Modeling System Architectures Using the Architecture Analysis and Design Language (AADL)—eLearning

Do you need to resolve application scheduling and resource conflicts? Are you confident that your control system applications will perform after a move to a new platform? Is your development practice robbing you of productivity?

Traditional approaches to modeling and validating real-time, embedded system qualities typically use low-fidelity software models that cannot be integrated and do not allow developers to predict the impact of change. They leave unanticipated effects of design choices undiscovered until late in the development lifecycle, when they are costlier to fix.

SEI Course Prepares You to Use the Model-Based Engineering Approach

In the Modeling System Architectures Using the Architecture Analysis and Design Language (AADL) eLearning course, you will learn how to use tools for model-based engineering. One tool is AADL, an international industry standard notation, designed for the specification and automated integration of architecture models for real-time, distributed systems. You'll also use other tools to perform quantitative validation of system qualities through analysis of the models built with AADL.

Through lectures and exercises, you'll gain important skills, including building models using AADL, modeling software and its mapping to the execution platform, facilitating data analysis, modeling multi-modal systems, and validating systems qualities by quantifying the architecture.

An Improved Approach—Model-Based Engineering

An architecture-centric, model-based engineering approach offers a better way to design, develop, analyze, and maintain system architecture. Using this approach, system architects and developers can reduce risk through early and repeated analysis of the system architecture, reduce cost through fewer system integration problems and simplified lifecycle support, and assess system-wide impacts of architectural choices early in the lifecycle. This approach also can increase confidence since assumptions made in modeling can be validated through virtual integration of all or part of the operational system before system implementation.

Who Will Gain Most from this Course

- software/system architects and developers who are considering options for engineering embedded, real-time systems
- individuals tasked with the validation of embedded, real-time system performance
- technical managers, managers, and software/system architects who are looking for a solid overview of system and software modeling
- individuals who make decisions about the development or acquisition of real-time, embedded systems

SEI online learning enables you to

- Learn at your own pace
- Access course materials 24/7
- Study at home, or work, or on the road
- Read materials online or download them for later
- Track your course progress

This eLearning course contains more than ten hours of video-recorded instructor lectures and three hours of demonstration and instruction for installing and using tools from SEI experts, supplemented by guided exercises and expert solutions.

For details and online registration, visit

https://www.sei.cmu.edu/go/v40

Course Fee (USD):
eLearning: $1250.00

Access Period: 12 Months from enrollment date.

If you wish to purchase this course for a group of learners, please email course-info@sei.cmu.edu or telephone at +1 412-268-7388 for group rate details.

About the SEI

The Software Engineering Institute is a federally funded research and development center (FFRDC) that works with defense and government organizations, industry, and academia to advance the state of the art in software engineering and cybersecurity to benefit the public interest. Part of Carnegie Mellon University, the SEI is a national resource in pioneering emerging technologies, cybersecurity, software acquisition, and software lifecycle assurance.

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