enable the user to fill in Wifi credentials over a webpage and to connect the board to his account (OAUTH)
- Implement over the air updates for the board

Your Learnings

- Learning experience in an early stage start-up from first prototype to market
- Contributing to leading-edge research and technology in a professional and strong team
- Learn about user management and security for IoT devices
- Experience in the implementation of failure proof over-the-air updates

Your Profile

- First experience in C/C++
- Basic experience in HTML/CSS and JS
- Experience in RTOS is a plus
- Interest in IoT and/or security
- Interest in working with the TI Simplelink platform and CC32XX processors

Hence SoilSpy

If you have gained some programming skills already and would like to employ these in an exciting project creating something of long-term and economic value, you should definitely join us. We do not only offer a challenging project but also insights into a leading-edge solution straight from the latest research findings in Nanotechnology. Currently, we are working with all efforts on a first portable prototype in order to test the system on-site and make adjustments in regard to environmental factors and customer needs. For this we need you and your skills!

But that is not all, besides the soil analysis device we are working on two more projects building a Smart Gardening sensor and an agricultural weather station. Therefore, you will gain extensive knowledge while enjoying flexible working hours, an open culture and no hierarchies. Moreover, we are always looking for responsible, motivated and knowledgeable people to expand our team.

Please get in touch with us at info@soilspy.de

We would like to get to know you and looking forward to hearing from you!