

TITLE: Using IEEE Software Engineering Standards to Support America's Army Gaming Development

Every organization faces their own unique challenges when developing software, none more so than *America's Army* (www.americasarmy.com). . *America's Army* (AA) is a computer game produced by the US Army to promote Army recruiting and the seven core values of Loyalty, Duty, Respect, Selfless-Service, Honor, Integrity and Personal Courage. This game currently boasts over 7.5 million registered players world wide for the PC version of the game. In addition to the public game, there are currently over 20 DoD Basic Skills Trainer (BST) applications currently in development using the same gaming engine (www.americasarmy.com and www.info.americasarmy.com). These applications are managed by the America's Army Project Office which is a part of the Aviation and Missile Research, Development, and Engineering Center (AMRDEC) Software Engineering Directorate (SED) at Redstone Arsenal, AL.

As the AA program started to grow, some of the classic software engineering challenges started to crop up. The project became plagued by the more common issues associated with requirements management, configuration management, and verification and validation – these were multiplied by integration issues associated with geographically isolated development teams additionally divided by corporate boundaries. Add the market pressures associated with commercial game production to the mix, and these challenges were only intensified. The AA Project Office started looking for help.

The IEEE Computer Society currently provides over 40 standards that support software and systems engineering lifecycle activities and methodologies. Many of these directly support the Capability Maturity Model Integration (CMMI) level 2 process areas mapping directly to its goals and practices. The SED is a CMM Level 4 Organization and fully supports Level 2 CMMI-SW methodology. It was important that AA program look at how the CMMI model could be applied, and for tools to help describe classic software engineering methodology to members of the development team. IEEE SS&E standards were used to support a variety of CMMI compliance activities, but more importantly, the standards were used to train staff, and establish and help improve existing software engineering practices.

This presentation will describe how IEEE Software Engineering Standards have been used to support the processes required for basic software project control and management. It will explore how IEEE Software Engineering Standards have been practically applied to cope with the real-world problems that occur when you present the mix of Department of Defense (DoD) infrastructure (contracting and oversight activities) with the agile requirement to support gaming system development.

Biographical Data

Susan K. (Kathy) Land

Ms. Land is a Program Manager and Technical Fellow for Northrop Grumman Information Technology/TASC with over 19 years work experience including information management systems programming and software engineering management. She is currently the Production Planner for *America's Army* responsible for the management and oversight of the public game and government training applications.

Ms. Land is currently serving as the IEEE Computer Society's 2nd Vice President, Standards Activities. She has published, Jumpstart CMM/CMMI Software Process Improvement, Using IEEE Software Engineering Standards. She is co-author of, Practical Support for CMMI Software Process Documentation, Using IEEE Software Engineering Standards (2005) and Implementing ISO 9001, Using IEEE Software Engineering Standards (Sept, 2006). Ms. Land is also a contributor to the CS Ready Notes program.