



The Power of Global Collaboration
Defense | Government | Industry | Academia

Mobile Learning: The Current DoD Landscape

1 August 2011

Jason Haag



Agenda

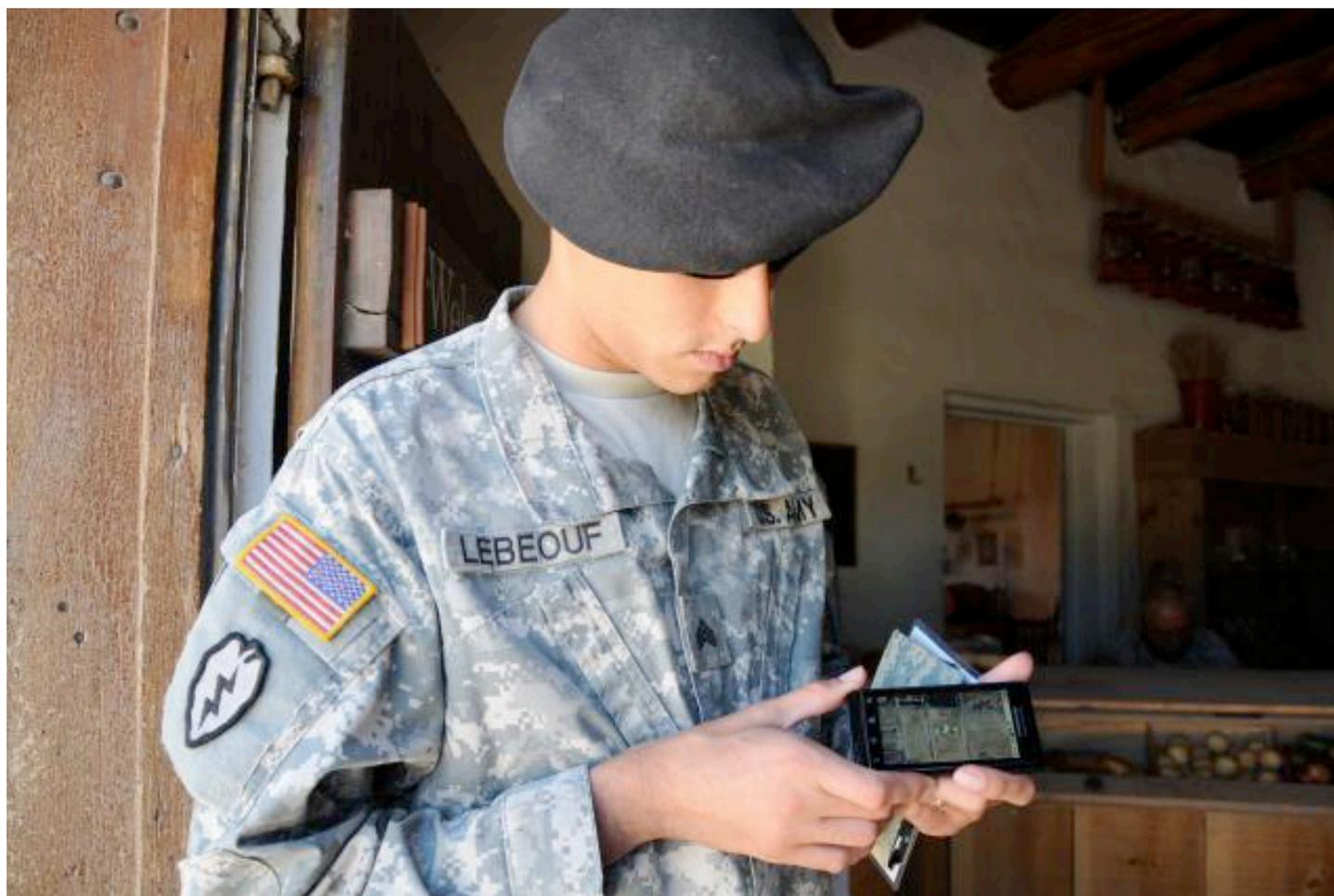


- Military examples
- Other examples of interest
- ADL Mobile Learning activities
- Discussion





Military Examples





Connecting Soldiers with Digital Applications (CSDA)



- Phase 1 - Testing smartphones for non-combat use (training, tech manuals, administrative tasks)
- Phase 2 - Testing on the combat environment (performance support, communications, tracking friendly & enemy forces, sending reports)
- Looking at security & CAC authentication options
- FA53 Apps: <http://www.fa53.com>



Apps for the Army Challenge



- 1st Competition Launched March 2010
- 5 Winners Announced (One iOS, Four Android)
- 53 submissions
- <https://storefront.mil/army>
- 2nd Challenge in 2012
- More info: <http://architecture.army.mil/technical-view/applications/applications.html>



Army SCoE Mobile





Army SCoE Mobile



- CASCOM Initiative – Sustainment Center of Excellence
- Pilot App program for the Connecting Soldiers to Digital Applications (CSDA) thru ARCIC.
- Initiated by Army G-6.
- Team Members include GS:
 - Matt MacLaughlin
 - Chris Lawson
 - Diane Jenkins
 - David Garrison
- Developed & Deployed 69 apps on IOS platform, 24 Podcast/with video, 6 EPUBs.



ATN₂GO



- Army Training Network (ATN)
 - ATN is a “one-stop shop” for trainers, educators and others to find training resources and discuss issues
 - <https://atn.army.mil>
- Android & iOS Platforms
- Accessed through AKO



ATN2GO



ATN2GO



ATN2GO
"TRAINING REDEFINED"

ATN
Army Training Network

ANDROID 1.6



LIBRARY



CATEGORIES



MY CONTENT



INFO



FAVORITES



SEARCH

APPLE IOS



LIBRARY



CATEGORIES



MY CONTENT



INFO



FAVORITES



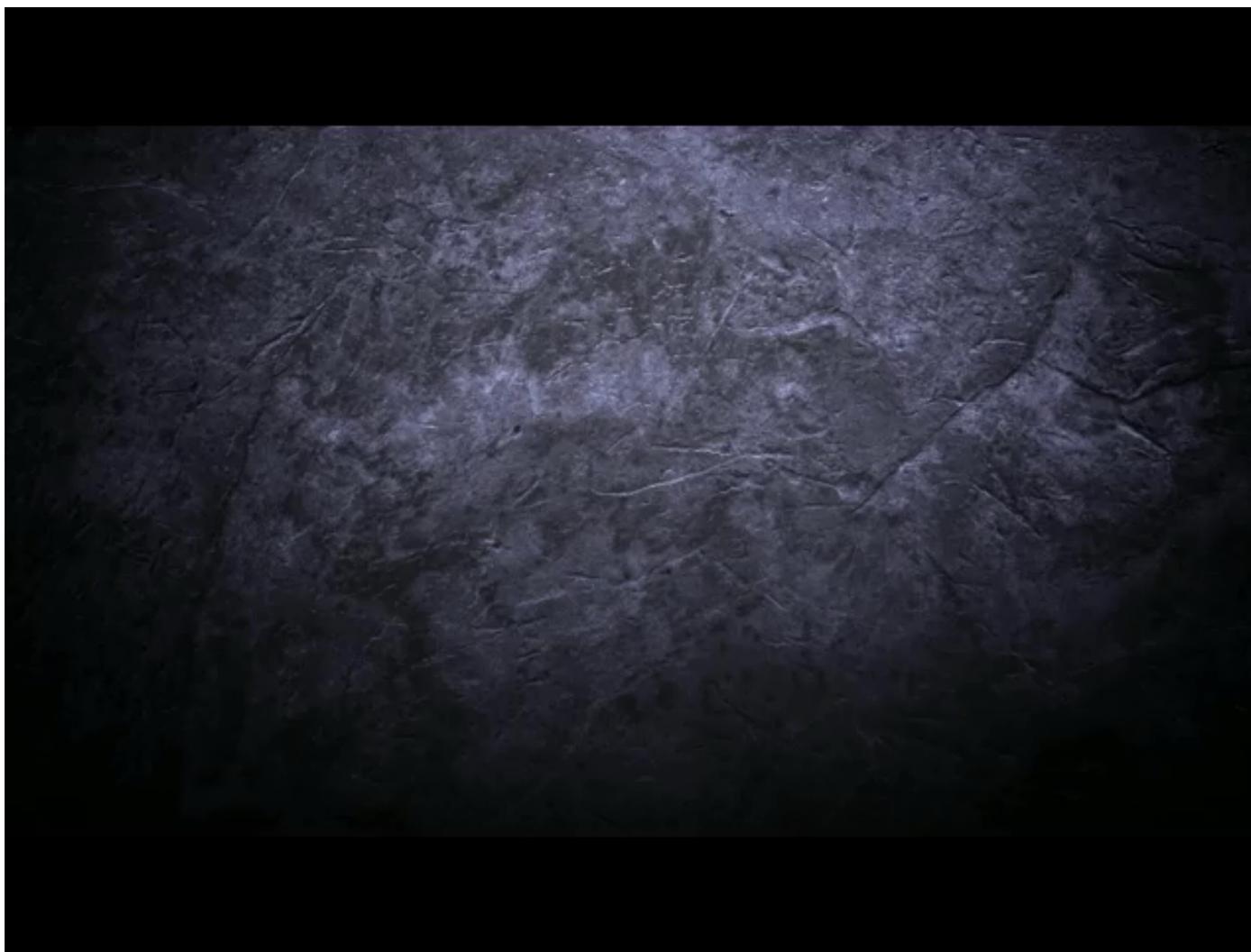
SEARCH

- Smaller App Download Size
- Improved Navigation
- Searchable Content
- Download training resources "on the go"
- Content available independent of application download
- "News" and "Update" capability to inform users of newly updated or changed content.
- User Configurable (Categories or Index)
- Training resources are sortable by content type or name
- Allows users to "Favorite" specific training resources for quick access
- "Fast Scroll" capabilities to quickly locate training resources
- Scalable Architecture for additional training resources

9



ATN2GO Video

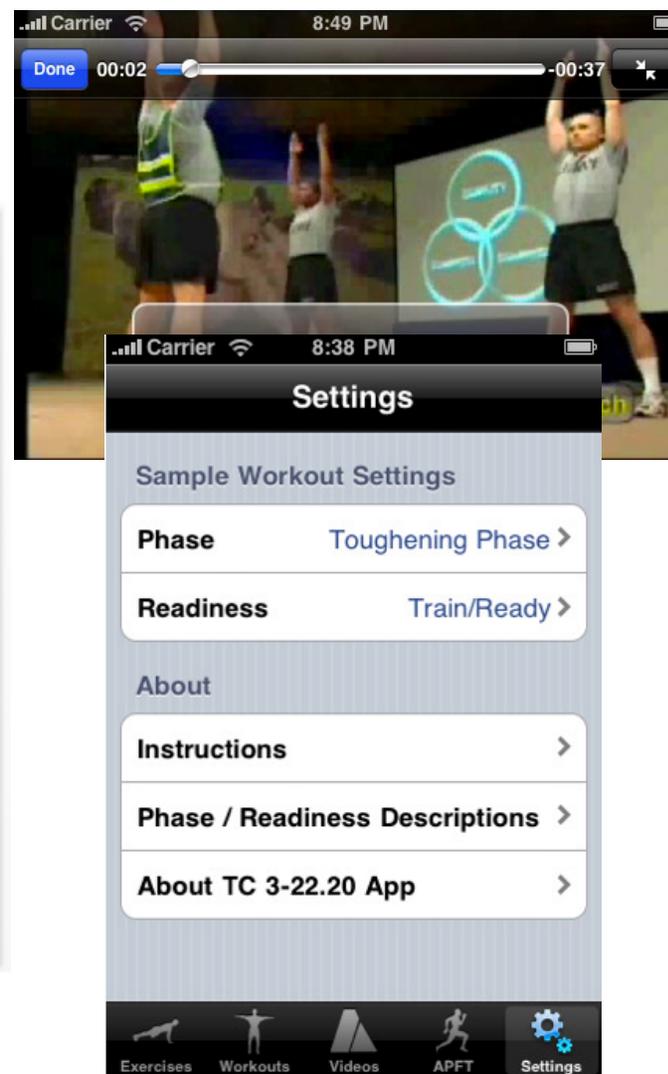
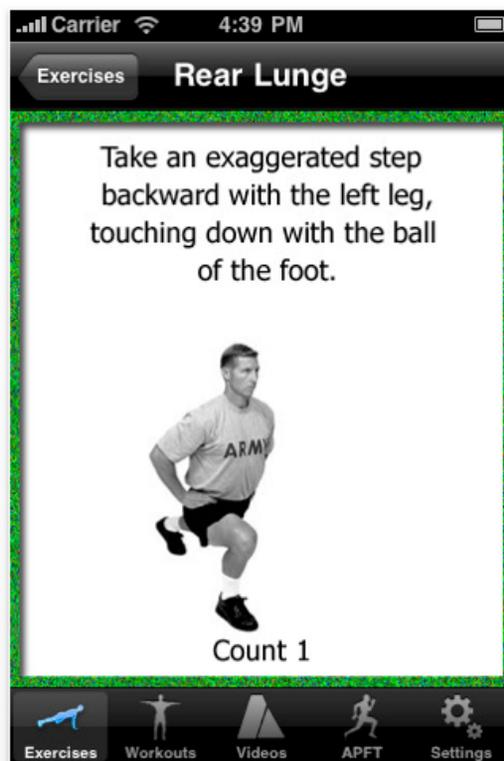
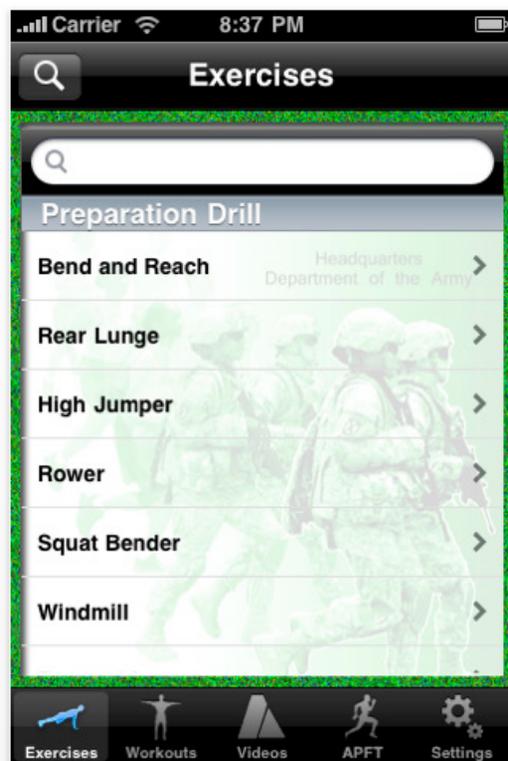




Physical Training Program



iOS Native App





Tactical Nav

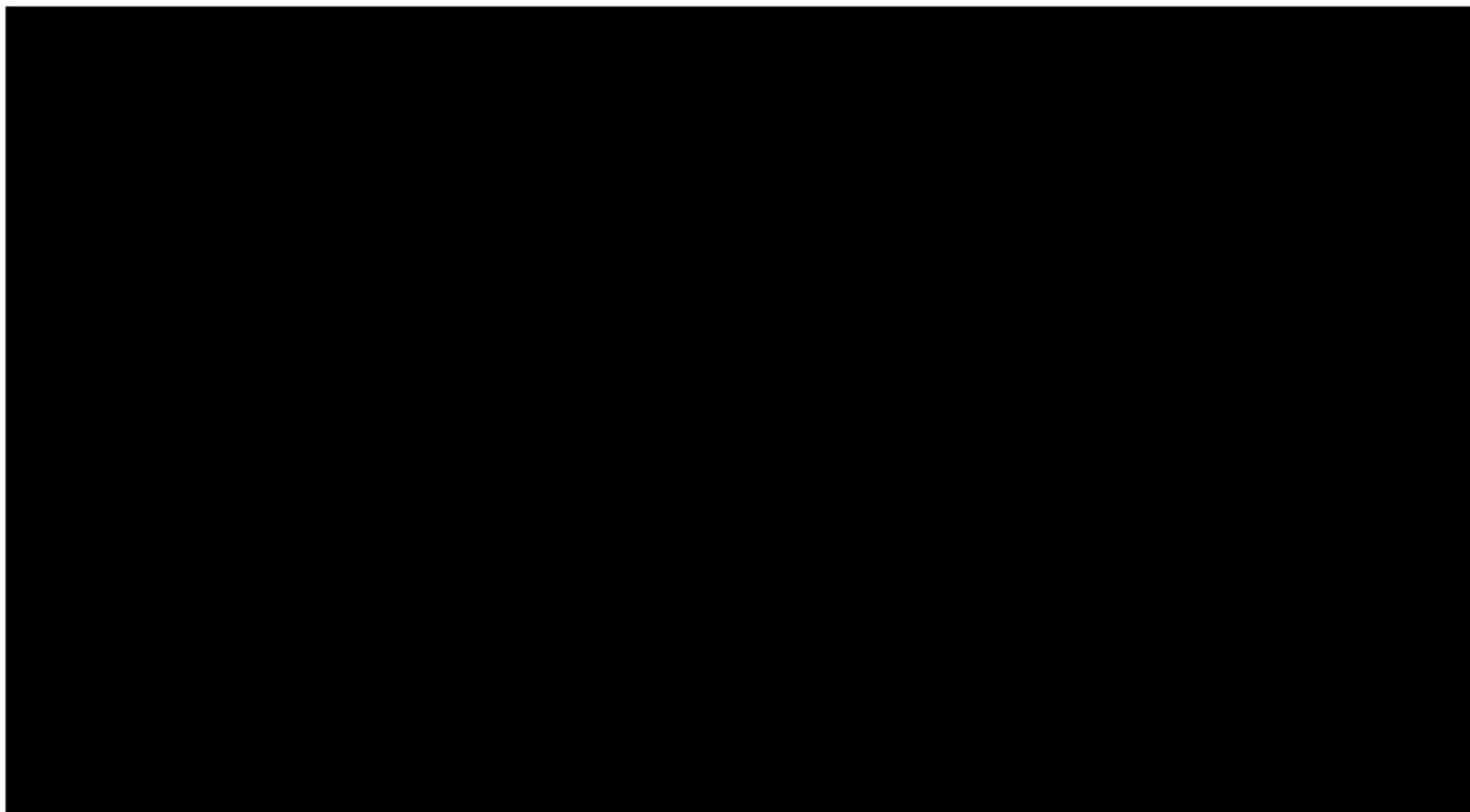


- Soldiers plot waypoints on battlefield, take photos, and share coordinates with others during direct artillery and call in medevac
- Developed by 31-year old CAPT Jonathan Springer using \$26K of his own money





Army Learning Concepts





Advanced Learning Technology Demonstration (ALTD)



- The 82nd Training Wing (TRW) at Sheppard Air Force Base, Texas
- Determine whether technical training students will benefit from using a mobile device preloaded with learning content
- Designed to support and enhance instructor-led training in the Aerospace Ground Equipment (AGE) apprentice course
- Created for Netbooks and smartphones
- The study will measure changes in learning habits and the effects of mobile devices on failure rates



Air Force ALTD



1:25

Index Top

Compass Experiment

A compass needle indicates the presence of a magnetic field by aligning itself with the field if placed near a straight section of wire carrying current. As the compass moves around the wire, it shows that the magnetic field extends all around the wire.

Figure 8.1

If the current flow stops, the needle returns to its normal position. If we reverse the direction of current flow, the compass needle will point in the opposite direction while moving around the wire.

1:22

Figure 2.0

When a path is provided for the free electrons to flow, such as a wire, the pressure or force caused by the difference in electrical charges will push the excess electrons to the area that has too few electrons.

Figure 2.1

Some common sources of voltage are batteries, alternators, generators, and thermocouples.

[View lecture](#)

[View podcast](#)

[Play audio](#)

12:39

Electrical Fundamentals

Structure of the Atom

According to current atomic theory, all matter is composed of atoms. Atoms contain two basic parts: a nucleus and electrons; both of which circle around it. Protons and neutrons make up the nucleus.

Figure 1.0

Electrons travel in orbits or "shells" around the nucleus and travel around in one of these seven shells.

The electron in the outermost shell is known as the valence electron. The maximum number of valence electrons an atom can have is eight. When an



JFCOM Cultural Training





Mobile in the Classroom (UK MOD)



Immersive Trainer

- Enhance classroom delivery
 - Improved interactivity
 - Increased range of exercises
 - Individual and team
- Reduce skills fade
 - Post course revision
 - Ongoing access to exercises
 - Instant feedback

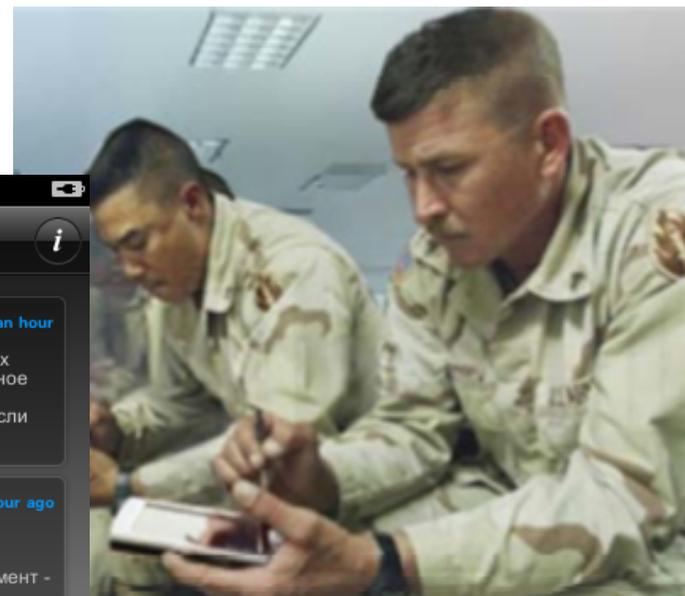




Language Learning and Review



- CL-150 community license
- DLI, Navy, Marines, SOCOM





Language and Culture

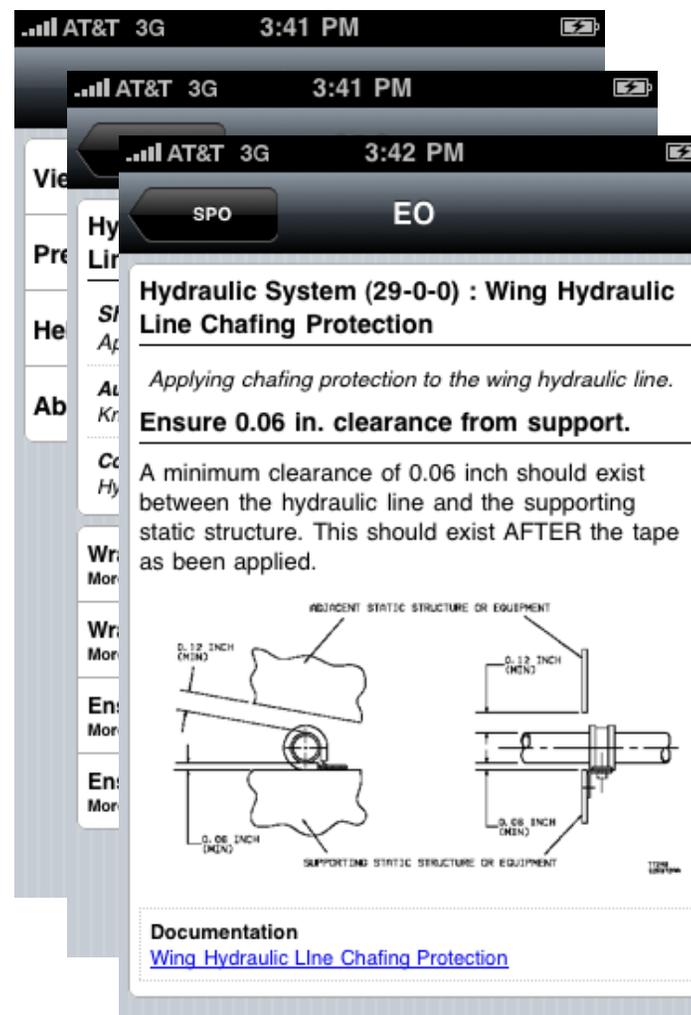




Technical Documentation



- Monkeywrench by Hybrid Learning Systems
- Mobile viewer for documents that meet the Darwin Information Typing Architecture (DITA)





Defense Ammunition Center Munitions Encyclopedia





DARPA Transformative Apps



- Develop Military-relevant Apps
- Developing smartphone app to communicate with non-English speakers in the field (TRANSACT)
- New Acquisition Process
- Military Apps Marketplace
- Plan to transition resulting systems to the Services



Marines – Naval Research



- Dr. Peter Squire
- Report in review
- Field tests in Afghanistan
- Two losses – fire and run over



MoLE Project



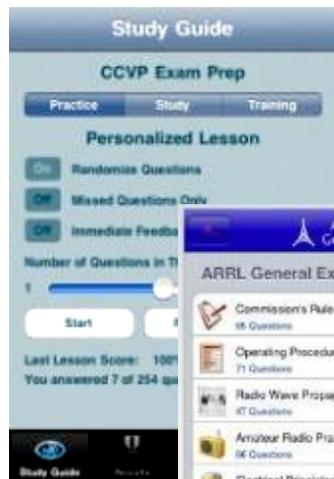
- MoLE = (Mobile Learning Environment)
- U.S. and multi-national partners
- Focus on the reconstruction of healthcare and associated services in areas of conflict or natural disaster (known as 'medical stability operations', or MSOs).
- Using the U.S. Joint Forces Command (JFCOM) Joint Knowledge Development and Distribution Capability (JKDDC) Internet Public (IP).
- <http://www.mole-project.net>



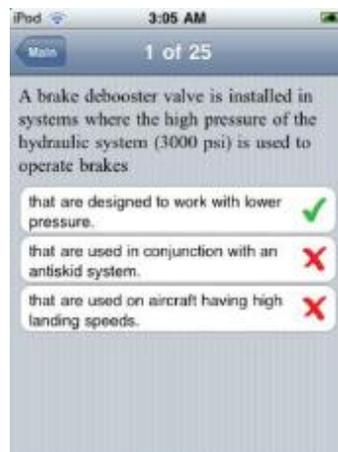
Certification and Licensure Exam Prep



Tech 2000 - CCVP Certification
Cisco Certified Voice Professional



Tekk Innovations - FAA Aviation Maintenance Technician General Knowledge Exam Prep



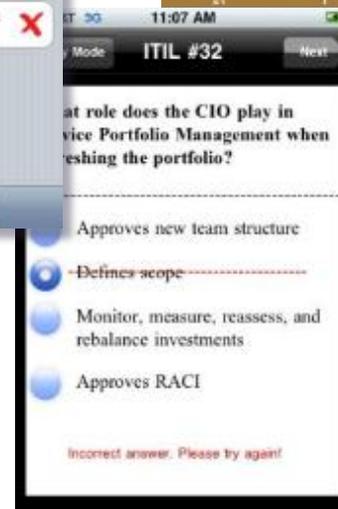
Allen Resources - CFA Exam Level III 2010 2,100+ CFA Exam Questions



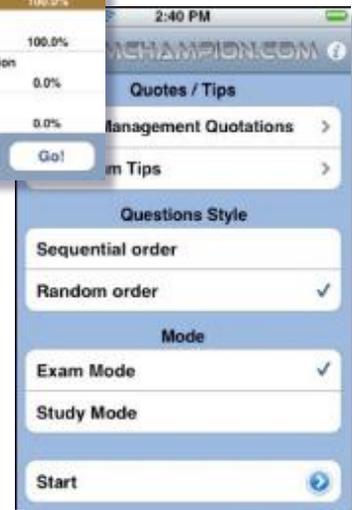
McSnyder Software - American Radio Relay League - Amateur Radio License Exams



Upward Mobility - CompTIA + Certification Exam Prep



ITIL V3 Foundation Certified Project Manager



PMCHAMPION - PMP Exam



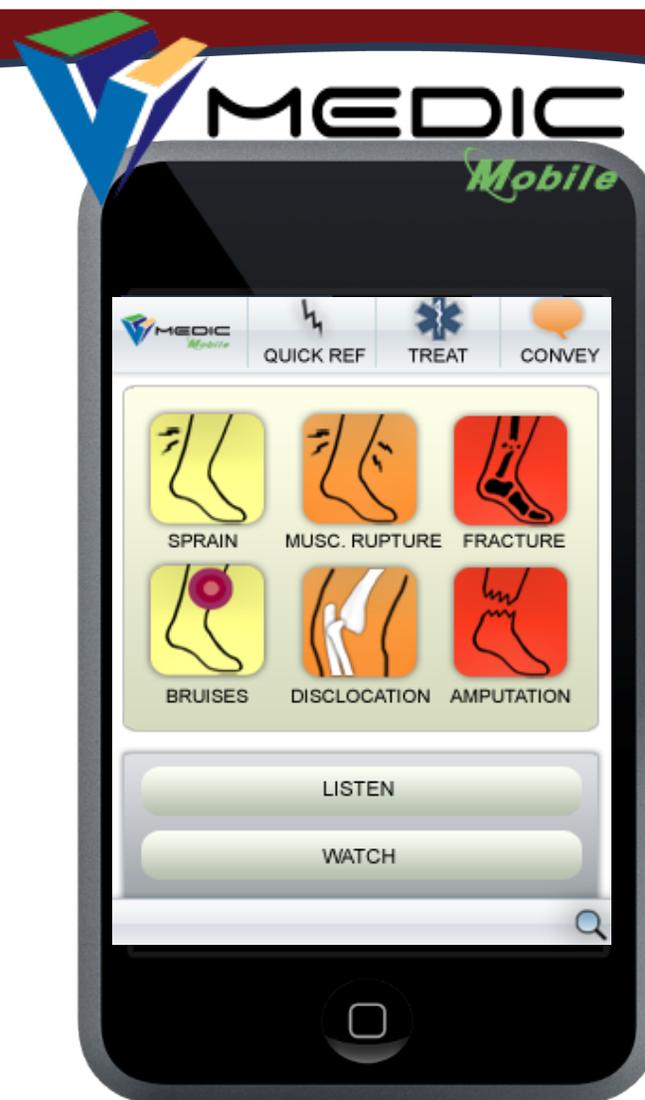
Ambient Insight 2011



Medical Training

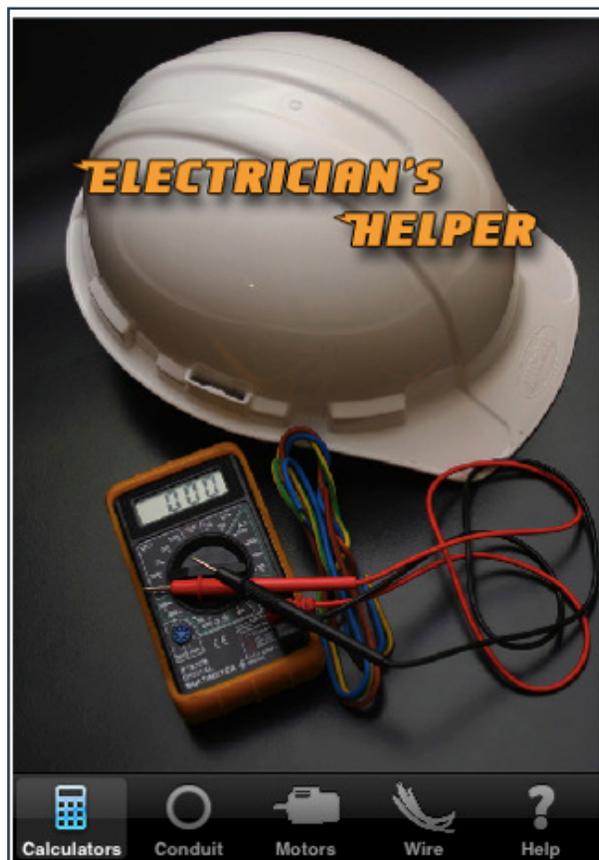


- Features & Benefits:
- Saves lives by providing medical training & quick reference to all soldiers
- Download Treatments, Quick Reference Info, or Multi-lingual Communication Aid for IED Emergency Response, Field Triage, etc.
- Include 3D mentors, images, videos, speech and written text
- No training required — Soldier-friendly, intuitive user interface
- Portable, Durable, Lightweight, COTS HW
- Easily add content (i.e. photos, audio, mentor) in the field with Vcommunicator® Authoring Suite





Performance Support



Select Task **Locked Rotor Current**

Single Phase | Three Phase

Rated Horsepower

Rated Voltage V

Name Plate Code Letter

LRC A

| | | |
|-----------|----------|----------------------------------|
| 1 | 2 ABC | 3 DEF |
| 4 GHI | 5 JKL | 6 MNO |
| 7 PQRS | 8 TUV | 9 WXYZ |
| . | 0 | <input type="button" value="X"/> |

Calculators | Conduit | Motors | Wire | Help

SUB 1 FMC 1" ACO 1 SUB 1 EMT 35 Metric ACO 1

| | | | |
|-------------------|----|----------------------|----|
| THHN THWN THWN-2 | GA | RW80XLPE 600V w/ jkt | |
| TW THHW THW THW-2 | 15 | RW90XLPE w/ jkt | GA |
| XF XFF | 16 | TW TW75 | 14 |
| XHHW XHHW-2 XHH | 14 | TWN75 T90 NYLON | 12 |
| Z | 12 | TWU TWU75 | 10 |

| | | | | | |
|--------------------|----|---|------------------------|----|----|
| X FEP FEPB | 12 | 8 | X H80XLPE 600V w/ jkt | 14 | 8 |
| X RHH RHW RHW-2 | 10 | 4 | X R90XLPE 600V w/ jkt | 12 | 10 |
| X THHN THWN THWN-2 | 12 | 2 | X RW75XLPE 600V w/ jkt | 12 | 6 |
| X XF XFF | 16 | 2 | X TW TW75 | 14 | 2 |

PERMITTED: 40% FILL: 37.4% PERMITTED: 40% FILL: 38.7%

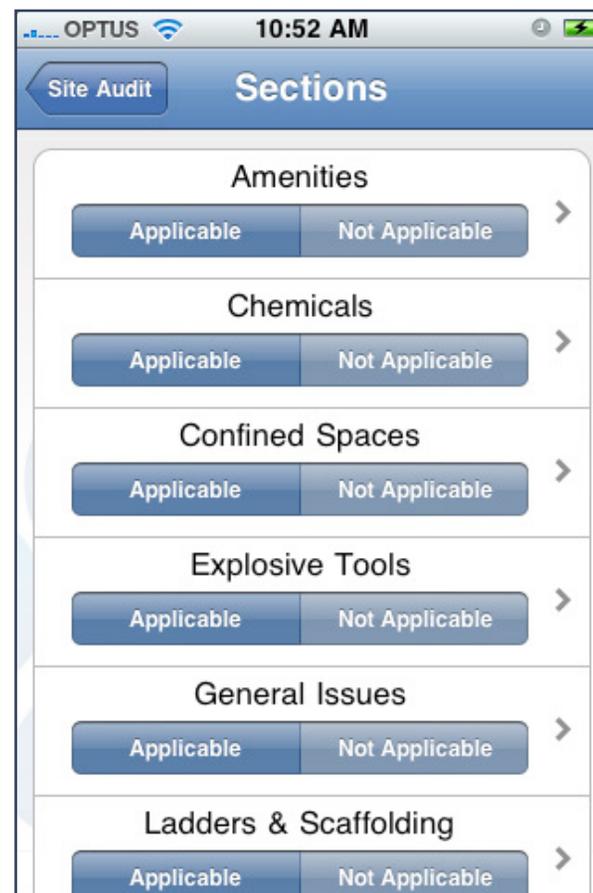
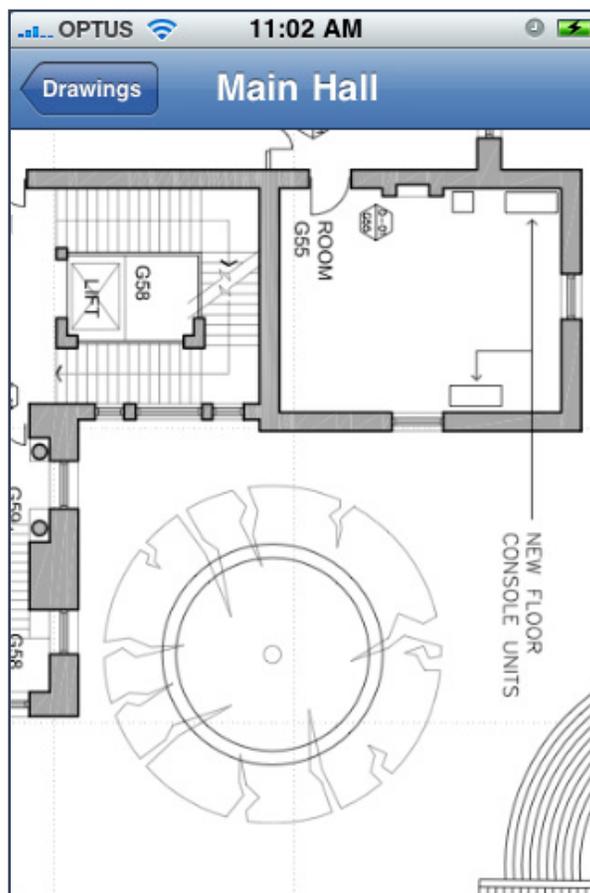
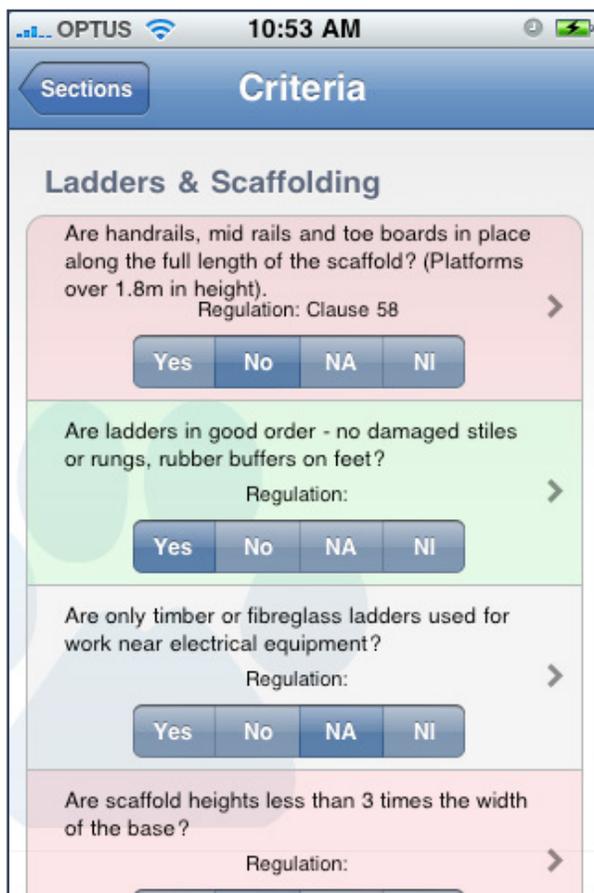
SUBTRACT 1 Box Fill ACO 1 SUBTRACT 1 Box Fill ACO 1

| | | | | | |
|------------------|----|-------------|----------------------|----|---|
| Select Item | 16 | Select Item | 14 | | |
| Conductor | 14 | 4 | Conductor | 12 | 2 |
| Ground Cond. | 12 | | Device(s) on Strap 1 | 10 | |
| Iso-Ground Cond. | 10 | | Device(s) on Strap 2 | 6 | |

| | | | | | |
|---|-------|-----------------|---|--------|-----------------|
| Conductor Volume | 8.00 | in ³ | Conductor Volume | 57.40 | cm ³ |
| Ground Cond. Volume | 2.00 | in ³ | Devices > 2.51 cm | 129.13 | cm ³ |
| Iso Ground Cond. Vol. | 0.00 | in ³ | Wire Connector Vol. | 28.70 | cm ³ |
| Device Yoke/Strap Vol. | 4.00 | in ³ | Device Yoke/Strap Vol. | 57.40 | cm ³ |
| Hickey Stud Clamp Vol. | 2.00 | in ³ | Hickey / Stud Vol. | 0.00 | cm ³ |
| <input type="button" value="VIEW BOXES"/> Total | 16.00 | in ³ | <input type="button" value="VIEW BOXES"/> Total | 243.93 | cm ³ |



Foreman's Mate





RTOC Project - Mobile Output



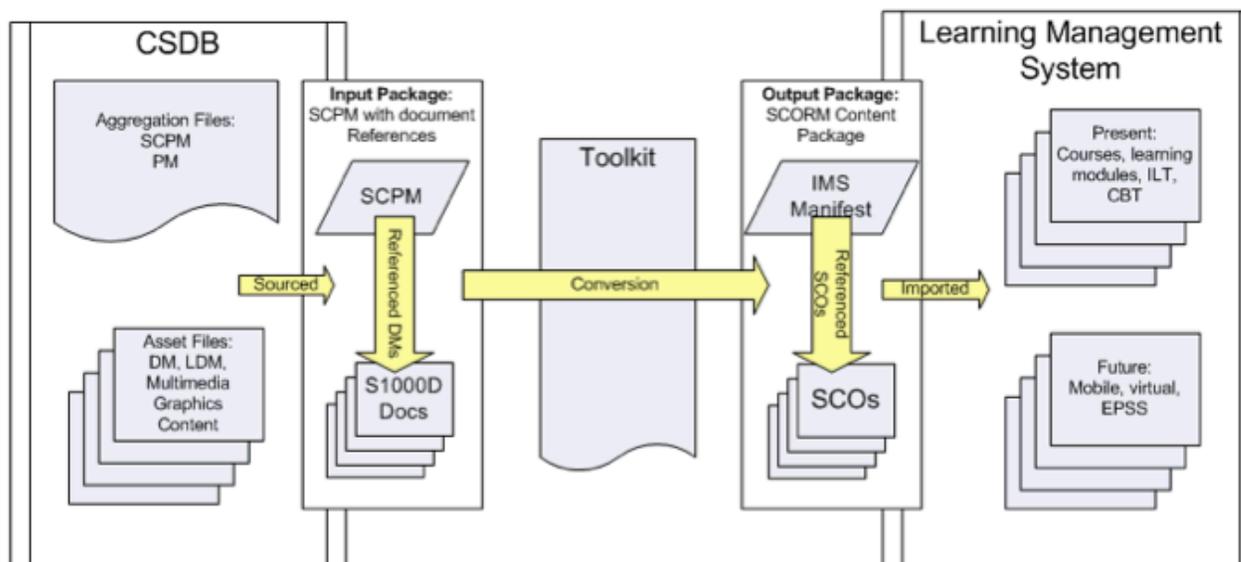
- Bridge/RTOC: Manage and develop training content and tech pubs in same XML meta data (S1000D).
- S1000D XML Learning & Tech Data Modules
- **S1000D Bridge API** – Connects learning content development tools to authoritative source database
- **S1000D Transformation Toolkit** - Outputs SCORM and **Mobile** from S1000D-structured learning content.



Training Transformation Toolkit



- Open Source Project
 - <http://sourceforge.net/projects/s1000d-scorm>
- Demo (S1000D to Mobile Output)
 - <https://s1000dbikemobile.appspot.com>





ADL Mobile Team Activities



Vision

- To be the source of information and support for DoD mobile learning initiatives.

Knowledge

- Track initiatives and share
- Remain current and provide weekly newsletter
- Deliver presentations
- Collect use cases

Deliverables

- Develop samples
- Identify tools
- Conduct workshops and webinars
- Write papers
- Facilitate working group

Research

- Collect literature and review
- Share best practices
- Support BAAs



DoD Mobile Survey



- Methodology
- Distributed survey to DADL WG, DoD Mobile WG, and OSD TIP contacts
- Data was collected from 50 voluntary respondents over a 4 week period
- 10 questions (blend of multiple choice, yes/no, and Likert scale)



DoD Mobile Survey



Desired Outcomes:

- A rating of the top DoD issues and concerns related to using mobile devices for training
- Determine which mobile device platforms are most commonly used in the DoD
- Determine whether any DoD Learning Management System (LMS) environments currently support mobile delivery
- Discover the attitudes among DoD stakeholders about accessing mandatory training on their mobile device as alternative to desktop computer-based training



Concerns & Challenges



- Security
- Compatibility
- Personal Accountability
- Organizational Policy
- Ownership/Life Cycle Management
- Assessment & Testing
- Data at Rest & Records Management
- Connectivity & Band-width / Coverage
- User experience/Usability



Three Versions of TIP Trial



iPhone App



Android App



Browser



ADL mLearning Guide



- Released June
- Platforms
- Lessons Learned
- Next Steps



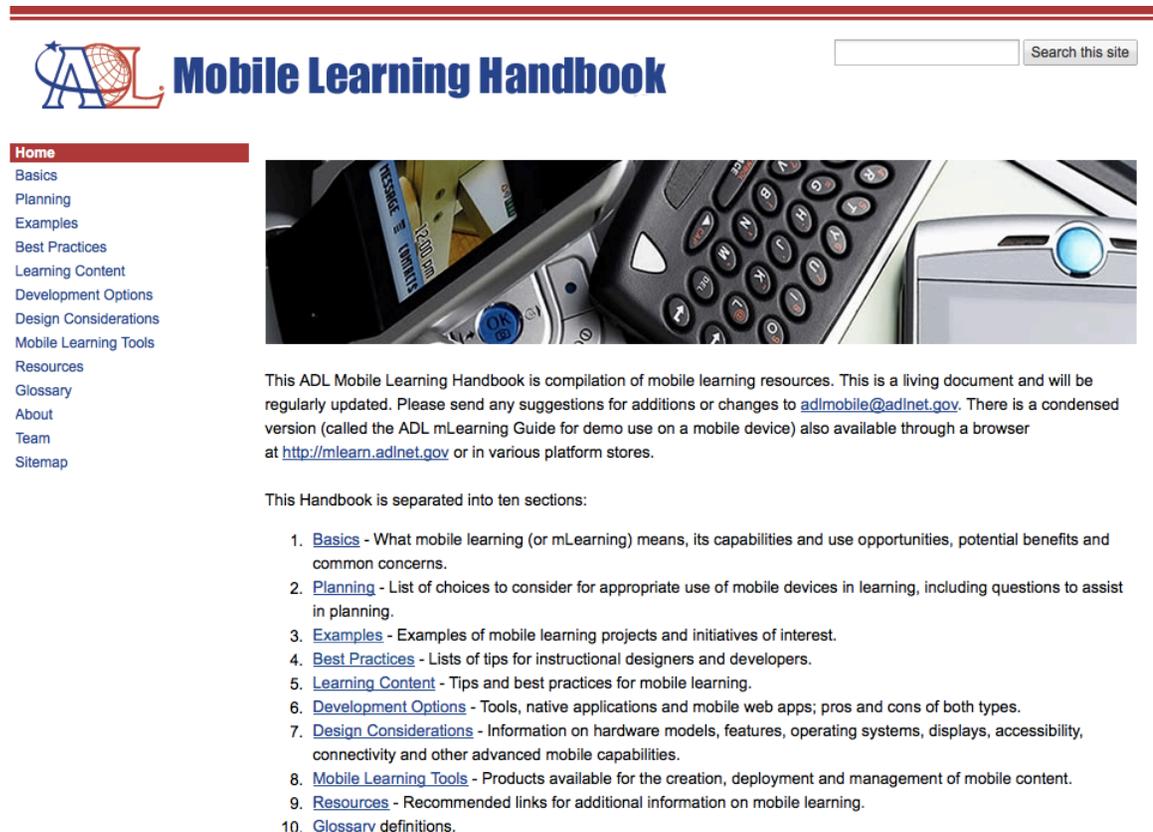
<http://mlearn.adlnet.gov>



New ADL Mobile Learning Handbook



- More comprehensive version of mobile guide
- Living document
- Seeking contributions and feedback



The screenshot shows the website for the ADL Mobile Learning Handbook. At the top left is the ADL logo, followed by the title "Mobile Learning Handbook" in blue. To the right is a search bar with the text "Search this site". Below the title is a navigation menu with the following items: Home (highlighted), Basics, Planning, Examples, Best Practices, Learning Content, Development Options, Design Considerations, Mobile Learning Tools, Resources, Glossary, About, Team, and Sitemap. To the right of the menu is a photograph of a mobile phone. Below the photo is a paragraph of text: "This ADL Mobile Learning Handbook is compilation of mobile learning resources. This is a living document and will be regularly updated. Please send any suggestions for additions or changes to adlmobile@adlnet.gov. There is a condensed version (called the ADL mLearning Guide for demo use on a mobile device) also available through a browser at <http://mlearn.adlnet.gov> or in various platform stores." Below this text is a heading "This Handbook is separated into ten sections:" followed by a numbered list of ten sections: 1. Basics, 2. Planning, 3. Examples, 4. Best Practices, 5. Learning Content, 6. Development Options, 7. Design Considerations, 8. Mobile Learning Tools, 9. Resources, and 10. Glossary definitions.

<http://mlhandbook.adlnet.gov>



Resources



guest · Join · Help · Sign In · wikispaces



- Join this Wiki
- Recent Changes
- Manage Wiki
- Search

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- Research
- Resources
- Schedule
- Stats

Mobile Learning Guide

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PROTECTED

Mobile Learning Resources

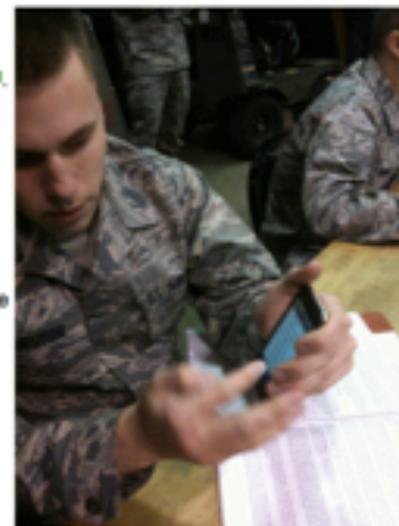
This site was created and is maintained by the [Advanced Distributed Learning](#) (ADL) Mobile Learning Team. Additionally we provide a weekly newsletter to the military and government agencies. The archives for the newsletter are publicly available [here](#). For our Twitter feed please follow [@adlmobile](#).

The ADL Mobile Learning Team's vision is to be the source of information and support for DoD mobile learning initiatives. Effective usage of handheld devices can bring us closer to improved personalized learning—the right learning resources and performance aids, to the right person at the right time and place.

The future capabilities for education and training with ubiquitous access to connected devices cannot be overestimated. Smart phone growth continues to expand in all areas, which will enable many more opportunities, many of which will spawn from innovations that cannot even be envisioned.

Driven by improved software, improved hardware, and changing habits of mobile device users; the opportunities have increased significantly for military training tailored to individuals at their moment of need. While mobile learning is not appropriate in all instances, we believe that it should be considered as an important part of the total learning and training support infrastructure.

To ADL, mobile learning is defined as the use of handheld computing devices to provide access to learning content and information resources. The



<http://adlmobile.wikispaces.com>



Weekly Newsletter



ADL Mobile Learning Newsletter

14 March 2011

Welcome to the Advanced Distributed Learning (ADL) weekly report on news from the previous week and findings of interest related to mobile learning in the military.

Mobile Learning...

- ELT needs to get a grip on smartphones - <http://www.guardian.co.uk/education/2011/mar/08/mobile-learning-technology-apps-moore>
- Mobile Learning: Learners As Informed Consumers, Creative Producers, and Active Participants - <https://usergeneratededucation.wordpress.com/2011/03/09/mobile-learning-learners-as-informed-consumers-creative-producers-and-active-participants/>
- Creating Mobile Learning Apps Adds Another Layer to Learning - <http://mindshift.kqed.org/2011/03/using-mobile-apps-are-fun-but-creating-them-is-even-better/>
- Designing for Mobile Web - <http://sxsxw.notesee.co/sxsxw-interactive-2011/designing-for-mobile-web/9/mobile-learning-using-sms-in-educational-contexts>
- Desire2Learn Learning Suite Expands Mobile Support - <http://campustechnology.com/articles/2011/03/07/desire2learn-learning-suite-expands-mobile-support.aspx>
- Mobile Learning & the Evolution of Content Delivery - <http://www.mobl21.com/blog/10/mobile-learning-the-evolution-of-content-delivery/>
- Ten Questions about Mobile Learning [slides] - <http://www.slideshare.net/alexandrapickett/mobile-learning-7233882>
- Training Programs Around Mobile Learning [Liveblogging ACUConnected] - <https://techtrainingzen.wordpress.com/2011/03/11/acuconnected-mobiletraining/>

News Stories of Interest...

- Adobe Begins Shipping Tablet Publishing Software - <http://www.pcmag.com/article2/0,2817,2381579,00.asp>
- Apple iOS4.3 mobile operating system released early - <http://www.telegraph.co.uk/technology/apple/8372732/Apple-iOS4.3-mobile-operating-system-released-early.html>
- Battle of the Tablets - <http://www.juniperresearch.com/analyst-xpress-blog/2011/03/10/battle-of-the-tablets/>

<http://research.adlnet.gov/newsletter/mobile>



Questions / Discussion



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