

Carnegie Mellon University Software Engineering Institute



SEI Bulletin — December 12, 2018

Note: The SEI Bulletin will be taking a break for the holidays. The Bulletin will return Wednesday, January 9, 2019.

GHOSTS in the Machine: A Framework for Cyber-Warfare Exercise NPC Simulation

This report introduces the GHOSTS ((G)eneral HOSTS) framework, the purpose of which is to create a high level of realism in cyber-warfare exercises by establishing and building behaviorally accurate, autonomous non-player characters (NPCs). The report outlines how the GHOSTS framework accomplishes the creation of simulations in which NPCs realistically represent a vast array of possible encounters and outcomes. The report concludes with a case study in which the GHOSTS framework was used. Participants in the exercise reported high levels of realism, which in turn correlated with higher ratings for training value. These results indicate that the GHOSTS framework can be used to create training of the highest quality, effectively preparing cyber-warfare teams for success in real-world situations.

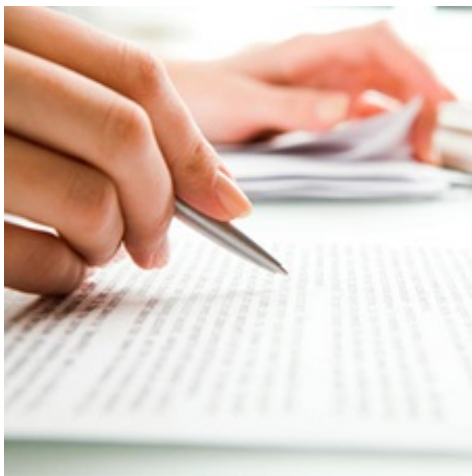
[Read the report.](#)

SEI NEWS

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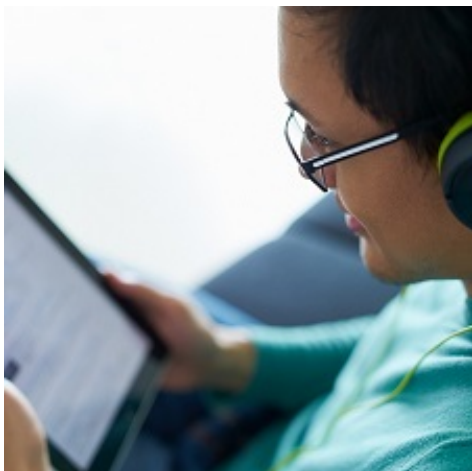
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March 4-5, 2019 (SEI Pittsburgh, Pa.)
- [Insider Threat Program Evaluator](#)
March 12-14, 2019 (SEI Arlington, Va.)



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The SEI Bulletin is a biweekly newsletter designed to keep you up to date on SEI news, events, research, and other matters of interest to the SEI

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