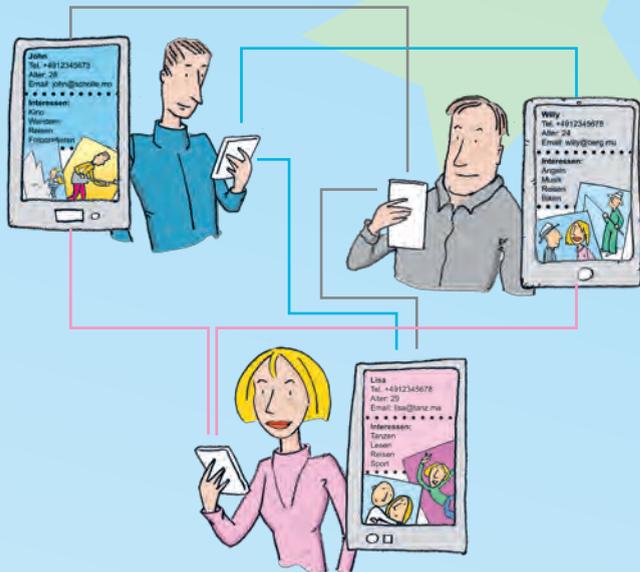


What is PICOS?

Privacy and Identity Management for Community Services (PICOS) is an international research project, whose mission is to investigate **mobile communities** and their services. The PICOS consortium consists of eleven partners from seven different countries, supported by the European Community as a part of the Trust & Security thematic area within the ICT programme of the 7th Research Framework Programme. It contains specialists from industry and academia in various fields of science and research.

The objective of the project is to advance the state of the art in technologies that provide **privacy-enhanced identity** and **trust management** features within complex community-supporting services that are built on Next Generation Networks and delivered by multiple communication service providers. The approach taken by the project is to research, develop, build, trial and evaluate an open, privacy-respecting, trust-enabling identity management platform that supports the provision of community services by mobile communication service providers. This is done in a user-centric way with our exemplary communities of anglers and online-gamers.



Consortium



Goethe University Frankfurt
(Coordination)

Hewlett-Packard
Laboratories



Deutsche Telekom AG

Universidad de Málaga



CURE - Center for Usability
Research & Engineering

Katholieke Universiteit
Leuven



IT-Objects GmbH

Atos Origin Sociedad
Anónima Española



Hewlett-Packard Centre
de Competence France

Leibniz Institute of
Marine Sciences



Masarykova
univerzita, Brno

Contact

Christian Kahl, Markus Tschersich, Stephan Heim,
Katja Böttcher, Prof. Dr. Kai Rannenber

www.picos-project.eu
contact@picos-project.eu
[www.twitter.com/picos_project](https://twitter.com/picos_project)

Chair of Mobile Business & Multilateral Security
Goethe University Frankfurt
Grüneburgplatz 1
60629 Frankfurt am Main
Germany
www.m-chair.net

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Privacy and Identity
Management for
Community Services

Privacy enhanced.



Why PICOS?

In recent years, we have seen the emergence of services for professional and private on-line collaboration via the Internet. Nowadays, many European citizens spend work and leisure time in **online communities**, which are increasingly used in mobile environments. Although the benefits of **mobile communications** are well known, the risk of unconsciously leaving personal information traces is rising.

PICOS addresses this issue by investigating

- how providers of community services need to handle **trust and privacy**,
- how to meet **user expectations** in handling their privacy and
- the needs to be open for **marketing activities** of sponsors, advertisers and other.

To address these aspects, PICOS developed a community architecture including privacy enhancing concepts which is prototypically implemented in a community platform and exemplary community applications. The first community in which the following concepts were tested is a community of recreational anglers. The second community in which the concepts are tested is a community of online gamers.

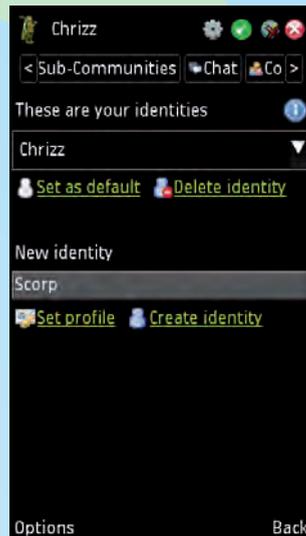
Selected PICOS Concepts

Identity Management

The concept of Identity Management in PICOS enables users to manage their identity-related information in a convenient way. Users can build different **Partial Identities** for the usage in different contexts. Especially if users participate in **Sub-Communities**, Partial Identities support users in hiding and revealing personal information based on a particular usage context.

User Controlled Information Flows

PICOS offers users various tools for managing the privacy on different levels of detail. When founding a **Sub-Community**, users can decide if they want to make the sub-community public or private. In the latter case the founder can



decide who is allowed to be a member of that Sub-Community. Information published in that Sub-Community is only accessible by its members.



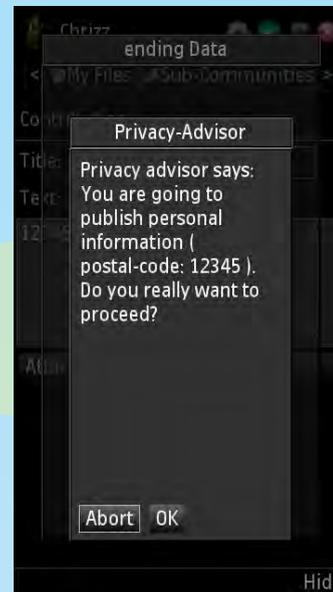
By means of **My Files** users obtain a personal area for managing their private information and content. This area enhance users' privacy by enabling them to store and selectively publish their private information to a certain group of other users.

In a mobile environment especially location information is of interest. E. g. location-based „Friend-finders“ are attractive and helpful tools. The PICOS concept of **Blurring** gives users the opportunity to hide their exact position, without being completely invisible, as the own position can be obfuscated in a previously defined radius.

The PICOS community application prototype enables users to selectively define **Policies** in order to control who is allowed to see certain personal information. These policies are built on rules which consider as well context information.

Privacy Advisor

The Privacy Advisor provides guidance to users (e.g., regarding disclosure or sharing of location information) to help them keeping their privacy. The Privacy Advisor helps to create awareness of privacy related aspects within mobile communities based on the user's current behavior and context.



Why Online gamers

The 2nd cycle of PICOS builds upon the developed concepts and considers results and experiences of the 1st cycle. In the 2nd cycle, a community of online gamers is focused. Enhanced concepts were elaborated in order to investigate the applicability for further mobile communities.



Online games represent large communities in which players interact and collaborate. Mobility allows them to stay in touch with their community from wherever they are.

The existing privacy and identity management concepts are enhanced and additional concepts based on the requirements of online gamers are introduced (e.g. **shared desk**). This also includes new concepts for enhanced targeted advertising in

communities. Additionally, the fields of defining and managing policies, the guidance of users with regard to privacy, and economic potentials in privacy-respecting mobile communities are further investigated.

