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Exercises of lecture

Mobile Ad Hoc Networks

Summer 2007

Sheet 11

SECTION 1:

Random waypoint mobility model

1. The aim of this exercise is to evaluate the random waypoint mobility model by simulation. Write a simple program in the language of your choice (e.g. Java, C++, C, VB) by configuring the following inputs:

    (a) Size of the simulation area (assume circular area)

    (b) Duration of simulation (integer)

    (c) Pause time at each waypoint (integer)

    (d) Number of nodes in the network (integer)

    (e) Minimum speed, V_{min} and maximum speed, V_{max} of the node (integer)
    (Note: Use V_{min} of both zero and non-zero values for multiple simulation runs)

    You are required to **repeat** the simulation run by varying the parameters above and:

    (a) calculate the average speed of nodes for each run;

    (b) construct a graph similar to that on slide 11 of lecture 11, by recording the waypoints selected by each node during the simulation.

    You can find a sample Java applet at this link as your reference.