

Annonce de conférence

CAVEMANDER

A Software Platform for Building Command and Control Applications in Immersive 3D environments

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Presentation of information plays a crucial role in command and control (C&C) systems, because it can significantly influence the commanders' understanding of operational situations and consequently their ability to make correct and timely decisions. In military applications, pictures of such situations have been traditionally displayed on large tactical boards and maps. Due to several recognized advantages of 3D visualizations, combined with the power of immersion in virtual worlds, 3D immersive environments such as the CAVE Automatic Virtual Environment could significantly improve the understanding of the situation and the decision-making capability of commanders involved in C&C applications. The work described in this talk is focused on improving the way software for CAVE-based C&C simulation applications is currently built. In the talk, the main characteristics of immersive virtual reality are described, existing solutions for developing software for CAVE are surveyed, and CAVEMANDER, a new approach and set of supporting software resources for developing C&C applications in CAVE, is presented. CAVEMANDER's features and capabilities are illustrated in a military training scenario designed to test the trainee commanders' skills for command and control, including strategy planning, information interpretation, and failure investigation. Although C&C systems are mainly associated with military applications, future research and development can expand the scope of CAVEMANDER to support applications in other areas, such as fighting wildfires or conducting search and rescue missions. Several other directions of future work are also discussed in the talk.

Bio: Sergiu Dascalu is an Associate Professor in the Computer Science and Engineering Department at the University of Nevada, Reno. He is the Director of the Software Engineering Laboratory (SOELA) at UNR. His main research interests are in software engineering and human-computer interaction, in particular in requirements specification, software tools for interdisciplinary research, software processes, simulation environments, and user interface design. He has over 100 peer-reviewed publications and has been involved in the organization of numerous international conferences. He received three best paper awards at such conferences and is the recipient of UNR College of Engineering Lemelson Award for Innovation and Entrepreneurship 2005 as well as the Nevada Center for Technology and Entrepreneurship Faculty Advisor Award 2009

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