



*Develop America's Airmen Today ... for Tomorrow*

# **The Future of Air Force Education and Training an Advance Planning Briefing to Industry**

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12 May 09**

*The First Command*

| Report Documentation Page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |                                     |                                                           | Form Approved<br>OMB No. 0704-0188                  |                                 |
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# Vision



*Develop America's Airmen Today ... for Tomorrow*

***“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

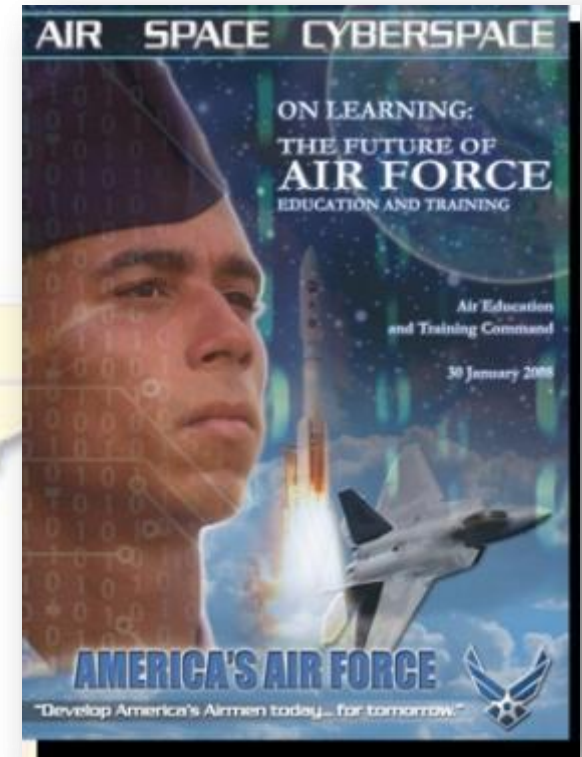
**“Delivering unrivaled Air, Space and Cyberspace Education and Training”**



# Overview



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**"White Paper"**

**Knowledge is power!**

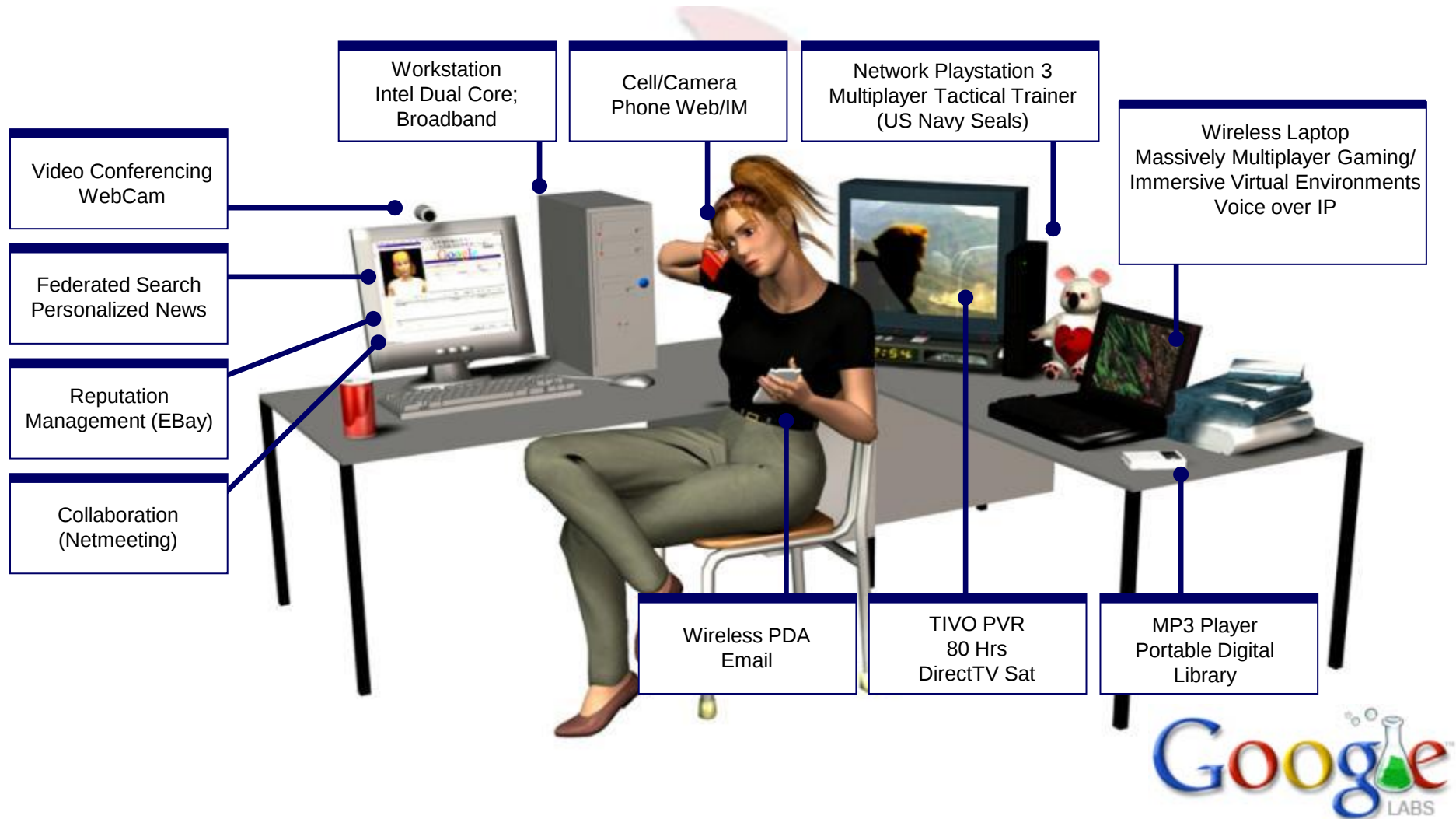


# The Future USAF Worker



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## Today's Cyber Teenager – Tomorrow's Airman





# Technology

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Video



Smart Phone



Wireless



Virtual Reality



AI



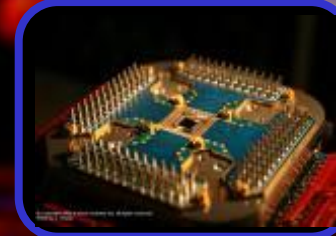
Search



Geolocation



Broadband



Computing



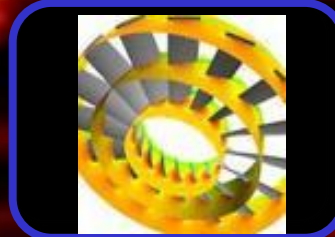
GPS



Collaboration



Storage



Visualization



Gaming



3-D

**Technology will “not” be the limiting factor**



# Future Learning Concepts



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## 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



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- *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



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- ***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



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- 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**

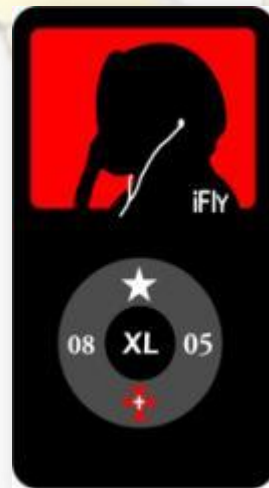


# Instruction for the Future



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- 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



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- 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)



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- 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



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- 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



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- 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





# Mobile Learning (mLearning)



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- 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





# Professional Networking and Social Learning



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## Web 2.0

Search  
Links  
Authoring  
Tags  
Extensions  
Signals

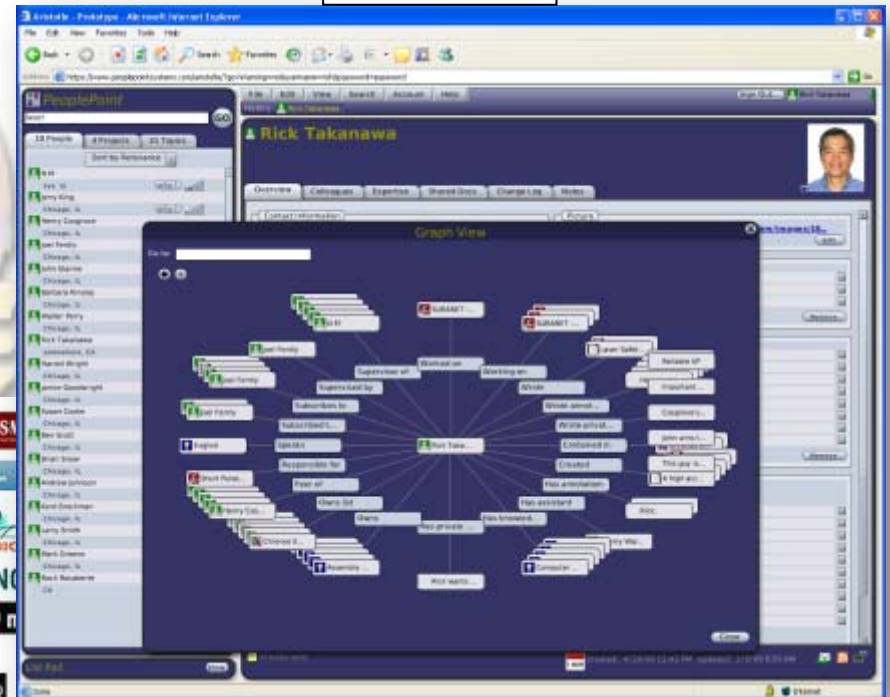
## Attributes

Integrated technology  
Social interaction  
Content creation  
“Wisdom of Crowds”

Aristotle

## Examples

YouTube  
MySpace  
Facebook  
Twitter  
Flickr  
Moodle



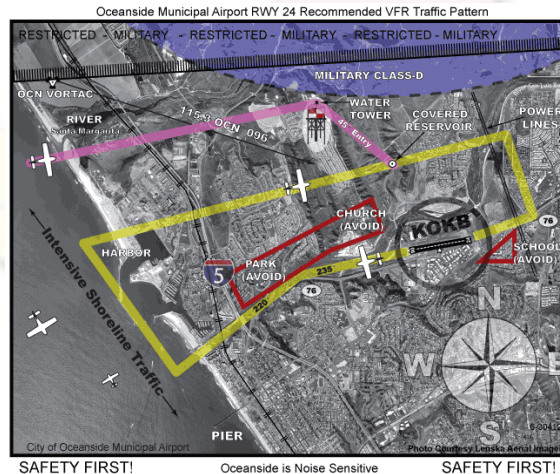
Social Networks



# "Little DMO"

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- SUPT Pattern Trainer
  - Initially networked at one base
  - Eventually linked at all SUPT bases

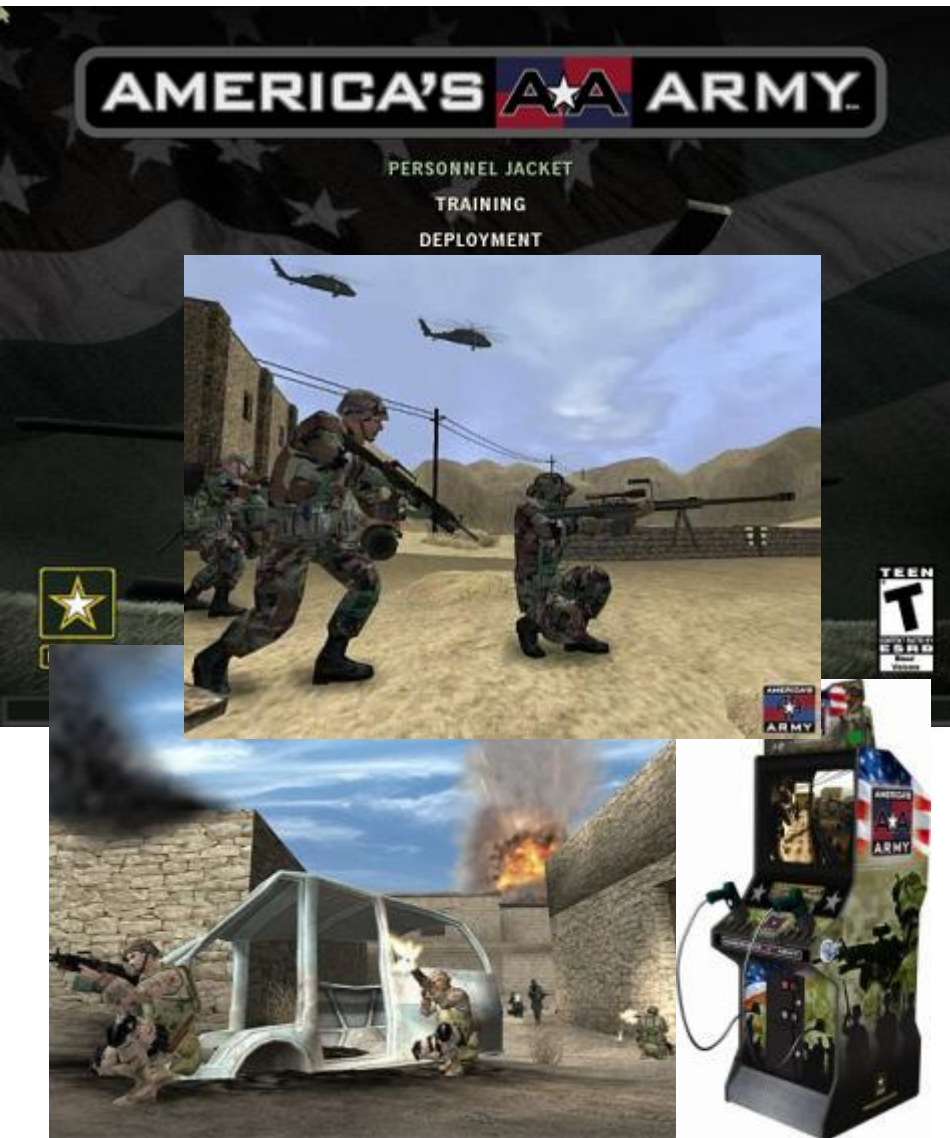




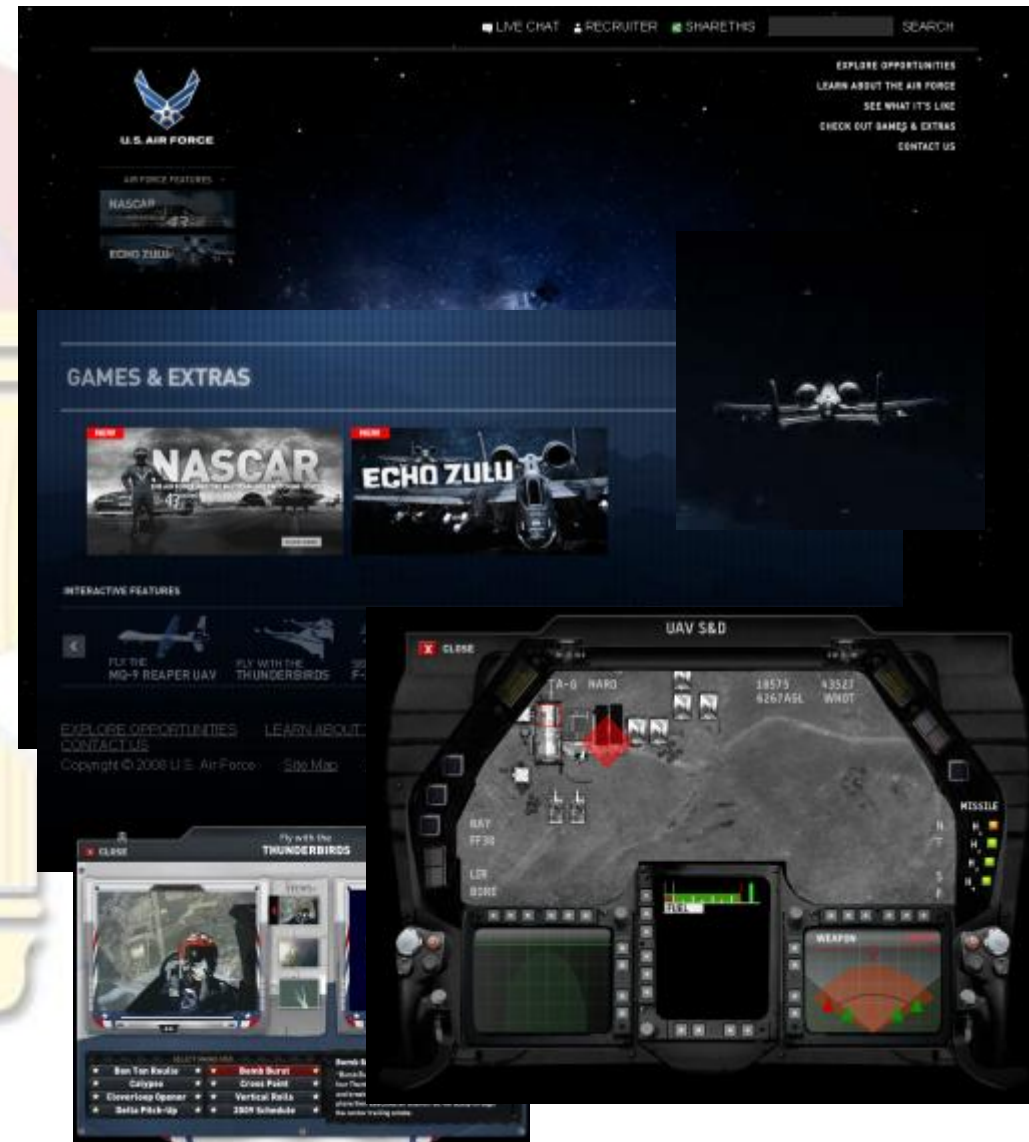
# Do We Need an AF Game?



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VS



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# MyBase – Virtual Worlds



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- 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



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- 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
- Unrivalled education and training!



**Air Force 2.0 – The New Learning Organization!**



# The Future is Upon Us

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**Captain Lance P. Sijan Leadership Range  
Operation Relief Worker Rescue Challenge (Set Design)**

Anti-aircraft battery  
building and entrance to  
Bunker Tunnel via Door 10  
and access to  
underground U-boat crew  
quarters (door 9)

Hill bunker, and entrance  
to tunnel via Door 6 (trap  
door above tunnel walk-  
way outside of bunker)

Range entrance via gate  
Delta

Bombed-out U-boat base  
depot and maintenance  
facility

U-boat supply warehouse  
and underground  
entrance to depot via  
Door 12

Abandoned WWII U-boat  
fuel depot

Range Air Field with  
game combat aircraft

Lagoon bunker with



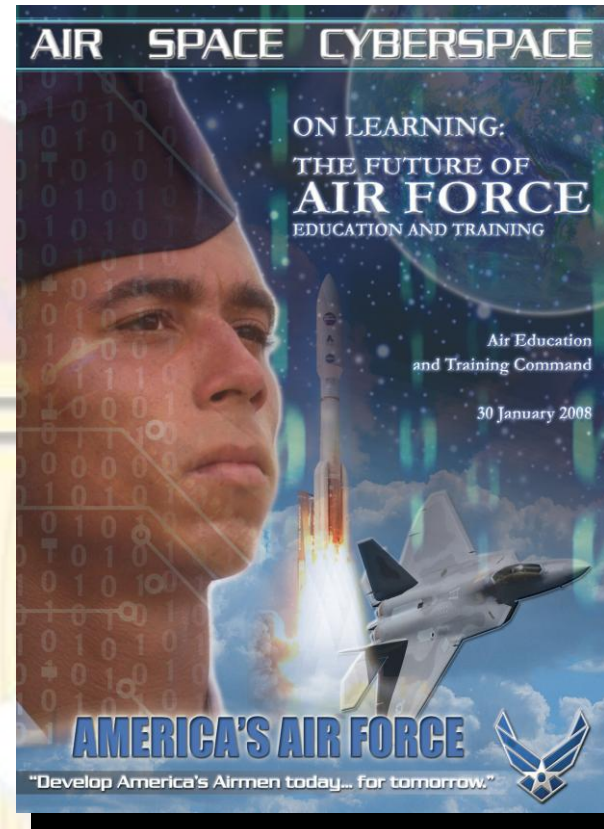
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# “Excellence in Learning”



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<http://www.aetc.af.mil/library/whitepaper.asp>

**“Delivering unrivaled Air, Space and Cyberspace Education and Training”**



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# **Air Education and Training Command**

**“The First Command”**

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