



SOPSCC PERVASIVE SERVICE COMPUTING

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In the scenario of pervasive information technology, people are offered services with the help of information technology. These services support people in their everyday activities and they can be easily accessed whenever and wherever needed. Even though plenty of research is invested into this topic, no generic model has been developed yet that would support building advanced pervasive services and adapting them to the situation and goals of the user. PSC project suggests a new service-centric solution, Pervasive Service Computing. This solution enables encapsulating computational resources into Web services and building versatile Web service sets that support the users' in achieving their goals.

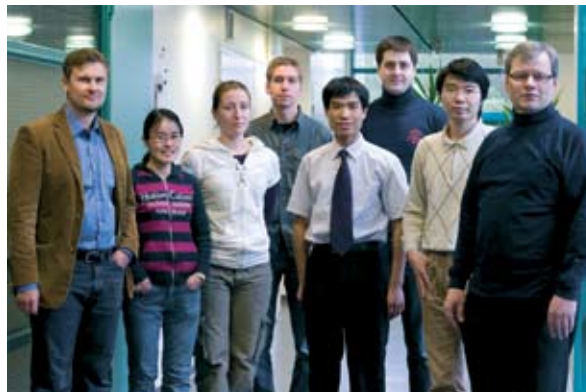
The general goal of the research is to produce knowledge and solutions that enable people to focus on living their lives. In other words, it will no longer be necessary for people to search from their immediate surroundings and information networks for services that support their activities, to guide the services they find and to combine the services into the functionalities they require. Instead, by applying the pervasive service computing developed in the research, serv-

ice-centric solutions which support peoples' activities without distracting them too much can be realized.

The PSC project defines the time that the user spends accessing and controlling the services as the most important quantitative parameter in measuring how easy to use IT based services are. The research hypothesis is that the Pervasive Service Computing (PSC) model shortens this time and allows the users to focus on their everyday activities either alone or in a community. The research defines Pervasive Service Computing

scenarios, develops the PSC model, designs, executes and tests prototypes. It will also plan the implementations for the services selected from the scenarios, both based on the most promising solutions from the prior literature on the topic and accordant to the PSC model.

The PSC project is a collaboration project between the Intelligent Systems Group and MediaTeam Group of the University of Oulu and the Embedded and Pervasive Computer Center of the Shanghai Jiao Tong University.



KEY PUBLICATIONS TO DATE:

- Jiehan Zhou, Junzhao Sun, Mika Rautiainen, Oleg Davidyuk, Meirong Liu, Ekaterina Gilman, Xiang Su, Mika Ylianttila, Jukka Riekki. PSC-RM: Reference Model for Pervasive Service Composition. *IEEE Proceedings of Pervasive Service Computing and Application 2009 in conjunction with FCST 2009, December 17-19, 2009 Shanghai, China. To appear*
- Jiehan Zhou, Jukka Riekki, Junzhao Sun. Pervasive Service Computing toward Accommodating Service Collaboration, *IEEE Proceedings of Pervasive Service Computing and Application 2009 in conjunction with FCST 2009, December 17-19, 2009 Shanghai, China. To appear*
- Jiehan Zhou, Jukka Riekki, Mika Ylianttila. Modeling Service Composition and Exploring its Characteristics, *Modeling pervasive service composition' 3rd International Workshop on Web Service Composition and Adaptation (WSCA-2009) in IEEE ICWS2009, 6-10 July, LA, USA, pp. 446-451.*
- Meirong Liu, Jiehan Zhou, Timo Koskela, Mika Ylianttila. A Robust Algorithm for Managing Super-Peer Overlay, *12th IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services (MMNS 2009), Oct. 26-27, 2009, Venice, Italy, pp. 132-P143.*
- Su Xiang, Riekki Jukka & Tarkoma Sasu (2009). An approach to achieve context-aware maps: combining semantic web technology with sensor data. *5th International Conference on Intelligent Environments (IE09), Barcelona, Spain, pp.193-203.*

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