

Course Project Presentation “WARSIM 2K – A Case for Technological SMEs”

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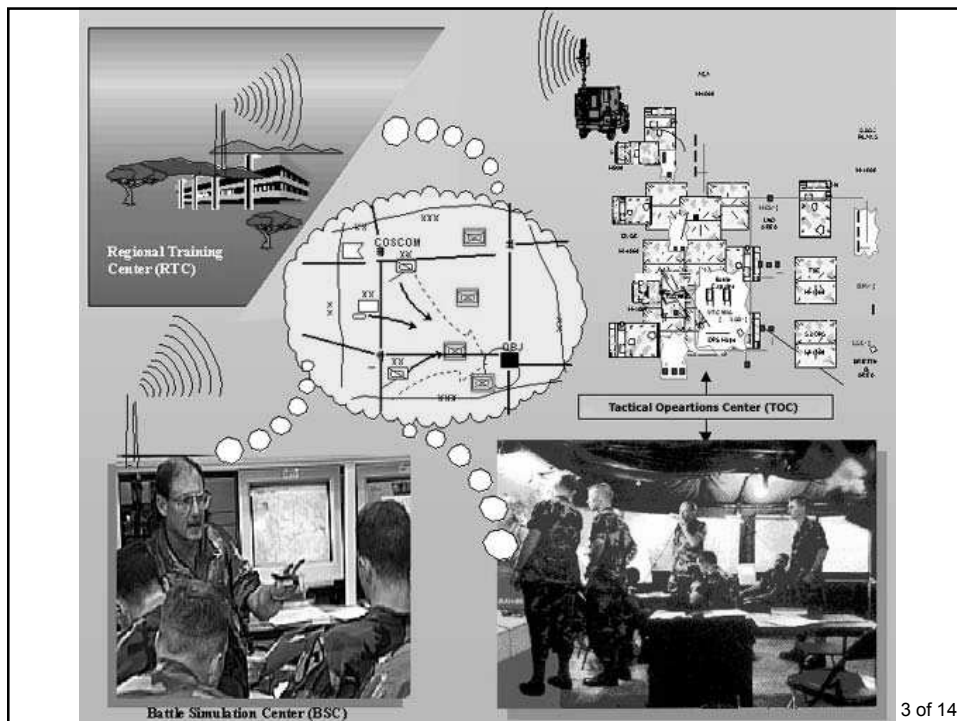
Outline

- Topic, Issue and Thesis
- Literature Review
- Discussion of issue
- Proposed framework – improving the current process
- Benefits & drawbacks
- Conclusion & Questions

Introduction to WARSIM

- Computer based simulation & hardware
- Train commanders/staffs in virtual & constructive simulation environment
- Employ organic comms/control systems
- Distributed, fixed facilities & deployable packages
- Replace legacy systems like Corps Battle Simulation, Tactical Intelligence Simulation, Combat Service Support Training Simulation System
- Land component of JSIMS

2 of 14



What's the issue?

- In November 2002, The Joint Simulation System (JSIMS) project was ordered to close its operation by 30 Sep 2003. Ver 1.0 of JSIMS was delivered on 20 Dec 2002. WARSIM was inexorably linked to JSIMS not only as a critical component, but also as a project dependent on the outcome of JSIMS. The Army continues to develop WARSIM with fielding scheduled to begin in FY 04.

4 of 14

Proposed Thesis

- In addition to organizational SMEs providing input that helps shape system requirements, truly independent technological SMEs should provide a risk analysis/feasibility assessment of a proposed system before contract award time.
- While software blocking policy helps to prevent resources from being wasted on infeasible or untenable systems, the implementation of this policy does nothing to help overcome the shortcomings of existing (legacy) systems which have been identified in the requirements specification process.

5 of 14

Literature Review

- *Operational Requirements Document (ORD) for Warfighter's Simulation (WARSIM) 2000*. Version 2, August 1996. The National Simulation Center, Fort Leavenworth, KS.

- *Operational Requirements Document (ORD) for Warfighter's Simulation (WARSIM) 2000*. Version 3.7, September 1998. The National Simulation Center, Fort Leavenworth, KS.

- *WARSIM 2000: Combining Multiple Expert Opinions from Subject Matter Experts to Generate Requirements for Staff Training at Battalion Level and Higher*. Proceedings of the 1997 IEEE Conference on Systems, Man & Cybernetics. McNett, M., Phelan, R., and McGinnis, M., 1997.

- *Frameworks-Based Behavior Environments: Final Report*. Science Applications International Corporation report to the Naval Air Warfare Center Training Systems Division. Submitted by Bouwens, C., 2001.

- *Army Transformation & Digitization – Training & Resource Challenges*. U.S. Army War College Strategy Research Project. LTC Ferrell, R., 2002.

6 of 14

Literature Review Cont.

- *Introduction to Military Training Simulations: A Guide for Discrete Event Simulationists*. Proceedings of the 1998 Winter Simulation Conference. Page, E., Smith, R., 1998.

- *Pentagon Cancels Program with "Checkered" Past*. National Defense Magazine. Tiron, R., April 2003.

- *Panel: The Future of Military Simulations*. Proceedings of the 1998 Winter Simulation Conference. Roland, R., Chair, 1998.

7 of 14

The Issue – Technological Hurdles Facing WARSIM

- Challenge #1- Implementing Multi-Resolution Modeling

“The WARSIM 2000 system will use a computer-based simulation and associated hardware to support the training of unit commanders and their staffs from battalion through theater level.”

- Challenge #2- Implementing Agent-Based Behavior Modeling

“ The simulation must consider the impact of public affairs operations. This must include, at a minimum: the effect of decisions made on public opinion; keeping the Army and American public informed; combating misinformation; enemy propaganda; facilitating media and information operations.”

“The simulation must simulate the effects of religious support operations on the battlefield. In addition to the effect on human factors, the simulation must provide information on simulated unit morale, cohesion and perceptions to the unit chaplain.”

8 of 14

The Issue – Technological Hurdles Facing WARSIM

- Challenge #3- Simulating the integration of loosely coupled, disparate legacy systems.

“The simulation must be capable of providing and accepting Combat Service Support (CSS) information to the level of detail and format (i.e. – Standard Army Management Information System) needed to train warfighters at all levels, logisticians, and commanders and staffs of CSS units from battalion through theater level in CSS functions

- Challenge #4- Voice recognition & response approaching Artificial Intelligence

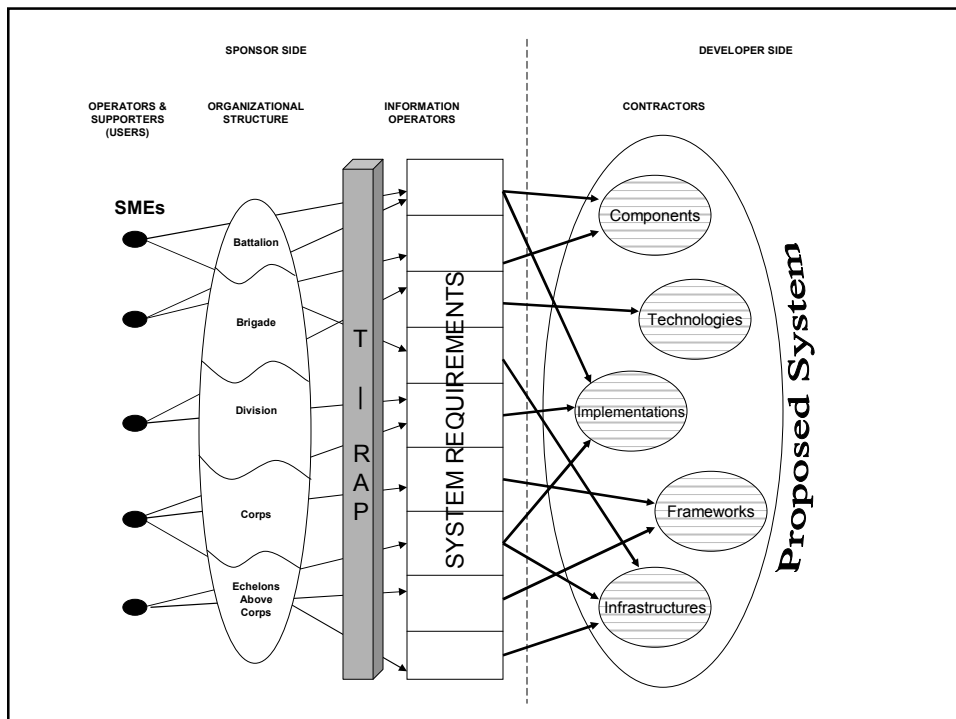
“A unique user-interface requirement is needed for unit personnel to interact directly with the simulation via voice instructions using organizational communications systems; i.e., the simulation must be able to recognize a multitude of voice commands as well as generate appropriate voice responses or independent reports.”

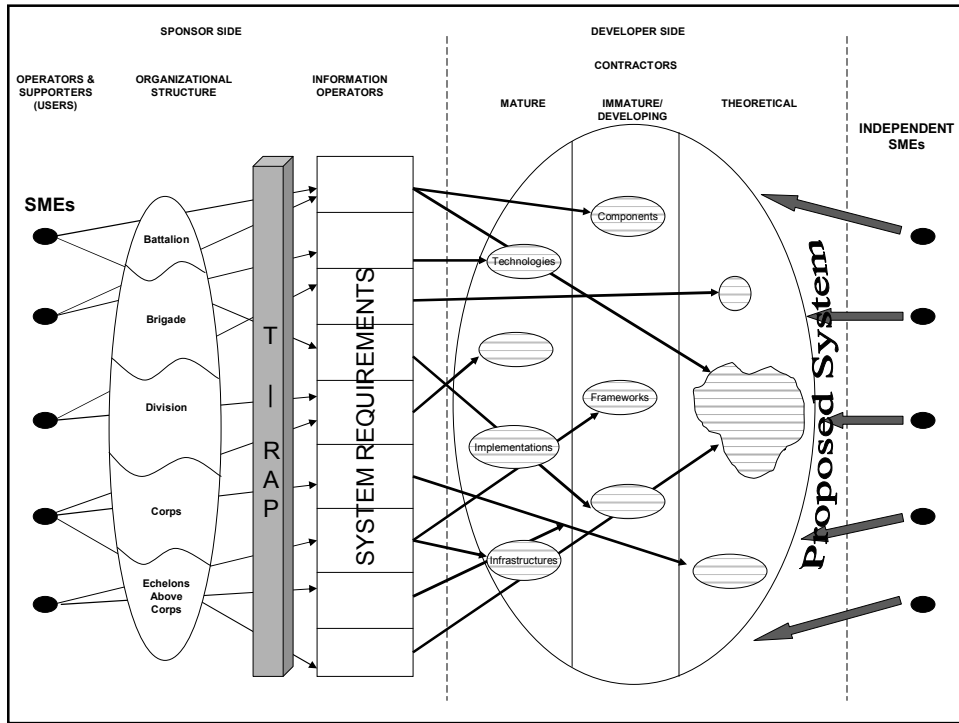
9 of 14

Proposed Framework

- Requirements specification using T-RAP
- Proposal for refining requirements specification

10 of 14





Benefits & Drawbacks

of Proposed Framework

- **Benefits**
 - Input from independent analysts/academics to refute claims by vendors
 - Risk analysis from outside the organizational structure; non-stakeholder participation
 - Refinement of requirements or revision of project scope early on; less time, \$ wasted
- **Drawbacks**
 - Finding/identifying truly independent technological SMEs
 - Existing shortcomings may not be addressed
 - Another layer in the acquisition process requiring resourcing

Conclusions & Questions

- *“Everything we do in WARSIM is integrally tied to JSIMS. We are completely dependent on them for key parts of what makes WARSIM work. It’s important that we are in lockstep with JSIMS.”*

- COL Randy Ball

Former WARSIM Project Manager

National Defense Magazine, April 2001



14 of 14