



Develop America's Airmen Today ... for Tomorrow

On Learning:

The Future of Air Force Education and Training

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Air Education and Training Command

April 2009



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”

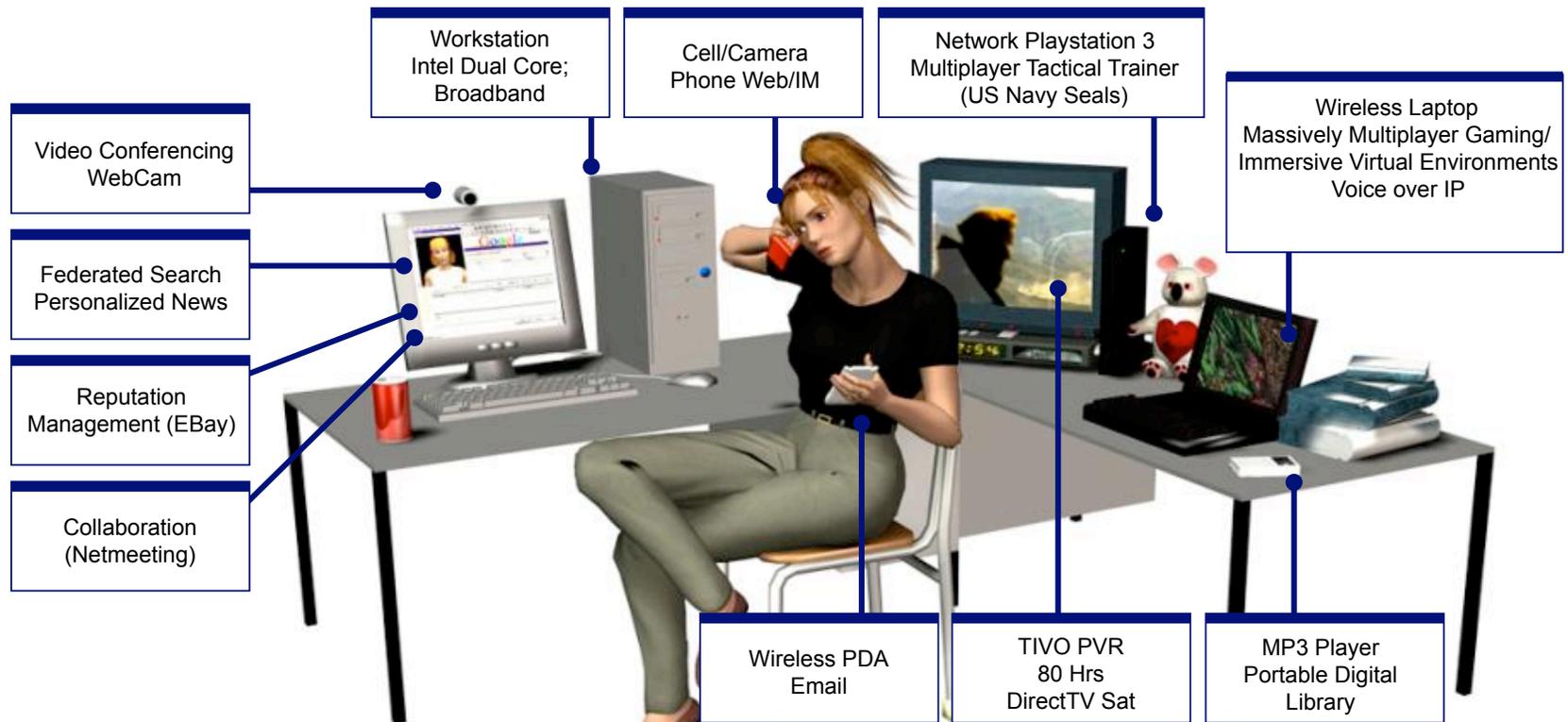


The Future U.S. Air Force Worker



Develop America's Airmen Today ... for Tomorrow

Today's Cyber Teenager – Tomorrow's Warrior





Future Learning Concepts



Develop America's Airmen Today ... for Tomorrow

- **Knowledge Management**
 - Supports data capture (learning style, metrics, etc.)
 - Enables archiving and historical documentation
 - Facilitates knowledge sharing
- **Continuous Learning**
 - Enables life long immersive learning
 - Better integration of learning and operations
 - Accelerates experiential learning
- **Precision Learning**
 - Persistent environment (24/7 access)
 - Tailored to individual styles and needs



Engage, inspire, learn and grow!



Implementation Plan



Develop America's Airmen Today ... for Tomorrow

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



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

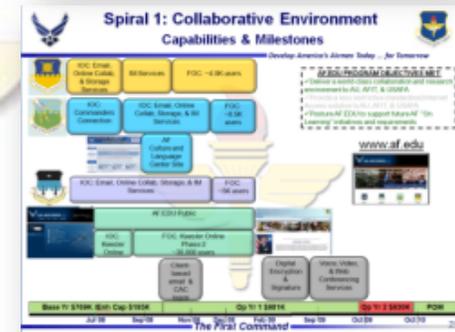


Projects and Programs



Develop America's Airmen Today ... for Tomorrow

- In Progress:
 - MyBase – Public (AETC HQ & AU)
 - MyBase – Education & Training (81 TRW)
 - AF.edu for AFIT, AU, & AFA (A6)
 - ADL Course Conversion (A2/3)
 - “Instruction for the Future” (82 TRW)
- In Planning:
 - Mobile Learning – Recruiting (AFRS)
 - MyBase Medical Campus (SG)
 - FM Learning Transformation (FM)
 - “Little DMO” (19 AF)
 - Air Force Game (TBD)





MyBase



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Recruiting/Public



Education & Training



Operations

Enterprise-wide learning environment

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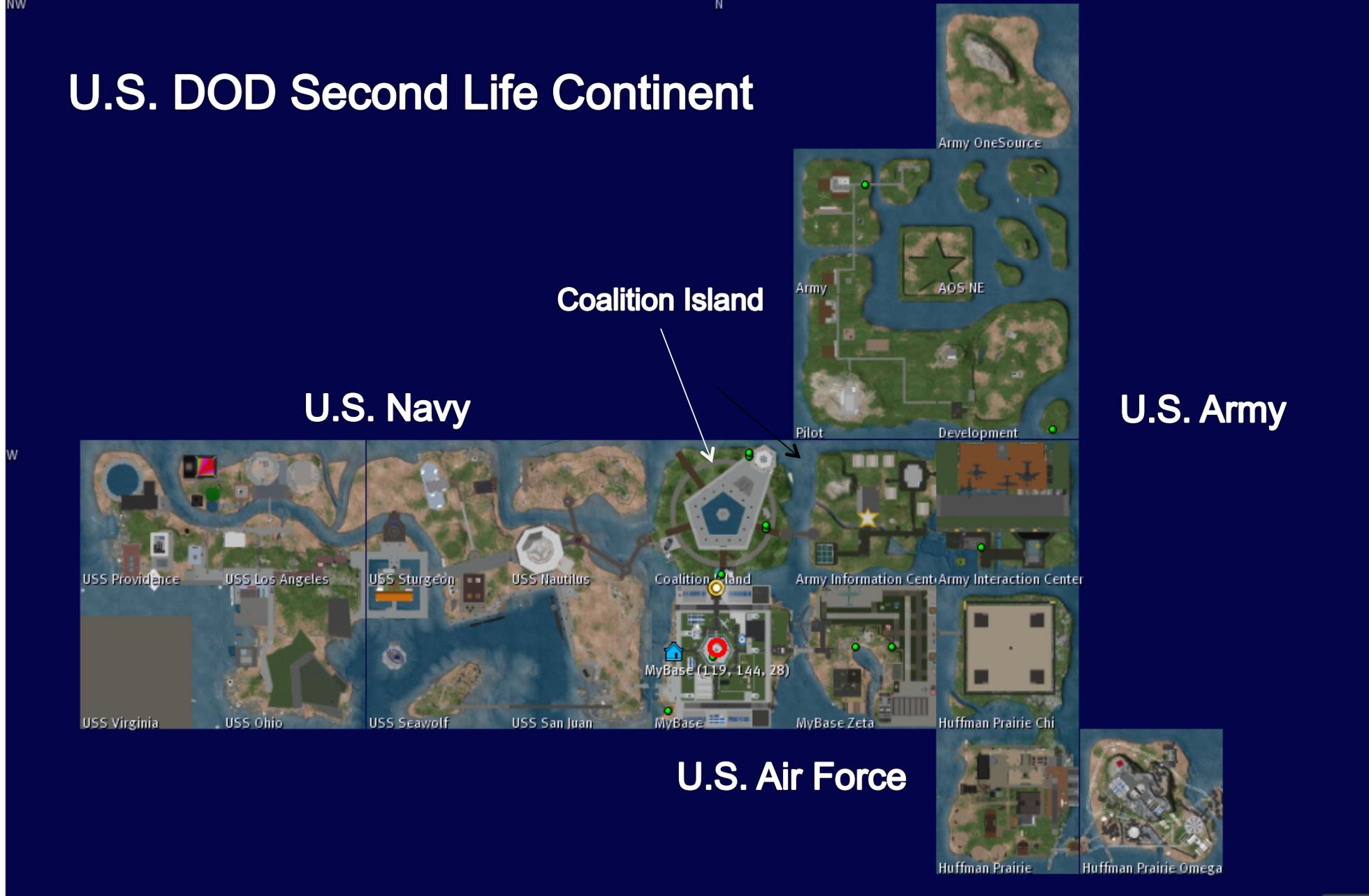
U.S. DOD Second Life Continent

U.S. Navy

Coalition Island

U.S. Army

U.S. Air Force





MyBase Education and Training



Develop America's Airmen Today ... for Tomorrow

- Cyber pilot project
- Converts two “cyber” courses into distributed learning format
- Contract awarded to Abacus Solutions Group on 21 Feb
- First classes Oct 09
- Preliminary results Mar 2010





Mobile Learning (mLearning)



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- 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



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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"

Examples
YouTube
MySpace
Facebook
Twitter
Flickr
Moodle

Social Networks





Study Efforts



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- Completed:

- Airmen and Technology (AETC/SAS)
- Blended Learning



- In-Progress:

- Customized Learning
- Education, Affective Learning and Technology (AFRI)
- Measuring Learning Success



- Planned:

- Follow-on Airmen and Technology Studies (AETC/SAS)
- Virtual Training Technologies



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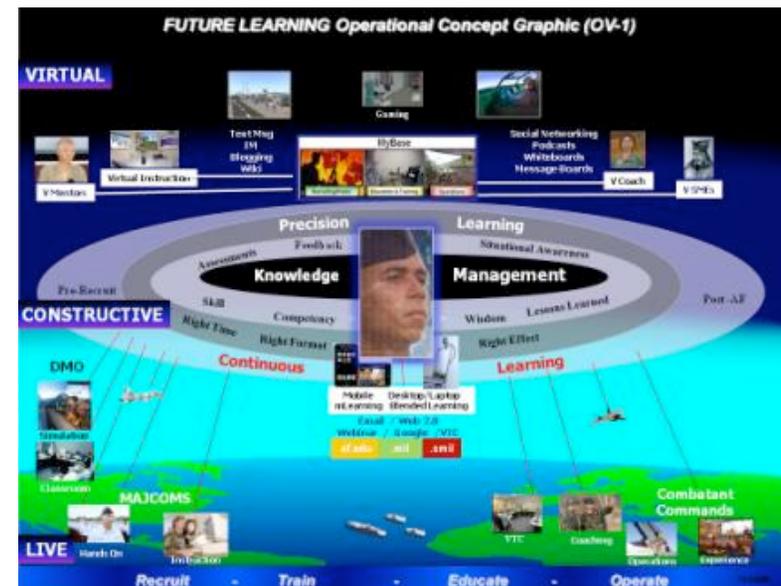


Air Force 2.0



Develop America's Airmen Today ... for Tomorrow

- World-class learning organization
- Operating with learning concepts
 - Knowledge Management
 - Continuous Learning
 - Precision Learning
- Innovative, agile, flexible, adaptive
- Enabled by new technologies
 - Modeling & Simulations
 - Gaming
 - Distributed and mobile learning
 - Web 2.0 capabilities



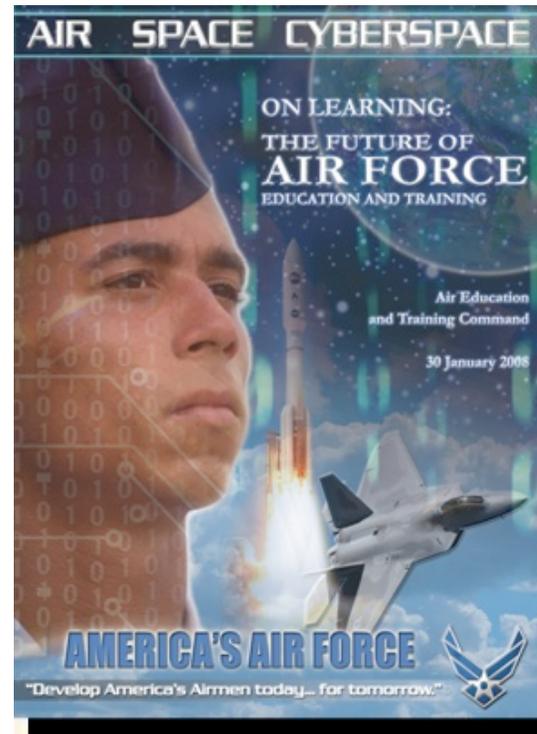
Air Force 2.0 – The New Learning Organization!



Excellence in Learning!



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

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



Backups

Slides Not Selected for ITEC



ALTD Basic Plan of Action



Develop America's Airmen Today ... for Tomorrow

- Look for opportunities (find requirements)
 - Focus on instructor's context and needs
 - Focus on learner's context and needs
- Assess readiness of process
 - Can we afford to change current processes?
- Assess readiness of technology
 - Do we augment or replace existing technology?
- Begin with a pilot initiative
- Watch the market and be ready to take advantage of low hanging fruit

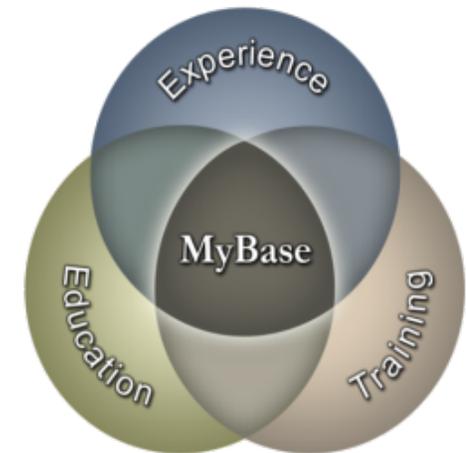


MyBase



Develop America's Airmen Today ... for Tomorrow

- Virtual, exploratory and **interactive environment**
- Supports **mix of live, virtual and constructive** education and training
- **Learner interface** providing access to AF knowledge bases and management systems
- Supports **continuous**, life-long learning
- **Integrates** existing systems
- Enables **precision learning**
- Platform for **collaboration**



“Welcome to MyBase!”



Operation Relief Worker Rescue Challenge



Develop America's Airmen Today ... for Tomorrow

- Conducted within Second Life virtual world on “MyBase Zeta”
- Uses avatars in 3D immersive environment
- Collaborative problem solving
- Interdependent leadership environment
- Complex decision making environment
 - Competing goals and time pressure
- Multiple event feedback loops
- Integrated assessment capability
- Leverage instruction and learning events
- Requires flexible and seamless adaptation to rapidly shifting conditions



Agile and adaptive learning environment



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 (doors)
- Hill bunker, and entrance to tunnel via Door 6 (trap door above tunnel walkway 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 tank base
- Range Air Field with game combat aircraft
- Lagoon bunker with

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US Government in Second Life



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Participants include:

- EPA
- NOAA
- Dept of Energy
- Dept of Health & Human Services
- Dept of Veteran Affairs
- NASA
- US Army
- US Navy
- US Air Force





Recruit, Train and Educate



Develop America's Airmen Today ... for Tomorrow

- 56,000 Active Duty
- 15,000 Govt Civilians
- 4,600 AFRC/ANG
- 11,700 Contractors
- 2,000 Deployed
- 12 Bases
- 1,100 Locations
- 260,000 Trained per Year
- 1,500 Aircraft
- 5,000 Courses



90,000 Military, Civilian and Contractor Personnel
\$7.3 Billion Budget



The Future Environment



FUTURE LEARNING Operational Concept Graphic (OV-1)

VIRTUAL



CONSTRUCTIVE



LIVE



Recruit - Train - Educate - Operate



Future of AF Learning



Develop America's Airmen Today ... for Tomorrow

- Future Environment
 - Learner
 - Knowledge content
 - Technology
 - Peers and competitors
- Information Technology
 - Web 2.0: Communication and collaboration
 - Government 2.0: Citizens engaging government
 - Air Force 2.0: New learning organization



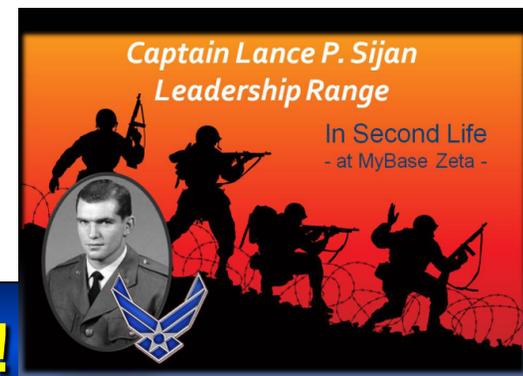


Serious Gaming



Develop America's Airmen Today ... for Tomorrow

- **Today's Games**
 - **Recruiting:** Fly a Predator on airforce.com
 - **Awareness:** Fly a P51 aircraft, shoot at the rifle range, experience BMT on MyBase
 - **Leadership:** Operation Rescue Worker on MyBase Zeta
- **The Future**
 - Aptitude and talent assessment games for the public
 - Virtual World AF indoctrination training for recruits
 - Game scaled Live VIRTUAL & Constructive simulators
 - **Medical** procedure evaluators
 - **Operations** Center scenario events
 - **Training on demand** – your way



The future is now !

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MyBase E&T



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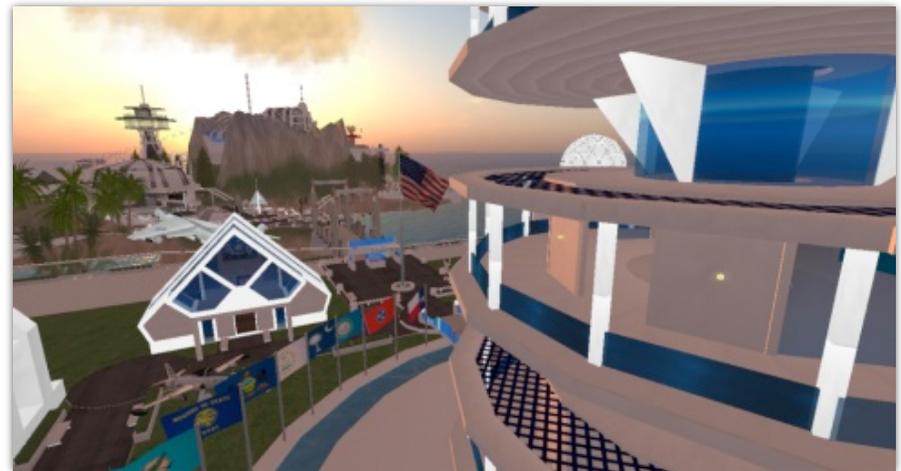
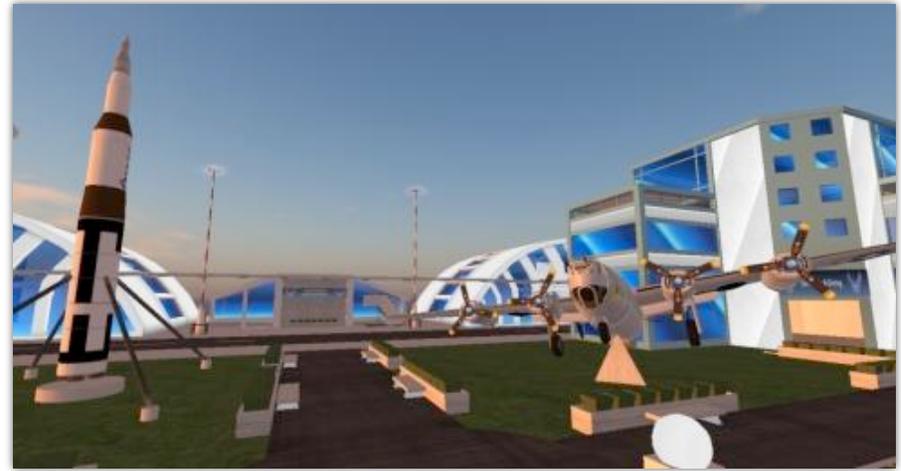
- MyBase E&T contract awarded to Abacus
 - Qwaq software is being used
- Training conducted for developers 6-10 Apr 09
- First classes October 09
- Data collection following completion of first class
- First preliminary results analysis March 2010



MyBase – Public



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Why now?



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- Change in the workplace
 - Connectivity to information is paramount
 - Less time to participate in formal activities
- Web 2.0 - "mashup."
 - More information available on demand
- Technology advances have enabled handheld devices to effectively "push" and "pull" information and deliver learning
- Global smartphone market grew 29% in 2008; over 100% in North America *
 - Better wireless data networks available

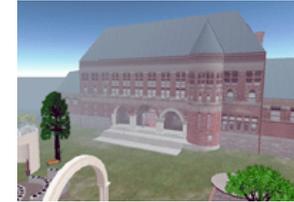


Virtual World Education



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- Education is thriving in Second Life



- About 200 universities since 2005



- Harvard , Stanford, Colorado State Technical College, Ohio University, Texas State Technical College, University of Rio de Janeiro, Ball State University, Duke University, Elon University, Hong Kong Polytechnic University, Massachusetts Institute of Technology, Rice University, University of Hamburg , University of Illinois at Chicago College of Medicine, Vanderbilt

- Courses in art, law, architecture, English, music, business, graphics design, language and culture, science, visual mathematics, physics, computer programming, astronomy, Interdisciplinary Research Seminar

- Second Life Educators(SLED est. 2005) - 4700 mbrs

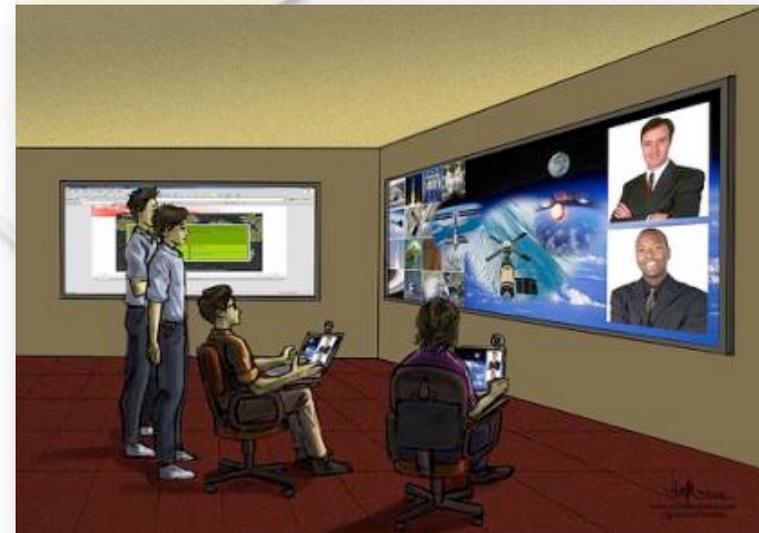
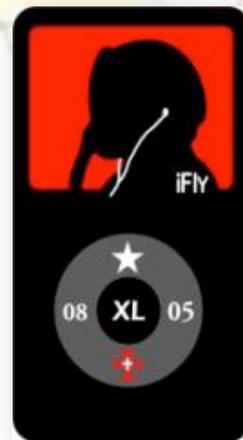
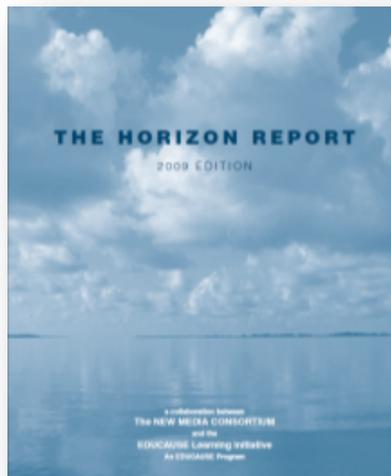


Instruction for the Future



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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





Questions to get started



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1. Why a future learning project?
2. Who is the customer for the learning initiative?
3. What do we really need to do (goal)?
4. How will we know when we have met our goal?
5. What unique result will we achieve?
6. What is needed to accomplish the goal?
7. Who are the stakeholders?
8. How long does the solution need to last?
9. How do we evaluate effectiveness/success?

Work adopted from Ellen Wagner, Adobe Systems
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Assumptions



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- We know what mobile is and is not?
 - An 8 lb laptop is not mobile
- Mobile is:
 - Symbian, BlackBerry, Windows Mobile, iPhone, Palm, and Android devices
- What about netbook?
 - On the fence – 2 to 3 lbs smaller footprint
 - designed for web browsing, web applications and e-mailing





Technologies in use



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BlackBerry, iPhone, Windows Mobile-, or Symbian-powered handsets?

- Merrill Lynch - Blackberry
- Chrysler LLC - PDA
- Sun Learning - iPods & iTunes
- Valero Energy – Windows Mobile
- Higher Education
 - ACU & OCU iPhones, iTouch, special software
 - Colorado Technical – variety of smart phones



Applications in use



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- Voice & voice messaging
- Email
- Web Browsing – reference (general search, maps)
- Text messaging
- Podcasts
- Simulations
- Access to information, alerts, checklists, forms, mentors, peers and references
- Many others for special business needs ...



Introduction to MyBase



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