Current Military Wargaming Use

A View from the United States Military Academy
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Department of Systems Engineering
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Agenda

• Where we’ve been
• Where we are
• Where we’re going

• Contact info
Where We’ve Been

• Combat wargaming has been around since just after Cain slew Abel (I think)
• Mathematical analysis of combat grew considerably from the early 1900s (Lanchester)
• The marriage of operational and mathematical science flourished in World War II
• Operational and RDT&E analysis have been increasingly interwoven since then
Where We Are

• Analysis of tactics, techniques, procedures
  – Education and Training

• Analysis of material solutions (RDT&E)

• Recruiting

• Analysis of M&S capabilities in rapidly changing, high-technology world
  – LZ X-Ray, Troy, D-Day
M&S in Education
MILITARY ART AND SCIENCE

THE PLATOON LEADER'S PACKING LIST

- MG 240: TACTICS
- MG 245: ARMY TRANSFORMATION
- MG 350: MILITARY COMMUNICATION
- MG 455: COMPARATIVE MILITARY SYSTEMS
- MG 470: STRATEGY
- MG 480: COLLOQUIUM
- MS 490: ADVANCED INDIVIDUAL STUDY
- MS 450: COUNTER INSURGENCY OPERATIONS
- MS 290: COLIC

MAKE SURE YOU HAVE WHAT YOU NEED IN YOUR RUCK...

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America’s Army
America’s Army

Concept developed by West Point’s Office of Economic and Manpower Analysis as a recruiting analysis tool

Now more than 9 million registered players
Historical Simulation

• Identifies capability gaps in wargames and simulations
• Allows for multiple what-if scenarios
• Provides a reasonable testbed for evolving TTPs and capabilities
• Examples:
  – LZ X-Ray, Ia Drang Valley, Vietnam
  – Troy
  – Pegasus Bridge, Normandy, D-Day
Land Warrior at LZ X-Ray

An historical analysis of the 21st Century soldier
Purpose of the Work

Phase 1:
Explore the feasibility of replicating a Vietnam-era battle in simulation, using 1960s and Land Warrior technologies

Phase 2:
Given feasibility, recreate a Vietnam-era infantry battle to provide vignettes for comparing Land Warrior and non-Land Warrior equipped forces
• **Why**
  - recreate history in simulation?
  - Troy?

• **Where**
  - Was Troy and what did it look like?

• **Who**
  - were the combatants and how many were there?

• **What**
  - factors need to be modeled?

• **How**
  - can modern combat simulations model the Trojan War?
Enhancing the Human Dimension of Synthetic Human Entities

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The Problem with People

- No two real people are exactly alike
- Every computer-generated person in combat simulations is exactly alike
- Militaries are using these simulations to:
  - Train soldiers
  - Assess doctrine, tactics, techniques and procedures
  - Assess weapon and other materiel scenarios
Where We’re Going

• Increased reliance on high-quality AI
  – Autonomous behaviors
  – Interactivity; High-Fidelity First-Person Shooter

• Highly customizable scenarios
  – TTPs in theater have ~ a two-week lifespan
  – Scenarios must keep pace with technology infusions

• Rapid system modeling
  – Analyst level, GUI driven
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