The Future of Air Force Education and Training

an
Advance Planning Briefing to Industry

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12 May 09

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Vision

"Technological change is accelerating. To accomplish the Air Force mission in an environment of accelerating change, we will need to recruit, train, and educate Airmen with agile minds and cutting edge skills."
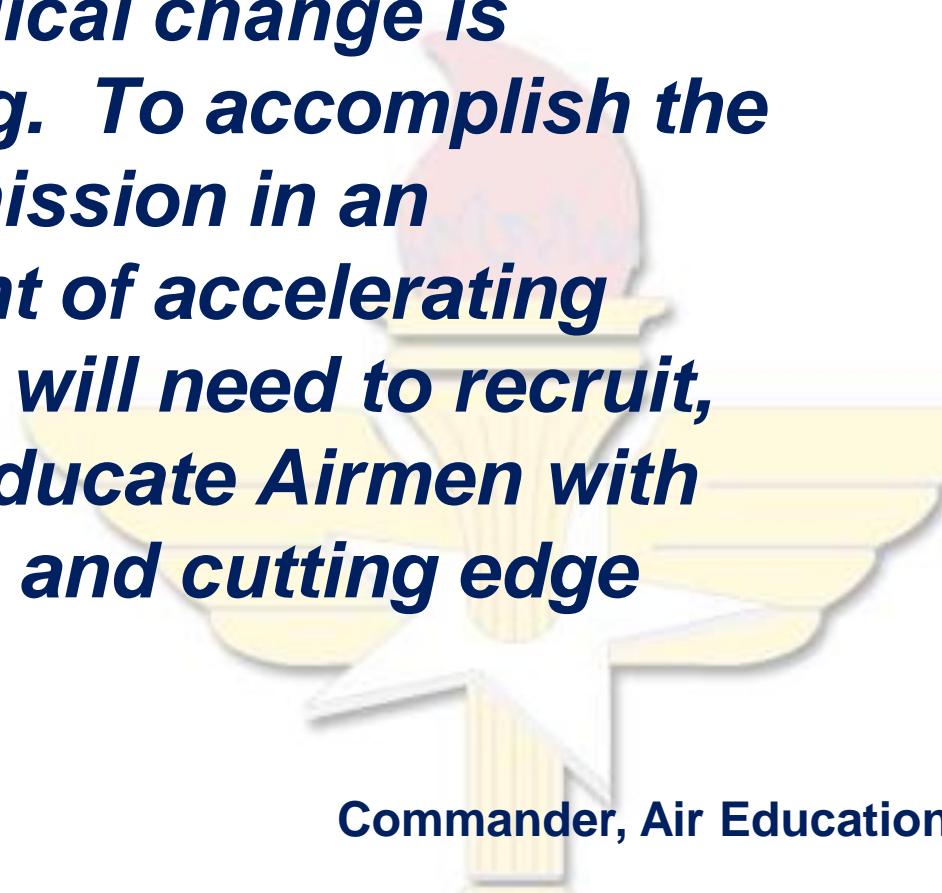
STEPHEN R. LORENZ
General, USAF
**Commander, Air Education and Training Command**

"Delivering unrivaled Air, Space and Cyberspace Education and Training"

Virtual Training

Data

Information

STORAGE

Learning
Air Force
Training Precision
Programs Implementation
Change Management Knowledge
Millennials Games Projects
Technology Design Instructional Virtual
Gaming Future Systems Continuous
AETC Studies Education
Serious Worlds Distance
Mobile

24/7 Access

Education

Wisdom
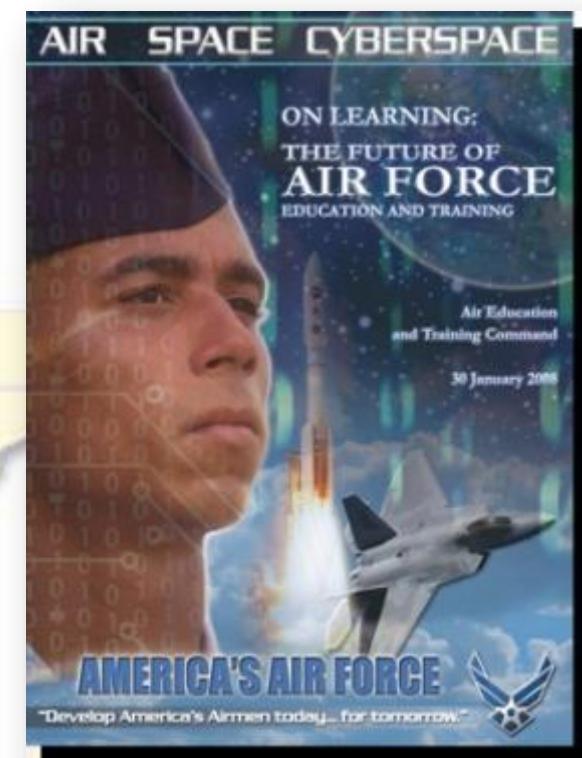
"White Paper"

Knowledge is power!

The Future USAF Worker

Today's Cyber Teenager – Tomorrow's Airman

Workstation Intel Dual Core; Broadband

Cell/Camera Phone Web/IM

Network Playstation 3 Multiplayer Tactical Trainer (US Navy Seals)

Wireless Laptop Massively Multiplayer Gaming/ Immersive Virtual Environments Voice over IP

Video Conferencing WebCam

Federated Search Personalized News

Reputation Management (EBay)

Collaboration (Netmeeting)

Wireless PDA Email

TIVO PVR 80 Hrs DirectTV Sat

MP3 Player Portable Digital Library
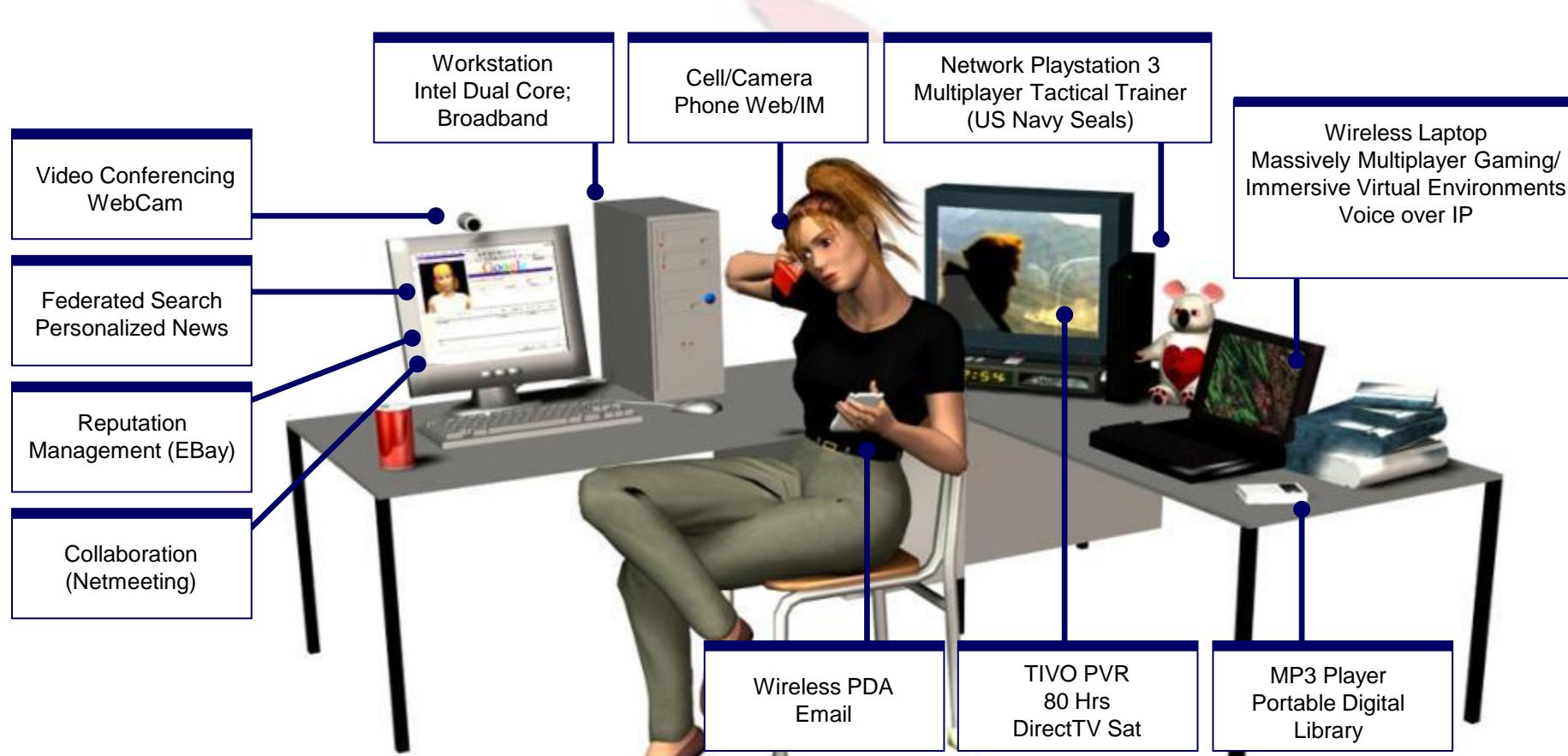
Technology

Video

Smart Phone

Wireless

Virtual Reality

AI

Search

Geolocation

Broadband
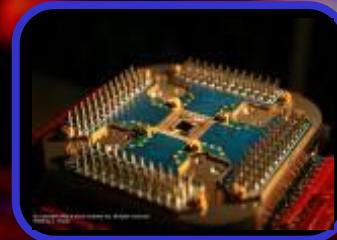
Computing

GPS

Collaboration

Storage
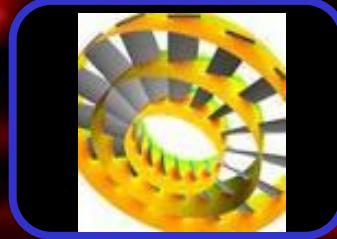
Visualization

Gaming

3-D

## Technology will "not" be the limiting factor

Learner centric construct

- **Knowledge Management**

- **Continuous Learning**

- **Precision Learning**

Enabled with:

- Learner-centric
- Knowledge base
- Knowledge on demand
- Cognitive/affective domains
- Live, virtual, constructive mix
- Knowledge-enabled Airmen
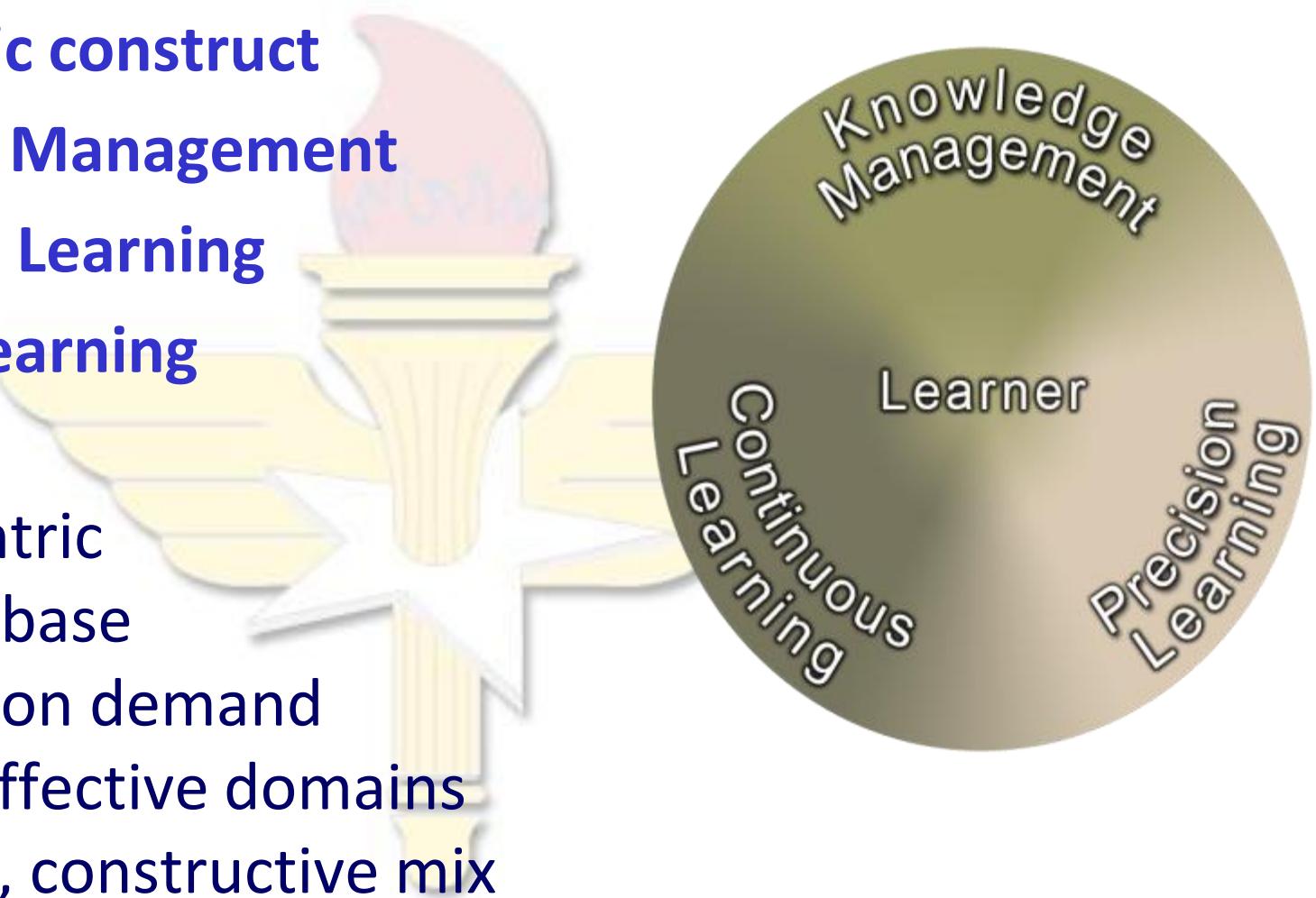
Challenges

- *Transforming* the learning environment for the learners of tomorrow
  - Defining the new knowledge *concepts* for learning
  - Defining the new *technologies* required
  - Defining how to *organize* for effective learning
- Increasing *effectiveness*
- Increasing *efficiency*
- *Central Enterprise Knowledge Storage*
- *Bandwidth to access video and virtual environments*

Greatness depends on courage in the face of challenges

Challenges

- ***Secure access to content***
- Meeting *generational needs* by transforming the learning experience
- Focusing *learning investments* – budget, manpower and POM
- Systematically *inserting technology*
- *Changing the culture*
- *Managing change*

The Air Force must become an agile, knowledge-enabled organization in order to maintain global vigilance, global reach and global power.

Way Ahead

- Focus Areas
  - Instructional Design
  - Knowledge Systems
  - Virtual Environments
  - Mobile Learning
  - Simulations and Gaming
- Initiatives
  - Support Efforts
  - Study Efforts
  - Projects and Programs
- Advanced Learning Technology Demonstrations (ALTD)

"The best thing about the future is that it comes only one day at a time." Abraham Lincoln

Instruction for the Future

- Initiating "Instruction for the Future" project
- Global courseware – learning "anywhere, anytime"
- Formal and informal
- Synchronous and asynchronous
- Collocated and distributed
- Continuous learning and precision learning
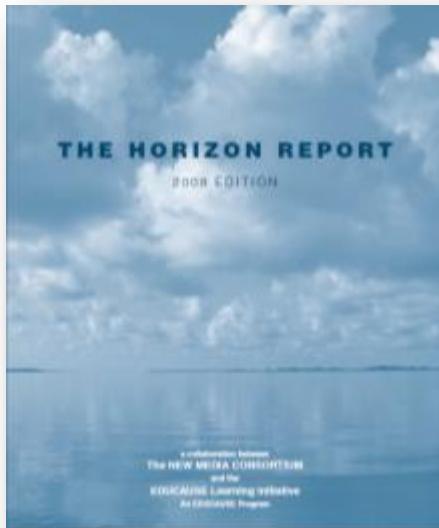
Planned Projects and Programs

- Advanced Pilot Training (APT)

- Spatial Disorientation Trainer

- Credible Online Testing

- Mobile Learning

- Professional (Social) Networking

- "Little DMO" - Desktop LVC

- Air Force Game (TBD)

- MyBase – Integrated Virtual Worlds

Advanced Pilot Training (APT)

- T-38 training FoS is currently expected to be the Advanced Trainer for the Fighter/Bomber (F/B) APT track until at least 2017
- Tailored to support USAF missions identified in the Jan 2009 QDR
  - Basic aircraft control,
  - Formation, instrument and navigation,
  - Advanced air-to-air, advanced air-to-ground, and advanced crew/cockpit resource management
- APT will be an Integrated Family of Systems (FoS)
  - Will utilize a broad range of ground (simulators and CBT) and flight training systems
  - Right balance of virtual and live

Spatial Disorientation Trainer

- Realistic Spatial Disorientation is a missing capability for AF pilots

- Need enough range of motion to replicate common physiological illusions and enough visual stimulation to simulate "normal" flying illusions

- Expect a basic and advanced capability

Credible Online Testing

- Develop a methodology for conducting online testing which has a reasonable level of integrity and credibility to guarantee the test is taken by the intended subject without external assistance.

- With more distributed learning, the requirement to administer tests "anytime/anywhere" will necessitate the development of methods to verify the recipient

Biometrics
Identity Verification in a Networked World

▶ A Wiley Tech Brief

Samir Nanavati
Michael Thieme
Raj Nanavati

kindle edition
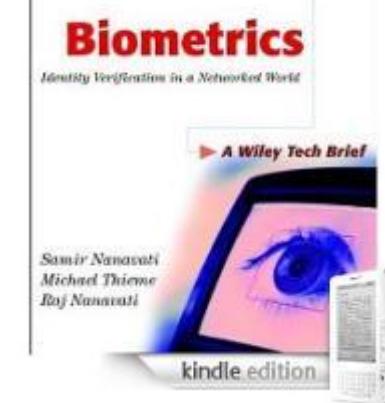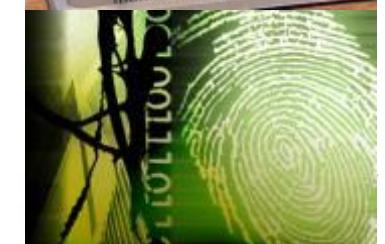
Mobile Learning (mLearning)

- mLearning project for AFRS recruiters and recruits
- Deliver learning whenever and wherever needed
- Ensure access to Knowledge Base information
- Enable quick, informal learning "on the go"
- Enable communication and collaboration
- Deliver learning content through videos, simulations and text messaging
- Matches learner needs

Web 2.0
Search
Links
Authoring
Tags
Extensions
Signals

Examples
YouTube
MySpace
Facebook
Twitter
Flickr
Moodle

Attributes
Integrated technology
Social interaction
Content creation
"Wisdom of Crowds"

Aristotle

Social Networks
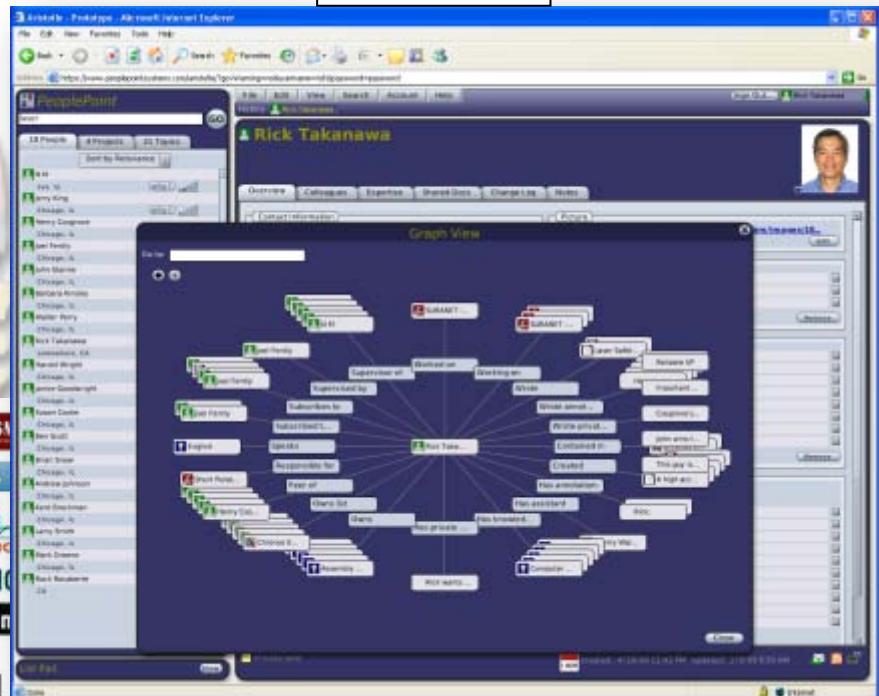
- SUPT Pattern Trainer
  - Initially networked at one base
  - Eventually linked at all SUPT bases
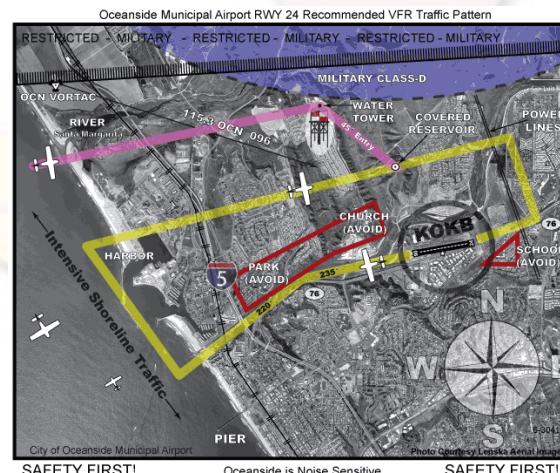
Do We Need an AF Game?
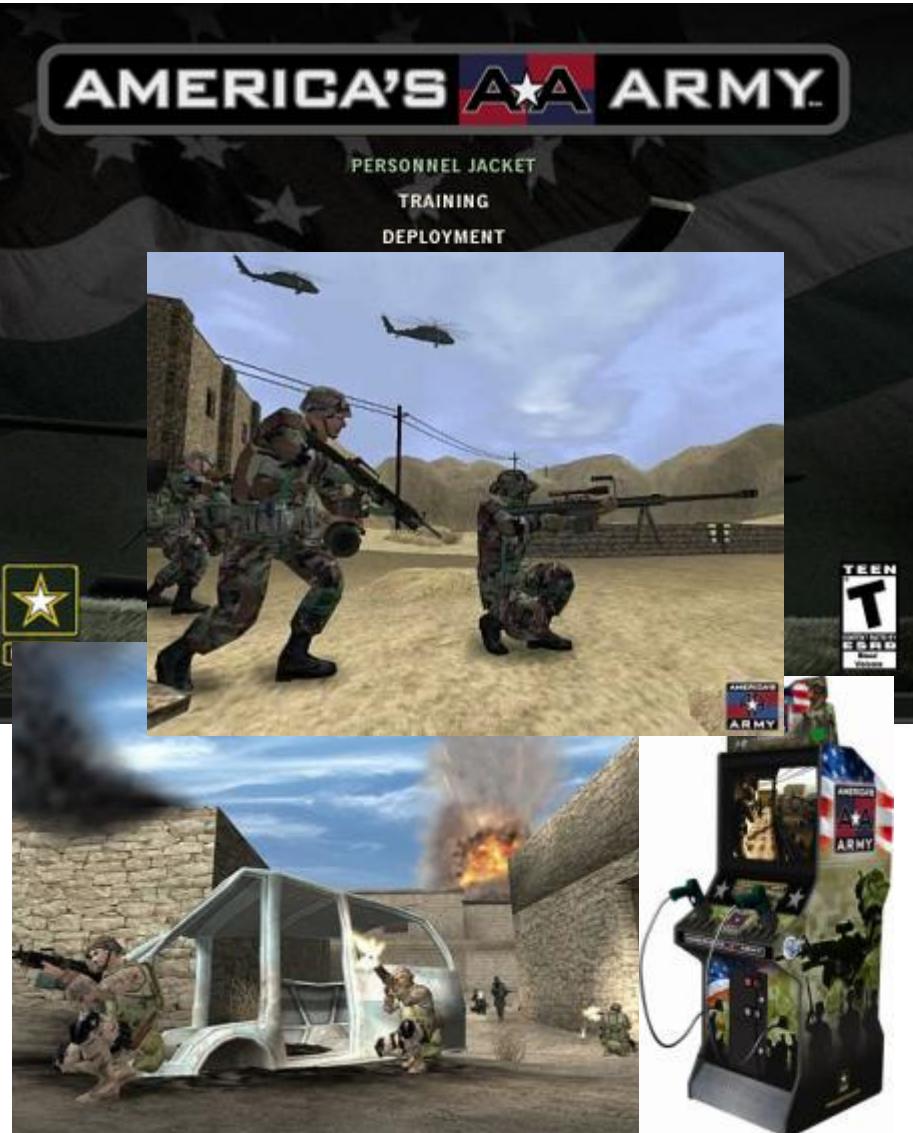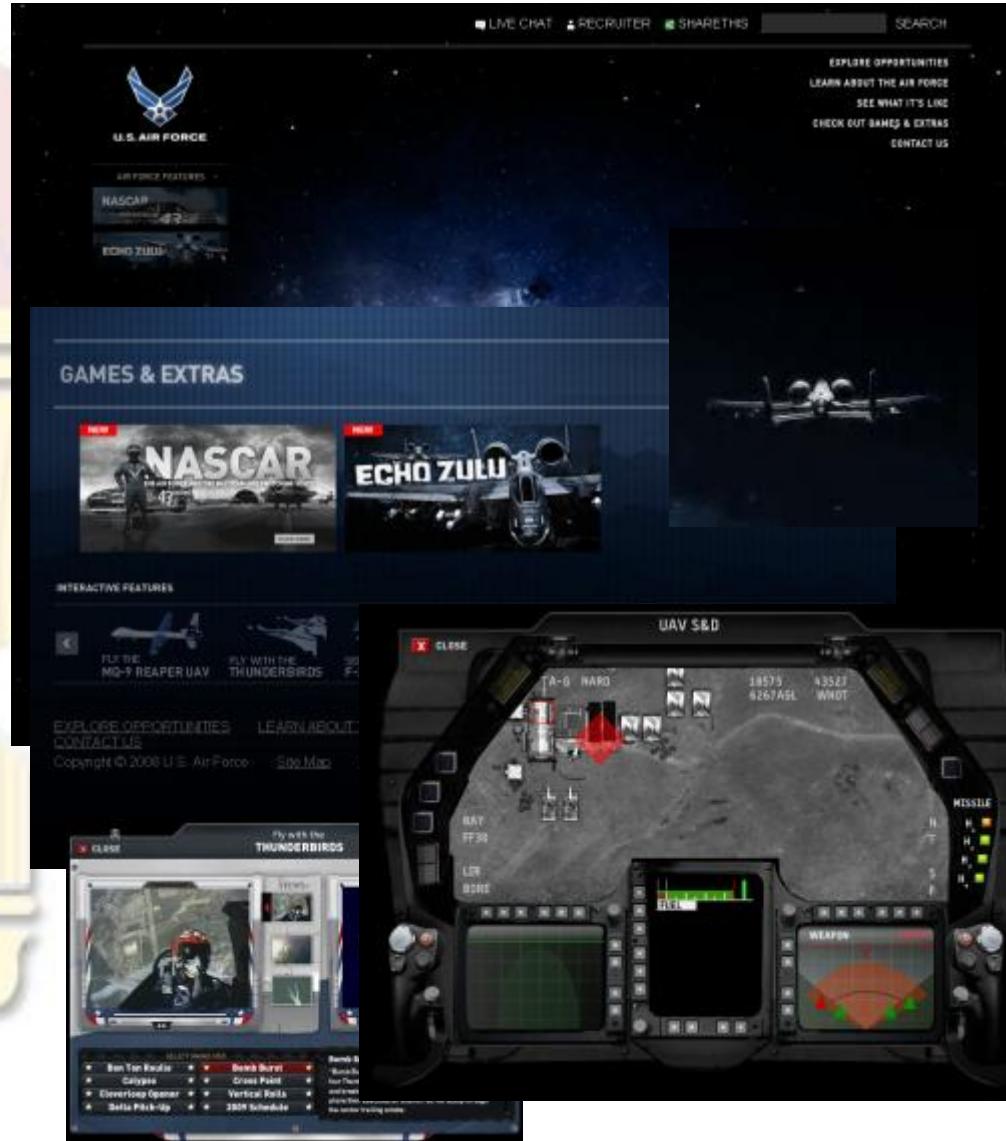
VS

MyBase – Virtual Worlds

- ## Today
  - MyBase Public in Second Life
  - MyBase E & T in Qwaq

- ## Tomorrow
  - MyBase Medical
  - MyBase BMT Experience

- ## Future
  - MyBase Full Immersion Integrated VW
   - Public
    - Education and Training
    - Operations

Air Force 2.0

- World-class learning organization
- Operating with learning concepts
  - Knowledge Management
  - Continuous Learning
  - Precision Learning
- Innovative, agile, flexible, adaptive
- Enabled by new technologies
  - Gaming and simulations
  - Distributed and mobile learning
  - Web 2.0 capabilities
- Unrivaled education and training!

FUTURE LEARNING Operational Concept Graphic (OV-1)
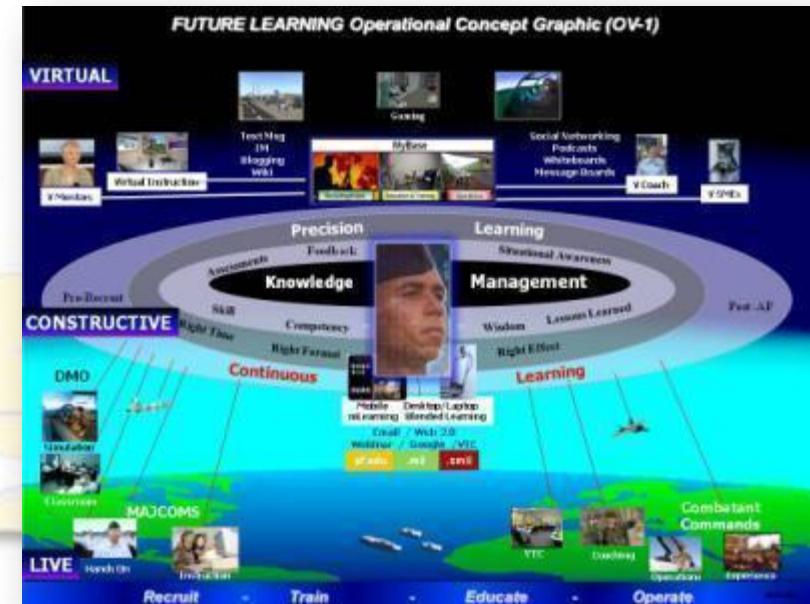
Air Force 2.0 – The New Learning Organization!

The Future is Upon Us

"Excellence in Learning"

http://www.aetc.af.mil/library/whitepaper.asp
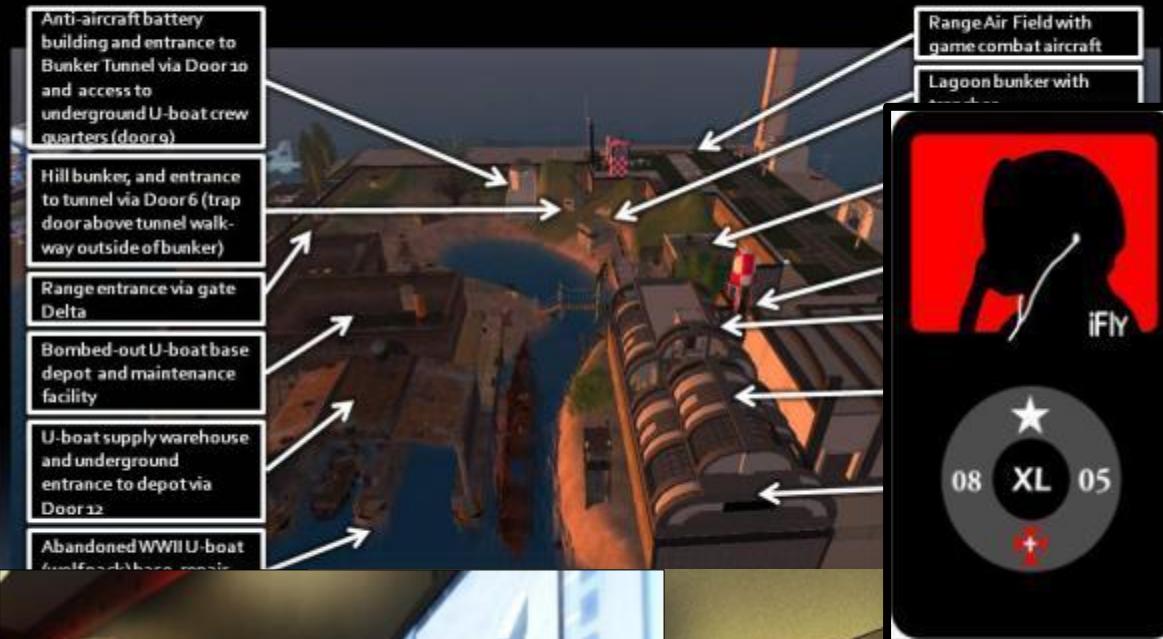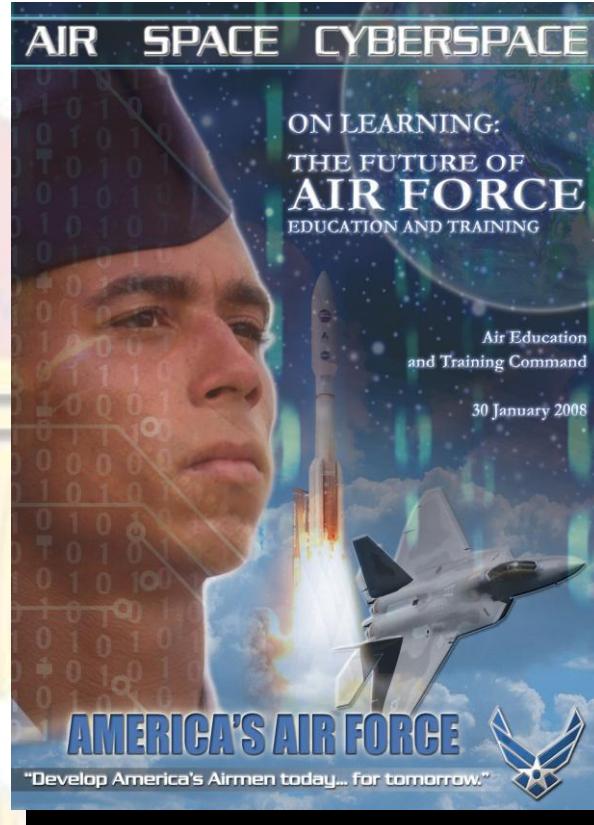
"Delivering unrivaled Air, Space and Cyberspace Education and Training"

Air Education and Training Command

"The First Command"