



# Software Platform to Build a Web-Based Education System

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# What makes the Internet the ultimate teaching and learning tool? It is an:

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- open,
- distributed,
- dynamic,
- globally accessible,
- filtered,
- interactive,
- multimedial,
- archival environment.



# Purpose of presentation

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- Many technologies were created which can be used to create distant learning system.
- This presentation is made as help to people who want to develop such system.



# Planning and Design

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- Variation between different kinds of software may be significant, making the selection of appropriate software important.
- What do I need?
- How much will I spend?
- Is distance learning worth it?



# Comparison of Online Course Delivery Software Products

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- Developmental Features
- Instructional Features
- Student Tools
- Instructor Tools
- Administrative Features
- Administrator Tools
- Technical Support
- Software Costs
- Hardware Costs



# TWO CHOICES

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- **component**, off-the-shelf software that allows for the creation of course materials, audio slide lectures, animations, discussion forums, chat groups, e-mail, and so forth, or
- **integrated packages** that contain a number of the same features, but are lacking in other significant areas



# Course server software for online teaching

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- **Commercial products**

- product bombardment (more than 2 000)

- **OpenSource**

- build it together with others schools (Open Source/Higher Education initiative)



# Commercial products

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- WebCT (<http://www.webct.com/>)
- TopClass (<http://www.wbtsystems.com/>)
- Blackboard (<http://www.blackboard.net/>)





# OpenSource

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- Freedom of Choice
  - You have a copy of the source code and a license that allows you to modify it!
  - If you want distribution media or product support, you may have to pay a fee to the vendors, but you don't have to.
- OpenSource technologies (Linux, Apache, PHP, Perl, Java, J2EE, MySQL, PostgreSQL, Ant, Smarty) are used for system development.



# Hardware requirements

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- UNIX server (Linux, Solaris)
- BSD, FreeBSD
- MS Windows (NT server, IIS, Win2000)
- CGI-enabled Web server
- LAN, WAN
- Java-enabled Web browser
- MacOS



# LINUX

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- Linux-Mandrake (<http://www.linux-mandrake.com/en/>) features an easy-to-use graphical installer and several configuration utilities that are unique to this distribution.
- Debian (<http://www.debian.org/>)
- RedHat (<http://www.redhat.com/>)
- SuSE ([http://www.suse.com/index\\_us.html](http://www.suse.com/index_us.html))



# Web development (1)

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- HTTP server
  - Apache (<http://www.apache.org/>)
- WWW Search Engine Software
  - ht://Dig (<http://www.htdig.org/>)
- Webmail
  - SquirrelMail (<http://www.squirrelmail.org/>)



# Web development (2)

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- PHP 4 (<http://www.php.net/>)
  - Smarty (<http://smarty.php.net/>)
- MySQL (<http://www.mysql.com/>)
  - phpMyAdmin (<http://www.phpmyadmin.net/>)
- PostgreSQL (<http://www.postgresql.org/>)
- Java (JVM)
  - J2SE (<http://java.sun.com/j2se/>)
  - Tomcat (<http://jakarta.apache.org>)
  - Apache Ant (<http://jakarta.apache.org/ant/>)
- Perl (<http://www.perl.com/>) CGI
- XML (<http://xml.com/>)



# Web Content Management System

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- uPortal (<http://mis105.mis.udel.edu/ja-sig/uportal/>)
- phpWebSite (<http://phpwebsite.appstate.edu/>)
- PHPProjekt (<http://www.phprojekt.com/index.php>)



# Open source Online Classroom Systems

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This software is designed to provide the framework for creating a web site for online instruction, including student registration, authentication, content creation, quizzes, exams, homework graders, report uploads, instructor gradebook, class calendar, and online help.

- **ClassWeb** (<http://classweb.ucla.edu/>)
- **The Manhattan Virtual Classroom**  
(<http://manhattan.sourceforge.net/index.php?menu=1>)
- **COSE** (<http://www.staffs.ac.uk/COSE/>)
- **Claroline** (<http://www.claroline.net/>)
- **RearSite** (<http://listes.cru.fr/rs/fd/>)
- **Eledge** (<http://eledge.sourceforge.net/>)
- **LearnLoop** (<http://www.learnloop.org/>)



# Forums

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This web publishing and forum software allows you and your visitors to store and display messages, files, share discussions and other informations on your web site.

- **Discus** (<http://www.discusware.com/discus/index.php>)
- **Phorum** (<http://phorum.org/>)
- **phpBB** (<http://www.phpbb.com/>)
- **W-Agora** (<http://www.w-agora.net/en/index.php>)





# Chat

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- **PHPOpenChat** is a web based chat software written in PHP. (<http://www.ortelius.de/phpopenchat/>)
- **Babylon Java Cahat** is a Java client/server combination with whiteboard drawing utility. (<http://www.visopsys.org/andy/babylon/index.html>)

# Setting Up and Maintaining a Web-Based Education System (1)

- **Web.mef** (<http://web.mef.hr/>)
  - Portal (<http://web.mef.hr/phpwebsite/>)
  - Classroom
    - MedCOSE <http://web.mef.hr/cose/>
    - MedClaro <http://web.mef.hr/medclaro/>
    - MedWeb <http://web.mef.hr/classes/index.php>
    - MedManhat <http://web.mef.hr/manhat-bin/doorstep?class=tester>
    - LearnLoop <http://web.mef.hr/learnloop/>
  - Forum
    - <http://web.mef.hr/discus/index.html>
    - <http://web.mef.hr/w-agora/index.php>
    - <http://web.mef.hr/phorum-3.3.2c/>

# Setting Up and Maintaining a Web-Based Education System (2)

- **Web.mef** (<http://web.mef.hr/>)
  - Collaboration (<https://web.mef.hr/intranet/index.php?login=1>)
  - Chat (<http://web.mef.hr/chat/index.html>)
  - Exams
    - <https://web.mef.hr/ec/>
    - [http://web.mef.hr/cgi-bin/multiple\\_choice/multiple\\_choice\\_questions.cgi](http://web.mef.hr/cgi-bin/multiple_choice/multiple_choice_questions.cgi)
  - E-mail (<http://web.mef.hr/mail/index.html>)
  - Meeting Room Booking System (<http://web.mef.hr/mrbs/web/index.php>)



# Experiences

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- The biggest problem and challenge facing most Web learning sites is simply getting people to use them and to visit regular.
- Building a community of learners and creating an environment for learning is by no means a simple task.



# Conclusions

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- It's not technology, it's what we do with it!
- The World Wide Web is ready for serious distance education delivery, but are we ready?
- University needs to "own" powerful, flexible open standard framework, personalized and customizable to device.
- We spend too much time and money on new educational technology to be satisfied with anything less.