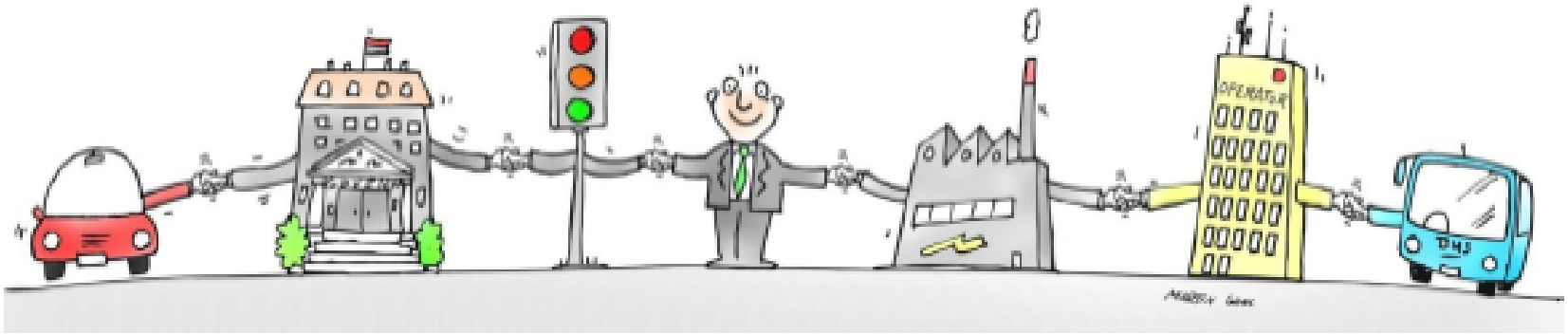
NSF Workshop

June 4th, 2012

Who Am I?

Research Interests

- Wireless world (everything connected)
  - Delay Tolerant Networks
    (Disruption Tolerant Networks, Disconnection Tolerant Networks)
    - Vehicular Ad Hoc networks (VANETs)
    - Pocket Switched Networks (PSN)



CVIS project

Delay Tolerant Networks, why different?

Intermittent/disrupted connectivity (occasionally connected)

Routing performed opportunistically (store-carry-forward)

Large end-to-end delay

Low reliability

Research Interests

- Vehicular ad hoc Networks
  - Socio-aware mobility modeling

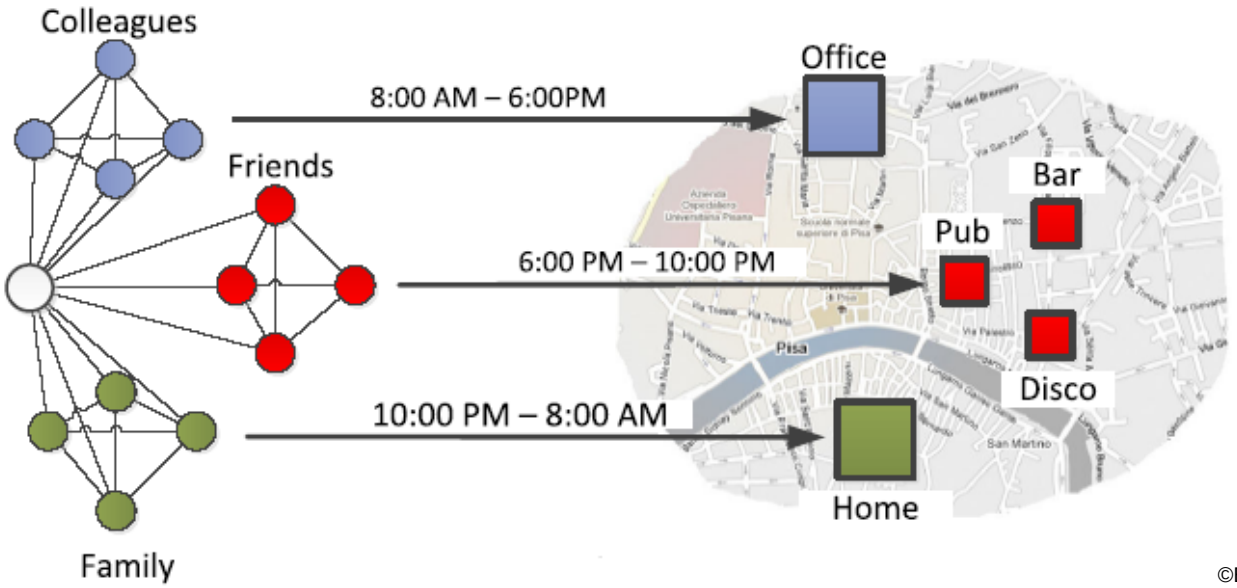
} GUC/Uni-ULM

- Pocket switched networks (PSN)
  - Community detection
  - Social trust

Our Approach

Integrate:

- Spatial aspects (location)
- Temporal aspects (time)
- Social aspects (communities, social groups,…)



Social Trust

Node cooperation is assumed to be a “de-facto”

Truth is: not all nodes are willing to cooperate

Question:

> How to use social aspects (community detection) to establish trustworthy communication in a delay tolerant network?

THANK YOU

Mobility Models

Common assumptions

All nodes are identical

All destinations have the same preferences

Time doesn’t matter

Mobility Models

Common assumptions

All nodes are identical

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Time doesn't matter

Realistic assumptions

Nodes are different: some are more mobile, more popular

Humans tend to visit nearby locations more often. Most time spent in small subset of locations (work, home)

Different behavior over time (mornings vs evenings, weekends vs weekdays,..)

social relations??