

**Prof. Roger Wattenhofer**  
phone +41 44 632 6312  
wattenhofer@tik.ee.ethz.ch

Lab/Semester/Master Thesis

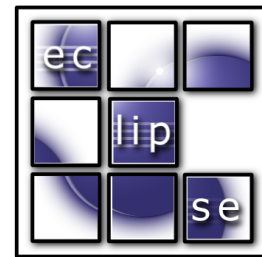
## Refactoring support for TinyOS in Eclipse

Wireless sensor networks are a valuable tool to gain a digital representation of the physical world. Many nodes utilize the operating system *TinyOS* and the programming-language *NesC* which is part of *TinyOS*. *NesC* itself is a modified version of *C*.

The TinyOS Eclipse Plugin *Yeti 2* developed in our group is a step toward easier development of applications. It provides developers with instant error- and warning messages (e.g. a typing error).

When working for a long time on a project developers often need to revisit and change code they wrote earlier. They may need to change the name of variable or add a parameter to a function. This delicate work is called *refactoring*. Since the same word can be used for more than one element, refactoring is more than just search and replace (e.g. two variables can have the same name in different scopes).

The goal of this thesis is to add refactoring capabilities to *Yeti 2*. This may include: modifying the parser to get information about the occurrence of elements (like variables or functions), creating new views and dialogs for *Eclipse*, build a new framework for refactoring-support.



### Required Skills

You should already have some skills in software development and you should be familiar with the *Java* programming language. Knowledge of *Eclipse*, *TinyOS* or the *C* programming language is helpful but not required. You will not need to build a parser or compiler, but some expertise in this area is helpful.

Are you interested? Please contact us by email or phone.

### Advisors

Benjamin Sigg	besigg@tik.ee.ethz.ch	044 632 7007
Roger Wattenhofer	wattenhofer@tik.ee.ethz.ch	044 632 6312