Automating the Training Development Process for Mission Flight Operations

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At the Jet Prepulsion Laboratory, the operations System Training Group (OSTG) provides operational training supped to science, engineering, and operations personnel responsible for monitoring and controlling unmanned spacecraft currently exploring the universe. Each spacecraft in this multimission environment was designed with a peculiar set of capabilities and objectives...and each mission presented a corresponding set of personnel training problems to the training arena.

This paper describes a pilot study of the Automated Training Development System (ATDS), detailing its advant ages over convent ional t raining development methods and identifying problems encountered during t he implement at ion phase.

our purpose was to assess potential for ATDS in providing automated curriculum development, course material generation, and low impact maintenance for supporting multimission workstation training activities for space flight operations personnel.

The implementation process began with the acquisition of readily available hardware and a two week training session to introduce the process. ATDS runs on a Macintosh platform and was originally developed to aid in the production of military training materials. System functionality was based on MIL-STD-1379D specificat ions and conforms to current industry training philosophies. Hardware and soft ware specifics will be addressed in the paper.

ATDS is a building activity that combines training's traditional information-gathering operat ions with a hierarchical method for interleaving the elements. The complex program can be described fairly simply. Critical tasks are first culled from a comprehensive list of candidate tasks in a multi-step process to determine "what" to train. These tasks become [he pillars of the database and dictate which competencies of skill and knowledge are required in the learning process. The developer adds pertinent planning information to the database, including objectives, descriptions, logistics, illustration links, special instructions, performance and written tests, notices and warnings, etc. ATDS then generates a complete set of documentation, tools, and reporting mechanisms (under development at this writing) to lead (he student to a prescribed level of competency and audit the process.

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