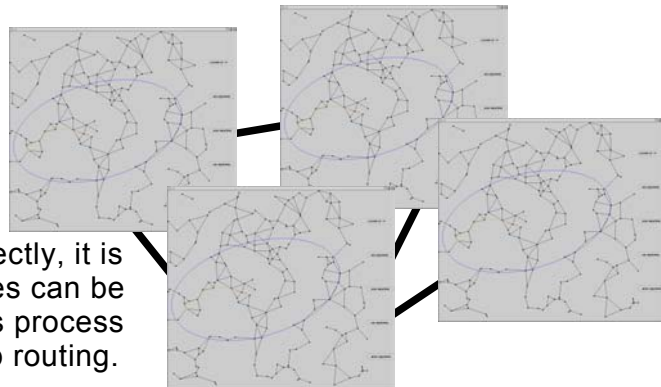


Semester Thesis “Development and Testing Layer for Ad-Hoc Network Software in Java”

A mobile ad-hoc network consists of mobile nodes equipped with wireless radio. If two such nodes are in mutual transmission range, they can communicate directly. If two nodes cannot communicate directly, it is nevertheless possible that messages can be relayed by intermediate nodes. This process is commonly called ad-hoc multihop routing.



Our exercises of the Mobile Computing lecture, where we build an ad-hoc network, show that the implementation of routing algorithms is error-prone if done “directly” with “real” ad-hoc devices. Instead, it would for instance be helpful if several programs could be started on the same computer, such that they would behave as if they were in a real ad-hoc network, where not every node sees every other node.

One possible way to solve this is the implementation of a layer that “pretends” to be a network. Instead of accessing the “real” network, applications—such as a routing algorithm—then use this layer for their communication.

Your task will be to design, implement and test such an ad-hoc network layer in Java.

Skills

- Interest in ad-hoc networks and Java programming.

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