Academic ADL Co-Lab

Future Opportunities in M-Learning

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May 18, 2005

Future Opportunities

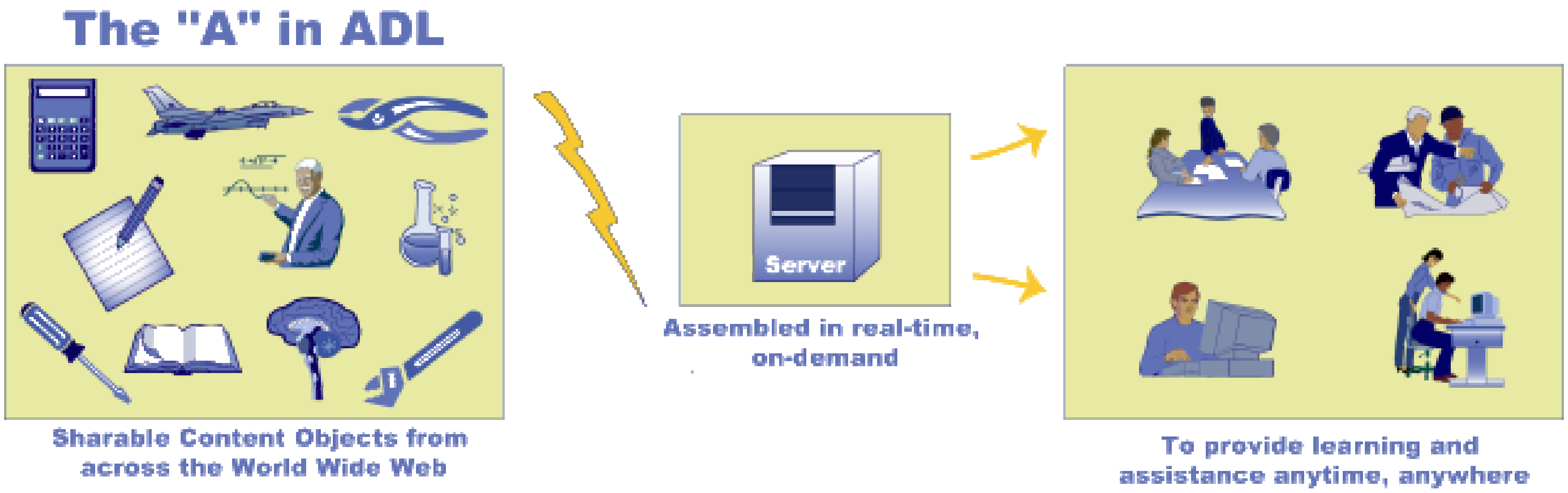
- Background
- Trends
- Devices
- m-Learning Opportunities
  - Hardware
  - Communications
  - Content
- Discussion

Advanced Distributed Learning's Vision

The ADL Vision:

Provide access to the highest quality education, training and performance aiding, tailored to individual needs, delivered cost effectively, anytime and anywhere.

Toward the ADL Vision

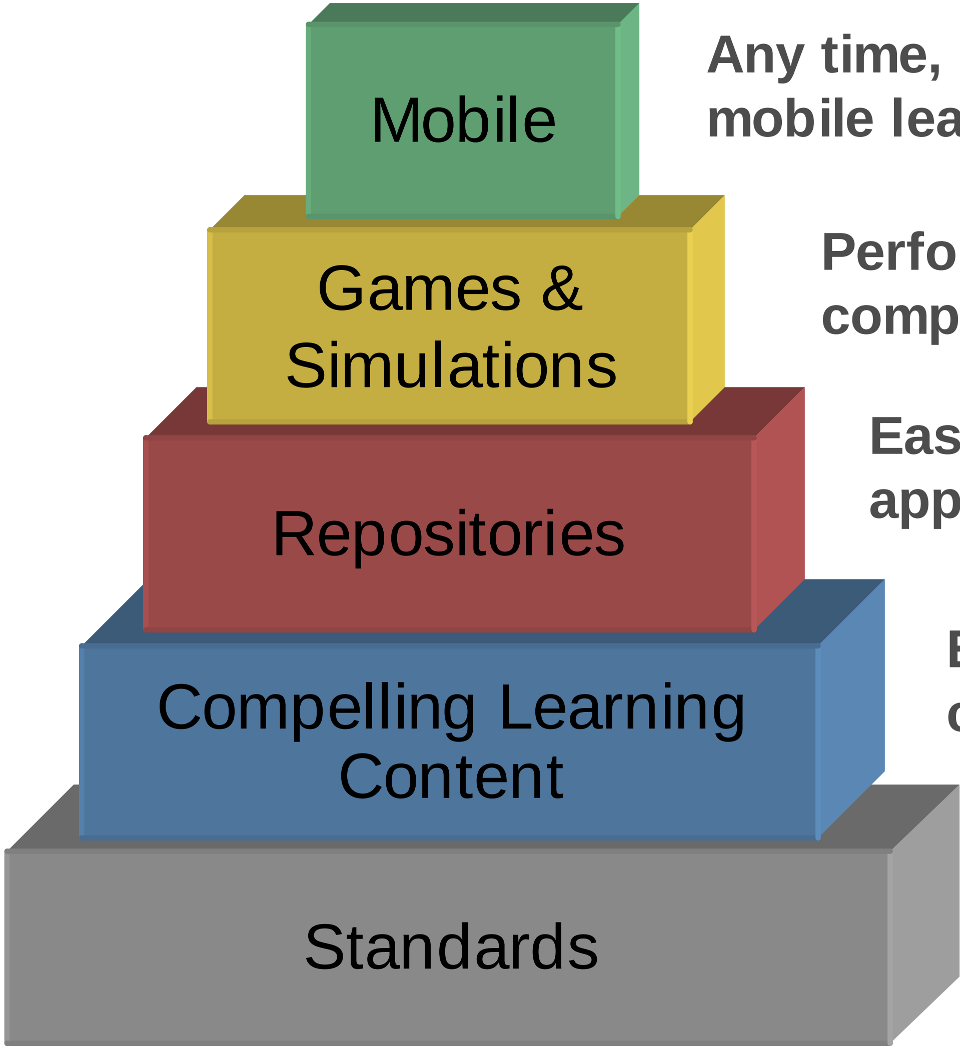


CORDRA

SCORM™

- Mobile Learning
- Collaboration
- On Demand Learning

Academic ADL Co-Lab Initiatives



Any time, any where mobile learning

Performance before competency

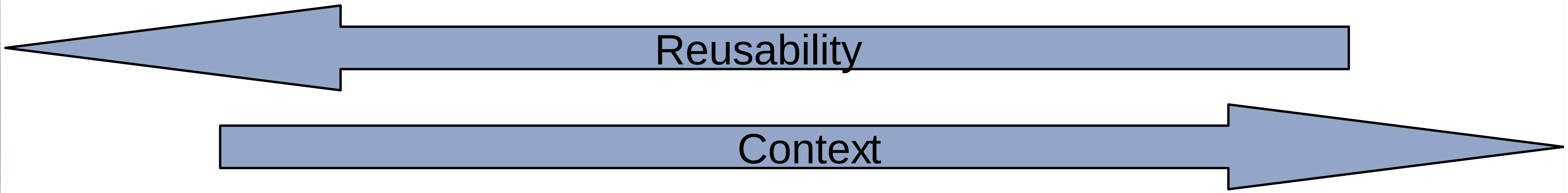
Easily locate the appropriate content

Engage learners with competency modules

Interoperability and reusability

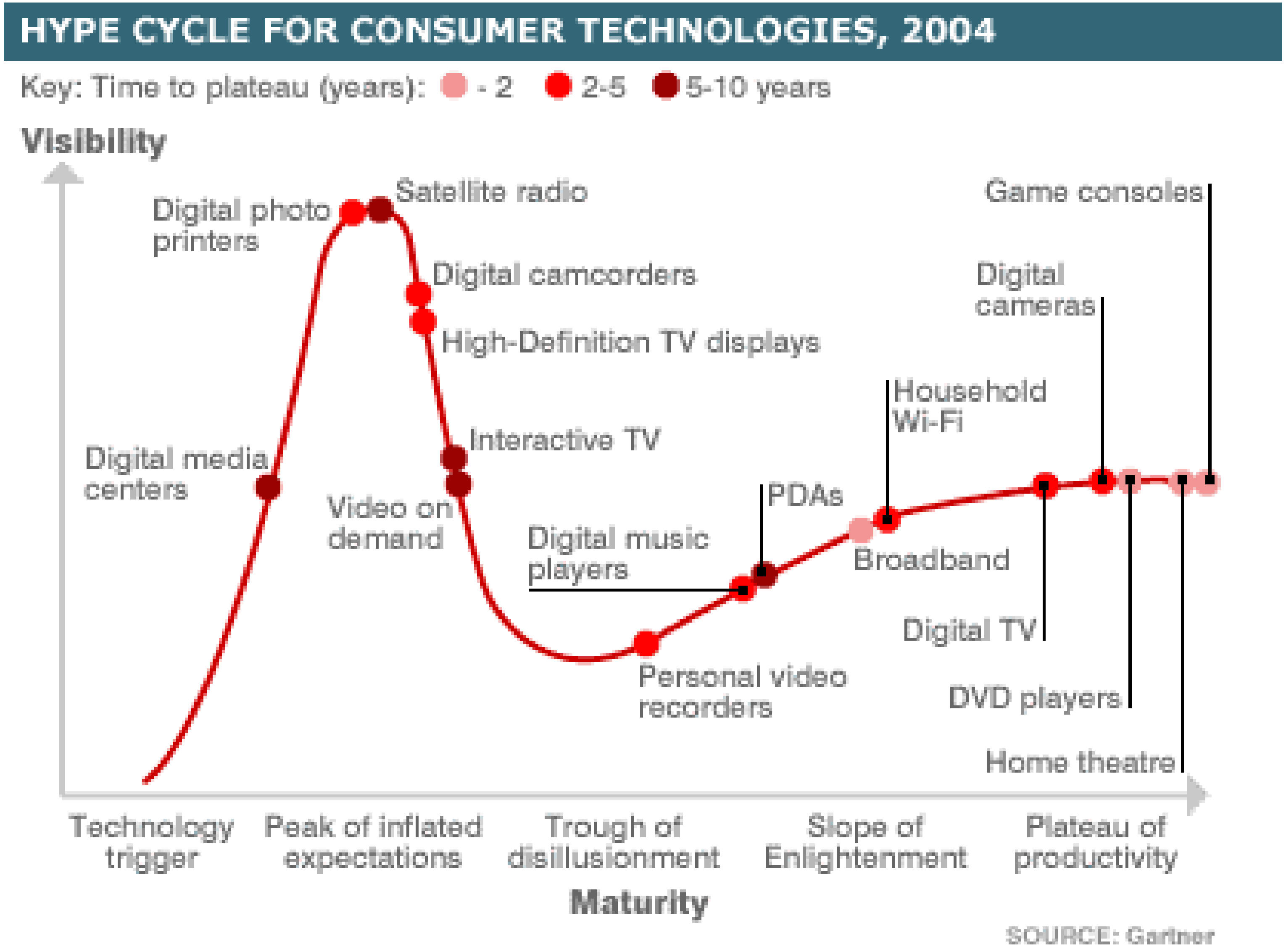
Modular Content Hierarchy

Raw Data (Media Elements)	Information Objects	Learning Objective	Lesson (Aggregation)	Course (Collection)



Source: Academic ADL Co-Lab (adapted from Learnativity)

Industry Status

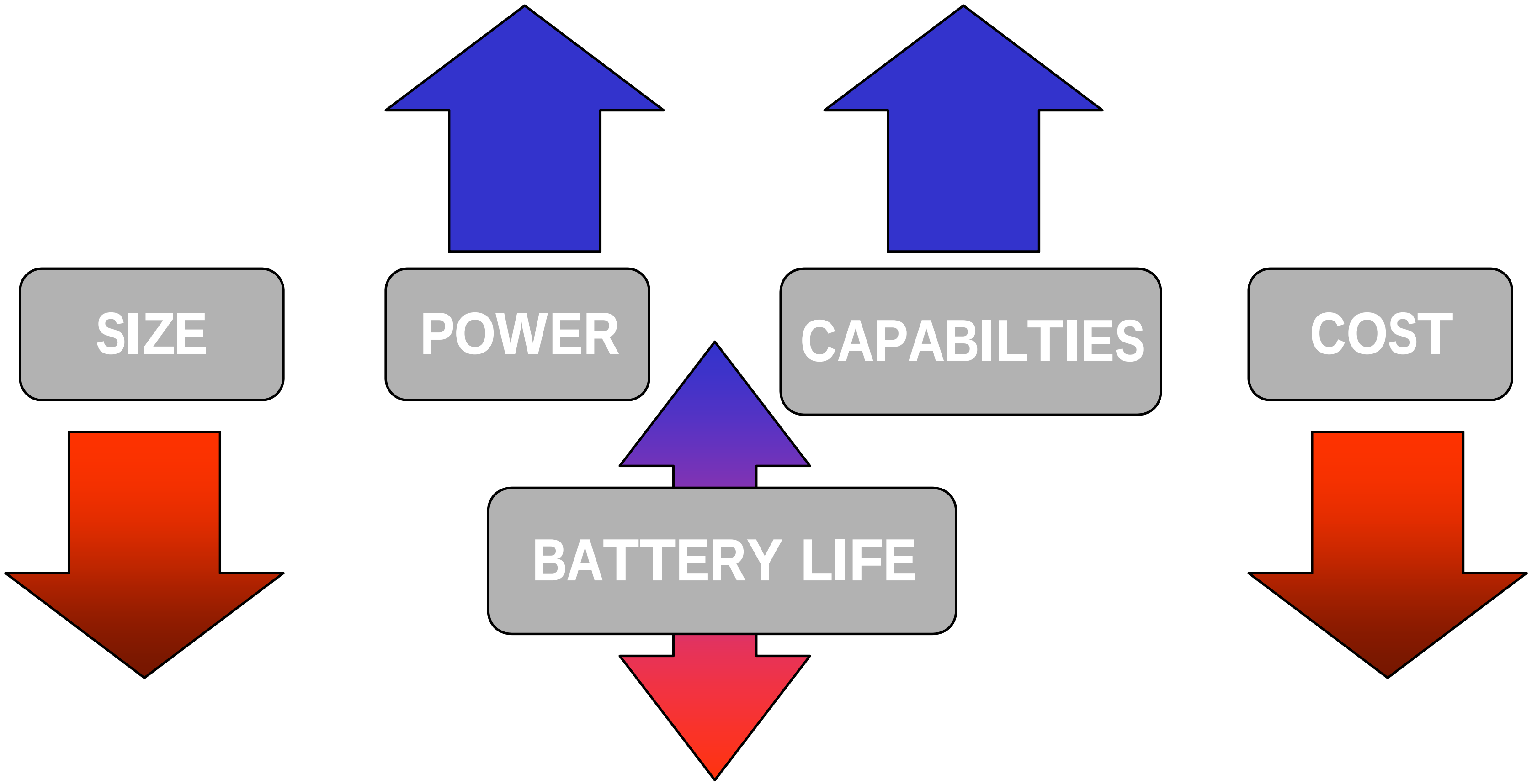


Prediction

"We believe that within a reasonable time frame (10 to 20 years), wireless and mobile learning will completely overlap, creating one global mobile campus."

Educause Center for Applied Research
ECAR Case Study 2, 2005

Trend: More for Less



Devices Today

Prediction

Gartner believes “in four or five years, global sales of ‘smartphones’ will reach 170 million, compared with slightly more than 20 million this year [2004].”

Mobile Technologies and Learning

Jill Attewell

Windows Mobile 5

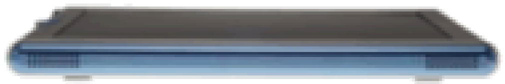
- Hard drive support
- 30% battery improvement
- Improved apps
- Persistent memory storage

More Devices

Maestro

- Handheld PC for blind and visually impaired
- Based upon HP iPAQ Pocket PC h4150

Platforms: Tablet PC and Wearable



OQO

MIT Media Lab $100 Laptop

- Announced by Nicholas Negroponte, Lab chairman in January 2005
- Linux-based
- Full-color, full-screen laptop
- Innovative power (including wind-up)
- WiFi- and cell phone-enabled
- USB ports
- 500MHz, 1GB, 1 Megapixel
- End 2006 or early 2007

http://laptop.media.mit.edu/

Video Players

Fly

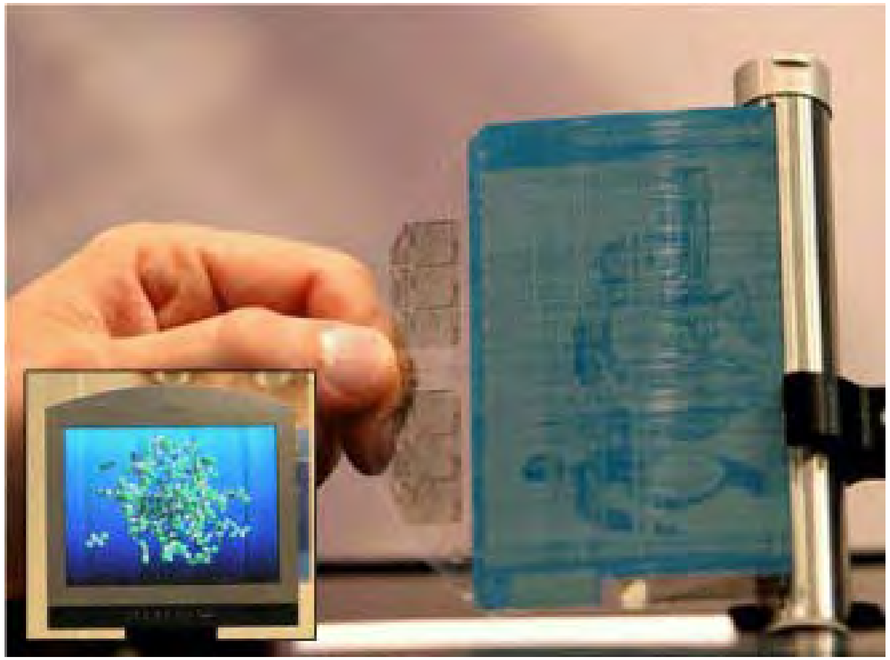
http://www.usatoday.com/money/industries/technology/2005-01-17-leapfrog-usat_x.htm

- **Will pen be mightier than other toys?**
- By Edward C. Baig, USA TODAY
- LeapFrog Enterprises bets the next great computing platform will be none other than pen and paper
- Fly gives users immediate audio feedback as they write or draw on special dotted paper.
- Last week in New York, the company unveiled a talking pen-top computer called Fly that can translate a written English word into Spanish. Users can sketch a piano keyboard and play it, or draw a calculator to solve arithmetic problems. The digital pen, which resembles a small electric toothbrush, barks out the answers in a male voice. LeapFrog is planning to release the device this fall.
- The $99 pen employs character-recognition software as it tracks positions across a page when using special paper.

New Shipping Devices

Photo Credit: Leslie Walker, Washington Post

Input / Output



Improving User Experience

- F-Origin IRIS
- Motion control technology
- Users can rotate the device 90,180, or 270 degrees with corresponding orientation change on the screen.

Pocket Projector

- Lumileds Lighting in San Jose, CA, prototype
- Image projected onto any white surface
- Mitsubishi lab also building a smaller projector, about the length and width of a credit card.
- Available within the next three years
- Light Blue Optics holographic miniprojector

Cell Phone with Built-in Projector

http://www.physorg.com/news3505.html

Nintendo's DS and Sony's PSP

Brandy Baker / The Detroit News

You Ain't Seen Nothin' Yet

- Viewing screens made of water vapor
- Flexible computer displays
- Inconspicuous glasses to view data
- Matchbox or pocket-sized overhead projectors

- Sanswire unveiled the first stratellite, a blimpish looking craft to provide wireless service to an area the size of Texas

from a computer on every desktop …

…to a computer in every palm

Mark Anderson

"For the first time in history, we are no longer limited by our teachers' ability and knowledge."

m-Learning Drivers

- Could have devices
- Disconnected user
- Use when needed or available time
- Modular content
- Wireless access
- Automated delivery

- Convenience
- Instant on
- Performance
- On demand
- Personal
- Responsive

Learning Environment Goals

- Continuous: where learning is not dependent on time and place
- Relevant: where content, curriculum and tools are current and relevant
- Adaptive: where instruction adapts to the needs of the individual student

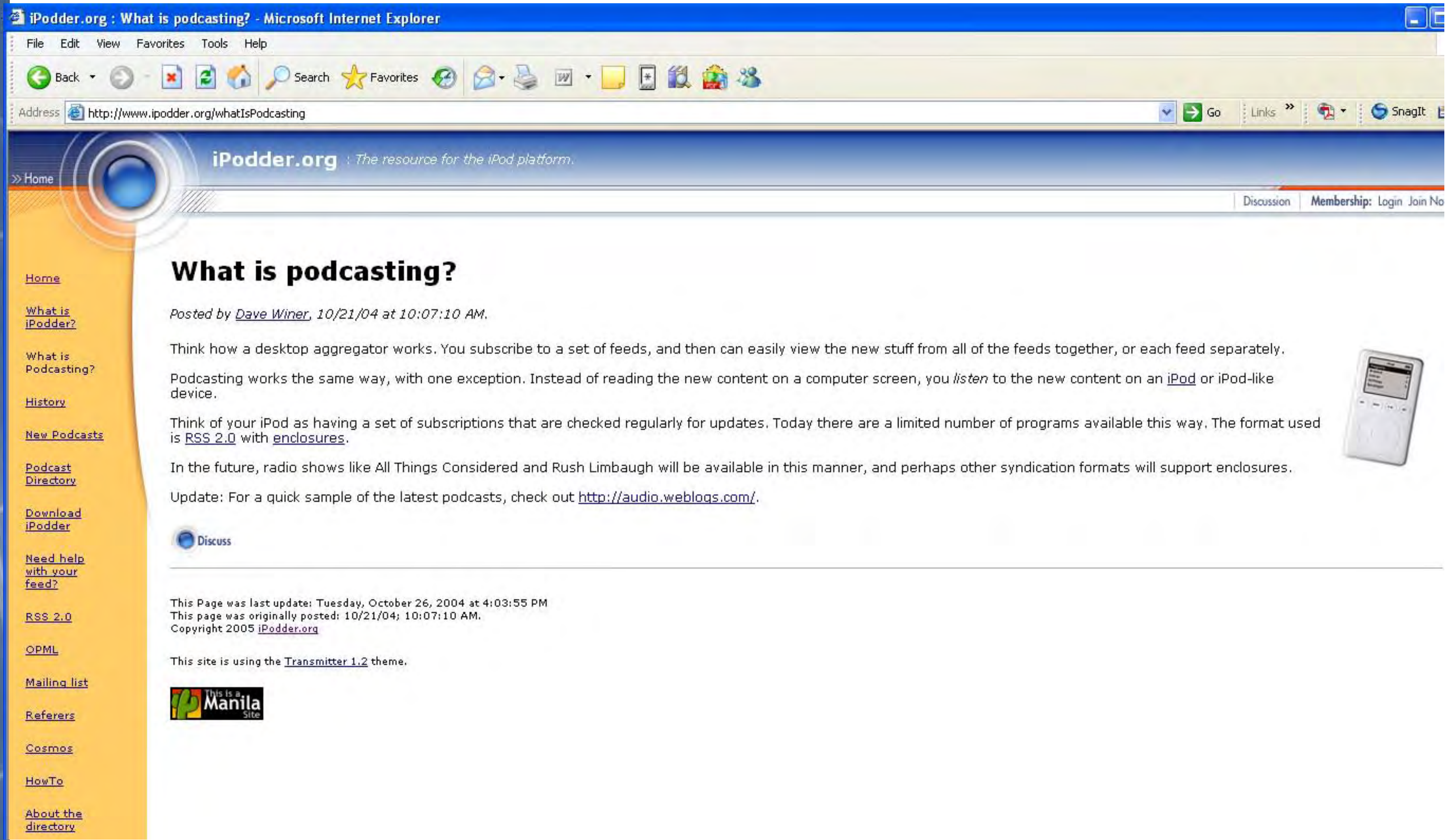
m-Learning Opportunities

- Hardware
- Communications
- Content

Communication Today

- Instant messaging
- Pagers
- Cell phones
- Text messaging

Podcasting – ipodder.org



Also http://www.podcastalley.com/podcast_software.php

PodCast Categories

- Agriculture
- Animals
- Audio Blogs
- Audio Books
- Aviation
- Beer
- Books
- Business
- By Region
- College Radio
- Columns
- Comedy & Humor
- Computers
- Couples
- Culture
- Current Affairs
- Drama
- DVD
- Educational
- Entertainment
- Extreme Sports
- Family
- Finance
- Food
- Gadgets
- Games
- Golf
- Gossip
- Guide
- Hacking
- Health and Fitness
- Interview and Biography
- IT Conversations
- Languages
- Law
- Life
- Marketing
- Media
- Mobile
- Movies
- Music
- Music Podsafe
- Other Directories
  - Digital Podcast Directory
  - Podcasters.org
  - iPodderX Top Picks
  - Pod Keywords
- Photography
- Philosophy
- Playlists
- Poetry
- Politics
- Quotes
- Radio
- Religion
- Science
- Science Fiction
- Sex
- SoundSeeing
- Sports
- Storytelling
- Technology
- Travel
- TV
- Video
- Weather
- Wine
- Women

Access Through a Repository

Recommendations

- Look for opportunities
- Focus on user’s context and needs
- Build content in modular formats
- Assess readiness
- Begin with pilot initiatives
- Follow the market and be ready to move

Resources: www.academiccolab.org

About Us Contacts Site Map Home

ACADEMIC ADVANCED DISTRIBUTED LEARNING CO-LAB

PARTNERS RESOURCES INITIATIVES EVENTS

Spotlight

- Games, Learning and Society Conference
- SCORM School
- GAPPS webcast
- Student Employment Opportunity
- Current Newsletter

The Academic Advanced Distributed Learning (ADL) Co-Lab serves as the focal point for academia in promoting high quality, reusable content for distributed learning. This Co-Lab is the ADL academic link to test, evaluate and demonstrate ADL-compliant tools and technologies to enhance teaching and learning. It also serves as an academic demonstration site for ADL tools and content, including those developed by the federal government, academia, and industry.

While the focus remains on compelling content based upon standards, the Academic ADL Co-Lab concentrates on repositories, mobile learning, and games and simulations for learning.

Working as a partner with the Department of Defense ADL Co-Laboratory in Alexandria, Virginia and other two node Co-Labs, the Academic ADL Co-Lab supports and collaborates on the research, development, demonstration, assessment, and implementation of ADL tools and content on projects of relevance to participating organizations.

Resources: Newsletter

ACADEMIC ADL CO-LAB NEWS REPORT: No. 260-050516

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The Academic ADL Co-Lab News Report is a limited-distribution, weekly executive summary of trends, strategies and innovations influencing the future of learning and technology in higher education. It is prepared by the University of Wisconsin System OLIT (Office of Learning and Information Technology) in coordination with the Co-Lab, supported by the Alfred P. Sloan Foundation and the Sloan Consortium and shared with the Academic ADL Co-Lab partners. A searchable archive is available to partners at http://partners.academiccolab.org/.

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EDUCATION

- A Funny Thing Happened On the Way to the Classroom
- 'Interactive Teaching' Engages Learners
- Fair Use Sought Under DMCA
- Michigan, Indiana Mull 1-to-1 Computing Plans
- eLearning Technologies: Opportunity for Schools, HEIs to Reduce Long-Term Costs
- Green Light for Open Source in Schools
- U Of Maine To Require IBooks For Teachers-to-be
- Athletics Fraud in the Digital Age
- Cloaked in Cyberspace
- PTU to Revamp Its Distance Education Programme
- College Libraries Set Aside Books in a Digital Age

GAMES AND LEARNING

- Schools Experiment with Tech Toys as Educational Tools
- Xbox 360 Launch Gets Jump on Rivals
- Want to Exercise Your Mind? Try PlayStation
- Interactive Video Game Impacts Learning in Real World Classrooms

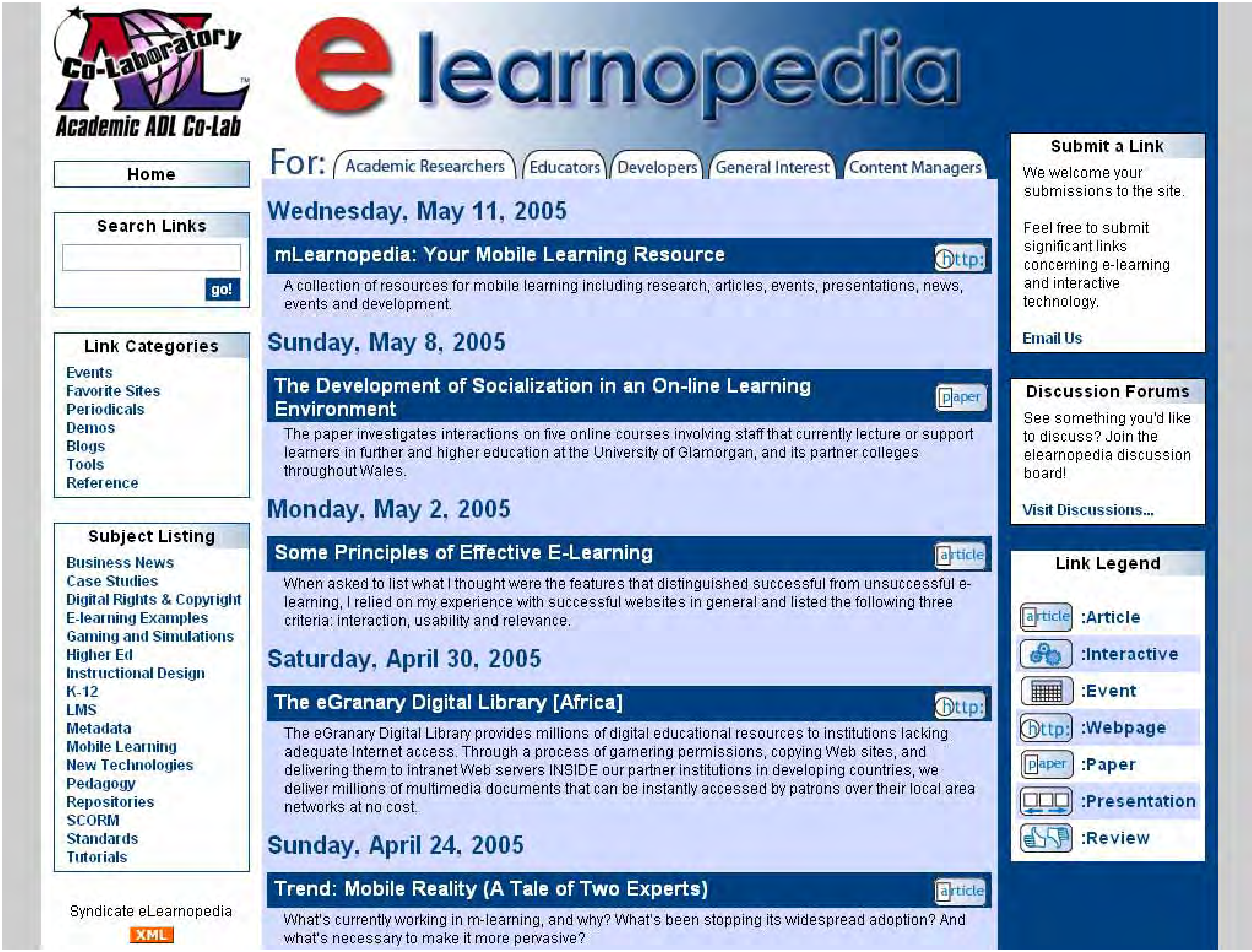
TECHNOLOGY

- Toshiba's New DVD Can Store 12-Hour HD Video
- PDF Tools Seek to Undercut Acrobat
- Security Group Wants Congress to Realize VoIP's Vulnerabilities
- Gates: iPod Craze Won't Last Long
- Apple iTunes Sales Sail Past 400m
- Microsoft Readies a 'Lean' Windows Client
- Why We'll Soon See a Boom in Flat-Panel TVs, Monitors
- Microsoft, Sun Join Hands on Directories
- Secrets of Screencasting
- Microsoft, Toshiba Ink Cross-Licensing Deal

INTERNET/WIRELESS RELATED

- Microsoft Releases Windows Mobile 5.0

Resources: www.eLearnopedia.com



Resources: www.mLearnopedia.com

mLearnopedia: Your Mobile Learning Resource

Intro | Development | Events | Examples | News | Presentations | Research | Resources

Introduction

Mobile Learning

Handheld computers have several unique form factors that suggest further intriguing educational opportunities. Klopfer, Squire, Holland, and Jenkins (2002) describe five properties of handheld computers that produce unique educational affordances:

Portability - can take the computer to different sites and move around within a location
Social Interactivity - can exchange data and collaborate with other people face to face
Context Sensitivity - can gather data unique to the current location, environment, and time, including both real and simulated data
Connectivity - can connect handhelds to data collection devices, other handhelds, and to a common network that creates a true shared environment
Individuality - can provide unique scaffolding that is customized to the individual's path of investigation.

mLearnopedia.com is an attempt to bring together the leading resources in the area of mobile learning so that we can better learn from one another. Please send any additional links that you feel may be of benefit to others in this fast growing area.

Devices

These devices can take the form of handheld computers or personal digital assistants, mobile phones including the new Smartphones, audio players (such as the Apple iPod), video players, Tablet PCs, and even wearable devices. They can be connected through a desktop, a laptop, or a network, either wired or wireless. They can be standalone and possibly synchronized periodically, intermittently connected to a network, or always connected.

Presence

http://www.ercim.org

- **Special Theme: Applications and Service Platforms for the Mobile User**
- In Search of Knowledge about Mobile Users
- UKontti - Context-aware Mobile Portal
- mBlog: a Mobile Information Service for All
- Sentient Objects: Towards Middleware for Mobile Context-Aware Applications
- Object-driven Application Design: from Mobility towards Ubiquitousness
- A Mobile Schema Browser for Integration Specialists
- Values of Mobile Applications to End-Users

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Questions

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http://www.academiccolab.org