

Master Thesis: Simulating the Visible Light-based Internet of Things

Background and Research Area The Internet of Things (IoT) bridges the physical and virtual world by connecting all kind of devices to the Internet. A lot of work targets low power embedded systems that are connected using wireless radio technology. Recently, there are other efforts using visible light communication, for example, based on communication between LEDs. One of the main drivers behind this is the omnipresence of LEDs.

Thesis Objective and Content The objective of the thesis is to extend the existing COOJA simulator, a widely used simulator able to simulate networks of embedded IoT devices, for visible light communication. This tasks involves an understanding and modelling of the visible light communication and implementation in the simulator. As the field of visible light communication is just emerging and there are no simulation tools, this tool may become widely used.

Candidate Requirements We are looking for a highly motivated student with very good Java programming skills, an interest in modeling and a will to understand visible communication.

Starting Date and Application The thesis can be started soon. For the application, please provide us with a CV, your courses and grades. In addition, we appreciate an article, paper, thesis or other relevant documents you have written in your education in order to judge your ability to express yourself in English. Please send your application to thiemo.voigt@it.uu.se as a set of pdf files (no archives, single files, please).

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