CSE408 Sustainable Engineering Design

Lab 2 Anti-theft Application II

Due on Apr. 19th

This lab is to implement another real application based on the knowledge of communication, sensing and networking with TinyOS and IRIS sensor mote. The application is to further develop anti-theft, which is to prevent stealing and alarm the user when a sensor node is being stolen. Instead of using LEDs to alarm the user, this application is using a beeper.

In this lab, you are required to use two IRIS sensor motes to form a sensor network. Each of the sensor motes is attached a MTS310 board. You need to sense the movement of sensor motes using the attached accelerometer on the board. The accelerometer can sense the acceleration of sensor mote, thus to detect its movement. When either sensor mote is stolen, it will be taken away by the theft. During this process acceleration of the stolen sensor mote occurs, then the movement and steal can be detected. When either sensor mote is stolen, the other one should be able to beep to alarm the user.

Hints:

1. Modify your previous labs with oscilloscope; replace light sensor or temperature sensor to accelerometer.

2. Learn more details about MTS310 board in TinyOS; figure out how to use the beeper on this board.