



## RESEARCH

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### *An Integrated Model-Based Approach to System Safety and Aircraft System Architecture Development*

Co-author: Eric Villhauer, General Atomics Aeronautical Systems, Inc. Presented and submitted to INCOSE, November 2014.

**Abstract:**

Industry standards for aircraft development require consideration of System Safety objectives during all phases of System Architecture development and implementation. However, tools that have enabled Systems Engineers and Software Engineers to create high-fidelity models of System Architectures currently don't address the concerns of the System Safety Engineering discipline. A strategy is necessary to ensure that safety objectives are considered during System Architecture model development while maintaining the required organizational independence between System Safety and the domains with which they interface. This paper details an approach to include a view in an architecture model that addresses System Safety objectives, including the definition of a UML Profile that satisfies the requirements of the safety view.

## LANGUAGES AND TECHNOLOGIES

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- Primary programming languages: Java, C
- Familiar with programming languages: C++, Objective-C
- Other technologies: UML and SysML, Git, Lint, DOORS DXL, bash scripting, Jenkins Continuous Integration, HTML, CSS, JavaScript, MySQL, Tomcat, Apache, Opus and GNU make

## HOBBIES

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- Avid musician: guitar (6 years); clarinet/orchestral (12+ years)