

Lecture 16

Current Research Topics

Mobile Business II (SS 2009)

Prof. Dr. Kai Rannenber

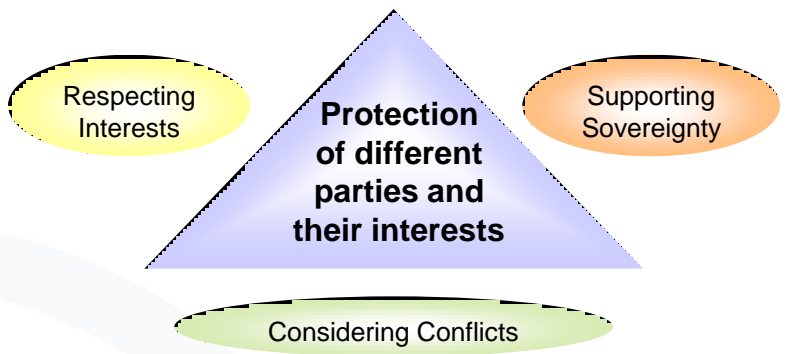
Chair of Mobile Business & Multilateral Security
Johann Wolfgang Goethe-Universität Frankfurt a. M.



- Introduction
- Research Profile
- M-Chair Team

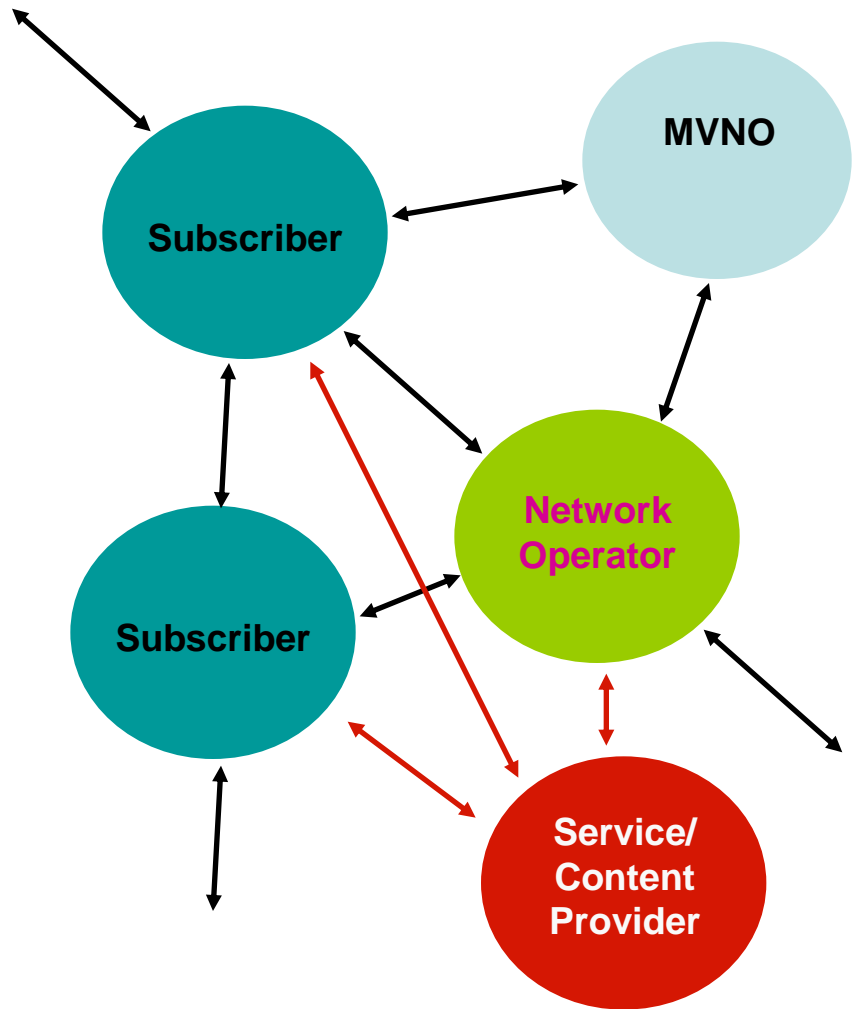
Different Parties with different Interests

- Customers/Merchants
- Communication partners
- Citizens/Administration



... in a world of consortia

- more partners
- more complex relations



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Mobile Business & Multilateral Security

Mobile context-sensitive and time-critical business services

- Mobile Marketing Business Models for Mobile Operators
- Design Requirements for Context-sensitive Mobile Marketing
- Design Aspects of Transparency in Mobile Recommendations
- Integrative platform for the acquisition of context information
- Mobile financial information services

Multilateral Security, Privacy, and Identity Management

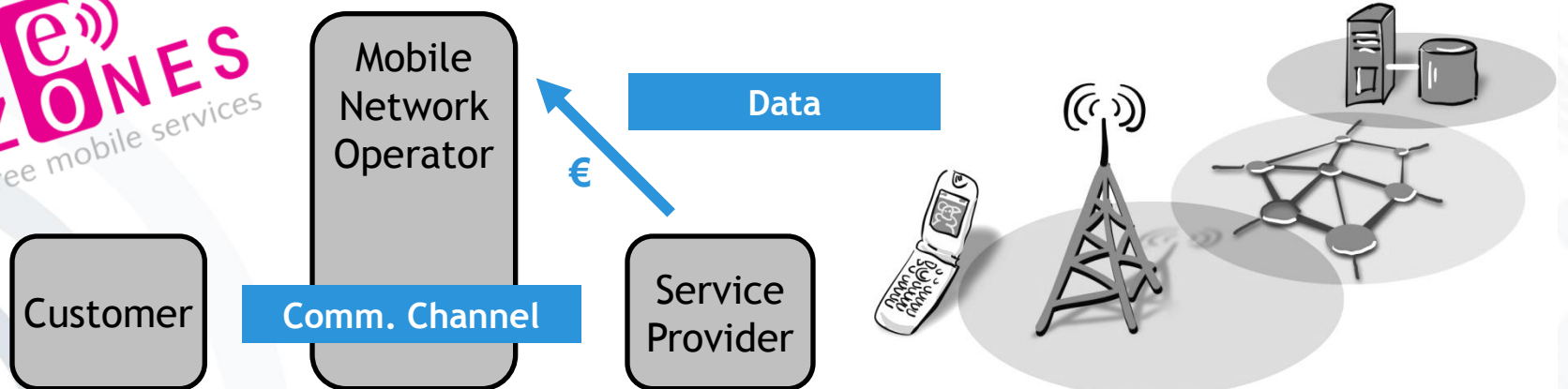
- FIDIS, PRIME, PrimeLife, PICOS
- Mobile Digital Signatures
- Secure Mobile Applications
- Economic evaluation of security/privacy requirements

Standardisation and Regulation



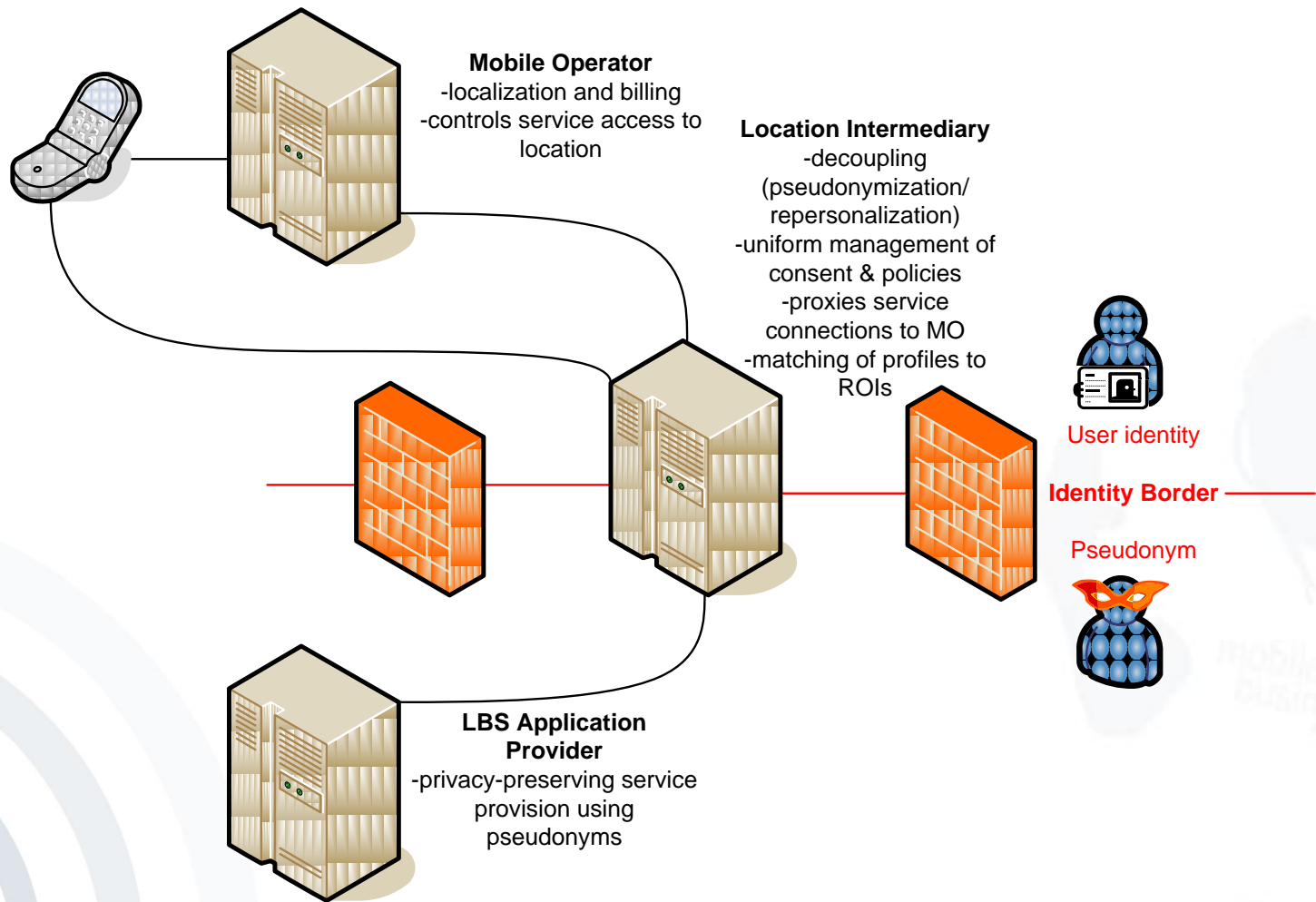
- **Potential:** Mobile network operators have a customer relation with most of the German population!
- **Offering:** Mobile network operators are providing service providers with a communication channel to potential customers.
- **Motivation:** Service providers gain higher, mobile initiated revenues in their business.
- **Objective:** Eliminating data costs for customers while making them marketing costs for service providers.

free ZONES
Enjoy free mobile services

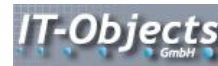


- Enhance privacy for typical LBS
 - Pharmacy search (“pull”)
 - Pollen warning (“push”)
- Address wide user range by making only few requirements on the existing infrastructure
 - Simple WAP mobile phone (Version 1), Java phone (Version 2)
- Several challenges
 - Privacy problems
 - Regulation, e.g. of the handling of personal information (and mobile services in general)
 - Business constraints
 - Easy integration into existing infrastructure
 - Applicability to a wide range of business models
 - Adaptability for different market structures

Intermediary Approach Architecture Overview



- PICOS - „Privacy and Identity Management for Community Services“
- EU FP 7 Challenge “Secure, dependable and trusted Infrastructures”
- Duration: 3 Years from Feb. 2008
- Project budget: € 6 Mio, EC grant: € 4 Mio
- Balanced mixture of industrial and academic partners



Main questions:

- ❖ What are the trust, privacy and identity issues in new context-rich mobile communication services, especially community-supporting services?
- ❖ How can information flows and privacy requirements be balanced in complex distributed service architectures)?
- ❖ How can these issues be solved in an acceptable, trust-worthy, open, scalable, manner?
- ❖ Which supporting services and infrastructures do the stakeholders need?

Expected results:

- ❖ A set of interdisciplinary requirements for trustworthy, privacy-friendly community transactions.
- ❖ A platform prototype that demonstrates the provision of state-of-the-art privacy and trust technology to community applications.
- ❖ User-centric trials that validate its applicability.

- EU FP7 Challenge “Secure, dependable and trusted Infrastructures”



- Integrated Project
- Planned for 3 Years from March 2008
- EC contribution : ~€ 10 Mio
- Partners
 - IBM, Microsoft, SAP, Giesecke & Devrient, W3C, and more...



Giesecke & Devrient
security at work.



- **Providing Privacy *throughout Life*: PrimeLife!**
 - ... digital footprints left over lifetime
 - ... in emerging Internet applications
 - ... user-centric and configurable
 - **Making Privacy Real: PrimeLife!**
 - Making results of PRIME (FP6) and PrimeLife widely usable and deployed
 - Cooperating with other projects for transferring PRIME and PrimeLife technologies and concepts
 - **Advancing State-of-the-Art in Technology supporting Privacy and Identity Management**
 - Mechanisms, HCI, Policies, Infrastructure
- ... Building on results and expertise of PRIME



- **The challenge: “Identity” is changing**
 - IT puts more HighTech on ID cards.
 - Profiles may make the „traditional“ ID concept obsolete.
 - New IDs and ID management systems are coming up (e.g. GSM).
 - Europe (the EU) consider joint ID and ID management systems.
- **Vision and Facts**
 - Europe will develop a **deeper understanding of how appropriate identification and Identity management can progress the way to a fairer European information society**
 - **Network of Excellence** in EU Framework Programme 6 (2004-04-01 - 2009-03-31)
 - **24 partners from academia, industry, governmental organisations** including INSEAD, LSE, IBM, Microsoft EMIC, ICPP
 - More at: www.fidis.net
- **Selected M-Chair Contributions**
 - **Coordination of the whole network (administrative, presentation, etc.)**
 - What makes an **identity mobile based on the FIDIS identity concept?**
 - State of the art of **mobile identity management technologies**
 - **Standardisation (Liaison with ISO/IEC JTC 1/SC 27/WG 5)**



- Multilateral Security, Privacy, and Identity Management in
 - IT Security Evaluation
 - Criteria (IS 15408, Common Criteria)
 - Certification
 - Standardisation (in ISO/IEC JTC 1/SC 27)
 - WG 3: IT Security Evaluation Criteria
 - WG 5: Identity Management and Privacy Technologies
- Standardisation and regulation (EU ENISA Management Board, ...)

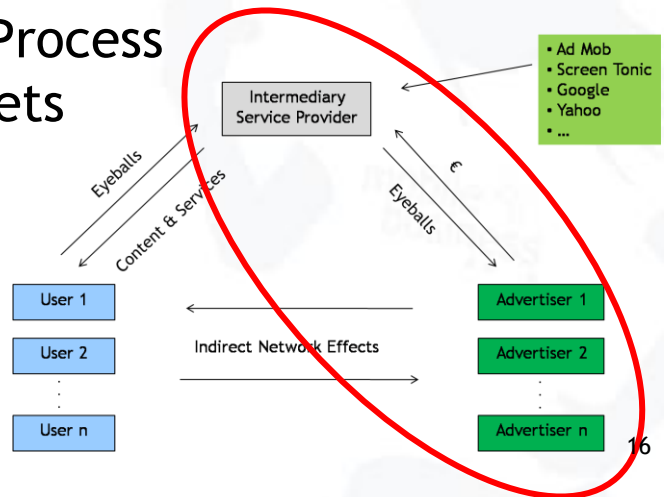
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■ Electronic Broker Markets for context-sensitive User Profiles in the Mobile Marketing Domain

- Evaluation of dynamic pricing mechanisms for broking of context-sensitive customer contacts to mobile advertisers
- Development of targeting models for context-sensitive Mobile Marketing applications
- Development of Design Framework and Process Model for Mobile Electronic Broker Markets



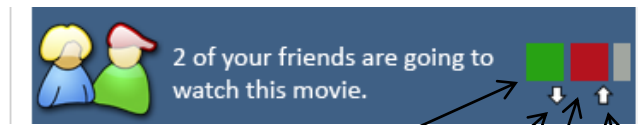
Premium*



Design Aspects of Transparent Mobile Event Recommendations

- How can transparency be defined and realized in a mobile environment?
- What information should be communicated to the user?
- How can transparency be integrated into a recommendation process in order to refine it?

Premium*



Yes, this is right or important for me.

Yes, this is right but not so important for me.

No, this is not right or important for me.

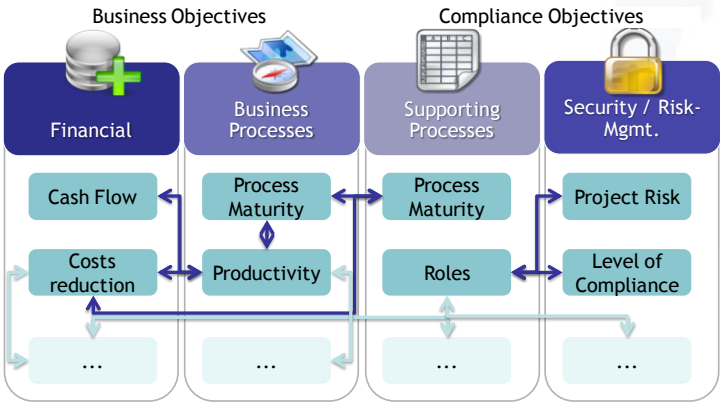
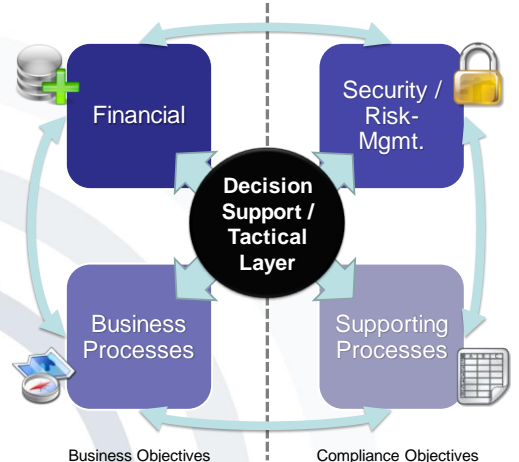
Yes, this is right and very important for me.

Yes it is right or important for me but not appropriate for this event.



- **Assessing the Value of Enterprise Identity Management (EIdM) - Towards a Generic Evaluation Approach**
 - Decision support instruments for the investment into Enterprise Identity Management Systems (EIdMS)
 - Based on the Balanced Scorecard approach

- **Further Research Interests:**
 - Evaluation of investments into EIdMS
 - EIdMS process models (GenericIAM)
 - IT-Controlling



- Mobile Security-Critical Applications
 - Trustworthy mobile platforms
 - Security analysis methods
 - Mobile system security requirements
 - Security-critical application implementation
 - Secure code development techniques



- Future of **Identity** in the **Information Society (FIDIS)**



- **Research Interests**
 - Privacy & Identity Management topics in the context of advertisement based mobile services
 - Mobile Marketing & Business Models
 - Mobile TV

- Privacy and Identity Management for Community Services (PICOS)



- **Research Interests**
 - Mobile Communities
 - Mobile Entertainment
 - Web 2.0
 - Visualisation

- Privacy and Identity Management for Community Services (PICOS)



- **Research Interests**

- Privacy and identity management issues in the field of online social and collaborative networks, esp. focussing on eBusiness scenarios
- Privacy-aware application design
- Team management in the social network's age

- PhD Thesis on Information Privacy in Social Network Applications
- Director, Advisory - Forensic, KPMG/Germany
- Project Editor at ISO/IEC JTC 1/SC 27 for
 - Privacy Framework (ISO 29100)
 - Privacy Reference Architecture (ISO 29101)
- Research Interests:
 - Information Privacy
 - Privacy-Enhancing Technologies
 - Social Network Applications
 - Semantic Web
 - Web 2.0 Services
 - IT Standardization



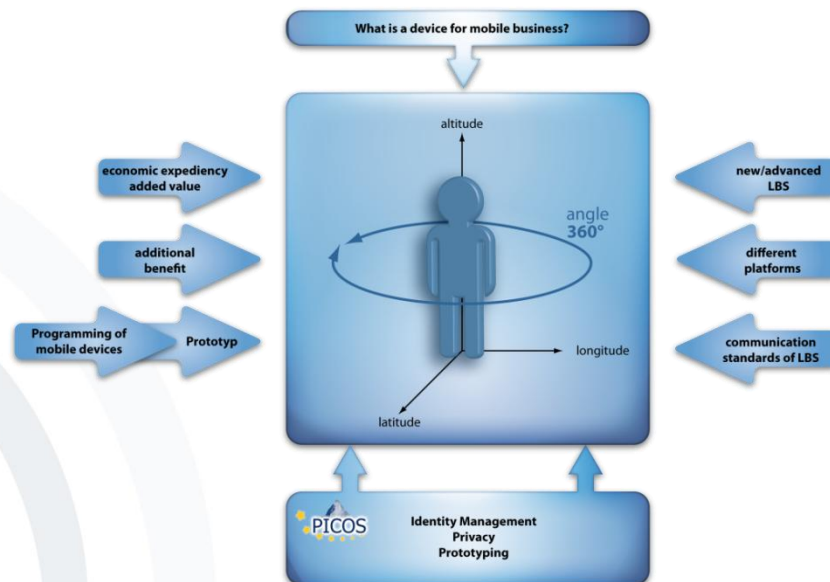
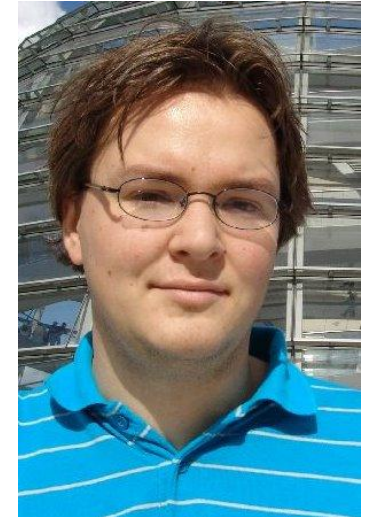
- Product Manager, ACONY GmbH & Co. KG, Germany
- Research Interests
 - Virtual Online Worlds and Items
 - Massively Multiplayer Online Games
 - Mobile Gaming Services
 - Web-based Social Networks



...with regard to:

- Business Models/Effective Monetization
- Community Building and Management
- Technological Infrastructure
- Privacy and Identity Management

- Privacy and Identity Management for Community Services (PICOS)
- Research Interests:
 - Location Based Services (extended by the angle)
Context Based Services
 - Mobile Communities, Location Based Networks
 - Mobile Marketing
 - Mobile Devices, Mobile OS, MultiTouch
 - Mobile Web-Technologies



Current Research Domain

Market Performance Forecasting & Measurement

- design, analysis and evaluation of Economic Value Systems & Networks
- esp.:
 - systems and networks in domain of Mobile Business, Mobile Payment, Mobile Banking and Identity Management
 - future-oriented (ex ante) forecasting and past & present-oriented (ex post) measurement
 - quantitative (monetary) and qualitative (non-monetary) evaluation

General Research Interests



Business Steering & Performance Management

- methods , concepts, processes and tools for designing, analyzing, forecasting, planning, steering, measuring and monitoring business performance factors on different business performance dimensions
- esp.:
 - future-oriented (ex ante) analysis, forecasting and planning
 - quantitative (monetary) and qualitative (non-monetary) business factors
 - market, process, resource, risk, and finance business dimensions

- **PrimeLife**



- **Research Interests**

- Mobile Business Processes
- New M-Commerce Business Models
- Context-aware Mobile Services
- Mobile Finance
- Security / Security Awareness
- Identity Management , Trust and Privacy
- Virtualization



General Research Interests:

- (Mobile) Trusted Platforms, Devices, Infrastructures and Services
- Trusted Service Manager Infrastructures
- Hardware Security Modules for Mobile Devices
- Mobile P2P Services
- Mobile Entertainment
- (Mobile) Privacy Enhancing Technologies
- Security Protocols for Mobile Networks
- MSOA - Mobile Service Oriented Architectures
- (Mobile) Identity Management
- Cryptography

Projects:

- PrimeLife - Bringing sustainable privacy and identity management to future networks and services



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 - Infrastructures
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- Identity Management



- Trusted/Trustworthy Computing



Premium*

- Reachability Management & Context-Rich communication



- Standardisation and regulation (EU ENISA Management Board, ...)