



Intern positions available

Where

DERI, which is the Digital Enterprise Research Institute, which is in Galway, a small friendly city on the west coast of Ireland.

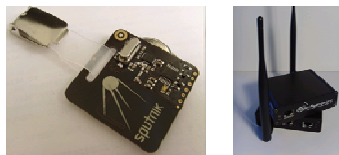
When

The positions are available immediately and are for a period of up to 4 months each.

Project

4 interns are required to work on 3-4 month ActiveRFID based project in the DERI institute in Galway Ireland.

The vision of the Digital Enterprise Research Institute is to be recognised as the leading international web science research institute interlinking technologies, information and people to advance business and benefit society. Within DERI, the Sensor Middleware Unit is enabling the building of very large infrastructures which for the first time facilitate the information-driven real-time integration of the physical world and computers on a global scale. We are currently working with a diverse range of sensor technologies including motes, RFID technologies, mobile phone based sensor hubs and biomedical sensors.



In enabling this vision, the Sensor Middleware Unit has purchased an off-the-shelf research-oriented ActiveRFID systems, developed by openBeacon.org and over the last two years, their hardware has been deployed in a number of short lived scenario's such as conferences and museum exhibitions. To date however, these systems rarely exploit the possible feedback loop between the sensor data and the users themselves, typically because of inaccuracy within the localization and untimely results. Additionally, the person's location is displayed but the person themselves is rarely required or motivated to exploit this location information at the time of the deployment. The location information is often utilized offline to determine social network patterns and exchange contact information etc. One area that has yet to be fully explored is the final part of this feedback loop, allowing more interactive location based applications that exploit the location of a user and also of other people in the locality.

Hardware tasks.

Two interns are required to work on setting up the initial phase of the testbed. At present, the localization software is based on RSSI only. Working with our wireless sensor network researchers, the interns will also be investigating how the localization protocols can be

improved upon by using additional parameters such as received signal time differentials, sensor fusion algorithms, and the trade off's between accurate localization and battery life conservation, etc.

Skills required.

C programming language, Unix programming, The following skills are preferable but not essential, any WSN experience, RFID, Motes, PIC hardware boards etc.

Software tasks

Two additional interns are required to work on the supporting software infrastructure and to develop some proof-of-concept applications showcasing the capabilities of the openBeacon tags. These interns would be responsible for developing a software suite that would abstract hardware related issues such as the fuzziness of sensor data, timeliness delays, etc. Finally, these interns would be responsible for developing three robust proof-of-concept use cases which could be demonstrated at both in-house and DERI sponsored events within the computer science community. The interns would additionally be responsible for producing a stable software deployment that would export the data in a structured format supporting easier integration for third party applications, whilst requiring low maintenance, and reducing the overhead for future researchers who use the technology.

Skills required

Java, Web 2.0 technologies, server programming skills

Contact details

Please forward your CV (pdf), and a brief cover letter to the following email addresses for consideration.

Vinny.Reynolds@deri.org , Marco.Zuniga@deri.org