



PerAda Workshop on Security, Trust and Privacy

-

REFLECT

Nikola Tomašević
The Mihailo Pupin Institute

November, 2010

REFLECT

- Aims at developing new concepts for self-organized and adaptive collaboration between people and specific environments. The system should:
 - seamlessly collect information from humans and their domain specific surrounding,
 - process this information by dynamically creating “self-organized awareness context” and
 - reflect the discovered context by offering appropriate services or actions in a pervasive manner.
- Based on the personal and environmental artefacts which are collected dynamically, the system should be able to suggest or perform actions according to overall system goal.

Future Smart Environment

- The notion of smart environment indicates that smart computing devices are present everywhere which can react and adapt to the user's needs and intentions.
- Future will probably bring us the following scenario:
 - smart devices will be all around us and part of the living environment of people,
 - the smart environment will be equipped with a large number of sensor devices gathering all kinds of information,
 - the sensor devices will be nonintrusive and almost invisible,
 - the information gathered by the sensors will be stored and used for later behavior prediction,
 - smart devices and sensors will not only be everywhere but they will also be highly interconnected.

EMILI Approach

- The main goal of EMILI is the development of a new generation of intelligent data management and control systems in order to improve the security management of large infrastructures.
 - Improving the security management of the system will be realized by means of complex event processing (CEP) paradigm.
 - The single sensor measurements (simple events) can be combined in order to derive new knowledge on the condition of the system and based thereon trigger appropriate reactions.
 - CEP encompasses methods, techniques, and tools for processing events while they occur, i.e., in a continuous and timely fashion.
 - CEP derives valuable higher-level knowledge (complex events) based upon patterns of lower-level simple events.

Conclusions

- Security and privacy issues brought by the future smart environment go beyond the threats people are used to nowadays.
- People are increasingly aware and concerned about their privacy and security.
- How the level of privacy and security which people currently have can be preserved in the near future.
- It is important to develop methods that will build trust in these new smart technologies.



Thank You!

Nikola Tomašević
nikola.tomasevic@pupin.rs

The Mihailo Pupin Institute