Accomplishing Privacy and Security requirements in ROLE with TAS3 findings

Dr. Peter Ferdinand, Andreas Kiefel, Michael Kutscher, Marc Santos

IWM - Knowledge Media Institute, University of Koblenz
mpinto@uni-koblenz.de

Abstract

In many EU funded projects one can find under the list of non-functional requirements the point "Privacy, Security and Trust". Often the extent to which the users find their privacy being taken care of is a performance indicator in those projects. This is also the case in the EU funded project ROLE which object is research and development of a psycho-pedagogically sound framework for supporting the individual assembly of accessible learning services, learning tools and learning resources in personal responsive open learning environment.
Another EU funded project called TAS3 is currently trying to solve privacy and security issues and to provide a framework to exchange data in a secured and trusted manner where the user is always in control of its data.
This paper describes how the TAS3 project can support the ROLE project in achieving its non-functional requirements which affect privacy, security and trust issues.

1. Introduction

The EU Framework 7 project ROLE (Responsive Open Learning Environments) is aiming to enable the user to easily construct and maintain her own Personal Learning Environment (PLE) consisting of a combination of preferred learning tools, services and other related technologies. On one side, learners are designing their PLEs by themselves; on the other side, users are connected to a learning network consisting of other actors, artifacts, and tools. Moreover they are collaborating on shared artifacts within common activities.
In order to achieve different pedagogical goals like personalizing the learning process, (self-) reflection, assessment, etc., ROLE project will focus on providing an interoperability framework for federating and orchestrating learning services.
The architecture of this interoperability framework will be composed of several services like repository, competency, identity and session management and **trust and security management services**.
Those mentioned trust and security management services are the initial point where the EU funded project TAS3 comes into play.
The EU Framework 7 project TAS3 (Trusted Architecture for Securely Shared Services) aims to create a service infrastructure that will place the user in control of the use of their personal data in service orientated distributed computing applications.
The users of TAS3 enabled applications can control the use of their data by interfaces to the TAS3 security management framework. For example the TAS3 project is implementing policy editing tools, sophisticated policy decision point (PDP) and dashboard applications to present the user with control over data security in the TAS3 infrastructure. Thereby the user will be able to know who has accessed their data during the learning process.
This paper will present an overview of how the TAS3 infrastructure could be a possible trust and security management framework for ROLE.

2. Related Work

When securing the personal data of the individual in distributed systems the legislation has laid corner posts for much technical effort particularly around the definition and security of personal data privacy [1].

3. Security Requirements in ROLE

The ROLE project will research how the learner can completely control the execution of the learning process and at the same time, let organizations and companies predefine the educational curve of the learners. Thus the way how to combine the needs of a learner, the needs of assessment based institutes and market needs driven companies will be explored.

For creating a customized "Personal Learning Environment" the user has to enter her personal data and set up her profile with information about learning goals, domain/tool skills and the level of knowledge.
The first requirement is that those user profiles contain personal information which has to be secured and has to be completely under control of the learner.

In order to indicate user's competence and learning style and provide her convenient recommendations, the systems shall be capable to track, monitor and evaluate the user's related learning data and her behavior in the system. This necessitates again access to personal data from external services that are not under control of the learner. Therefore also the learning data and information about the learner's behavior during a learning process have to be secured.

ROLE also aims to establish a more data-centric architecture, where the same piece of data can be viewed from different points by separate but cooperating tools. This architecture has to take into concern privacy issues and to provide a trusted architecture that provides mechanisms to ensure that all data repositories are secure and only accessible by trustworthy users or services.

4. Solutions delivered by TAS3

As a result of the increasing interconnection of personal and business related data privacy gets more and more important in the modern information society. Therefore trust and security are basic needs for the society as a whole and each user in detail.
TAS3 is a possible answer to these needs. To provide trust, security and reliability the TAS3-project establishes a European wide common and secure infrastructure. These qualities are realized by technical engineering in combination with accompanying stringent rules and agreements. Adaptable interfaces are available to connect new and existing applications of data providers and service providers. Due to the TAS3-infrastructure it is assured that people, services, companies and public authorities are able to get fast and secure access to needed data they can rely on. Moreover, only the owner of the data is in control of her data!

5. Future Work

omitted

6. Summary

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7. References

[1] Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:EN:HTML

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