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CSCWD Technologies, Applications and Challenges

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As CSCWD (Computer Supported Cooperative Work in Design) has involved the cooperation of multidisciplinary design teams, traditionally the communication among different design teams has been facilitated by the Intranet or Extranet, which makes the applications of CSCWD more expensive and hardly accessible to most organizations, especially small and medium enterprises. The Internet which can be accessed anywhere and at anytime has changed the whole world as well as CSCWD communities. The phenomenon of Internet has significantly reshaped the research of CSCWD. The universal and nearly free accessibility has made it much easier for people to coordinate and do collaborative design jobs without any physical location boundaries. The new technologies and applications from CSCWD have significantly contributed to the multidisciplinary design teams. Over the past thirteen years, CSCWD communities have been actively involved in the dynamic researches and practical developments from both academia and industry. In order to address the new challenges that CSCWD communities are facing, we carefully selected 15 manuscripts from 198 papers (from 360 original submissions) presented at the 12th International Conference on Computer Supported Cooperative Work in Design (CSCWD 2008), Xi'an, China on April 16-18, 2008, to forge this J.UCS special issue. It is intended for researchers and practitioners interested in CSCWD Technologies, Applications and Challenges. All selected papers have been revised and extended into current versions by three rigorous review rounds.

Tachenberg, Kausch, Duckwitz, Schlick and Karahancer demonstrate their research and application on complex process engineering projects via the organisational simulation for the chemical industry. Xue, Wang, Ghenniwa and Shen present their research on ontology comparison through a tree similarity measuring

method. Sun, Wang and Yong present their research on authorisation algorithms through permission-role assignments for addressing the security concern of CSCWD communities. Luo, Wang and Yang introduce their research on a resilient P2P networking routing approach by employing a collaboration scheme. Ochoa, Pino and Poblete discuss their research on estimation of software projects based on negotiation. Baloian and Zurita introduce their research on MC-supporter: flexible mobile computing supporting learning through social interactions. Leong, Li, Chan and Ng illustrate their research on an application of the dynamic pattern analysis framework to the analysis of spatial-temporal crime relationships. Shah, R.Iqbal, K. Iqbal and James show their research on a QoS perspective on exception diagnosis in service-oriented computing. Cruz, Motta, Santoro and Elia demonstrate a case study on applying reputation mechanisms in communities of practice. Li, Gao and Li report their research on cooperative manufacturing planning by using intelligent strategies. Xiang, Zhang, Shen and Shi show their research on business organisational processes by pattern-oriented workflow generation and optimisation. Maciel, David, Oei, Bastos and Menezes introduce their research on supporting awareness in groupware through an aspect-oriented middleware service. Chiu, Lo and Chao present their research on integrating semantic web and object-oriented programming for cooperative design. Paraiso and Tacla present their research on the Webanima agent by using embodies conversational assistants to interface users with multi-agent based CSCW applications. Finally, Peng, Zheng and Jin illustrate their research on transmission latency based network friendly tree for peer-to-peer streaming.

CSCWD communities have currently involved more advanced computing technologies than ever before. Advanced computing technologies evolve CSCWD research and applications. The selected 15 papers reflect this dynamics. We contribute this special issue to CSCWD communities and broad computing societies.

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