Simulation and Deployment of Sensor Networks

1. Deployment of a sparse wireless sensor network in a rural setting

2. Some recent work on simulation models for TOSSIM-T2 TinyOS simulator

The first part of the talk is about issues in the deployment of a 5 Sq km deployment of a sparse wireless sensor network in a project site village called Chennakesavapura. The village is about 170 kms from the city of Bangalore, India. There is a need to consider several parameters before the deployment of such a network. These include radio connectivity, antenna orientation and height, receiver sensitivity, and data rate. Another issue is about long distance connectivity between rural aggregation servers and urban data centres. We examine some alternatives. Energy budgets have to be evaluated to keep the system running for long life times.

The second part of the talk is about developing simulation blocks for a TinyOS simulator called TOSSIM T2. We test the efficacy of these blocks by implementing a recently published work and show the results are close to the proposals.