

# UNIVERSITY



## Digital Warrior: Blending Pedagogy and Game Technology

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**Digital Warrior** provides a system to design and implement doctrinally-current military decision-making training scenarios utilizing a custom built game engine that integrates advanced pedagogy techniques.

# The Way Ahead

- Pedagogy & Game Technology
- Main and Associated Stakeholders
- System Overview
- The State of Our Art
- Decision Support Tool
- The Way Ahead for Digital Warrior
- Matching Technology with Doctrine

# Pedagogy

- Pedagogy - the principles and methods of instruction or education – *How to Train*
- Good Pedagogy increases Training Effectiveness
- Our tools support aligning the appropriate instructional strategy to each training need

# The Impact of Good Pedagogy

How Pedagogy improves Training Effectiveness:

- Motivation – Engaging the Learner
- Retention – Memory
- Transfer – Applying Learned Skills and Knowledge to real-world situations

# Game Technology

- Digital Warrior transitions Game Technology to new applications
- Originally for Entertainment, Games now support situated learning in context
- Decision Making cannot be trained through books, it *must* be experienced to be learned

# Blending Pedagogy and Game Technology

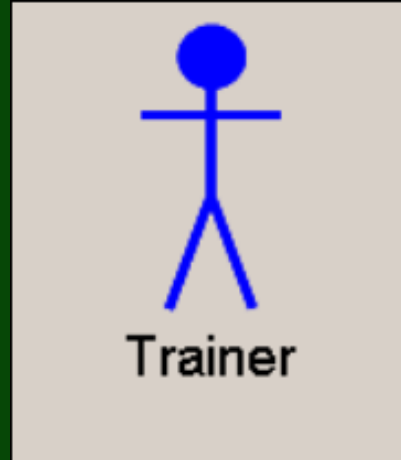
- To be effective, the instructional strategy to train Decision Making must offer meaningful choices in realistic scenarios
- Students learn best from instant feedback and consistent assessment of progress
- Digital Warrior offers the freedom to explore and the opportunity to fail safely within structures based on current doctrine

# Our Main Stakeholders



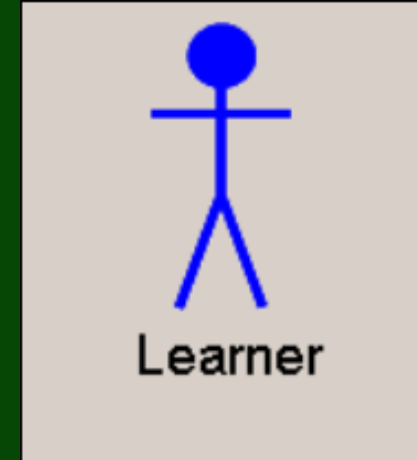
## Instructional Designers:

- Design & build training scenarios for Learners



## Trainers:

- Optimize a selected training experience for Learners



## Learners:

- Become fully engaged in the learning experience

# Associated Stakeholders



## Commanders:

- Meets need for rapid training in key decision-making skill sets



## Families:

- Reservists and National Guard can spend more time with Families



## You?

- Training better decision-makers will meet many emerging needs

# System Overview

- Blended System
  - **Scenario Manager** to design, build, and edit
  - **Game Engine** to play the scenarios
  - **After Action Review** to solidify learning
- Platform independent
- No programmers needed when updating scenarios

# Digital Warrior: The State of Our Art



Game Engine technology provides hands-on training that fully engages the Learner's attention.

# Decision Support Tool

The screenshot shows a window titled "Edit Decision Support Tool" with standard window controls (minimize, maximize, close) in the top right corner. The main content area is divided into three sections: "Decision Point 1" (expanded), "Decision Point 2", and "Decision Point 3".

**Decision Point 1** (indicated by a downward arrow) contains a table with the following columns: IRs, COA, Rationale, CO Agreed?, and Action.

IRs	COA	Rationale	CO Agreed?	Action
<input type="checkbox"/> PIR 1	Launch Atk Hel		<input type="checkbox"/> Yes	<input type="checkbox"/> Send WARNO
<input type="checkbox"/> PIR 4	<input type="checkbox"/> Yes		<input type="checkbox"/> No	<input type="checkbox"/> Send Frago
<input type="checkbox"/> FFIR 1	<input type="checkbox"/> No			<input type="checkbox"/> Receive EOM
<input type="checkbox"/> FFIR 2				<input type="checkbox"/> Receive BDA

Below the table, "Decision Point 2" and "Decision Point 3" are collapsed, indicated by right-pointing triangles.

At the bottom of the window, there is a toolbar with the following controls:

- Add Toolbar
- Remove Toolbar
- Add Tool
- Edit Tool
- Remove Tool
- Checkbox (with a dropdown arrow)
- Add Tool Control

**Instructional Designers configure a tool to support Learner decision-making during training. The acronyms seen in this example are specific to the subject area and can be changed by any Instructional Designer.**

# Digital Warrior: Way to the Future

The Learner will be able to review tutorial pages prior to beginning the training scenario.



# Matching Technology with Army Doctrine

File Vignette View Options

Save... Load...

Toolbox

Add Column

Add Text Box

Add Checkbox

Add Button

Add Label

Add Separator

Next Column

Next Control

Save

Load

Selected Column  
COLUMN\_2

Selected Control  
SEPARATOR\_1

Decision Support Tool

DP 1 - Decision Support Matrix

Action	PIR	FFIR
Attack Helicopter battalion attacks enemy tank battallion	<input type="checkbox"/> 1. Status of Bridges	<input type="checkbox"/> 1. Report friendly combat effectiveness color ranges
	<input type="checkbox"/> 4. Assess when and where enemy tank battallion will attack.	<input type="checkbox"/> 4.

Scenario

[Vignette] Vignette 1

[ ] DST

[ ] Variables

[+] [Scene] Scene 1

[+] [Scene] Scene 2

A Decision Support Matrix is an aid used by the Commander and Staff to make battlefield decisions. Our Decision Support Tool can be configured to match this existing United States Army Doctrine.

“On behalf of III Corps and Fort Hood I want to extend my thanks to The University of Texas at Austin for your continued support of our soldiers in addressing issues related to Army Transformation through the University XXI Program. The University XXI program is a solid model for academic, government and industry collaboration in addressing a wide variety of challenging issues.”

Thomas F. Metz  
Lieutenant General,  
USA Commanding General  
III Corps and Fort Hood

# Why is the World Better?

- Blending pedagogy and game technology will produce effective, lasting training
- Scenario customization without programming
- The Road Ahead
  - Integrating America's Army / Unreal Engine
  - AMEDD NCO Academy scenarios

# Questions?

Thank you for listening!

