

Pemanfaatan Teknologi untuk Menunjang Persiapan Calon Guru dalam Mengajar

“Guru Melek Teknologi dan e-Learning Sekolah”



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Teknologi e-Learning

akses



Konten)

E-learning FPMIPA UPI (Universitas Pendidikan Indonesia): Kuliah

Anda login sebagai Wawan Setiawan. (Keluar)

FPMIPA » Kategori Kuliah » Ilmu Komputer Hidupkan Mode Ubah

Kategori Kuliah: Ilmu Komputer

Halaman: (Sebelumnya) 1 2 3 4 5 (Selanjutnya)

Kuliah	
Struktur Data (Rasim) - (Under Construction)	 
Praktikum Algoritma dan Pemrograman	 
Struktur Data Genap2008/2009	 
Sistem Basis Data (Genap 06/07)	 
Praktikum Konsep Teknologi	 
Praktikum Pengantar Teknologi Informasi dan Komunikasi	 
Praktikum Rangkaian Elektronika	 
Web Design	 

Akses

- Mengakses informasi/pengetahuan, kini sudah dilakukan oleh siapa saja bahkan bisa terjadi anomali (saking mudahnya mengakses).
 - Komunikasi (Communication)
 - Perangkat (Device)



Teknologi Komunikasi

- Non-interaktif
- Radio, TV, media cetak

■ Interaktif

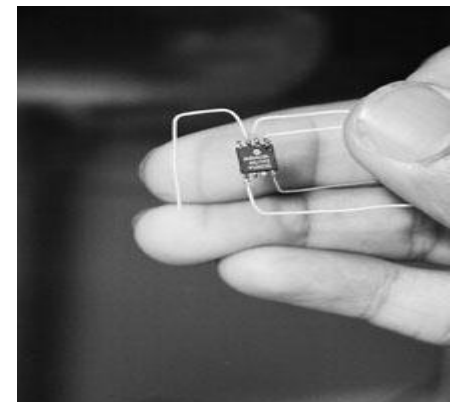
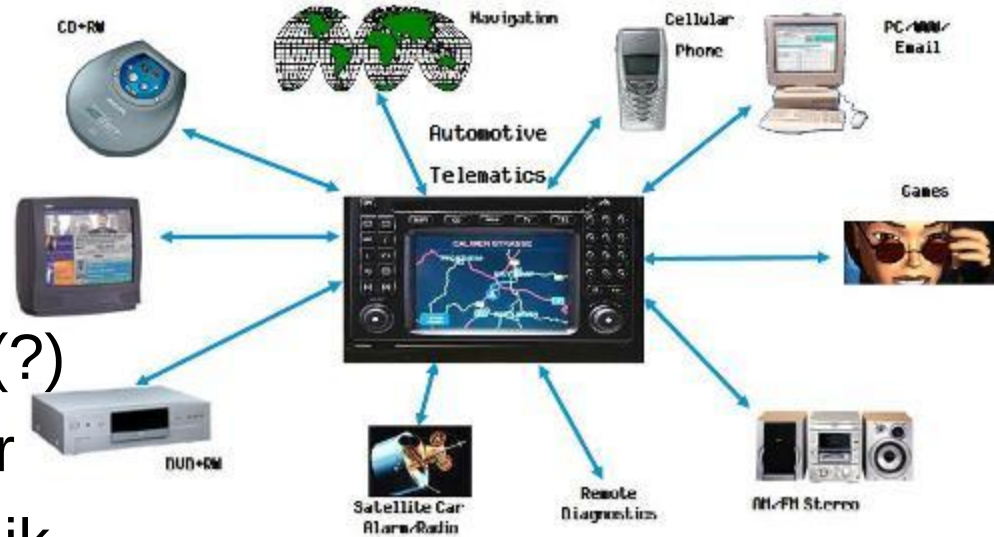


- Suara: telepon
- Data:
 - ☐ Fixed Internet
 - ☐ Wireless: GPRS/CDMA

Perangkat Pengakses

■ Interaktif

- Telepon
- Komputer multimedia(?)
- PDA / Telepon Seluler
- Kios Info / Akses Publik
- Perangkat khusus: kertas elektronik



Penyimpanan Data (Storage)



- Kapasitas disk meningkat 3 kali / tahun
- Ukuran makin kecil & harga terjangkau

- ☐ CD-ROM

- ☐ DVD

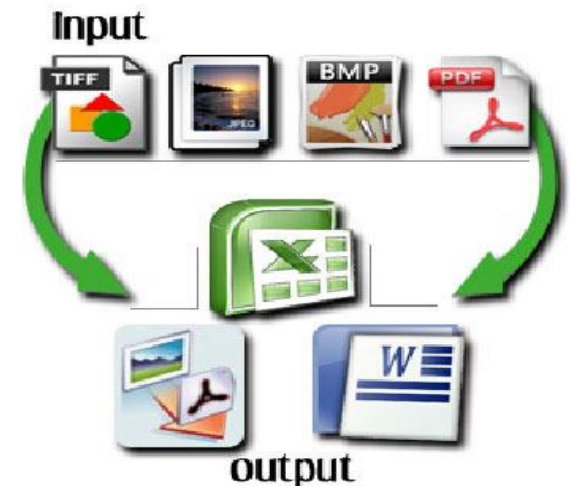
- ☐ Flash Disk / USB

- ☐ Memory dalam telepon, kamera digital



Format dari data

- Format analog menjadi format digital yang memudahkan untuk diakses dari jarak jauh
- Dibutuhkan format yang standar, *portable* dan berukuran kecil agar dapat dipertukarkan
- Contoh format
 - Format proprietary dari Microsoft (Office), ebook
 - Adobe PostScript (PS), PDF
 - Format portable: HTML, XML
 - Grafik: GIF, JPEG, PNG
 - MP3 (audio)



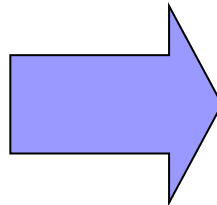
Pengolahan Data

- Semakin banyak jumlah data / informasi yang tersedia, semakin sulit untuk mengelolanya
 - Content Management System (CMS)
 - Data warehouse, data mining
 - Perpustakaan digital?



Definition:

- **e-Learning** is one of the teaching and learning types that allows materials to be accepted by students using the internet media, intranet or other computer network media (*Hartley, 2001*).
- **e-Learning** is the education system using the electronic application to supporting the teaching and learning with the internet media, the computer network, as well as the standalone computer (*Glossary, 2001*)



The two types of e-learning

□ Synchronous e-learning

The learning process between the teacher and the students occurs at the same time.

For example: web seminar, web conference.

□ Asynchronous e-learning

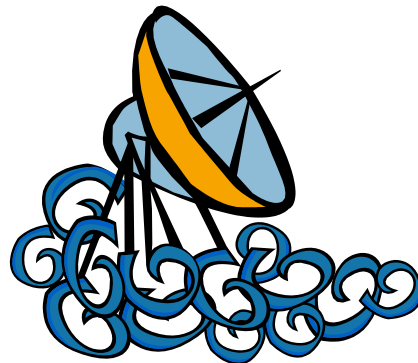
The learning process between teacher and students are not happen simultaneously.

Note: The type has been selected will determine the implementation strategy.

e-Learning (3)

The Advantages

- ☐ Save the costs
- ☐ Time flexibility
- ☐ Place flexibility
- ☐ Speed learning flexibility
- ☐ Teaching standardization
- ☐ Teaching effectiveness
- ☐ Distribution speed
- ☐ Availability of *on-demand*
- ☐ Administration process automation
- ☐ Student centre



The Limitedness

- ☐ Learning culture problems
- ☐ Early investments costs relatively expensive
- ☐ Technology limitedness
- ☐ Internet infrastructure
- ☐ Not all the material match with the e-learning

e-Learning (4)

Must be considered on the e-Learning



- E-learning must be able to producing interaction between the students with their community in the developing and exchanging the knowledge.
- E-learning must be able to show the strengths and able to overcome the weakness from the web-based learning to creating the conducive learning environment.
- E-Learning must be able to consider that students have: (1) Learning strategies, (2) knowledge, (3) Attitude.



e-Learning (5)

LMS (**L**earning **M**anagement **S**ystem) is the application automate and make virtualization teaching and learning process electronically

LMS Features:

☐ **Teaching and learning completeness features:**

List of the lessons and category, syllabus of the lessons, Lecture material (based text or multimedia), List of reference or reading material

☐ **Discussions and communication features:**

Discussion forum or mailing list, instant messenger for real-time communication, notice boards, profile and instructor contact, file and directory sharing

☐ **The exam and assignment features:**

Exam, Assignment, report and assessment

Standard of LMS

Organization and consortium for e-Learning standards :

- ❑ Advanced Distributed Learning (ADL) (<http://adlnet.org/>)
- ❑ Aviation Industry CBT Committee (AICC) (<http://aicc.org/>)
- ❑ IEEE Learning Technology Standards Committee (IEEE LTSC) (<http://ltsc.ieee.org/>)
- ❑ IMS Global Consortium (IMS) (<http://imsproject.org/>)

LMS Application:

Proprietary

Saba Software

(<http://www.saba.com/>)

Apex Learning

(<http://www.apexlearning.com/>)

Blackboard

(<http://www.blackboard.com/>)

IntraLearn (<http://intralearn.com/>)

SAP Enterprise Learning

(<http://www.sap.com/solutions/business-suite/erp/hcm/learningsolution/index.epx>)

Open source

ATutor (<http://www.atutor.ca/>)

Dokeos (<http://www.dokeos.com/>)

dotLRN (<http://dotlrn.org/>)

Freestyle Learning (<http://www.freestyle-learning.de/>)

ILIAS (<http://www.ilias.uni-koeln.de/>)

LON-CAPA (<http://www.lon-capa.org/>)

Moodle (<http://moodle.org/>)

OpenACS (<http://openacs.org/>)

OpenUSS

(<http://openuss.sourceforge.net/openuss>)

Sakai (<http://www.sakaiproject.org/>)

Spaghetti Learning

(<http://www.spaghettilearning.com/>)

The Moodle?

- ❑ Moodle (*Modular-Oriented Dynamic Learning Environment*) is the software packet has been produced for learning activities based web/internet using the principles pedagogy.
- ❑ Open source under GNU license
- ❑ Version 1.0 has been pioneered by Martin Dougiamas on the August 2002
- ❑ In the July 2008 has been registered as much as 47477 sites using the Moodle



Advantages of LMS by Moodle

- ❑ Simple, efficient, easy and compatible with many browsers and OS.
- ❑ Easy to install and supports many language
- ❑ Availability of site management to setting the overall site, changing the theme or the site templates, adding the modules, etc.
- ❑ Availability the user management.
- ❑ The lesson management /the teaching materials, addition/reduction/alteration of the lesson types/teaching materials.
- ❑ Many providing the modules : chart, polling, forums, journals, quizzes, surveys, workshop etc.
- ❑ Free and open source software

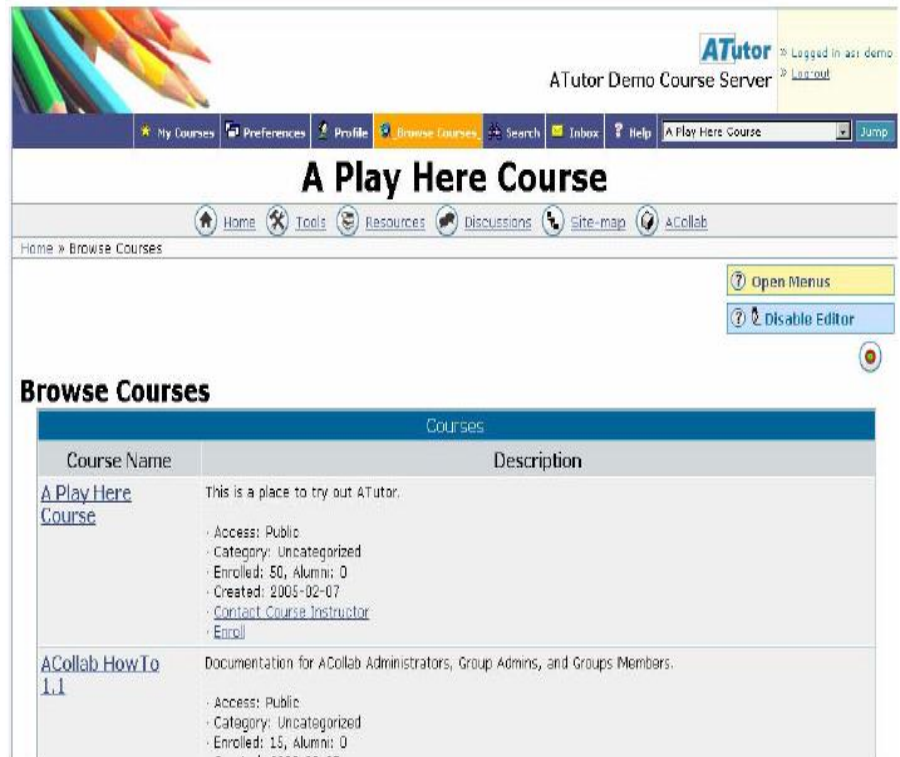
e-Learning (10)

Samples of free e-Learning software



The screenshot shows the Moodle LMS interface. At the top, it says "What is Open Source software?" and "You are logged in as Guest User (Login)". Below this, there's a navigation bar with "Moodle » Open Source". The main content area is divided into three columns. The left column has a "People" section with "Participants" and "Edit profile", and an "Activities" section with links to "Assignments", "Chats", "Choices", "Forums", "Glossaries", "Journals", "Quizzes", "Resources", "Surveys", and "Workshops". The middle column has a "Topic outline" section with a "Welcome!" message and an "open source" logo. Below this, there's a "Latest news" section with a message from Martin Douglaas. The right column has an "Upcoming Events" section with "Open Chat" and "Irish MoodleMoot". At the bottom, there's a "Recent activity" section with a list of recent posts.

Gambar 3: Moodle - Learning Management System (LMS) Berbasis Opensource
[<http://moodle.org>]



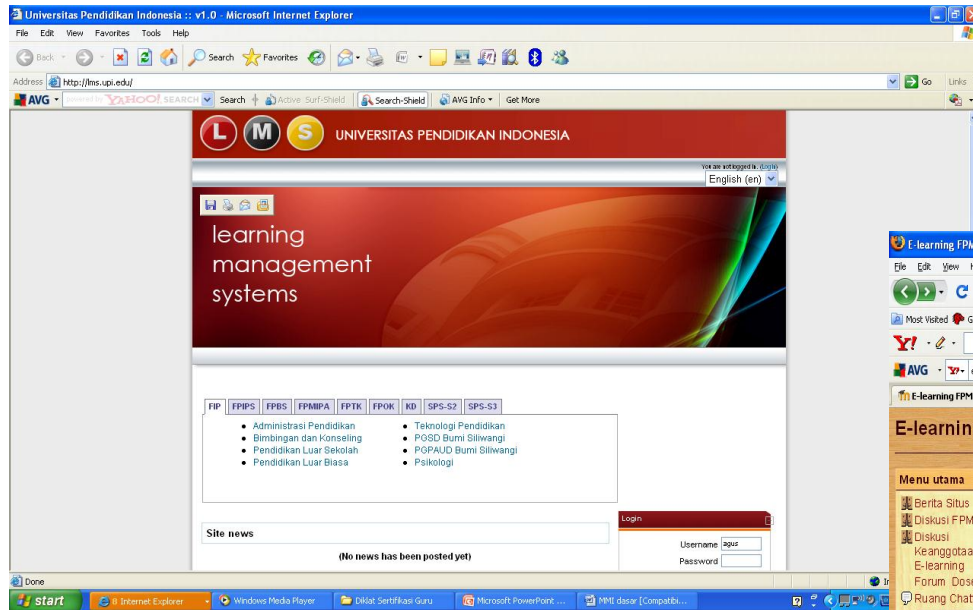
The screenshot shows the ATutor LMS interface. At the top, it says "ATutor Demo Course Server". Below this, there's a navigation bar with "My Courses", "Preferences", "Profile", "Browse Courses", "Search", "Inbox", "Help", and "A Play Here Course". The main content area is divided into two sections. The top section is titled "A Play Here Course" and has a navigation bar with "Home", "Tools", "Resources", "Discussions", "Site-map", and "ACollab". Below this, there's a "Browse Courses" section with a table of courses.

Course Name	Description
A Play Here Course	This is a place to try out ATutor. - Access: Public - Category: Uncategorized - Enrolled: 50, Alumni: 0 - Created: 2005-02-07 - Contact Course Instructor - Enroll
ACollab HowTo 1.1	Documentation for ACollab Administrators, Group Admins, and Groups Members. - Access: Public - Category: Uncategorized - Enrolled: 15, Alumni: 0 - Enroll

Gambar 4: ATutor: Learning Content Management System (LCMS) Berbasis Opensource
[<http://atutor.ca>]

e-Learning (11)

Samples of e-Learning software:



<http://lms.upi.edu/>



<http://fpmipa.upi.edu/kuliah/>

Useful Websites

- ☐ PheT (<http://phet.colorado.edu>)
- ☐ Hyperphysics (<http://hyperphysics.phy-astr.gsu.edu>)
- ☐ Curriki (<http://www.curriki.org>)
- ☐ Cambridge (<http://www.cie.org.uk>)
- ☐ Mutimedia (<http://www.merlot.org/merlot/index.htm>)
- ☐ Physics misconception
(<http://www.physics.montana.edu/physed/misconceptions/index.html>)
- ☐ Fisika Asyik
(<http://www.fisikaasyik.com/home02/index.php>)
- ☐ HFI (<http://hfi.fisika.net/>)
- ☐ Fisika Net (<http://www.fisikanet.lipi.go.id/>)

Persoalan

- Konten (akademik) masih kurang banyak
- Mind Set yang belum nyambung
- Harga / biaya akses masih “relatif mahal” di beberapa tempat
- Infrastruktur pendukung belum memadai di beberapa tempat



Penutup

- Teknologi e-Learning sangat mendukung
- Mapannya e-Learning bukan masalah teknologi, melainkan masalah kultural
 - Bukan kultur membaca
 - Kurang rasa berbagi
- Kuasai konteks learning dengan baik
- Masih dibutuhkan pertemuan fisik

