

Comprehensive training on the SAE-AS4 Joint Architecture for Unmanned Systems (JAUS) Standard.

Presented By: DeVivo Automated Systems Technology

OVERVIEW

DeVivo AST JAUS Training classes offer of two days of informative discussions and activities that enable attendees to better understand and employ JAUS in their unmanned systems development efforts.

The first session provides an introduction to JAUS and includes information on the intended use of the standard. This JAUS Introduction is a stand-alone class geared toward managers, designers and developers needing a deeper knowledge of the standard and how to apply it to programs. This session is recommended for all personnel who will be working with JAUS and includes topics such as "effective specification", "the JAUS message set", "use of compliance tools", "3rd party software", and "future directions for the standard".

The second session provides a hands-on detailed interaction with attendees while they construct a working JAUS based software simulation. The JAUS Programming session is geared toward programmers, designers and other developers who need a working knowledge of JAUS systems and software development. This class is offered in both Linux and Windows environments.

At the end of the JAUS Training attendees will have a better understanding of how to apply JAUS to their projects and, through the JAUS Programming class, how to design and develop with JAUS in mind. Specifically, the classes will provide the trainee with the knowledge to:

- Effectively include JAUS in requirements specifications,
- Understand the current set of JAUS messages and protocols
- Specify and use JAUS message sets to meet system requirements
- Develop new JAUS services and messages to submit to the standards group,
- Program JAUS based software components,
- Obtain and evaluate 3rd party tools.

The information is offered in two separate sessions and as such, your organization can choose how much training each attendee needs. Each session is described in more detail on reverse.



COMPANY OVERVIEW

DeVivo AST, Inc. is a woman-owned small business located in Huntsville, Alabama. We provide engineering solutions and support for unmanned systems in both the defense and commercial marketplace. DeVivo's expertise consists of software and systems design, development, integration, test support, training and operations research.

The DeVivo staff offers years of unmanned systems engineering experience ranging from research and development efforts in military programs and projects, to applied automation with industrial robotics manufacturers. Woody English, a company founder, is currently the Chair of the Society of Automotive Engineers (SAE) Technical Committee AS4, Unmanned Systems. This committee is the source of all SAE JAUS standards. Mr. English has been actively involved in the development of the JAUS standard for over 8 years and was key in moving the standard from an ad-hoc working group to the SAE.

For More Information please visit our website at <http://www.devivoast.com>.

COURSE MATERIALS

Course material and worksheets are provided by the instructor at the beginning of the session. This material does not include required computers for the JAUS Programming session.

Session 1: JAUS Introduction
Workbook (1 per attendee)

Session 2: JAUS Programming
Workbook (1 per attendee)
Code Examples and Exercises CD
JAUS Router Software

J AUS Introduction Course Description

The JAUS Introduction provides the trainee with essential knowledge of JAUS. The session consists of six segments, each followed by a summary workshop. The syllabus for this session, along with objectives for each segment, is as follows:

Segment Title	Objective
Overview of JAUS	The Trainee will have knowledge of the history and rationale behind JAUS.
Application with the Domain	The Trainee will know what factors to consider for including JAUS in a requirement.
Standard Composition	The Trainee will understand what documents make up the standard and how each is applied.
Architectural Views	The Trainee will have a detailed knowledge of the aspects of design impacted by JAUS.
Using JAUS	The Trainee will be capable of successfully applying JAUS as a Project Manager.
Extending JAUS	The Trainee will know how to help improve the standard and understand the future direction of it.

J AUS PROGRAMMING COURSE DESCRIPTION

The JAUS Programming session provides trainees with in depth technical information for detailed design and development of JAUS systems. This session consists of 7 segments each follow by a hands-on workshop. The JAUS Introduction is recommended prior to the JAUS Programming session. The syllabus for this session, along with objectives for each segment is as follows:

Segment Title	Objectives
J AUS Document Set	The Trainee will understand the purpose and scope of each document within the standard.
Application-Transport Interface	The Trainee will know how to structure implementations that satisfy the JAUS two-layered architecture.
J AUS two-layered architecture	The Trainee will be able to design a fully compliant transport layer, with exercises focused on JAUS over UDP.
J AUS Transports	The Trainee will be introduced to important concepts required for the implementation of compliant software.
J AUS Reference Architecture	The Trainee will recognize the differences between Reference Architecture and Service-based approaches.
J AUS Services (JSIDL)	The Trainee will gain an understanding of designing and specifying service interfaces using JSIDL.
Using JAUS Services	The Trainee will implement a compliant service based on the JAUS Service Set.
Defining Services	The Trainee will apply JSIDL to extend and enhance functionality beyond that supported by the JAUS Service Set.

NOTE: The JAUS Programming Training sessions are designed for experienced programmers and engineers. We do not provide basic programming or robotics training with the JAUS Training.

Please contact DeVivo AST for more information on scheduling and pricing.

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