# Marketplaces as communication patterns in mobile ad-hoc networks*

A motivation and short survey

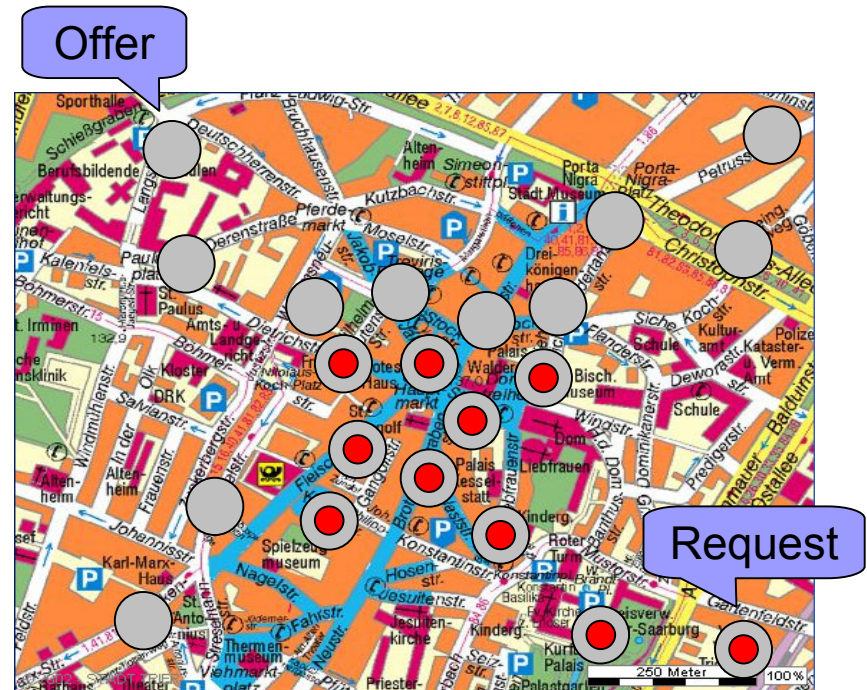Hannes Frey, System Software and Distributed Systems Research Group, University of Trier, Germany

Problems and assumptions

- Metropolitan sized networking
- Mobile devices
  - □ Wireless communication facilities
  - □ Localized location computation
- Direct communication only within transmission range
- Unpredictable network topology changes due to mobility
  - □ Network partitions
  - □ Permanent link failures
- Supply and demand as a fundamental communication pattern
- **Problem: Find an agreement among offerer and requester**
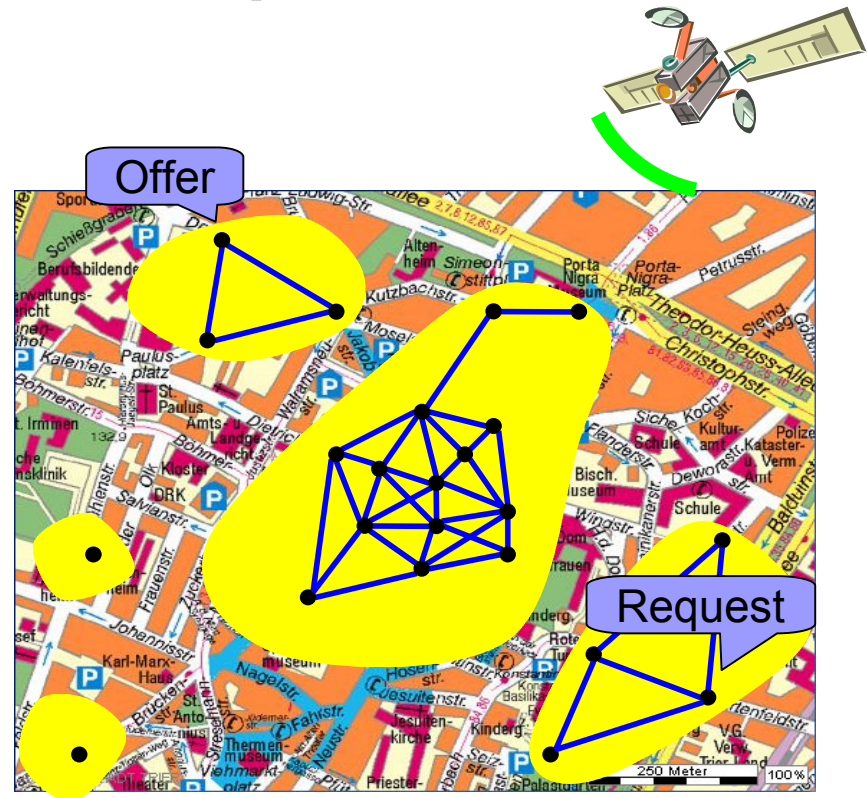
Possible solutions

- **Flooding of the entire network**
  - ☐ Network load
  - ☐ Network partitions
- **Waiting for matching peers in transmission range**
  - ☐ User has to walk to the transmission range of a supplier
  - ☐ Low probability to find a match

The marketplace solution

- **Basic idea**
  - Definition of a marketplace
  - Devices acting in behalf of a user
- **Walking to the marketplace**
- **Negotiating at the marketplace**
- **Walking back to the home zone**

Further components

- **Load balancing at the market place**
- **Improved movement strategies**
- **Duplicate elimination**
- **Prototypical implementation**