



# Mobile Computing

## Exercise 1

Assigned: April 10, 2003

Due: April 17, 2003

### 1 Ad Hoc Wireless LAN Connectivity

The purpose of this exercise is to switch your Wireless LAN cards (typically installed on a notebook<sup>1</sup>) to the *ad hoc* mode and to check their operation by sending a message between two devices.

Use the configuration tool shipped with your Wireless LAN card to switch to the *ad hoc* mode<sup>2</sup>. (In case of the Cisco Aironet card, the configuration tool is called *Aironet Client Utility*. Depending on the version of this tool, you can either use the alternative profile or create a new one and set the network type of this profile to *ad hoc*.) Set the Service Set ID (*SSID* for Cisco Aironet; *Network Name* for Lucent WaveLAN and Apple AirPort cards) to *mobicomp*.

Once the cards are configured correctly, the configuration tool can be used to watch the received signal strength vary according to the distance between two mobile devices. Note that using the *ad hoc* profile, you won't be able to connect to the base station infrastructure unless you switch back to the according profile.

As a second step and if necessary, install the Java runtime environment on your mobile device (<http://java.sun.com/products/>).

Now download the two files `Sender.jar` and `Receiver.jar` from the lecture website (<http://distcomp.ethz.ch> → `lectures`) to your mobile devices. Start the `Receiver` on one, the `Sender` on another device, type in some text and send it off. If the receiver device confirms receipt of a message, your environment should be set up correctly for the rest of the practical exercises.

### 2 Application Scenarios

Write down some notes on what you think might be possible scenarios for mobile computing. Feel free to suggest anything that occurs to be more or less useful to you. Can you even think of a so-called *killer application* for mobile computing?

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<sup>1</sup>We assume most of you use notebooks for the exercises of this lecture. In case you want to use something "exotic", such as a Compaq IPAQ device, we can give you some, though not full help.

<sup>2</sup>If you haven't been using a Wireless LAN card yet, take a look at <http://n.ethz.ch/laptops-cisco.html> and/or <http://www.wireless.ethz.ch>, where you will find instructions on how to connect to the ETH Wireless LAN via one of the Wireless LAN base stations.