

# Pervasive Companion

*Turning social networking  
into social living*

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# Social Networking “today”

- Facebook, Myspace, Smallworld,...
- Strong separation between online social networking and real life
- High barrier
- Time consuming
- Doesn't improve social life

# Vision

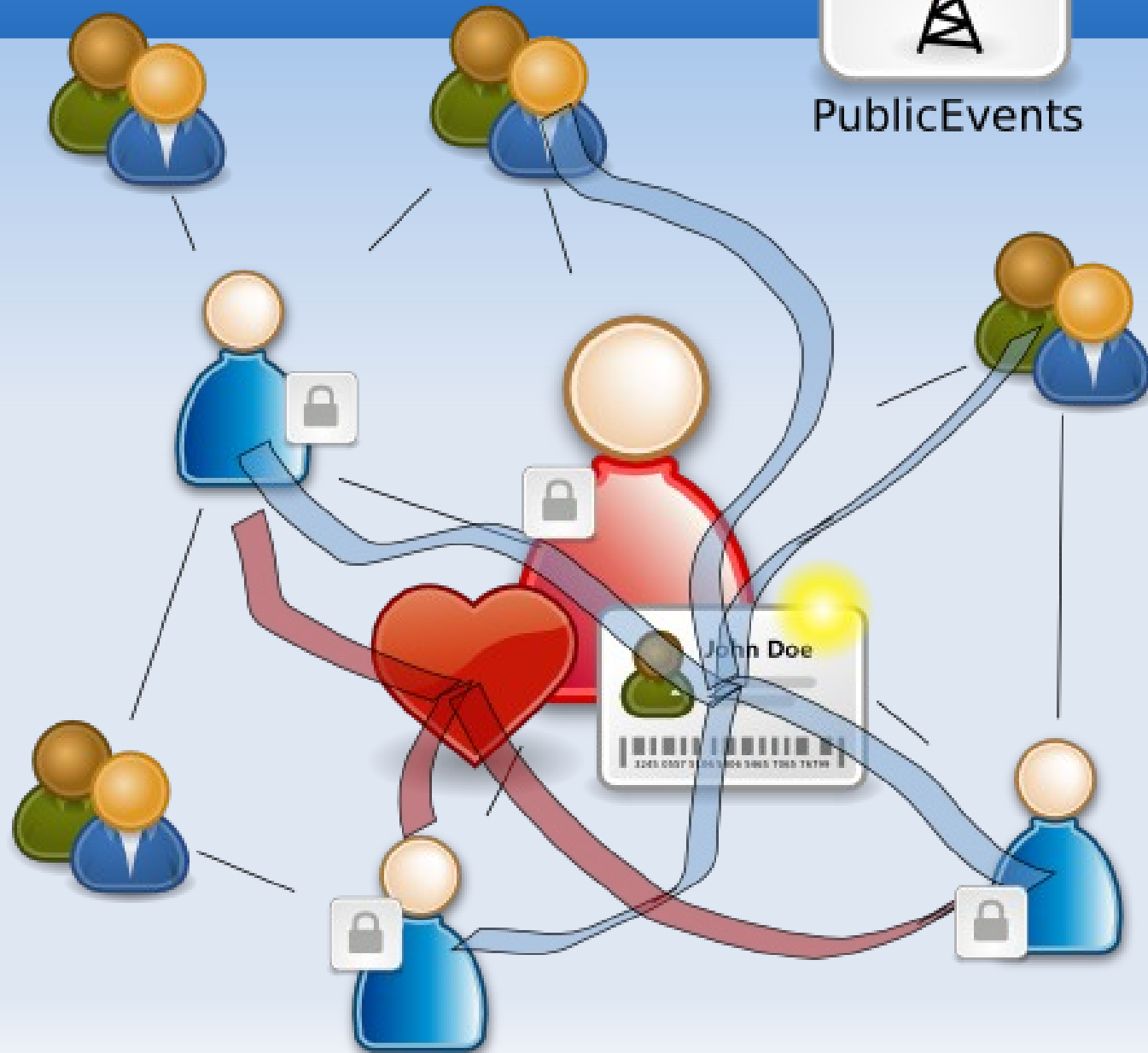
- Everybody has a Companion
- Companions do our social networking for us
- Companions are always connected to a mobile network
- Companions organize social events and connect people together

# Goals

- Make social networking more accessible through pervasive devices -> social living
- Build and maintain social network
- Adapt to the users' social habits and preferences to increase and improve social activity
- Proximity based social network



PublicEvents





# Functionalities

- Organise and maintain social events
- Learn user profiles
  - Passive observations (GPS, interaction style, mood recognition, phone book analysis, etc.) and inference
  - Direct user feedback
- Recommend potential friends and interesting social events
- Dynamic resource sharing and tagging.

# Services

- **Privacy management** – Companions must adapt to how private users wish to be
- **Information management** – Companions collect data, handle storage and disseminate useful information
- **Trust management** – Companion must handle trust levels for each relationship
- **Network management** – Maintain local mobile dynamic network

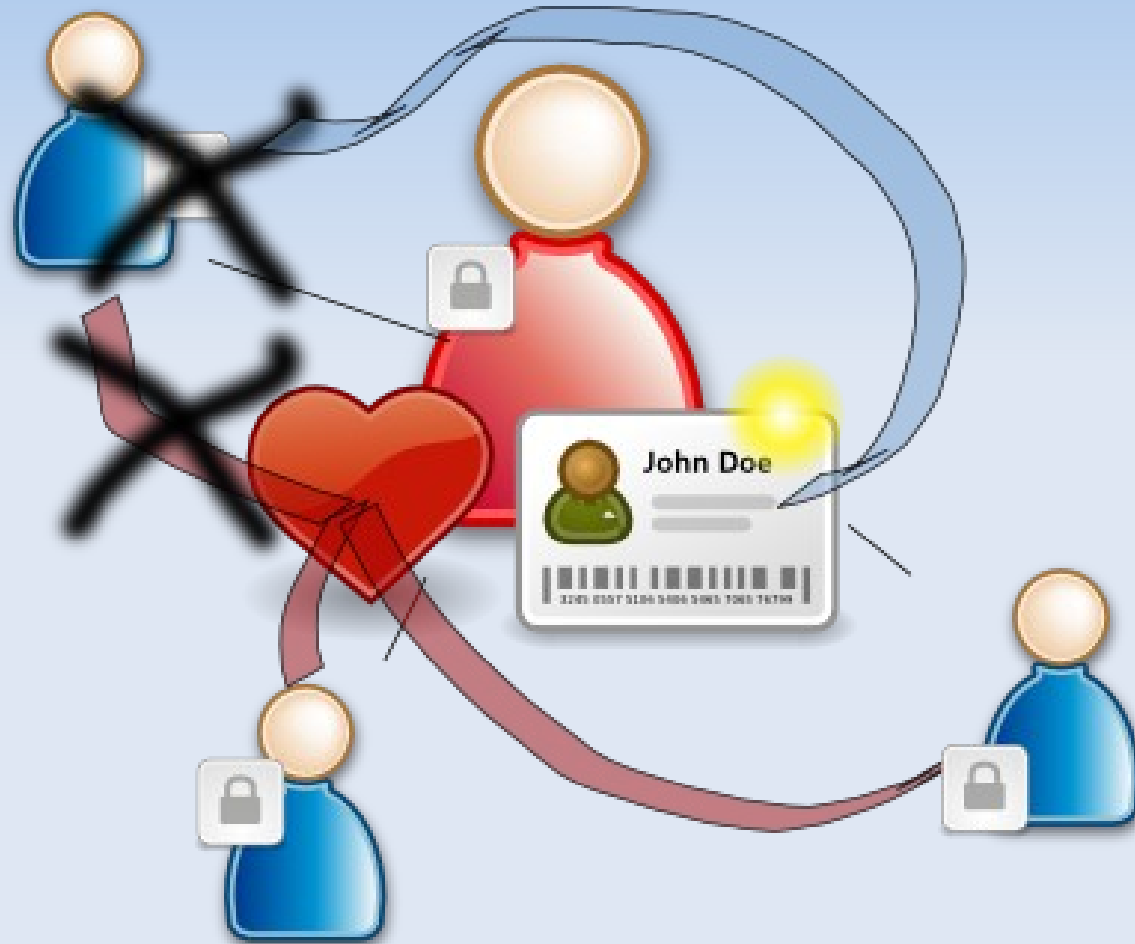
# Approaches

- Trust
- Gossiping/Flooding of Tags and metadata
- Learning and middleware.
- Proximity awareness

# Trust

- Needed to determine whether and what a companion can tell to another one
- P2P trust: dynamic adaptation to various trust levels
- Idea: “Social Constraints” institutions as individuals

# Trust



# Tags & Metadata propagation

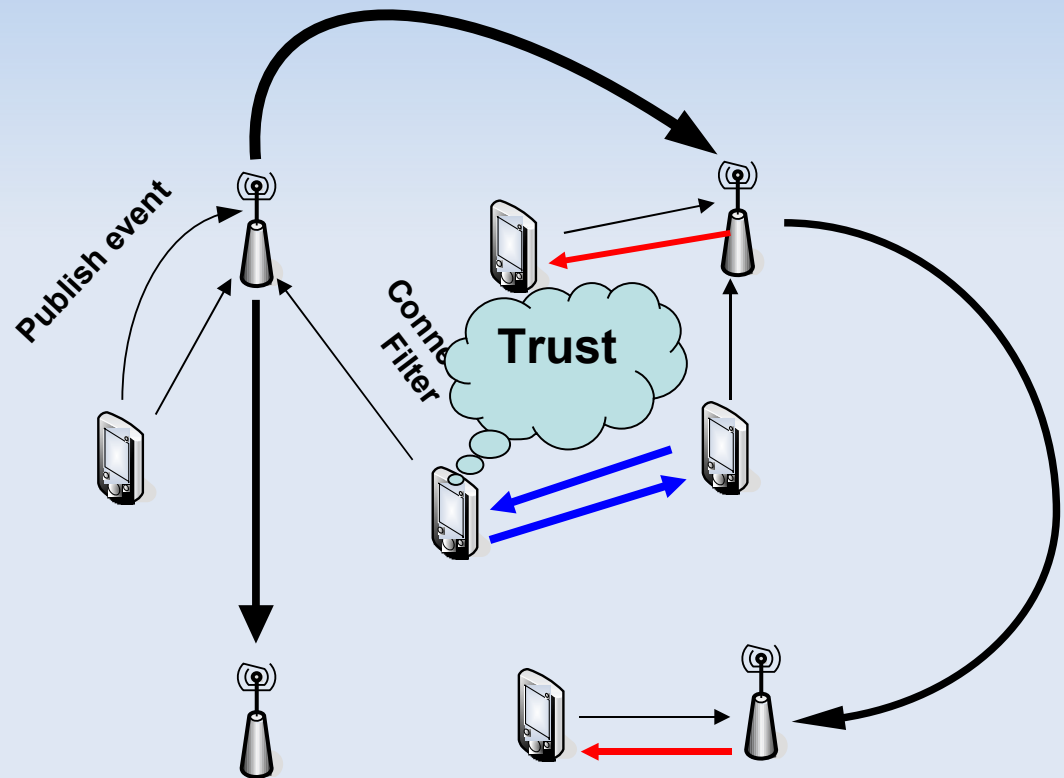
id	timestamp	time-to-live
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```
do once in each T time
units at a random time
p = selectPeer()
send state to p
receive statep from p
state = update(statep)
```

## active thread

```
do forever
receive statep from p
send state to p
state = update(statep)
```

## passive thread



# Middleware

- “Software that mediates between different types of hardware and software on a network, so that they can function together”
- We need middleware to support third party development as well as to hide complexity
- Context filesystem
  - `cp picture.jpg /people/friends/currently-with`
- Handle dynamic network issues

# Learning

- Building a picture of users' situations to support reasoning
- Infer based on information from several companions
- Adjusting parameters based on human interaction

# Summary

- Social networking
- Adapting to the human society and individual users
- Main issues
  - Trust, learning, tags, middleware

# Cool Applications

- Never ending carnival
- Health care and emergency detection.
- Advertisement enterprise applications
- Disabled and oldies assistant
- Being a better friend
  - Remember names, birthdays, etc.