Careers

Job Description

Internship: Virtual Machines for Smart Objects

Your challenge

Are you the enthusiastic, talented intern we're looking for?

Advances in electronics and smart things are going to allow for the so called Internet of Things comprising thousands of smart objects able to interact with each other. In such an environment, the usage of virtual machines can be helpful to abstract from the underlying platform and develop applications in a simpler way.

In this context, a number of applications could run on their corresponding Virtual Machines (VMs) on a same platform (either the hardware itself or the operating system). However, if a VM needs to use some specific resources (e.g., a sensor or actuator) and/or those resources are added in a dynamic way, it will be also needed to update the underlying platform and part of the VM. Also, different platforms might provide different features making it easier or more difficult the execution of VMs.

Your assignment

You will be working in the analysis, development, and evaluation of the usage and configuration of VM on different types of platforms, either hardware or software platforms. The goal is to analyze which of those platform features are the most convenient ones and which ones would even be mandatory in order a VM to work on a real system. This internship/master thesis will allow you to improve your knowledge on Java, virtual machines, embedded platforms, and security.

Your team

Philips Research is the source of many advanced developments in Healthcare, Lifestyle and Technology. Building on 90 years' experience in industrial research and our world-leading patent position, we're dedicated to meaningful innovations. In the healthcare domain, we are enhancing imaging and monitoring systems, as well as exploring innovative personal healthcare. In lifestyle, we're helping people see, hear, remember and share content, anywhere and anytime. Our vision focuses on simplicity, making technology an integral – but invisible – part of everyday life.

You will be working together with a dynamic and multicultural team of researchers in the area of the Internet of Things. Current research topics include lightweight cryptography, security protocols, or secure SW. This will allow you to learn not only about your own topic, but also about related ones.

Our offer

The specific features of this topic will allow you to learn very different aspects including VM but also security technologies around them (e.g., digital signatures, security protocols, or sandboxing techniques) as well as relevant IoT application areas.

- It can be discussed to make this assignment suitable to do your graduation/thesis
- Duration: 6 months (extension to 12 months possible)
- We prefer students able to start per January 2012 (earlier preferred)

- It can be discussed to perform this internship assignment with two students (Shared Internship)

Internship conditions:

1. Students on work placement or final-year study assignment are paid a work placement or final-year study assignment allowance.
2. A student on a work placement or final-year study assignment is paid an allowance towards rented accommodation, depending on his/her situation. This will be determined setting up the Intern Contract.
3. A student on work placement or final-year study assignment who can prove that he/she is not entitled to a student card for public transport (OV-studentenkaart) is paid an allowance to cover the cost of travel between home and the place of work in accordance with the Conditions of Employment Guideline.
4. The student is entitled to paid leave on the basis of 1 day per month.
5. Opportunity to buy Philips products with tax benefit (Philips MyShop)

Your Profile

To be successful in this internship we are looking for you:

- Currently studying towards your **Bachelor HBO (BEng/BICT) / Bachelor of Science/Master of science WO (Bsc./Msc.)** in:
    - Computer Sciences
    - Electronics
    - Electrical Engineering
    - Mathematics
    - Software Technology
- Experience in programming C and Java (experience with Android is a plus)
- Knowledge of security (protocols, sandboxing, or cryptography) is a plus.
- Fluent English in speaking and writing.
- Interest to learn new things, initiative, creativity, analytical skills, organized, and task-oriented.

If you recognize yourself in this profile and would like to take this challenge, we invite you to apply latest 13-12-2012!

Notes

Required documents: (Do combine the registration form together with your academic record)

- Student registration form (proof of enrollment)
- Academic record
- Resume
- Cover Letter outlining your motivation and informing your availability

Please note that in order to be applicable for an internship, it should be compulsory **(for students outside EU/EER)** by your education and **you need to be registered as a student during the entire internship period**, formal documentation of which may be requested at any time.

Please note that the content of our regular internship assignments are not suitable for MBA students with professional work experience.

For questions regarding the procedure of this Internship please contact:

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PHILIPS

Job Research
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