



# Carnegie Mellon University Software Engineering Institute (SEI)

## Lunch and Learn Series

Session 4 of 12

Wed Aug 17, 2022

12:00 – 1:30 PM EDT

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# Meeting Modern Software Development Challenges with SEI's Code Risk Estimation Worksheet (CREW) Process



A FREE Virtual Event – Registration Required

**Abstract.** In a webinar from January of 2021 titled "The Cost of Poor Software Quality in the US: A 2020 Report" the Consortium for IT Software Quality (CISQ) estimated that poor software quality costs the US economy about \$2 trillion dollars. This is number slightly less than 10% of the US GDP. CISQ attributes this staggering loss to operational software failures, poor quality legacy systems, and unsuccessful projects. Both functional and structural quality attributes exist in source code. Traditional V&V methods measure functional software quality in terms of meeting requirements or goals. Structural code quality has been more difficult to understand. SEI has developed a method to estimate the quality risk of embedded mission/safety critical source code. We call this process the Code Risk Estimation Worksheet or CREW. In this Lunch 'n Learn session I'll present an overview of the SEI CREW process. Particularly, we'll discuss how we identify risk associated with the modern software development challenges.

**Michael Riley** has 20 years' experience in the embedded software and cyber spaces. He has applied his skills and knowledge developing locomotives, medical devices, satellites and securing critical infrastructure. He is an inventor on 12 US patents in the areas signal analysis, high pressure fluid dynamics and coronary disease measurement techniques. Mr. Riley's research focus is on cyber resilient software, mission & threat analysis, and anomaly detection in embedded software. His work has been published in American Institute of Aeronautics and Astronautics (AIAA) Space Forum magazine. Michael holds an MS in Software Systems Engineering from George Mason University and BS in Electrical Engineering from Gannon University. He currently works for the Software Engineering Institute at Carnegie Mellon University but has also worked for the United States Army, Bayer Corp. and at the US Naval Research Lab.



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This lunch 'n learn session is organized by the INCOSE Three Rivers Chapter and hosted by the Michigan Chapter. The Three Rivers Chapter, founded in 2010, serves the Greater Pittsburgh Metro Area, and western/central Pennsylvania. Carnegie Mellon SEI, Pittsburgh, PA, is an INCOSE CAB member.

Flyer v1, 07Aug2022, J. Stein



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