Ide Swager
ide@momomedical.com
+31 6 44 806 274

MSc Internship Project

Embedded Systems

Intro

Every year, over €15 Billion is spent on the treatment of pressure ulcers ('doorligwonden') in the EU. These wounds are very painful and occur especially in elderly patients. The best way to prevent them is keeping the patients mobile. However, often the mobility of the patient is not known, and there is no accurate way of knowing which patients need to be repositioned at what time.

By using pressure sensors beneath the mattress in combination with an algorithm that distinguishes different types of movement, patient mobility can be monitored. By analyzing the movements, estimation can be made when the patient should be turned. Smart reminders can be sent out to caregivers.

The spin-off company Momo Medical has developed a prototype and is currently launching pilots with healthcare institutions. We are a diverse team of three people with a strong motivation to improve healthcare with technology!

Project description

For an internship the project can be broadly defined and can vary. The system consists of embedded devices (with sensors, beneath mattresses) that connect to a central server (locally at the healthcare institution, or on a remote server). The algorithms to interpret the sensor data can be implemented on multiple levels: on an embedded level, on a local server, or on a remote server. Your can work on the embedded software and hardware aspects in these fields, depending on your strengths and the topics you want to learn about.

Skills you have or want to improve
- Embedded hardware development (PCB design, testing, integrating with the analog front-end)
- Embedded software development (C, Python, etc.)
- Implement wireless connectivity (Wifi/IoT)
- Implement embedded algorithms efficiently (if any)
- Implement security measures

What we can offer
- Work in a dynamic young company in the environment of the YES!Delft incubator
- Learn from our CTO (6+ years of embedded algorithm development experience)
- Learn to work with the scrum project management method
- Multidisciplinary teamwork with other engineers and industrial designers
- High responsibility and flexibility

Contact
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