Christian Schindelhauer

Chia Ching Ooi

Assignment I

Ad Hoc Networks - Mobile Ad Hoc Networks

Winter 2007/2008

Section I: Wireless communications

Prerequisite

- You need at least two Gumstix*es* to solve the problem. Alternatively, you can use one Gumstix and another Wifi-capabled laptop.

- Wifistix is detected and running on your Gumstix.

- *tcpdump* module is installed on your Gumstix or/and laptop.

- packet analyser, e.g. *ethereal*, is installed on your host.

Task

Configure the wireless interface of Gumstix to work in ad-hoc mode. Change the script */etc/network/interfaces* such that the configuration is loaded whenever Gumstix boots. Show the successful ad-hoc communications (e.g. by running *ping*) between two Gumstix*es* via the packet analyser tool on the host. You can submit any files you have changed/created to complete the task.

Section II: Linux Programming

Prerequisite

The followings are needed on your host:

- buildroot environment for Gumstix

- serial or USBnet connection between Gumstix and its host

- serial communication console or SSH client

Task

Write a simple C program that will display the program output on Gumstix. There is no restriction on the program you have to write as the main purpose of the task is to show that you are able to cross-compile the source code and run the executable successfully on Gumstix. You can submit any files you have changed/created to complete the task.