Goals of the **uTrust** project

In open, distributed systems, autonomous users frequently have to make decisions under uncertainty. The outcomes of their decisions (and the welfare or utility of the users) are under risk, because they may depend on actions of other users, over which there is no centralized control. The goal of trust management is the support of decisions and actions of agents (users or programs) in an open, distributed system, under uncertainty and risk. To achieve this goal, trust management uses various kinds of information: trust or reputation, to users to determine what to expect about the behaviour of others. There exist already many different definitions and formal models of these concepts, as well as many practical trust management methods.

In the future, trust management may become yet another, standard service of information security, such as authentication, authorization, privacy or integrity. For this to happen, it would be necessary to define standard primitives of trust management, and come to an understanding about what is in common among the many different applications of trust management studied to date. For while there exist many practical trust management systems, these systems are often applied in widely different domains: some of them have centralized components, others are fully distributed, some use reputation, while others rely on recommendations as means of transferring or delegating trust.

The *uTrust project* is an attempt to move towards the goal of creating standard trust management services. uTrust stands for "Universal Trust": the scientific goal of the project is to define, formalize and implement new, universal trust management methods and verify their effectiveness. To this end, the project will begin with an establishment of formal, mathematical and computational models of trust, basing on previous work in this area and extending it with the goal of creating universal trust models. The models can then be used to define common criteria of evaluation of trust management systems and methods. This means that trust management models must also include the models of adversaries; the goal of establishing universal models implies that adversary models must be as general as possible. Once common evaluation criteria are established, the project will proceed to adapt and develop universal trust management methods that will then be evaluated and tested.

The practical goal of the project is to create a library of universal trust management methods, algorithms, and protocols. This library will be distributed under public licence, and could also be made available as a Web Service. All researchers, developers, analysts interested in trust management are invited to participate in this effort. The trust management library will be developed as an Open Source project, and will be made available to the entire community for testing and evaluation.