

MICHIGAN STATE
UNIVERSITY

Project Plan

Enterprise Learning Management System

The Capstone Experience

Team Auto-Owners

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*From Students...
...to Professionals*

Project Overview

- Moodle Learning Management System
 - Open Source, PHP 5
 - Upgrading from Microsoft Access
- Extend using plug-in-based development
 - Focus on Blocks, Activities, Grade Importing
- Migration Plan from existing EdTrac database
 - Microsoft SQL Server script



Functional Specifications

- Course Registration with Waiting List
- Course Recommendation System
- Grade Importing and Tracking
- Certification Progress Tracking/Audit
- Educational Resource Tracking System with Notifications
- Account Balance Tracking and Invoice System
- Ad-Hoc Management Reports

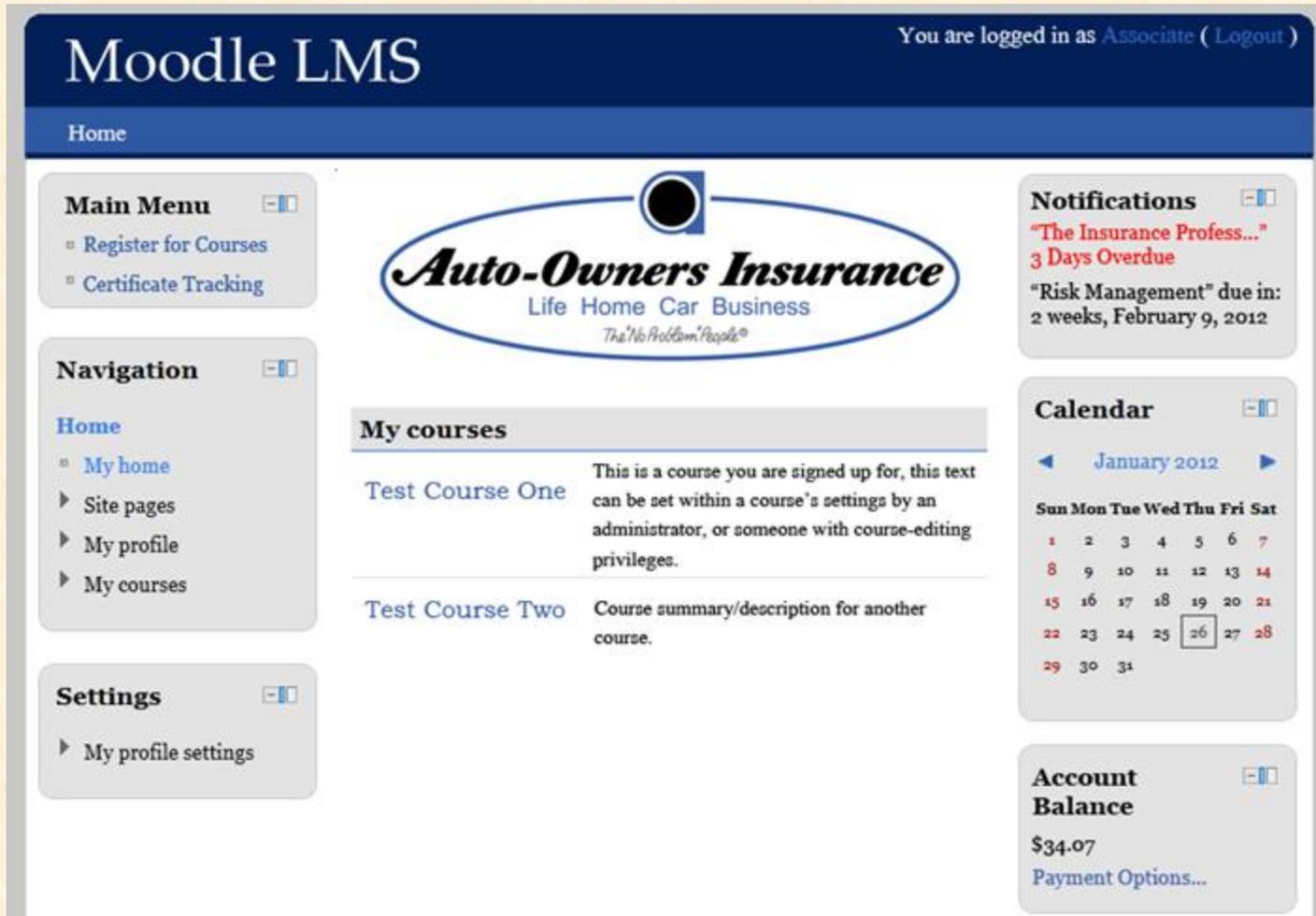


Design Specifications

- All functionality done through highest level plug-ins, closest to user
 - Blocks: Management Tools, Notifications, Balance
 - Activities: Course Listing, Certificate Audit, Registration, Report Generation
 - Grade import: from external vendors
- CRON-type functionality (job scheduling) in all plug-ins
- Roles/Privileges Essential – Moodle is flexible



Screen Mockup: Associate Front Page



The mockup shows a Moodle LMS interface for an Associate user. The header includes the Moodle LMS logo and the user's name 'Associate' with a 'Logout' link. The main content area features the 'Auto-Owners Insurance' logo and a 'My courses' section with two test courses. The left sidebar contains 'Main Menu', 'Navigation', and 'Settings' sections. The right sidebar contains 'Notifications', 'Calendar', and 'Account Balance' sections.

Moodle LMS You are logged in as [Associate](#) ([Logout](#))

Home

Main Menu

- Register for Courses
- Certificate Tracking

Navigation

Home

- My home
- Site pages
- My profile
- My courses

Settings

- My profile settings

Auto-Owners Insurance
Life Home Car Business
The "No Problem" People®

My courses

Test Course One This is a course you are signed up for, this text can be set within a course's settings by an administrator, or someone with course-editing privileges.

Test Course Two Course summary/description for another course.

Notifications

"The Insurance Profess..."
3 Days Overdue

"Risk Management" due in:
2 weeks, February 9, 2012

Calendar

January 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Account Balance

\$34.07

[Payment Options...](#)



Screen Mockup: Course Registration

You are logged in as Associate (Logout)

Moodle LMS

Home > Course Registration

Main Menu [-]

- Register for Courses
- Certificate Tracking

Navigation [-]

Home

- My home
- Site pages
- My profile
- My courses

Settings [-]

- My profile settings

Course Registration

Recommended Courses (hide)

Institute 1

Code	Test Number	Cost
TEST	1	\$0.00
TEST	2	\$0.00

Institute 2

Code	Test Number	Cost
TEST2	1	\$56.00

Full Course Listing

Filters

Institute: ▼

Available Exam Format: ▼

Exam Window: ▼

Search Courses:

Institute 1

Code	Test Number	Cost
TEST	1	\$0.00
TEST	2	\$0.00
TEST	4	\$34.00
TEST	5	\$0.00

Institute 2

Code	Test Number	Cost
TEST2	1	\$56.00

...

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Notifications [-]

"The Insurance Profess..."
3 Days Overdue

"Risk Management" due in:
2 weeks, February 9, 2012

Calendar [-]

◀ January 2012 ▶

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Account Balance [-]

\$34.07

[Payment Options...](#)

Online users [-]

(last 5 minutes)

- Administrator
- Associate



Screen Mockup: Course Registration

Main Menu

- Register for Courses
- Certificate Tracking

Course Registration

Recommended Courses (hide)

Institute 1

Code	Test Number	Cost
------	-------------	------

Course Information

Full Name: Test Course2 1 Course recommended by: Manager_1 (contact)
Code: TEST2 1
Institute: Institute 2

Available Exam Windows:
Jan. 15 - Mar. 15
Apr. 15 - Jun. 15

Course Description:
Full information about the course taken from the course page or database is displayed here.

Institute Registration Information:
Any information specific to the registration process for the given institute can be displayed here.

Specific Course Registration Information:
Information regarding specific registration for this course are displayed here. This will include disclaimers, notices about the responsibility to pay before being signed up for the course with the institute, and other legal notices or required actions.

Register:

Window: Apr 15 - Jun 15 On Site Prometric Paper

Adjusted Cost: \$0.00 (0 previous attempts)

Register **Cancel**

Notifications

- "The Insurance Profess..." 3 Days Overdue
- "Risk Management" due in: 2 weeks, February 9, 2012

Calendar

January 2012

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29	30	31				

Account balance

34.07
Payment Options...

Online users

(last 5 minutes)

- Administrator
- Associate



Screen Mockup: Certificate Audit

Moodle LMS

You are logged in as Associate (Logout)

Home > Certificate Audit

Main Menu

- Register for Courses
- Certificate Tracking

Navigation

Home

- My home
- Site pages
- My profile
- My courses

Certificate Audit

Top Certificate Progress

Certification B	90%
Certification A	25%

Individual Certificate Progress

Certification A

Institute 1

Code	Test Number	Status
TEST	1	✓
TEST	2	Pending...
TEST	4	✗
TEST	5	✗

Notifications

"The Insurance Profess..."
3 Days Overdue

"Risk Management" due in:
2 weeks, February 9, 2012

Calendar

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Screen Mockup: Report Generation

Moodle LMS You are logged in as [Course Manager](#) (Logout)

Home > Report Generation

Main Menu

- Register for Courses
- Certificate Tracking

Navigation

Home

- My home
- Site pages
- My profile
- My courses

Manager Tools

Generate Reports...

Recommend Course:

Course:

Assoc. ID:

Settings

- My profile settings

Report Generation

Report Name:

Display 's ,

's ,

Where 's

's

's

Notifications

You have no notifications

Calendar

January 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Account Balance

\$0.00

[Payment Options...](#)

Online users

(last 5 minutes)

- [Administrator](#)
- [Associate](#)
- [Course Manager](#)



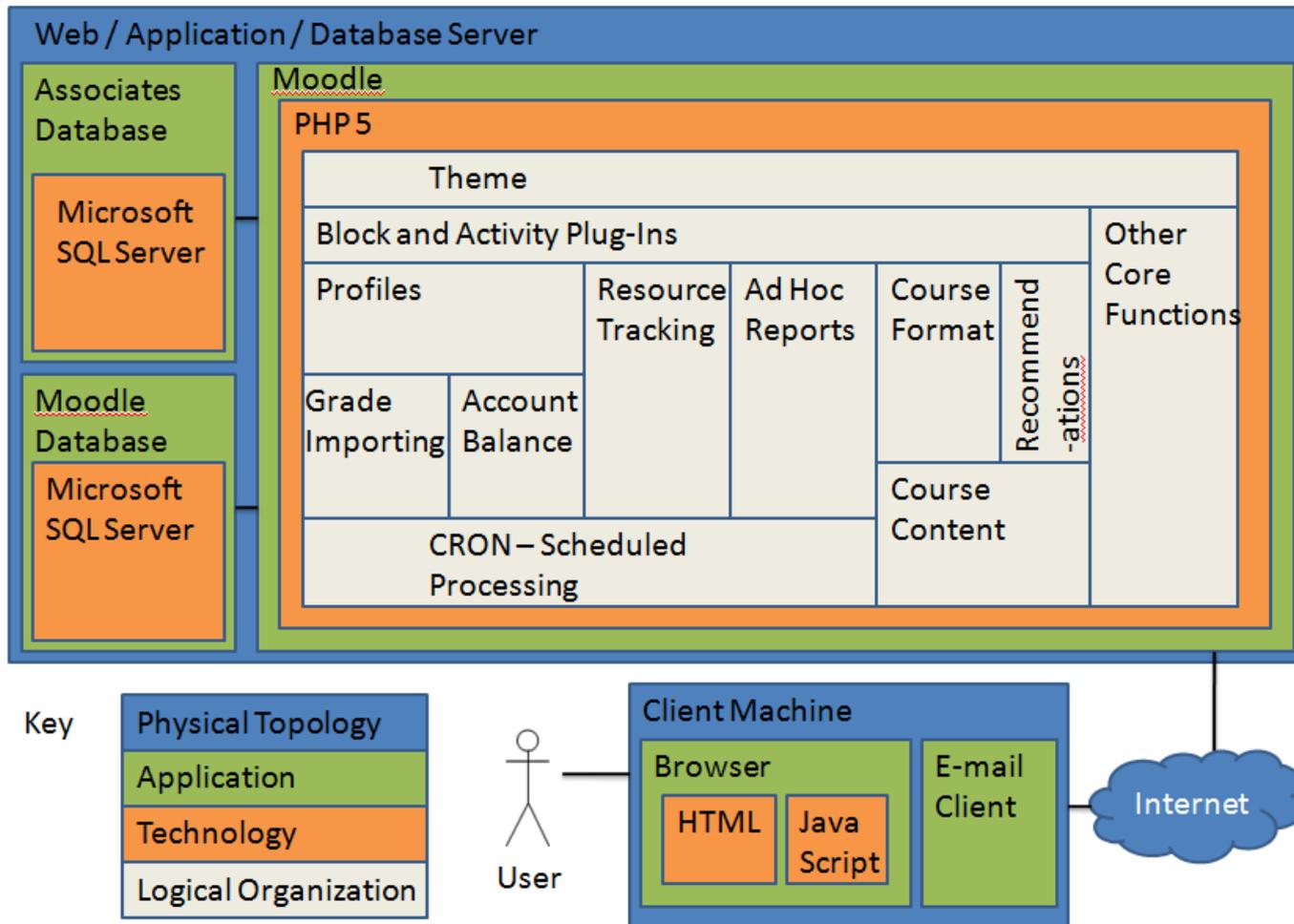
Technical Specifications

- Moodle: Very Loose OOP Design
 - Block & Activity Plug-ins – derive custom from base, implement virtual functions.
 - Example: *\$htmlString customBlock::get_content()* is called by Moodle renderer classes.
 - Global database variable.
- Coding Standard:
 - Moodle, YUI 2.9.0, XHTML 1.0 Strict.



System Architecture

Auto-Owners Insurance Enterprise Learning Management System Architecture Diagram



System Components

- Hardware Platforms
 - Server/Web-Application based development
 - Host server unknown, irrelevant
- Software Platforms / Technologies
 - Windows Server 2008, IIS7, SQL Server 2008 R2
 - Moodle 2.2.1 with PHP 5.3.9
 - Web Browser: Firefox, Chrome, IE, Safari
 - JavaScript not used for essential features



Testing

- Manual testing using data from Auto-Owners
- Consistent look across common browsers
- Using local testing environments as required
- Last-Stable-Build on rack server



Risks

- Grade Importation from External Vendor
 - No web interface to retrieve grades from external vendors.
 - Limited scope, waiting for AO, possible manual form.
- Ad-Hoc Reporting Interface
 - Massive database to generate reports from, difficult to convey functionality without DB knowledge.
 - Hoping to limit scope with Auto-Owners.
- Pending Migration Strategy
 - Missing development database from AO, compounded by technical troubles
 - Hopefully resolved February 1st.

