

**Report: Visit by Prof. I. T. Hawryszkiewicz  
To Fraunhofer FIRST  
June 14-24**

My visit continued my collaboration with Professor Nicola Serbedzija during earlier visits both by Prof. Serbedzija to UTS and my earlier visit to Fraunhofer. This has resulted in a joint paper on e-learning within the context of collaboration and pervasiveness of teaching environments. Our collaboration has continued subsequently with exchange of information and research activities, which led to this visit. (June 14 – June 24).

During this visit, I interacted with Prof. Serbedzija and members of his team on how complexity contributes to the design of information system:

- I learned more about the REFLECT project and its pervasive adaptive approach. Furthermore, we discussed how such approach can be extended and used in a more general information system, taking into account complexity of socio-technical issues and underlying processes.
- I have also read material about forthcoming ASCENS project and get acquainted with further plans in development of self-aware and autonomous software using the concepts of component ensembles. This work is closely related to my work on agent support information systems and we agree to explore further exchange of ideas on that topics.

I took part in the PerAda Writers Workshop meeting on June 16, 2010 and presented my research results. The overheads of this presentation are attached..

During and following the presentation, there was interest in:

- The implication of complexity on systems design and the new criteria it sets to system designers. These include more emphasis on knowledge sharing, learning, providing for change, monitoring the environment. One question of particular interest here was how this can contribute to reducing traffic travel times in congested cities and various options were discussed.
- The new requirements that the emerging environment will have on the design of computer systems. The general discussion focused on defining ways to describe emergence so that it can be considered in system requirements and modeling.

- The general characteristics of the emerging system environment and its implication on social structure and social innovation.

The latter led to a subsequent meeting on Friday attended by a number of researchers headed by Prof. Steen Rasmussen and including researchers from Fraunhofer FIRST to discuss proposals for a Flagship program. This particularly impacts the pervasiveness of social networking in the InterNet. The problem is how to make social software pervasive in the sense that it leads to sustained interaction both within and between communities – in fact creating a “living Internet”. I subsequently prepared a draft discussion documents on potential research directions on ways in which social software can be supported by software agents that adapt to the emerging environment and become a pervasive part of connected user communities. This discussion document is attached.

It includes the possibility of using the DOME was discussed with at PerAda to provide an immersive interface on social software.

### **Continuing collaboration**

There was then further discussion on continuing the collaboration and publicizing the results of PerAda activities in this area of collaboration. The development of the workshop and possibility of research in adapting social system software was raised as a potential area of collaboration. These ideas will be developed over the next two months and then consolidated into a research paper with Professor Serbedzija.

I will take active part in co-organizing the 2<sup>nd</sup> PERADA Workshop on User centric Pervasive Adaptive Systems, to be held within Mobiquitous 2010 conference in Sydney. In that context I invited Prof. Serbedzija to stay two weeks at UTS and we will cover his accommodation costs for that period. During this visit we will further discuss ideas about creating pervasive social software networks and the adaptable software needed to achieve this.

To summarize, the visit was well organized and very successful. It gave me opportunity to learn more about European research in domain of pervasive adaptive systems and to deepen my research contacts both with Prof. Serbedzija personally and with other scientists in the field.

