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Education

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Key Interests

Interoperable Networked Systems | Military Simulation | Command and Control | Distributed Education | Distributed Multimedia Systems | Network Simulation

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SELECT PUBLICATIONS

- › Pullen J. M., and Mevassvik O. M. (2016). Coalition command and control – simulation interoperation as a system of systems. The Networking and Simulation Laboratory.
- › Pullen J. M., *et al.* (2015). Linking C2-Simulation Interoperation Servers to Form Distributed Server Systems.
- › Pullen J. M., and Ruth J. (2018). Training operational military organizations in a cyber-active environment using C2-simulation interoperation. The Networking and Simulation Laboratory.
- › Pullen J. M. (2012). Pros and cons for teaching courses in the classroom and online simultaneously. The Networking and Simulation Laboratory.

Research Focus

Interoperability in networked systems of systems: the issue here is how to achieve semantic consistency among systems that were not designed to interoperate and do so quickly and efficiently. The specific software systems I have been funded to study are military command and control and simulation systems. The Mason C4I Center team that I lead has developed middleware software that enables interoperation of systems developed by various nations participating in the NATO Modeling and Simulation Group. An instance of six command and control systems from different nations interoperating with five simulation systems from different nations has been demonstrated, and the work continues to move forward. This inherently involves international collaboration and also has been the basis of industry support from Saab, MAK, and ESRI. Networked multimedia for distributed education and collaboration: the hard problem here is how to build systems that are most effective within the framework of group psychology for collaboration and learning and also work well over the evolving Internet.

Current Projects

- C2SIM Reference Implementation Server: concrete instance of command and control-simulation interoperation; also used for NATO CWIX 2019 evaluation of C2SIM.
- C2SIM Sandbox: open source distributed system node enables incremental testing of C2SIM interfaces in command and control and simulation systems.
- Enhancing C2-Simulation interoperability with geospatial capability.
- Validation and testing of standardized C2-Simulation interoperability.