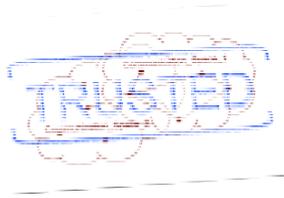


# **Trust Models for Communication Spaces**

H-C3 Exploratory Project

Oct. 2008 – Apr. 2009



# Motivation



- Trust becomes increasingly important

- Reputation systems
- Recommendation systems
- Communities

Detaillierte Verkäuferbewertungen (letzte 12 Monate) ?

Kriterien	Durchschnittliche Bewertung	Anzahl der Bewertungen
Artikel wie beschrieben	★★★★★	1482
Kommunikation	★★★★★	1476
Versandzeit	★★★★☆	1477
Versand- und Verpackungskosten	★★★★☆	1478

### Kunden, die diesen Artikel gekauft haben, kauften auch:

[Conceivability and Possibility](#) von Tamar Szabo Gendler  
EUR 31,99

[An Introduction to Non-Classical Logic: From If... to Because](#) von Graham Priest  
EUR 22,99

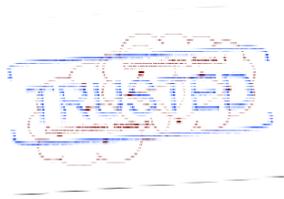
[Begriffsschrift und andere Aufsätze](#) von Gottlob Frege  
★★★★☆ (1) EUR 17,80

Control who can see your profile and related information. Visit the [Applications](#) page in order to change settings for applications.

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Profile	My Networks and Friends	(?)
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Photos Tagged of You	My Networks and Friends	(?)

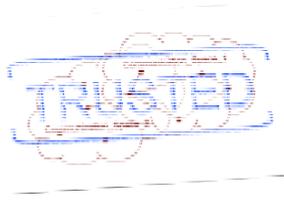
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# The Project



- Trust and trustworthiness
    - Central notions in Human-Centric Communication
  - Trust relationships
    - Established, verified, monitored, maintained and certifiably adapted
- Trust inevitably requires formalization
- **Challenge:**
    - **Formal definition** of comprehensive and comprehensible **models of trust** for complex **communication spaces**
    - Development of techniques for the **validation** (by means of testing) and **verification** (by means of proof) of such trust models



# The Team



## MTV

- Florian Eilers
- Uwe Nestmann



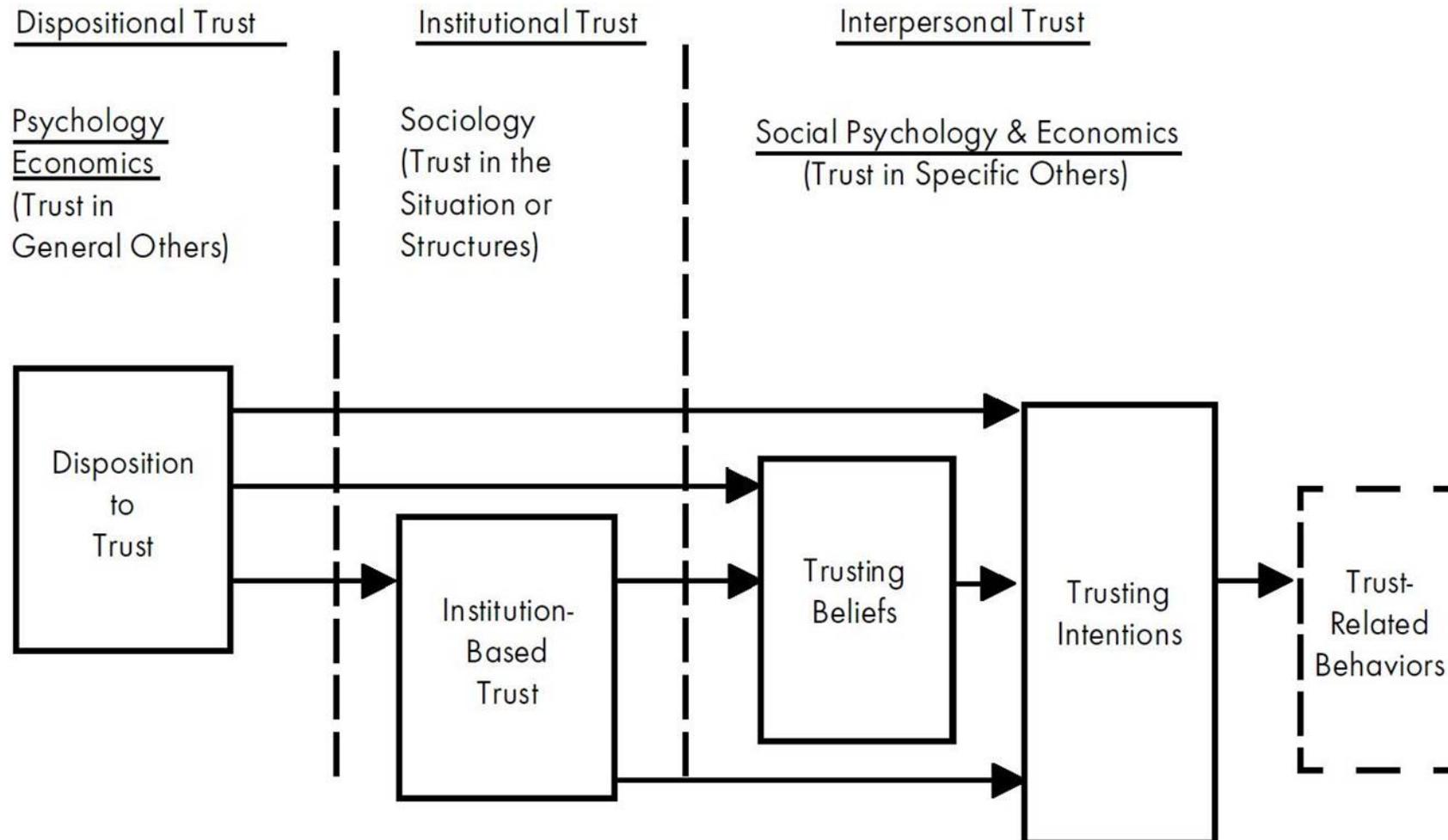
- Cosmin Mogos
- Ina Schieferdecker



- Tony Modica



# Trust in E-Commerce Customer Relationships





# Approach



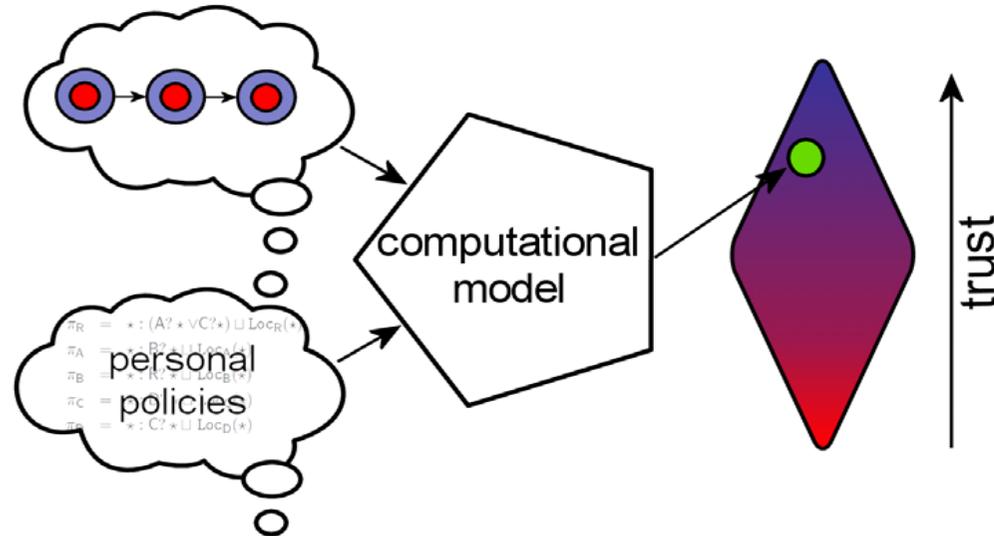
- Look into trust in communication spaces (CS) **as technical system** and **as community**
- Formalize trust
  - Represent roles and context
  - Allow for transference of trust information between CS
- Analyse trust systems
  - Develop simulation models
  - Evaluate trust policies



# A Trust Model for CS



- **Derive trust** from experience
  - Temporal logic using Kripke structures

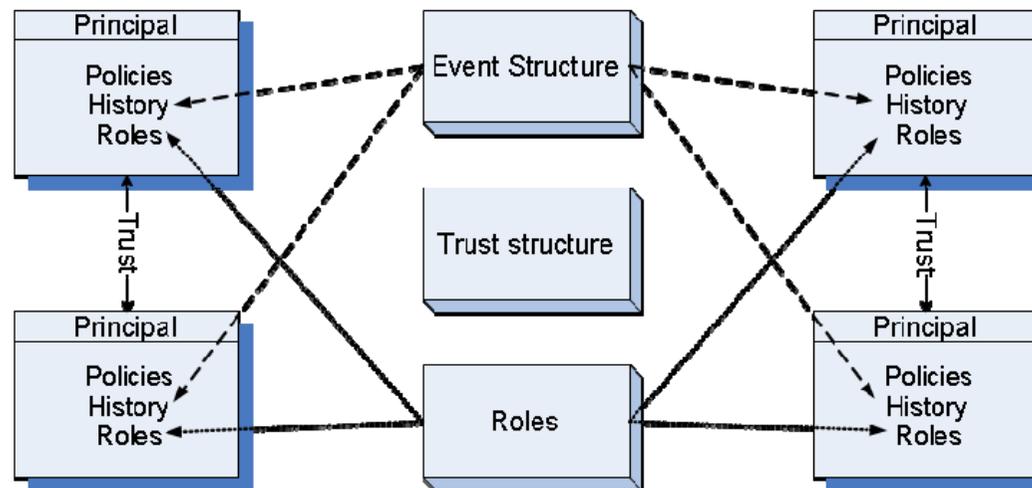


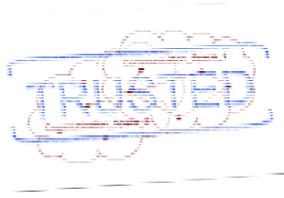


# Simulative Analysis



- **Analyse trust models**
  - Simulation model in Ptolemy
  - Trust policy convergence
  - Trust policy comparison
  - Policy efficiency against attacks
  - The scalability of trust policies





# Expected Results



- **Basic formal framework**  
(concepts, definitions, characterizations) for reasoning about trust in communication spaces
  - **Publications**
  - **Follow-up project proposals**
- **Trust compass**  
for users in communication spaces



Thank you for your attention!