Technology Consulting in the Community

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Goodwill of Southwestern
Pennsylvania

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Final Consulting Report

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Executive Summary

Student Consultant, Rempei Iwata
Community Partner, Nicole Scott

I. About the Organization

Goodwill of Southwestern Pennsylvania (Goodwill SWPA) is a non-profit organization that helps people with special needs overcome barriers to employment. Goodwill SWPA has a franchise-like agreement with Goodwill International.

The mission statement of Goodwill SWPA is

> *We help people improve their quality of life through work and related services.*

Goodwill SWPA serves in 8 counties of southwestern Pennsylvania and 9 counties of north central West Virginia. Goodwill SWPA develops 30 retail stores to sell donated clothes and goods as well as offers job trainings at 15 community bases. 1,100 employees work for Goodwill SWPA. More than 61,000 customers used services of Goodwill SWPA in 2011. Basic business model is that Goodwill SWPA sells donated things at retail stores and these sales are spent for educational programs, job training programs and job finding.

In the organization of Goodwill SWPA, Organizational Development (OD) department of my community partner coordinates all internal training, for example, Accident Prevention, and Cultural Diversity, for employees of Goodwill SWPA.

II. Make More Efficient Internal Training

Background of Problems

The internal training for employees of Goodwill SWPA are offered by person at on-site. Total 6 instructors are in charge of these training. Due to spreading 30 retail stores and 15 community based locations in southwestern Pennsylvania and north central West Virginia, Goodwill SWPA spends much time including trip time and much expense. Additionally, especially employees of a retail store cannot get together for these training at once because selling area cannot help being empty. Thus, actually instructors need to go retail stores and community bases more than once for training.

Last year, to improve this situation, Organizational Development (OD) department introduced Wumbus, on-line training ASP service, as a beta test. As a result of the beta test, the community partner felt that Wumbus is not sophisticated and has difficulty to be a long-term solution. Thus, the community partner thought of necessity of the new Learning Management System (LMS). The community partner also thinks that the new LMS contributes organization-wide cost reduction.

Scope of Work

Scope of work is to build a proposal that include what LMS products are feasible to internal online training for employees of Goodwill SWPA, what tasks exist to implement them and how much and

how long to implement them. This proposal needs to be sustainable when at least one PC is installed in each retail store and community based location in the future.

III. Outcomes

To ensure the proposal to make internal training more efficient, the consultant delivered following outcomes focusing on precisely defining requirements, documenting for operation procedures, and actually training.

- ✧ **Defining requirements:** The requirements were identified collectively exclusively by utilizing the to-be workflow and the as-is workflow that were created based on hearing from Organizational Development (OD) department staffs.

- ✧ **Feasibility of Moodle:** The consultant evaluated Moodle, the most popular, servicing 74,992 sites, open sourced Learning Management System (LMS), satisfies the requirements.

- ✧ **Choice of Hosting Service:** To realize the new LMS, choice of a production environment as well as the functions of the LMS is important. To achieve affordably implementation of the LMS, the consultant estimated site capacity and evaluated some hosting services.

- ✧ **Prototype:** To easily imagine the new LMS, the consultant built a prototype of Moodle. This prototype helped refine requirements.

- ✧ **Documents for Implementation and Operation:** Install Moodle and Initial Settings ensure the implementation project of the new LMS. Furthermore, event based Operation Procedures keep the operation of the LMS sustainable.

- ✧ **Demonstration and Training:** To aim well understanding of involving members, the consultant took place demonstration of the prototype to involving department people, and held 3-hour training session to OD department staffs based on Operation Procedures.

IV. Recommendations

Skills and knowledge of employees is foundation of any organizations and source of power. Internal training for employees strengthens these foundation and source.

The consultant recommends New LMS Project. By achieving New LMS Project, OD department can offer on-demand, on-line internal-training to every employee in Goodwill SWPA. And employees can improve skill and knowledge, and have more opportunity of training. Additionally, Goodwill SWPA can reduce on-site training costs in 6 years (annual ROI 19.8%).

In future, Goodwill SWPA can prevail this solution to other Goodwill franchises.

Community Partner

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About the Consultant

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Rempei is the 1st year student in School of Information Systems and Management of H. John Heinz III College. He is also an employee of The Bank of Tokyo-Mitsubishi UFJ in Japan. His responsibility is the new online banking services.

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I. About the Organization

Organization

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Goodwill SWPA serves in 8 counties of southwestern Pennsylvania and 9 counties of north central West Virginia. Goodwill SWPA develops 30 retail stores to sell donated clothes and goods as well as offers employment trainings at 15 community bases. The headquarters places at upper Lawrenceville in Pittsburgh. 1,100 employees work for Goodwill SWPA. More than 61,000 customers used services of Goodwill SWPA in 2011.

Basic business model is that Goodwill SWPA sells donated things at retail stores and these sales are spent for educational programs, job training programs and job finding. In terms of budget in 2011, total revenue is $47 million of which 44% comes from sales of donated things, 28% comes from government grants and 14% comes from program service fees about job trainings. Small percentage of contributions is feature of Goodwill SWPA.

Recently a feature that Goodwill SWPA has 46 locations and 1,100 employees spread at these locations causes an organizational wide problem. Workload of internal employee trainings that facilitated on site by Organizational Development department, Retail division, HR division and Risk Management department becomes higher in response of requirements of regulations, standardizing retail store's operation and introducing 360 degrees HR review and so on as well as many locations. Actually Goodwill SWPA facilitates 63 training courses.

Facilities

Office environment of headquarters at upper Lawrenceville is sophisticated because Goodwill SWPA moved headquarters to this place in 2010.

Besides, since selling area occupied majority space of a retail store, there is a little room to have an activity such as training for a shop staff other than activity involving sales.

Programs

Goodwill SWPA offers following programs for customers with disabilities, disadvantages and other special needs. The number of users is statistic during 2011.

Job Placements - 1,265: The job placements program is the core program of Goodwill SWPA. This program offers people to overcome barriers and to become a competitive employer.

Individuals Served - 61,308 (PA CareerLink - 11,159, Assessments - 412, Assistive Technology - 405, Community Services - 40,597, Disability Services - 489, Education & Literacy - 4,274, Housing - 582, Job Training - 825, Employment Placement - 1,265, Transitional & Youth Services - 1,300): Other than the job placements program, Goodwill SWPA and its affiliates offer the program as partner of PA CareerLink, workforce development program of Pennsylvania State, and the various programs listed above.

Staff

The organization structure of Goodwill SWPA is Appendix 1. The community partner is Organizational Development (OD) department. OD department has responsibility for coordinating not job training for customers as programs of Goodwill SWPA but all internal training for employees of Goodwill SWPA. These training are, for example, Accident Prevention, Cultural Diversity and New Supervisor Training. OD department announces a registration of training courses to all employees and administrates rosters of training courses.

Retail division, HR division and Risk Management department as well as OD department facilitate actual training to employees. These departments create training contents and offers instructors. These instructors have training on site such as a retail store and a headquarters.

Nicole Scott, director of OD department, is responsibility to administrate internal employee training and to improve operations. Tabatha Dorman, member of OD department, has taken a lead previewing new HR systems for Learning Management System (LMS) capabilities that Goodwill SWPA starts to plan to replace from employee's skill and training management point of view. Ray Grimes, Information Technology (IT) department, co-works with OD department by a technical feasibility study and estimating system development.

Technology Management

Goodwill of Southwestern Pennsylvania IT department is involved in the majority of technology decisions made for the agency. Departmental policy dictates that technologies should at least be vetted by IT department before any purchases are made or agreements signed. No other department has control of IT resources such as network storage and servers so all departments must ultimately consult with IT before attempting to implement new technologies.

Responsibilities of each person of IT department are following;

Kirk Selenberg, Associate VP of Technology: Responsible for Executive oversight of IT department. Advises on infrastructure, policies, practices, and conceptualization of technologies for the agency. Top level IT project management and guidance.

Ray Grimes, Information Technology Operations Manager: Responsible for IT virtual infrastructure including both servers (VMware) and storage (NetApp), responsible for oversight of IT Service Desk systems and staff and responsible for day-to-day functionality of desktops, laptops, cell phones, and all other peripheral technologies in use agency-wide. Often tasked with IT project management both internal and external to the IT department.

Fran Kosmacki, Network & Systems Administrator: Engineers and manages installation of networks and network related equipment at all agency locations. Responsible for Cisco firewalls, routers, and switches as well as all cabling and data\voice equipment at all agency locations.

Technology Planning

Kirk Selenberg and Strategic Planning Committee including external consultants has responsiblity for planning for their technology infrastructure in part of midterm (3-year) strategic plan. Fiscal year of Goodwill SWPA is from July to June. Goodwill SWPA budgets on March by ordinary. In this year, the new LMS and new HR system are budgeted $60,000.

Technology Infrastructure

Each employee of headquarters uses a PC that is connected to the Internet. However, there is only 1 PC at a retail store. Only manager has account to access a PC. A PC at a retail store is also connected to the Internet. Some PCs of headquarters and retail stores are thin client. Goodwill SWPA uses MS SharePoint to share internal information. At this moment, IT department does not have a plan to increase PCs at retail stores.

Internal Communication

Goodwill SWPA utilized Microsoft SharePoint for internal communication. It also uses e-mail. Divisions and departments in the headquarters prevail official notices by Microsoft SharePoint. Actually OD department uses both Microsoft SharePoint and e-mail to announce a registration of training courses to employees.

Information Management

As to internal employee training, OD department manages results of training by entry to Payforce (current HR system) one by one because some training are required by a law. Rosters of trainings are created by Excel spread sheet.

Business Systems

Last year OD department introduced Wumbus, on-line training ASP service, as a beta test. Actually OD department started to use Wumbus for trainings for headquarters' employees and managers of retail stores (Appendix 2). So currently two ways of training, training using Wumbus and in person on-site training, exists in Goodwill SWPA.

Meanwhile, Goodwill SWPA started to research replacement of a HR system because it is out of date. At this moment, Goodwill SWPA compares 4 systems. HR division (management HR data), Payroll department (calculation payroll), Retail division (recruit management), OD department (training management) and IT department involves a task force of product choice.

II. Make More Efficient Internal Training

Background of Problems

The internal training for employees of Goodwill SWPA are offered by person at on-site. Total 6 instructors are in charge of these training. Due to spreading 30 retail stores and 15 community based locations in southwestern Pennsylvania and north central West Virginia, Goodwill SWPA spends much time including trip time and much expense. Additionally, especially employees of a retail

store cannot get together for these training at once because selling area cannot help being empty. Thus, actually instructors need to go retail stores and community bases more than once for training. Appendix 3 is causal flow of these problems.

Last year, to improve this situation, Organizational Development (OD) department introduced Wumbus, on-line training ASP service, as a beta test. OD department started to use Wumbus for trainings for headquarters' employees and managers of retail stores. As a result of the beta test, the community partner felt that Wumbus is not sophisticated and has difficulty to be a long-term solution. For example, since Wumbus shows all training contents on screen to a user, a user has difficulty to find training that a user enrolls. Wumbus cannot offer reporting function for a supervisor of each department and retail store to oversee staff's training completion. This function is considered necessary to prevail online training at retail stores. The community partner also thinks that the new LMS contributes organization-wide cost reduction.

Through fact-finding including the above discussion, following problems, following opportunities are identified.

◇ To offer one training for employees at retail stores, an instructor needs to have 2 x 46 times trips.

◇ Total 6 employees are in charge of facilitating on-site training.

◇ There is no proper place for training at a retail store. Now training takes place in a break room.

◇ Wumbus does not have function to define user roles. Thus, an employee sees all training contents that are not related to him/her or contents that has already been completed.

◇ Other systems comparable to Wumbus are expensive for non-profit organization. For example, a system needs initial $85,000 and annual maintenance fee.

◇ In long-term, OD department intends to do online training for not only a manager at a retail store but all employees.

◇ Creating roster depends on an Excel spreadsheet. And staffs of OD department register training course enrollment of employees manually into Wumbus.

◇ Current administration of trainings does not find out employees who should take training but does not yet. It depends on responsibility of a supervisor who let employee take proper training.

◇ Line bandwidth probable causes problems because some thin clients have a trouble to stream video on Wumbus.

◇ Staff of OD department manually entry employee information to create a user account in Wumbus.

◇ How to manage training administration during a period when both online training and in person on-site training exist.

◇ A training result plans to be record at the new HR system since Goodwill SWPA started to research replacement of the current HR system.

Scope of Work

Scope of work is to build a proposal that include what Learning Management System (LMS) products are feasible to internal online training for employees of Goodwill SWPA, what tasks exist to implement them and how much and how long to implement them. This proposal needs to be sustainable when at least one PC is installed in each retail store and community based location in the future. Through discussions scope of work, the community partner and the consultant identify to-be workflow of an internal training. The consultant thinks solutions based on this workflow (Appendix 4).

Approach

1. Research feasibility of LMS. According to pre-research of LMS, it found difficult to know detail functions of commercial LMS products. On the other hand, there are so much information about open source LMS, for instance Moodle, canvas and sakaki. In this project, the consultant first researches feasibility of Moodle because Moodle is the most popular, it serves 74,992 sites in the world (https://moodle.org/stats), and has the most maturated product community in these LMSs. Focus points, which come from special needs of Goodwill SWPA, of this feasibility study are;

    Main function of LMS

    ✧ Self course registration by employees

    ✧ Show course lists according to users (e.g. an employee does not sees contents that are not related to him/her or contents that has already been completed)

    ✧ Check registration and progress by a supervisor

    Interface function with HR system

    ✧ Interface of employees information between LMS and HR system (Way of user registration)

    ✧ Interface of training result data between LMS and HR system

2. After researching feasibility of LMS, the consultant will recommend a hosting service and estimate capacity and performance of a server. Hosting service is reasonable to reduce initial and maintenance cost. Moodle is so popular application that normally hosting service provider offers easy Moodle installing function.

3. Next the consultant estimate price and period of LMS implementation project. And the consultant checks 5-year ROI of this project.

4. To easily imagine what the new LMS is, the consultant creates prototype of Moodle. This prototype is used to create documents how to use it.

5. The consultant creates documents for an initial setting explanation (e.g. user role, course registration, policy of course ID and policy of user ID).

6. The consultant creates operational procedures when using the new LMS and does training based on the procedures.

Expected Outcome

Expected outcomes at each approach are (correspond following number with that of approach section)

1. Demonstration of feasibility of Moodle against special needs of Goodwill SWPA. Document how to realize functions of focus points. Revised to-be workflow diagram.

2. Recommendation the best hosting service for LMS implementation project. Comparison table of hosting services.

3. Confirmation feasibility of LMS implementation project in terms of resources. Document of total expenditure and ROI. Master schedule of LMS implementation project.

4. Sharing functions of Moodle by the prototype with involved people (e.g. IT department, OD department).

5. For LMS implementation project in future, explanation and documentation of an initial setting of Moodle.

6. Operational procedures along with a work flow diagram (e.g. How to create a new training course and then how to deal with an old one. How to upload a file to register users).

Additional Impact

After implementation of the new LMS, Goodwill SWPA has a long-term solution about internal training. It also has capability to reduce on-site trainings if PCs are equipped in retail stores. Employees do not need to register a course by e-mail but can register on the new LMS. OD department does not need to deal with much e-mail from employees or need to create a roster. However, OD has to learn how to manage and use the new LMS. In contrast to Wumbus, ASP service of online training, the new LMS is hosted on hosting service that Goodwill SWPA enters into. So IT department needs to more support OD department in terms of technology.

Goodwill SWPA does not have an official organization structure diagram. It has accounting codes that reflect activities of each division. However, these codes do not also describe organization structure. To check progress and completion of staffs by a supervisor in each department, codes that describe actual organization structure are needed.

Feasibility Analysis

Time frame of this proposal project shows Appendix 5. It was a tight schedule. Especially when Moodle did not meet a part of needs, the community partner and the consultant needed to omit such needs not to make this proposal stuck.

The community partner, Nicole, well arranged meetings with IT department and other involving department and cooperated to get information. In terms of this point, the consultant did not have any concern.

III. Outcomes

A. Make More Efficient Internal Training for Employees of Goodwill SWPA

Approach

To make more efficient internal training, the consultant is to build a proposal that include what Learning Management System (LMS) products are feasible to internal online trainings of Goodwill SWPA, what tasks exist to implement them and how much and how long to implement them. The approach of the consulting is following;

1. Define the requirements,

2. Research feasibility of the new LMS,

3. Choose hosting service and estimate capacity and performance of a server,

4. Create a prototype of the LMS,

5. Create initial setting documents, operation guides and operation procedures and

6. Have training session of the LMS.

These outcomes help Goodwill SWPA to define what it wants for the new LMS. And they contribute to expand its capability to implement the LMS from both system and operation aspects. Moreover, they enable it to keep the operation of the LMS in its organization sustainable.

Defining Requirements

The requirements were gathered based on To-be workflow (Appendix 4). To-be workflow is the ideal workflow after implement of the new solution. To gather necessary tasks of the workflow collectively, exhaustively and to guarantee continuation from the current internal training, to-be workflow is expanded As-is workflow (Appendix 6).

Feasibility of Moodle

Feasibility of Moodle was evaluated in Feasibility Study of Moodle (Appendix A). This feasibility study confirmed that Moodle meets following special needs of Goodwill SWPA;

1. Self Course Registration: Employees can register courses by themselves,

2. Course List According to Users: Users can see a course list that they register,

3. Check Registration and Progress by Supervisor: Supervisors can see a progress report of staffs,

4. Bulk Registration of Users from HR System: Administrators can upload a user list to register user accounts in Moodle, and

5. Download Training Results: Administrators can download training result of all staffs.

Choice of Hosting Service

To realize the new LMS, choice of a production environment as well as the functions of the LMS is important. To achieve affordably implementation of the LMS, the consultant estimated site capacity and evaluated some hosting services in Choice of Hosting Services (Appendix B). This proposal recommends InMotionHosting out of 6 hosting providers (Appendix B1). Some providers offer one-click Moodle install function. This function makes Moodle implementation easy and secure. In the consulting, only providers that have this one-click function are compared. By using a hosting service, Goodwill SWPA does not need to have server experts internally. Additionally, a hosting service benefits in terms of scalability of a server.

Prototype

To imagine easily the new LMS, the consulting built a prototype of Moodle on a local PC. And the consulting had a meeting with the members of Organizational Development (OD) department and IT department to get feedback about the new LMS by using the prototype. OD department feed backed the requirement that is to send messages to users who take a specific course. The consultant explained and created a document how to send messages in Moodle. IT department also asked the

consultant to study feasibility to use Microsoft ActiveDirectory to manage Moodle's user account. Since the consultant did not make sure that ActiveDirectory function in Moodle works well at hosting service, the consultant did not recommend to use this function.

Furthermore, to confirm feasibility of the recommended hosting service, the consultant also built a prototype of Moodle on a hosting server of InMotionHosting by using trial period (http://rempei.com/moodle/). As a result, the consultant confirmed that InMotionHosting has capability for Goodwill SWPA to use Moodle.

Documents for Implementation and Operation

For implementation and operation of the new LMS, the consultant created following documents;

1. Install Moodle to InMotionHosting's Hosting Server (Appendix C)

    Based on the experience of prototyping, the installation guide of Moodle is offered IT department.

2. Moodle Initial Settings (Appendix D)

    This is the initial setting guide for OD after installing Moodle by IT department.

3. Operation Procedures (Appendix E)

    Operation Procedures shows event based operation guides and operation policies that include how to add a training course and who should has training administrator role.

4. Special Function for Goodwill SWPA (Appendix F)

    This document clears details of functions other than standard Moodle functions.

5. Sample Policy of department Code and Training Code (Appendix G)

    By creating the sample code policy, the community partner could organize the existing training courses. And the community partner could notice that Goodwill SWPA does not have department codes that represent an organization structure.

These documents support sustainability of implementation and operation of the new LMS. The members of OD department and IT department can review discussions in this consulting after finishing the consulting. And they can use these document to prevail among other members in the organization.

Demonstration and Training

To understand the new LMS well and keep sustainability of this solution, the consultant offered demonstration of Moodle and training sessions by using Operation Procedures.

The demonstration was for end users who use the new LMS as a student. The employees of Marketing department that administrates retail stores, HR department, Accounting department, and Risk Management department attended this demonstration. The consultant got feedback about detail functions in end user's point of view and improved the solution. For example, employees want the report to confirm the course completion. And Market department required the new LMS to follow the color code rule of Goodwill SWPA.

The 3-hour training session was held for administrators of the LMS. In this training session, members of OD department and IT department actually operated the prototype with the consultant to learn how to register a user, how to manage a course and a quiz, and how to administrate the

records of a course completion. This training was done following Operation Procedures, one of the outcomes, for the members to become familiar with this document.

Summary

These outcomes decided to use Moodle as a LMS application, and InMotionHosting as a hosting server. The documents, the demonstration and the training enabled Goodwill SWPA to operate Moodle. By these outcomes Goodwill SWPA knew what to do to operate Moodle and to implement Moodle. In next recommendations section, the consultant proposes how to implement Moodle and what is implementation project of Moodle.

VI. RECOMMENDATIONS

A. Vision

Skills and knowledge of employees is foundation of any organizations and source of power. Internal training strengthens these foundation and source. Meanwhile, recently since compliance requirements increase, an organization, regardless of non-profit or not, must provide various internal trainings to its employees obeying laws. In case of Goodwill SWPA, since it has 30 retail stores, it needs to offer the same training many times at different places to keep the foundation and source above mentioned. The vision of efficient internal training method improves service quality of the programs for customers by increasing training opportunity of employees and holds down administration cost even Goodwill SWPA expands area of its business. Therefore, efficient internal training method keeps internal training of Goodwill SWPA sustainable.

The attainment of the vision requires exactly, correct understanding needs of the training as well as utilizing information technology. At this moment, Organizational Development (OD) department of Goodwill SWPA clearly understands its needs from its experience of operating on-line training ASP service as a beta test. In short term, OD department ensures implementation of the new Learning Management system (LMS) by collaborating IT department. And it starts do a required training for every employee via on-line in first year.

By succeeding the new LMS in first year, Goodwill SWPA gets one of the reasons to accelerate installation of PC or tablet in retail stores. Actually, the new LMS, Moodle, has the function that provides screens for a tablet. This acceleration of installing devices in retail stores more accelerates to provide efficient internal training method and to improve skills and knowledge of employees.

In long term, OD department aims to replace all training into on-line training. At least 6 required training plan to be replaced in 6 years.

In future, Goodwill SWPA can prevail this solution to other Goodwill franchises to strengthen capability of all Goodwill.

B. Goal: To Improve Skill and Knowledge of Employees, Increase Opportunity of Training, and Reduce On-site Training Costs

Overview of Recommendation

As a result of outcomes, the consultant recommends implementation of Moodle to make internal training of Goodwill SWPA more efficient.

From the experience of operating Wumbus, on-line training ASP service, as a beta test for a year, OD department of Goodwill SWPA acknowledges its specific functional needs that is mentioned in Feasibility Study of Moodle (Appendix A) to prevail on-line training. At the same time, OD department found that Wumbus is not long-term solution. Since Moodle can meet these needs, in respect of function Moodle can be long-term solution.

Adding to functional needs, OD department aims to realize this goal for affordable cost because Goodwill SWPA as a non-profit organization is limited budget to spend internal training. In terms of cost, Moodle can satisfy Goodwill SWPA because it is open-source software and it is not charged license for 1,100 users like commercial products.

Purpose of This Project Plan

To ensure implementation of Moodle, following sections describe the implementation project plan of the new LMS. And this plan considers OD department of Goodwill SWPA a project owner of this project. This plan includes necessary resource and time when Goodwill SWPA actually implements the new LMS. However, before starting the project, Goodwill SWPA needs to plan details such as specifying time span, assigning human resource, budgeting and adjusting involved internal organizations.

Project Name

New LMS Project

Project Goal

By achieving New LMS Project, OD department offers on-demand, on-line internal-training to every employee in Goodwill SWPA to improve skill and knowledge, to increase opportunity of training and to reduce on-site training costs in 6 years.

New LMS

In this project, Moodle is adopted as the new LMS because a feasibility study of LMS shows that Moodle meets functional requirement of Goodwill SWPA.

Hosting Service

As a result of comparing some hosting service providers, this project adopts Dedicated Servers (Elite) of InMotionHosting (http://www.inmotionhosting.com/dedicated_servers.html).

Users of New LMS

All 1,100 employees of Goodwill SWPA take training with the new LMS. Assuming growth of employees, the number of system requirement is 1,300 users. A supervisor in a department or a store oversees training progress of his/her staffs as well as takes training with the new LMS. OD staffs use the new LMS as administrators. They create training courses and manage user accounts.

Task and Schedule

Master schedule of this project is Fig.1 (or Appendix 8). This project at least totally takes 6 weeks. First 3 weeks are spent for contracting with and registering to a hosting service. Actual tasks takes at least 4 weeks. This schedule is created based on 8 hours work per day.

Master Schedule

	Days	In charge
Contract Hosting Service	10	Tech. staff
Register Domain Name	5	Tech. staff
Install Moodle to Server		
Install Moodle Application	2	Tech. staff
Setting Cron (Periodically runing program)	2	Tech. staff
Confirm Installation	2	Tech. staff
Set up Moodle		
Initial Setting of Moodle	3	LMS Admin
Add Administrators	1	LMS Admin
Add Test Users Manually	1	LMS Admin
Add Test Users by Uploading	1	LMS Admin
Add a Test Course	1	LMS Admin
Test Moodle Functions by Using Test Users	3	LMS Admin
Judgement of Service Launch	1	PM

Schedule phases: Contract with Hosting Service Provider / Setting at Hosting Service Procider Side; Register Domain Name (lms.goodwillswpa.org); Install Moodle to Server; Initial Setting of Moodle / Test Moodle; ★ Launch Service

After contracting and registering, IT dep. waits for set-up by hosting provider.

Fig. 1 Project master schedule

Requirement of Task Force

A task force of this project needs at least 1 project manager, 1 technical supervisor and 2 staffs. A project manager of OD department oversees this project and has responsibility to judge launching the new LMS. A technical staff of IT department is in charge of contracting with and registering to a hosting service and installing Moodle. This staff is required introductory knowledge of Linux server and basic knowledge of SQL. The task of technical staff can be outsourced to the third party to ensure the implementation. The other staff of OD department as a LMS administrator is in charge of initial setting of Moodle. A technical supervisor of IT department oversees tasks of a staff of IT department.

Project Manager — Tech. Supervisor — Tech. Staff / LMS Administrator
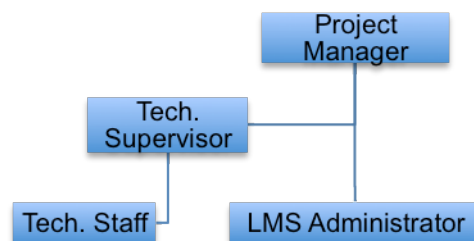
Fig. 2 Task force of the project

Expenditure

Initial cost is approximately $21,000. And annual maintenance cost is approximately $6,500 (Fig. 3).

Initial system implementation cost of Moodle by using the third party system integration vender assumes to be $21,000 based on working hours of the project master schedule. And the maintenance

fee of the system by this third party also assumes to be $3,150. It is 15% of initial system implementation cost of this third party.

Maintenace Cost

	Item	Payee	Cost($/yr)	Remarks
1	Hosting service	InMotionHosting	3,119	$259.95 per month
2	Domain registration	InMotionHosting	12	
3	Dedicated SSL	InMotionHosting	100	
4	Moodle application support subscription	eClass4learning	150	2 subscription for OD staffs. $75 per inidividual
5	Maintenance Fee of System	System Integration Vender	3,150	15% of System Implementation
6		Total	6,531	

Initial Cost

	Item	Payee	Cost($)	Remarks
7				
8	Dedicated SSL install	InMotionHosting	12	
9	System Implementation	System Integration Vender	21,000	120hours x $175/hour
10		Total	21,012	

Fig. 3 Expenditure of the project

Cost Effectiveness

Assuming the scenario of Fig. 4, 6-year ROI of this project is 119% (A year average is 19.8%). This project becomes a single-year profit after 4th year.

This scenario assumes that 6 required training (a training consists of 2 training sessions) for staffs in 28 retail stores are replaced in 6 years. An average human resource cost and an average mileage cost are based on past results. Prerequisite of the scenario is that an IT device like PCs is installed into 28 retail stores.

		1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	Total
1								
2	Cost	$27,543	$6,531	$6,531	$6,531	$6,531	$6,531	$60,200
3	Maintain Moodle	$6,531	$6,531	$6,531	$6,531	$6,531	$6,531	$39,188
4	Initial Cost	$21,012						$21,012
5	Effectiveness	$6,270	$12,541	$18,811	$25,081	$31,352	$37,622	$131,677
6	# of reduction of on-site training session	56 sessions	112 sessions	168 sessions	224 sessions	280 sessions	336 sessions	
7	Ave. cost of on-site training per session	$112	$112	$112	$112	$112	$112	
8	Ave. human resource cost per session	$35	$35	$35	$35	$35	$35	
9	Ave. cost per hour	$35	$35	$35	$35	$35	$35	
10	Ave. hours per session	1 hrs	1 hrs	1 hrs	1 hrs	1 hrs	1 hrs	
11	Ave. mileage cost per session	$77	$77	$77	$77	$77	$77	
12	Benefit (Effectiveness - Cost)	($21,273)	$6,009	$12,280	$18,550	$24,820	$31,091	$71,477
13	Accumlated benefit	($21,273)	($15,264)	($2,984)	$15,566	$40,386	$71,477	

ROI of 6 years	119%
ROI of a year	19.8%

Fig. 4 Cost effectiveness (See details in Appendix 9)

Risks

This project aims to implement the new LMS for affordable cost. So once a problem and a question about a hosting server and Moodle application occur, Goodwill SWPA needs to solve them by itself by contrast to a commercial, whole packaged LMS.

To manage this risk, this project uses Moodle, the most popular, open-sourced LMS, that has matured community on Internet. So Goodwill SWPA can ask the community to solve a problem and find out solution at the community. In terms of installing Moodle to a hosting server, InMotionHosting is used for Moodle hosting of other organizations. And Goodwill SWPA can ask a technical support of InMotionHosting. Additionally, since this plan supposes that Goodwill SWPA

outsources the implementation and technical support, this risk is more mitigated. In terms of system issue, Goodwill SWPA can ask the third party system integration vender.

In terms of Moodle application, since this plan includes subscription of Moodle application support of eClass4learning (http://www.eclass4learning.com/services/training-end-user-support/moodle-reference-desk/), OD staffs can ask questions such as how to create quiz etc. This support largely solves daily operational issue.

To reduce technical problems, this project does not modify Moodle application. However, to realize Goodwill SWPA requirement that a supervisor can oversee training progress of staffs, this project implements customized SQLs as cron program, periodically running program, in a hosting server. These SQLs are deployed outside Moodle application. However, these SQLs change values in database. These SQLs assign and change user roles, a supervisor or a staff, in database according to uploaded user list file.

Appendix 1. Organization Structure of Goodwill SWPA

```
                                    ┌──────────┐
                                    │   CEO    │
                                    └────┬─────┘
        ┌───────────────┬───────────────┼───────────────┬───────────────┐
   ┌────┴────┐    ┌──────┴──────┐  ┌─────┴──────┐  ┌─────┴────┐    ┌─────┴─────┐
   │   COO   │    │ VP Marketing│  │Associate VP│  │   CFO    │    │ VP Retail │
   └────┬────┘    └─────────────┘  │ Technology │  └──────────┘    └───────────┘
        │                          └────────────┘
        │          Fundraising
        │          Foundation Funds
        │          Branding
```

Fundraising
Foundation Funds
Branding

```
        ┌─────────────┬──────────────┬──────────────┬──────────────┐
  ┌─────┴─────┐ ┌─────┴────┐  ┌───────┴──────┐ ┌─────┴──────┐ ┌─────┴─────┐
  │Director Risk│ │Director HR│ │  Director    │ │  Director  │ │VP Human   │
  │Management  │ │          │ │Organizational│ │ Facilities │ │ Services  │
  └───────────┘ └──────────┘ │ Development   │ │ Management │ └─────┬─────┘
                             └──────────────┘ └────────────┘       │
```

Responding to RFPs from government etc.

```
                        ┌─────────────────────┬─────────────────┐
                  ┌─────┴──────┐         ┌─────┴──────┐
                  │Associate VP│         │Associate VP│
                  │  Program   │         │  Program   │      Running program
                  │Development │         │Management  │
                  └─────┬──────┘         └────────────┘
                        │
                  ┌─────┴──────┐
                  │  Director  │
                  │Reintegration│
                  └────────────┘
                  ┌────────────┐
                  │  Director  │
                  │ Workforce  │
                  │Development │
                  └────────────┘
```

Source: Goodwill SWPA

Appendix 2 As-is work flow. Training by Wumbus(Current online training system)

	OD (Organizational Development)	Training facilitators(OD, HR Div, Retail Div., Risk Mng Div)	Supervisor or Employee	Excel(Training admin.)	Payforce(HR system)	Wumbus(Online training sys.)
1.Preparation	Upload digital contents to Wumbus	Create digital contents				Training contents
2. Training Planing		Planing training (e.g. training tile, place, date, time)				
3. Announcement	Announcement of Training (e.g. training title, schedule) by email and SharePoint					
4. Registration	Enter roster to Wumbus and create course group		Employee is registered via email by themself or supervispor			Roster & Course group / Send notification email
5. Training			Receive notification from Wumbus by email / Sign on and do training			Training
6. Test			Take test			Test
7. Grading						Grading
8. Recording	Download excel file of pass fail list from Wumbus					Training result

Callout notes:

- New system automatically registers employee who should take training according to his/her title and location
- New system automatically sends email that has link to training contents
- New system shows only registered training content because Wumbus shows all training contents on screen.
- New system outputs list of employee who should take training but doesn't yet.

Appendix 3. Causal Flow Diagram of Goodwill SWPA

Goodwill Southwestern Pennsylvania

1,100 employee
7 business line
Total revenue:$47mil(2011)
Change in net asset:$1.9mil(2011)

Function of each organization about traning

OD: Oversees and coordinates training, Facilitate trainings
Retail Div.: Facilitate marketing trainings
HR Div.: Facilitate training related to HR
Risk Management: Facilitate risk control training

Training contents

General affairs
*halasment
*fire safty
*emergency preparation
*accident prevention
*compliance
*diversity
*disability
*HEPA
*incident management
*problem/claim report

HR
*supervisory training - 360 acessment

Marketing
*Visual marketing standerds - how to categolize donated things(e.g. color, size)

WUMBUS CORPORATION
(Online training service provider)

Need more discussion

Organizational Development

Training (as is) 2 staffs in charge of training

Spend much time and much trip expense
2x46 times trip is needed in 1 training because staffs at retail store cann't gather at once

Have training for staffs at retail stores on site

Online training issue

Start to research introducing online training last year

Introduced Wumbus' ASP For only manager training

Not sophisticated Online training system

80% satisfied

DON'T distribute contents update information automatically

Check understaing of training by test

Confirm who pass test or not

Report all staff passes test

Use Excel spread sheet to aggregate results

High cost
Ini $8,500 + annual maintenace fee

Request to obtain skill to maintain online training system internally

All user can see all training contents

User has difficulty to find training contents for him/her

User misses necessary training

Administration work load becomes high

Send e-mail to people who have to learn a content

Spend much time to aggregate results

Upload training contents by IT dep. staff.

Reduce maintenance expense

Request new HR system that has availability to add on online training admin. function

Inventory control issue

Out of scope

Retail Div.

Training (as is) 1 staff in charge of training

Spend much time and much trip expense

Have training for staffs at retail stores on site

Inventory control issue

Out of scope

Assumption

Need more discussion

Persuading

PC issue at retail store

Marketing dep. VP opposes increasing PCs at retail stores

Decrease time of marketing

Staff may need to spend time to operate PC

Purpose to install PC at retail stores

30 Retail Stores / 15 Community Base / 1 HQ

Training (as is)

Staffs need to gather at one place to have training

Use break room for training

Not concentrate on training

Online training issue

Staff CANN'T take online training

PC issue at retail store

Staff DOESN'T use PC

Only manager of retail store has account of PC

Only one PC (Thin client?) at retail store

PC can accesses to information of HQ via MS Sharepoint

Inventory control issue

Out of scope

Not trace of donated things

Need more discussion

Risk Mangement

Training (as is) 2 staff in charge of training

Spend much time and much trip expense

HR Div.

1 staff in charge of training

Training (as is)

Spend much time and much trip expense

Have training for staffs at retail stores on site

Start to research new HR system

IT Dep.

PC issue at retail store

Request to install PC, tablet or smart TV at retail stores

There is not official plan to install several PCs at retail store.

Suppose that PCs might be install in near future

Appendix 4 To-be work flow. Process of New Online Training(in charge of distribution and administration of training)

	OD (Organizational Development)	Training facilitators(OD, HR Div, Retail Div., Risk Mng Div)	Supervisor or Employee	Excel(Training admin.)	HR system	New online training sys
1.Preparation	Upload digital contents to onlien training system	Create digital contents / Determine title and location of which employee should take this training				Training contents
2.Periodicaly synchronizing ALL employee data(e.g title, location… that is needed to determine who should take this training)			For example before feasibility sutdy, Moodle on Dreamhost (http://dreamhost.com/).		All employee ID, Title, Location	All employee ID, Title, Location...
3. Announcement	Announcement of Training (e.g. training title, schedule) by email and SharePoint					
4. Registration			Employee registers training course on online training system			Attendee registration of training course
			Receive notification that includes link to training content from online training system by email			Automatically send notification email to employee and supervisor
5. Training			Sign on and do training / User sees only registered training contents			Training
6. Test			Take test			Test
7. Grading						Grading
8. Recording	Download excel file of pass fail list from online training system		Pass fail list			Training record of each employee
	Upload excel file of pass fail list to HR system		Pass fail list		Record of training	
9. Periodic administration (Follow-up)	Download list of employee who should take training but doesn't yet.	Periodic report				Training record of each employee
			Receive notification			Automatically send notification email to employee who should take training and supervisor

Appendix 5 Master Schedule of Consulting for Goodwill SWPA

06Appendix5_masterschedule.xlsx

Timeline columns: Feb | Mar | Apr | May

#	Task	In charge (R:Rempei, N:Nicole, Ra: Ray, T: Tabatha)	Status
1	Master Schedule		
2			
3	★		
4			
5			
6	Deliverables		
7	Regular meeting		
8		In charge(R:Rempei, N:Nicole, Ra: Ray, T: Tabatha)	Status
9	Scope of Work		
10	Understand details of current online training system	R	op
11	Teach current inventory control	N	del
12	Causal flow		
13	Create(Based on Jan. 31 meeting)	R	clo
14	Review&Feedback	N	clo
15	Revise(Based on feedback and inventory control tec	R	clo
16	Review&Feedback	N	del
17	Revise	R	del
18	Define scope of work		
19	Confirm scope of work	R	clo
20	Agree scope of work with contenxt analysis report	R	op
21	Break down next phase schedule	R	clo
22			
23	Research Feasibility of LMS		
24	Main function of LMS		
25	Self course registration by employees	R	clo
26	Review	N	clo
27	Show course lists according to users	R	clo
28	Review	N	clo
29	Check registration and progress by a supervisor	R	clo
30	Review	N	clo
31	Interface function with HR system		
32	Employees information(Way of user registration)		
33	Consider way	R	clo
34	Hearing feasilibity from Ray	Rw/Ra, N	clo
35	Training result data		
36	Consider way	R	clo
37	Hearing feasilibity from Ray	Rw/Ra, N	clo
38	Review	Ra, N, T	clo
39			
40	Hosting Service, Capacity and Performance		
41	Compare hosting service	R	clo
42	Estimate capacity and performance	R	clo
43	Hearing from Ray	Rw/Ra	clo
44	Review	Ra	clo
45			
46	Project Plan of LMS Implementation		
47	Estimate expenditure	R	clo
48	Create master schedule	R	clo
49	Create ROI	N	clo
50			
51	Demo LMS	R	clo
52			
53	Initial Setting	R	clo
54	Review	N	clo
55			
56	Operational Procedure	R	clo
57	Review	N	clo
58			
59	Training based on Demo and Operational Procedure	Rw/N, T	clo
60			
61	Final Report		
62	Drafting	R	clo
63	Review	N	clo
64	Revise	R	clo
65			
66	Final Presentation		
67	Create presentation material	R	op
68	Review	N	
69	Revise	R	
70			

Gantt chart phase labels (top bar):
Define Scope of Work / Context Analysis — Context Analysis Report — Research Feasibility of LMS — Hosting Service, Capacity and Performance — Project Plan of LMS Implementation — Demo LMS — Initial Setting Operational Procedure — Training Drafting Final Report — Revise Final Report — Prepare for Final Presentation — ★

Deliverables row annotations:
Context Analysis Report — Final Cosulting Report(Draft) — Final Consulting Report

Chart annotations:
- Skip regular meeting
- ★Meeting with IT dep.
- Explain overall Moodle
- Discuss interface between Moodle and HR system
- Discuss hosting service
- ★Meeting for Moodle demo
- ★Training for Moodle operation
- ★Meeting with IT dep.
- ★Meeting for Moodle demo
- ★Training for Moodle operation
- Final Presentation★

Appendix 6. As-is work flow. In Person training(Current process)

Goodwill has two sorts of training process, in person training and online training by using Wumbus system.

	OD (Organizational Development)	Training facilitators(OD, HR Div, Retail Div., Risk Mng Div)	Supervisor or Employee	Excel(Training Admin.)	Payforce(HR system)
1. Preparation		Prepare textbook and test and print out these materials — Textbook			
2. Training Planing		Planing training (e.g. training title, place, date, time)			
3. Announcement	Announcement of Training (e.g. training title, schedule) by email and SharePoint				
4. Registration	Roster is created by Excel Send roster to training facilitator	Receive roster from OD — Roster of participants	Employee is registered via email by themself or supervispor	Roster of participants	
5. Training		Get all participants sign on roster — Roster of participants Signature Do training — Textbook	Sign up on roster		
6. Recording	Recieve signed roster and enter information into payforce — Roster of participants Signature Pass or fail	Send roster that is signed and written pass or fail to OD — Roster of participants Signature			Training record of each employee

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

Master Schedule

Contract with Hosting Service Provider
Setting at Hosting Service Procider Side

Register Domain Name
lms.goodwillswpa.org

Install Moodle to Server

Initial Setting of Moodle
Test Moodle

★ Launch Service

	Days	In charge
Contract Hosting Service	10	Tech. staff
Register Domain Name	5	Tech. staff
Install Moodle to Server		
Install Moodle Application	2	Tech. staff
Setting Cron (Periodically runing program)	2	Tech. staff
Confirm Installation	2	Tech. staff
Set up Moodle		
Initial Setting of Moodle	3	LMS Admin
Add Administrators	1	LMS Admin
Add Test Users Manually	1	LMS Admin
Add Test Users by Uploading	1	LMS Admin
Add a Test Course	1	LMS Admin
Test Moodle Functions by Using Test Users	3	LMS Admin
Judgement of Service Launch	1	PM

After contracting and registering, IT dep. waits for set-up by hosting provider.

Launch Service

★

Appendix 9 Cost Effectiveness

		1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	Total	Remarks
1									
2	Cost	$27,543	$6,531	$6,531	$6,531	$6,531	$6,531	$60,200	
3	Maintain Moodle	$6,531	$6,531	$6,531	$6,531	$6,531	$6,531	$39,188	System maintenace cost is 15% of System Implementation
4	Initial Cost	$21,012						$21,012	System Implementation initial cost is calculated by 120hours x $175/hour
5	Effectiveness	$6,270	$12,541	$18,811	$25,081	$31,352	$37,622	$131,677	
6	# of reduction of on-site training session	56 sessions	112 sessions	168 sessions	224 sessions	280 sessions	336 sessions		Assuming that PCs are installed into 28 retail stores
7	Ave. cost of on-site training per session	$112	$112	$112	$112	$112	$112		A training consists of 2 sessiones.
8	Ave. human resource cost per session	$35	$35	$35	$35	$35	$35		6 required trainings (12 sessions) for staffs in a retail store shall be replaced in 6 years.
9	Ave. cost per hour	$35	$35	$35	$35	$35	$35		
10	Ave. hours per session	1 hrs	1 hrs	1 hrs	1 hrs	1 hrs	1 hrs		
11	Ave. mileage cost per session	$77	$77	$77	$77	$77	$77		Average mileage cost of past results
12	Benefit (Effectiveness - Cost)	($21,273)	$6,009	$12,280	$18,550	$24,820	$31,091	$71,477	
13	Accumlated benefit	($21,273)	($15,264)	($2,984)	$15,566	$40,386	$71,477		

ROI of 6 years	119%
ROI of a year	19.8%

Appendix A. Feasibility Study of Moodle

Basic Specification of Moodle

Browser

Firefox 4, Internet Explorer 8 (IE 10 required for drag and drop of files from outside the browser into Moodle), Safari 5, Google Chrome 11, Opera 9

Special Needs of Goodwill SWPA for Moodle

Self Course Registration

Moodle has "Self Enrollment" function. A user can enroll a training course by he/herself (Fig. A01.1 - A01.3). After enrolling, a user gets e-mail about welcome to a course from Moodle (Fig. A01.4).
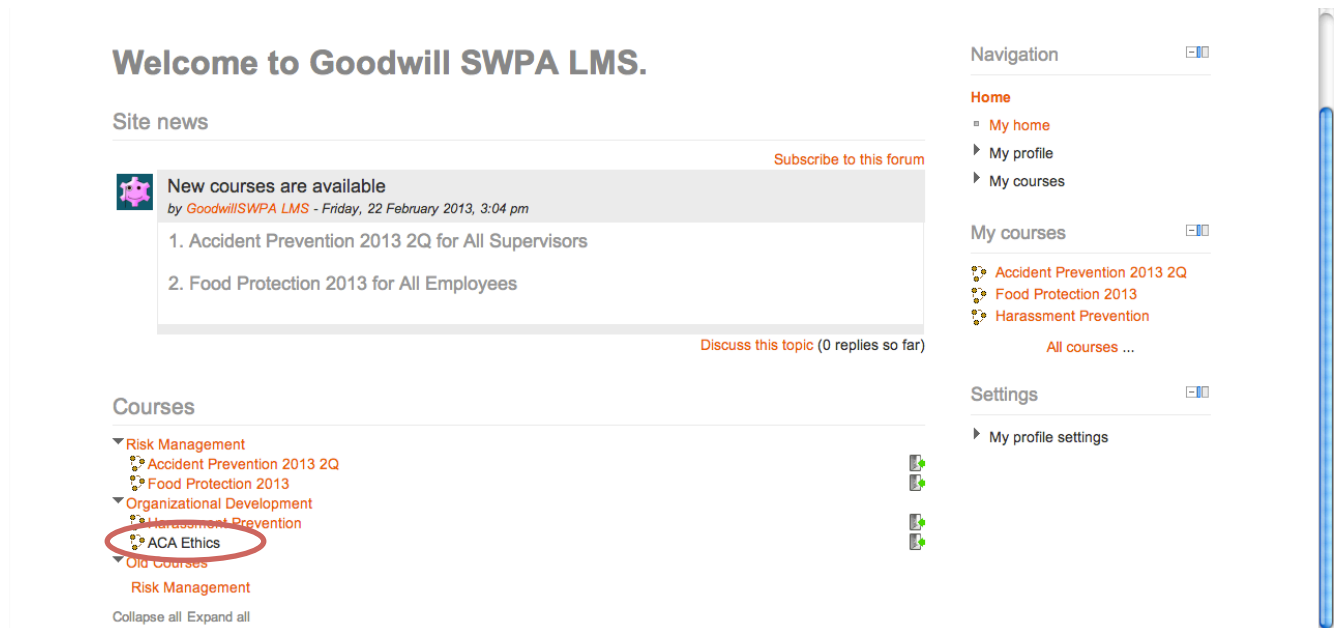
Fig. A01.1 Self enrollment
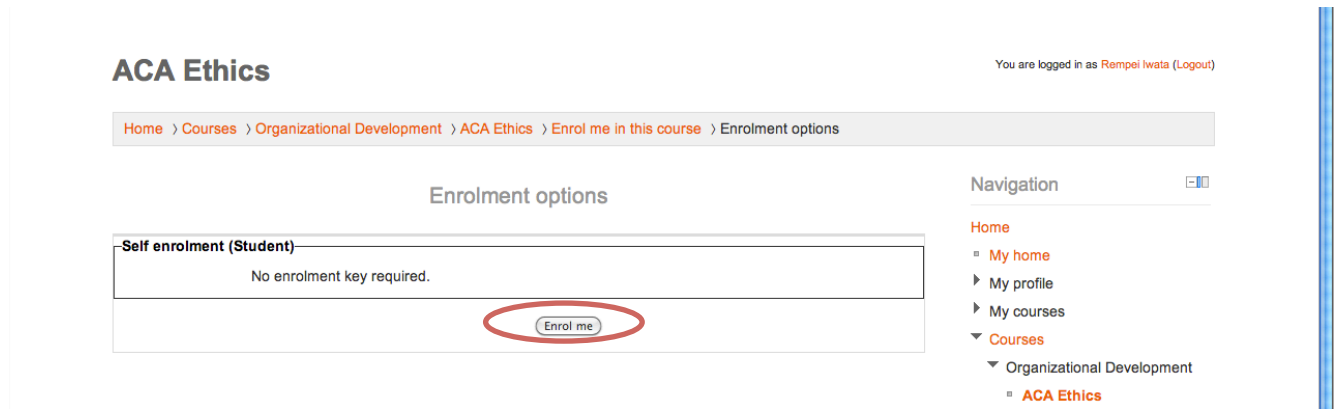
Fig. A01.2 Self enrollment (cont.)

Fig. A01.3 Self enrollment (cont.)
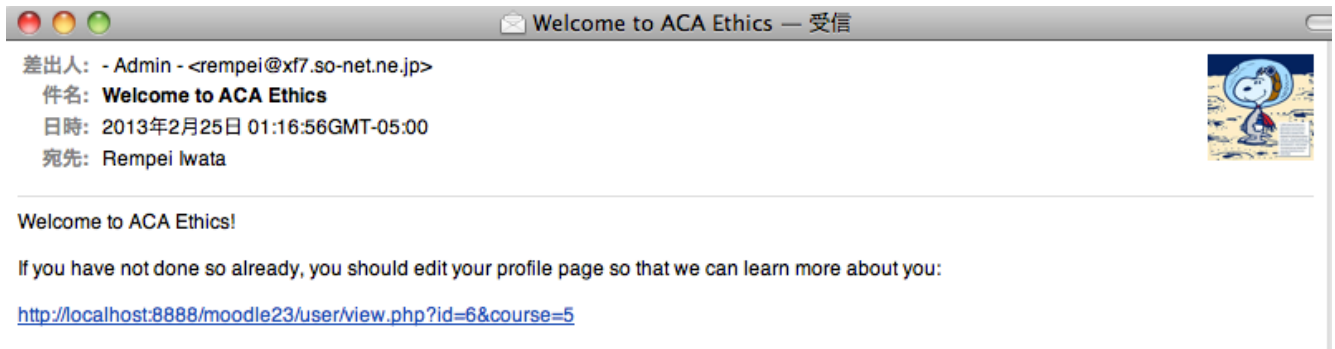
Fig. A01.4 Welcome email

Course List According to Users

My courses block, left hand side of a front page, shows list of courses that a user enrolled (Fig. A02.1).

Only courses that a user enrolled

All courses
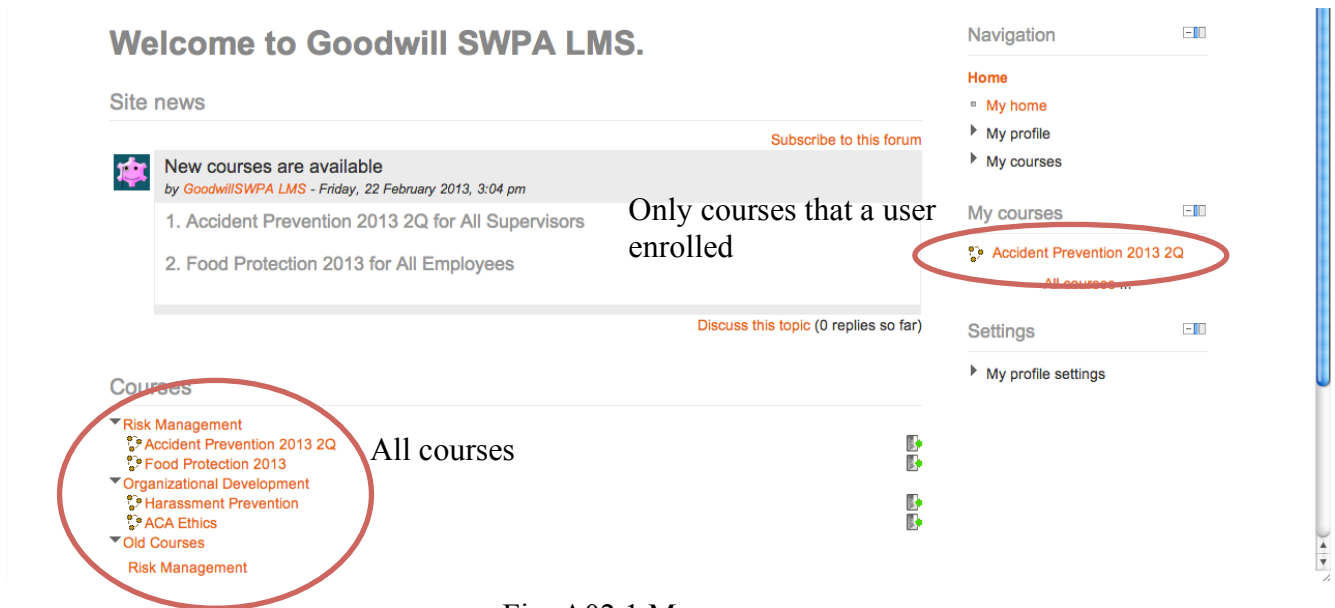
Fig. A02.1 My courses

Check Registration and Progress by Supervisor

Moodle has "Configurable Reports" plugin; a site administrator can register customized report by using SQL. By using this plugin, ONLY a supervisor can see "Course completion of staffs" report that includes status whether staffs of this supervisor complete courses that staffs enroll or not (Fig. A03.1). A supervisor can download this report as Excel spreadsheet.

This report uses custom SQL so basic SQL knowledge is needed to maintain in long-term point of view.

userid	username	firstname	lastname	email	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	5		ACA Ethics	2013-03-06 01:13:31		Not Completed

Fig. A03.1 Course completion of staffs

Special Needs for Interface Function with HR System

Bulk Registration of Users from HR System

Goodwill SWPA aims to use LMS for over 1,100 employees in the end. So it is difficult for an administrator to entry information of users manually one by one. Moodle has "Upload users" function. Upload format is CSV like Fig. A04.1 (To easily see this sample is not CSV but actually CSV). "idnumber" is used to define which this user is "Supervisor" or "Staff". "department" is used to define range of staffs that a supervisor can see their status in "Course completion of staffs" report.

HR system needs to export this format. If already registered users are included in an upload file, Moodle overwrites information that is changed from existing one. For example, a user promotes a supervisor from a staff. And a user transfers a department from Accounting Department to Human Resource.

username	firstname	lastname	email	idnumber	department	profile_field_departmentname
nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	Supervisor	600282	Organizational Development
tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	Organizational Development
sv1	SV1	–	sv1@goodwillswpa.org1	Supervisor	600202	Accounting
rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	Accounting
staff1	Staff1	–	staff1@goodwillswpa.org1	Staff	600202	Accounting
sv2	SV2	–	sv2@goodwillswpa.org1	Supervisor	575421	Business Services
staff2	Staff2	–	staff2@goodwillswpa.org1	Staff	575421	Business Services
sv3	SV3	–	sv3@goodwillswpa.org1	Supervisor	600204	Human Resources
staff3	Staff3	–	staff3@goodwillswpa.org1	Staff	600204	Human Resources
staff4	Staff4	–	staff4@goodwillswpa.org1	Staff	600204	Human Resources

Fig. A04.01 Uploaded file of a user list

Bulk Registration of Training Results to HR System

Moodle has "Configurable Reports" plugin; a site administrator can register customized report by using SQL. By using this plugin, ONLY an administrator, OD staffs, can see "Course completion of

all staffs" report that includes status whether all employees complete courses that employees enroll or not (Fig. A05.1).

An administrator can download this report as Excel spreadsheet (Fig. A05.2). This report can be used to upload to HR system to keep training records of employees (REMPEI: Need to confirm capability of new HR system or require new HR system).

This report uses custom SQL so basic SQL knowledge is needed to maintain in long-term point of view.

userid	username	firstname	lastname	email	title	department	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	Supervisor	600282	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	5		ACA Ethics	2013-03-06 01:13:31		Not Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	4	SAFE2101Q13	Accident Prevention 1Q 2013	2013-02-22 03:29:03	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	6	HR105	Harassment Prevention	2013-02-22 06:02:46	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	7	SAFT9090	Food Protection 2013	2013-02-22 05:57:55		Not Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-22 14:40:40	2013-03-11 08:51:44	Completed

Fig. A05.1 Course completion of all staffs

userid	username	firstname	lastname	email	title	department	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	Supervisor	600282	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	5		ACA Ethics	2013-03-06 01:13:31		Not Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	4	SAFE2101Q13	Accident Prevention 1Q 2013	2013-02-22 03:29:03	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	6	HR105	Harassment Prevention	2013-02-22 06:02:46	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	7	SAFT9090	Food Protection 2013	2013-02-22 05:57:55		Not Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-22 14:40:40	2013-03-11 08:51:44	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	5		ACA Ethics	2013-02-22 14:07:48	2013-02-22 14:11:00	Completed
7	sv1	SV1	-	sv1@goodwillswpa.org1	Supervisor	600202	7	SAFT9090	Food Protection 2013	2013-02-23 00:11:10		Not Completed
8	staff1	Staff1	-	staff1@goodwillswpa.org1	Staff	600202	6	HR105	Harassment Prevention	2013-02-25 10:12:46		Not Completed

Fig. A05.2 Downloaded course completion of all staffs

Appendix B. Choice of Hosting Services

Site Capacities

According to Moodle documents, the number of concurrent users decides a server specification, especially size of RAM. 1 G byte RAM can support 50 concurrent users and 250 browsing users. Based on hearing from Goodwill SWPA, the number of browsing users of a new LMS is 1,300. The number of concurrent users is supposed to be 400. From these figures, a requirement specification of a server is 8 G byte RAM (Fig. B01.1).

Item	#	Unit	Remarks
Basic statistic			
Browsing users	1,300	user	The maximum number of users able to browse your Moodle site.
Concurrent users	400	user	The maximum number of concurrent access users.
Criteria			
Max concurrent users	50	user/RAM(GB)	
Max browsing users	250	user/RAM(GB)	
# of concurrent database connections and the processor load	50	connections/RAM(GB)	
Requirement			
RAM	8	GB	
Max concurrent users	400	user	
Max browsing users	2,000	user	
# of concurrent database connections and the processor load	400	connections and processor loads	

Fig. B01.1 Capacity Requirement of Moodle in Goodwill SWPA

Comparison of Hosting Services

There are two ways to host Moodle. We use outsource of hosting a server by third parties or buy and maintain a server by ourselves. This proposal recommends using a hosting service by a third party. Since Moodle is the most popular LMS, many hosting service providers offer suitable product for hosting Moodle. Some providers offer one-click Moodle install function. This function makes Moodle implementation easy and secure. By using a hosting service, Goodwill SWPA does not need to have server experts internally. Additionally, a hosting service benefits in terms of scalability of a server. This means that Moodle starts by a small server then a server enlarges when users increase.

Sorts of Hosting Services

Four sorts of hosting service for Moodle are Virtual Private Server (VPS) service, Dedicated Server service, Cloud Server service and Moodle Hosting service.

First, VPS service provides hosting a virtually separated server to a customer. Customers share CPUs in a server but can exclusively use assigned size of RAM. Speed of CPU is not guaranteed but scalability is flexible because a server is virtually separated. Second, Dedicated Server service provides hosting a physical server to a customer. A customer exclusively uses CPUs and RAM in a server. Thus, both speed of CPU and size of RAM are guaranteed. However, scalability is less flexible than VPS. Third, Cloud Server service is cutting-edge service. It provides hosting a virtual server for per hour fee. Customers can choose speed of CPU and can exclusively use assigned size

of RAM. But their usage of these resources can be distributed in many servers of a service provider. So scalability is the most flexible in four services. For example, a customer can buy a large RAM for 10 days when usage of Moodle supposes to increase. Finally, Moodle Hosting service provides only hosting of a server in which is installed Moodle. Moodle Partner, certification program of Moodle, provides this service. Thus, it has deeply knowledge about Moodle application. However, by contrast previous 3 services, it normally provides standard functions of Moodle.

Hosting Services to compare

As result of pre-research, this proposal compares 6 hosting services. The first priority of choice of 6 services is that the service providers have one-click Moodle install function because this function enables Goodwill SWPA to install by itself. If this function is not available, Goodwill SWPA needs to hire system engineers.

Site5 and GoDaddy are VPS service providers. InMotionHosting and DreamHost are Dedicated Server service providers. Amzaon Web Service (AWS) is Cloud Server service. Classroom Evolution is Moodle Hosting service. All these services providers have experiences to install Moodle their service and customers uses Moodle on their service. To make installation easy and secure, this proposal chose service providers that has one-click Moodle install function. These service providers, of course, can offer products to meet requirements of site capacities mentioned above.

Comparison of Services and Recommendation

The result of comparison is Appendix B1. All service providers can offers hosting server that enough supports concurrent users and browsing users.

In terms of functions, Site5 and InMotionHosting do not have knockout factor. The consultant confirmed by using a trial service of InMotionHosting that InMotionHosting is feasible. Thus, the consultant recommends InMotionHosting. In addition to satisfaction of functions, InMotionHosting's engineer often answers questions on Moodle community site. This proposal highly evaluates this fact.

In terms of one-click Moodle install function, GoDaddy and DreamHost cannot adopt the latest version, Moodle 2, but adopt Moodle 1.9. Moodle 2 was released 2 years ago. So in future, Moodle community will not probably support Moodle 1.9. And we will have difficulty to get information and best practices. As a result, we need to install Moodle 2 manually if we use GoDaddy or DreamHost. This means that we need server experts and additional payment.

Amzaon Web Service (AWS) seems an ideal service but some people posted technical issues related to performance at Moodle community. And we need to install Web server, DB and PHP other than Moodle by using one-click installer. Thus, if we have a problem, we have to judge which component has problem and had difficulty to solve a problem. Since other services other than Classroom Evolution already set up Web server, DB and PHP, we just install Moodle.

Classroom Evolution provides standard functions of Moodle. So its service does not meet functional requirement such as special report for supervisors of Goodwill SWPA. However, its capability of support for Moodle application attracts us.

Though support service of Moodle application is not relate to hosting services, this proposal recommends that Organizational Development as administrators have this support service, such as how to use Moodle, until Moodle administration is on track. eClass4learning provides The Moodle

Reference Desk (http://www.eclass4learning.com/services/training-end-user-support/moodle-reference-desk/). Its individual subscriptions are $75 per year.

Appendix B1. Comparison and Recommendation of Hosting Service for Moodle

#	Service Elements	Site5	InMotionHosting	GoDaddy
1	Service Elements	Site5	InMotionHosting	GoDaddy
2	URL for host	http://www.site5.com/	http://www.inmotionhosting.com/	http://www.godaddy.com/
3	URL for Plans	http://www.site5.com/vps/normal/	http://www.inmotionhosting.com/dedicated_servers.html	http://www.godaddy.com/hosting/vps-hosting.aspx?ci=90
4	Plan name	Virtual Server(VPS8)	Dedicated Servers(Elite)	Virtual Private Servers(Ultimate)
5	User			
6	Users	2000	2000	2000
7	Concurrent users	400	400	400
8	Server			
9	CPU	-	3.30GHz Turbo Quad Core/8T	-
10	RAM	8GB	8GB	8GB
11	Storage	400GB	250GB	240GB
12	Bandwidth	4.5TB	8TB	8TB
13	Uptime	99.99%	99.90%	99.90%
14	Installation			
15	One-click install	Yes	Yes	Yes
16	Moodle	2.0	2.0	1.9
17	Capability of Customization			
18	Concurrent database connections	?	?	?
19	Editable htaccess	Yes	Yes	Yes
20	Cron job	Yes	Yes	Yes
21	Support			
22		24/7 tech support	24/7 tech support	24/7 tech support
23	Price			
24	Price(/hour)			
25	Price(/month)	$390.00	$259.95	$149.99
26	Price(/year)	$4,680.00	$3,119.40	$1,799.88
27	Remarks			
28	Pros			
29		Scale up or down easily. The smallest plan, VPS1, is for $55/m.	Scale up or down easily. The smallest plan, Essential, is for $149.95/m.	Scale up or down easily. The smallest plan, Economy, is for $29.99/m.
30		They mentions on their web site about Moodle experts on staff who are available 24/7 to help.	They have web pages for how to intall and use Moodle.	Running reporting plugin and customized SQL.
31		They have web pages for how to intall Moodle.	Running reporting plugin and customized SQL.	
32		Running reporting plugin and customized SQL.	Their engineer often answers questions on Moodle community site.	
33	Cons			
34		The highest price.	Scalability of delicated servers is less flexible than VPS.	Needs to intall Moodle 2 manually.
35				
36				
37	Comment	So far research, we don't find any knockout factor. Since they offer a free trial, we try to intall Moodle and to do initial settings (e.g. special report, etc.) to estimate availability of this service.	So far research, we don't find any knockout factor. Since they offer a free trial, we try to intall Moodle and to do initial settings (e.g. special report, etc.) to estimate availability of this service. The consultant confirmed to use Moodle by using a trial service.	Mannally installing Moodle is knock-out factor because this is against easy implementation without an IT expert.
38	Recommendation	2nd Recommend	1 st Recommend	Not recommend

Appendix B1. Comparison

#	Service Elements	DreamHost	Amzaon Web Service (AWS)	Classroom Evolution
1	Service Elements	DreamHost	Amzaon Web Service (AWS)	Classroom Evolution
2	URL for host	http://dreamhost.com/	https://aws.amazon.com/	http://classroomrevolution.com/
3	URL for Plans	http://dreamhost.com/dedicated/	https://aws.amazon.com/marketplace/pp/B007IOB73K/ref=s	http://classroomrevolution.com/sharedmoodlehosting/
4	Plan name	Dedicated Server(Blue Moon 8)	High-Memory XL (m2.xlarge)	CR30
5	User			
6	Users	2000	1875	2000
7	Concurrent users	400	375	?
8	Server			
9	CPU	quad-core CPU	-	-
10	RAM	8GB	7.5GB	?
11	Storage	1000GB	Measured rate($0.1/GB month)	?
12	Bandwidth	Unlimited	10TB	?
13	Uptime	100%	?	?
14	Installation			
15	One-click install	No(They don't recommend to use it product environment.)	Yes	Yes
16	Moodle	1.9	2.0	2.0
17	Capability of Customization			
18	Concurrent database connections	?	?	?
19	Editable htaccess	Yes	Yes	?
20	Cron job	Yes	Yes	?
21	Support			
22		24/7 tech support	24/7 tech support	24/7 tech support (Moodle application support(additional $1K/yr))
23	Price			
24	Price(/hour)		$0.24	
25	Price(/month)	$209.00	$178.56	$158.33
26	Price(/year)	$2,508.00	$2,142.72	$1,899.95
27	Remarks		Above mothly price is estimated based on always running a server for 744hr (24hr x 31days)	
28	Pros			
29		The smallest plan, New moon 2, is for $109/m.	Scale up or down easily.	Scale up or down easily. The smallest plan, CR10, is for $75/m.
30		Running reporting plugin and customized SQL.	Unless using Moodle, they don't charge.	Special hosting service for Moodle.
31			Running reporting plugin and customized SQL.	Special support how to use Moodle can be included for $1,000/y.
32				
33	Cons			
34		Needs to install Moodle 2 manually.	AWS only offer OS and cloud server. We need to install Web server, DB and PHP other than Moodle by using one-click installer. Thus, if we have a problem, we have difficulty to solve it. Since other services already set up Web server, DB and PHP, we just install Moodle.	Not running reporting plugin and customized SQL.
35		There is some troublesomes about PHP extention when installing Moodle.	Since this is cutting edge solution, much informatinon is not on the web.	
36		Scalability of delicated servers is less flexible than VPS.		
37	Comment	They don't recommend to build a product environment by using one-click installing.	We possibly get less price than above even though we get high performance. But this technology is cutting edge so we need an IT expert about AWS. Finally, implementation cost becomes high.	We don't get functional requirement(e.g. special report, etc.).
38	Recommendation	Not recommend	Not recommend	Not recommend

Appendix C. Install Moodle to InMotionHosting's Hosting Server

Prerequisite

To install and do setting Moodle, an email address for a site administrator is needed. All emails from Moodle such as welcome email to a course and message from an administrator are sent by this email address. And a staff of Organizational Development (OD) needs to register this email address in his/her email client to receive email. Other than the email address, SMTP hosts and port, SMTP user name and SMTP password are needed to do setting.

Domain Name

Domain name: learngoodwillswpa.org

This project does not use subdomain such as learn.goodwillswpa.org because of avoiding change A(*ei*) record of DNS that administrate goodwillswpa.org. By doing so, side effects to other system such as Goodwill SWPA Home Page can be avoided when starting Moodle.

Basic Information

Moodle version: 2.4.3

PHP version: 5.3

MySQL version: 5.1.68

Domain name: learngoodwillswpa.org

Directory structure:

/home/					
	{username of InMotionHosting}/				
		bin/			
				assignstudentrole.sql	SQL for automatically assigning student role
				assignsupervisorrole.sql	SQL for automatically assigning supervisor role
				moodlecron.sh	Shell script for the cron job
				removestudentrole.sql	SQL for automatically removing student role
				removesupervisorrole.sql	SQL for automatically removiing supervisor role
		moodledata/			Directories and files of databalse for Moodle
		public_html/			
			moodle/		Program files of Moodle
		var/			
			log/		
				moodlecron.log	Log file of the cron job
				moodlecronerr.log	Error log file of the cron job

Domain Name

Register a domain name such as "learngoodwillswpa.org" to use Moodle by following an instruction of InMotionHosting, Registering a New Domain Name (http://www.InMotionhosting.com/support/domain-names/registrations-and-transfers/registering-a-new-domain-name).

Dedicated SSL

To allow a user to log in via SSL connection, register dedicated SSL on InMotionHosting. See http://www.inmotionhosting.com/support/website/ssl/how-do-i-obtain-an-ssl-certificate.

1. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Other at Additional Services.

2. Click your domain, select 5 years and then Request SSL Certificate Purchase (Fig. C01.1). Then click Next to buy it.

Hello Rempei   What is AMP?   Logout

Other > Shared > Add SSL Certificate

Dedicated SSL

Below is the information we need for setting up the secure certificate so we can generate the CSR for your account. Please ensure all fields are filled in completely and correctly.

SSL certificates purchased through us are $99.95/yr which includes the needed dedicated IP address. There is a one-time installation fee of $25 for all SSL certificates.

Term Length:	1 Year
Certificate Name:	rempei.com Learn More

Cancel   Next >>

Fig. C01.1 Purchase dedicated SSL (An actual screen has learngoodwillswpa.org at Certificate Name)

3. You will receive email that InMotionHosting finishes to register your dedicated SSL.

Install Moodle

1. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Work in Your Control Pane to show cPanel.

2. Click Moodle 2.0 at Top Applications (Fig. C02.1).

Fig. C02.1 Start to install Moodle

3.   Click Install located above the description of the software (Fig. C02.2).

Fig. C02.2 Start to install Moodle

4.   Fill out all of the installation details as below and then click the Install button at the bottom of the page (Fig. C02.3).

Software Setup

Choose the version you want to install: 2.4.3

Choose Protocol: http://

Choose Domain: learngoodwillswpa.org

In Directory: moodle

Data Directory: moodledata

Database Name: moodle243

Cron Job: Min 8, Hour *, Day *, Month *, Weekday *

Site Settings

Site name: Learn Goodwill SWPA

Description: Learn Goodwill SWPA

Database Settings

Table Prefix: mdl_

Admin Account

Administrator-username: admin

Password: moodleadmingoodwill (This password needs to be changed.)

Admin first name: Goodwill SWPA

Admin last name: LMS

Admin e-mail: E-mail of OD's administrator

Choose Language

Language: English

Advanced Options

Disable Update Notifications: Ticked

Email installation details to: Your e-mail

Software Setup

Choose the version you want to install
Please select the version to install.
`2.4.3`

Choose Protocol
If your site has SSL, then please choose the HTTPS
protocol.
`http://`

Choose Domain
Please choose the domain to install the software.
`rempei.com`

In Directory
The directory is relative to your domain and **should not
exist**. e.g. To install at http://mydomain/dir/ just type **dir**.
To install only in http://mydomain/ leave this empty.
`moodle`

Data Directory
This script requires to store its data in a folder not
accessible via the web. It will be created in your home
folder. i.e. if you specify **datadir** the following will be
created - /home/username/**datadir**
`moodledata`

Database Name
Type the name of the database to be created for the
installation
`mood243`

CRON Job
This script requires a CRON to work. Please specify the
CRON timings. If you are unaware of it, leave it as it is!

Min	Hour	Day	Month	Weekday
8	*	*	*	*

Fig. C02.3 Settings to install Moodle

Site Settings

Site Name	Learn Goodwill SWPA
Site Description	Learn Goodwill SWPA

Database Settings

Table Prefix	mdl_

Admin Account

Admin Username	admin
Admin Password	moodleadmingoodwill
First Name	Goodwill SWPA
Last Name	LMS
Admin Email	rempei.iwata@gmail.com

Choose Language

Select Language	English

Advanced Options

Disable Update Notifications
If checked you will not receive an email notification for
updates available for this installation. ☑

(Install)

Fig. C02.3 Settings to install Moodle (cont.)

5. After clicking the Install button, you will see a progress bar dictating how much time is left for the installation. When your new software has been installed, you'll see a message similar to the following (Fig. C02.4): Congratulations, the software was installed successfully.

Congratulations, the software was installed successfully

Moodle has been successfully installed at :
http://rempei.com/moodle
Administrative URL : http://rempei.com/moodle/admin

We hope the installation process was easy.

NOTE: Softaculous is just an automatic software installer and does not provide any support for the individual software packages. Please visit the software vendor's web site for support!

Regards,
Softaculous Auto Installer

Return to Overview

Fig. C02.4 Finish to install Moodle

6. Access to http://learngoodwillswpa.org/moodle to confirm that the front page is shown (Fig. C02.5). Access to http://learngoodwillswpa.org/moodle/admin to confirm that the login page is shown (Fig. C02.6).
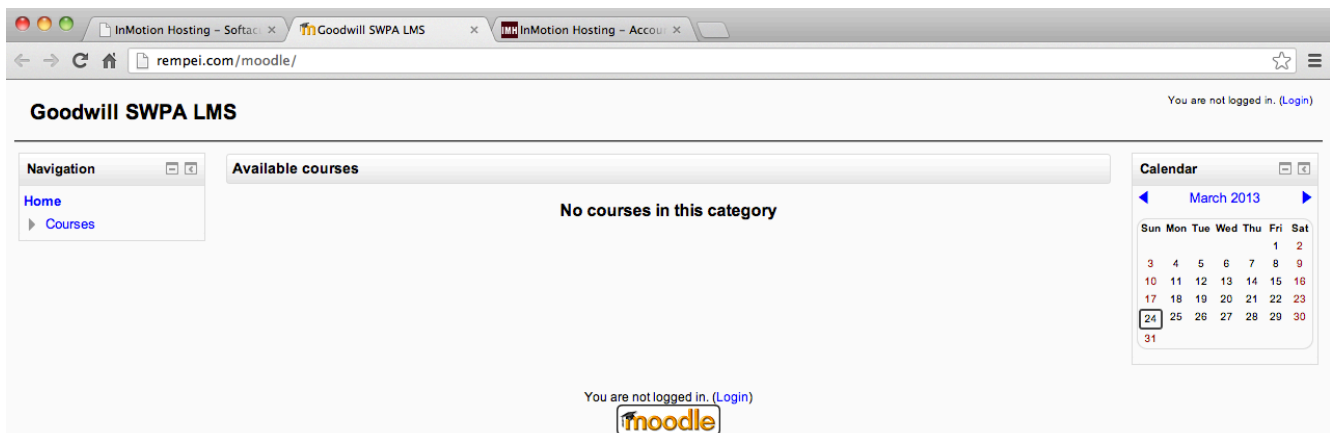
Fig. C02.5 First access to Moodle
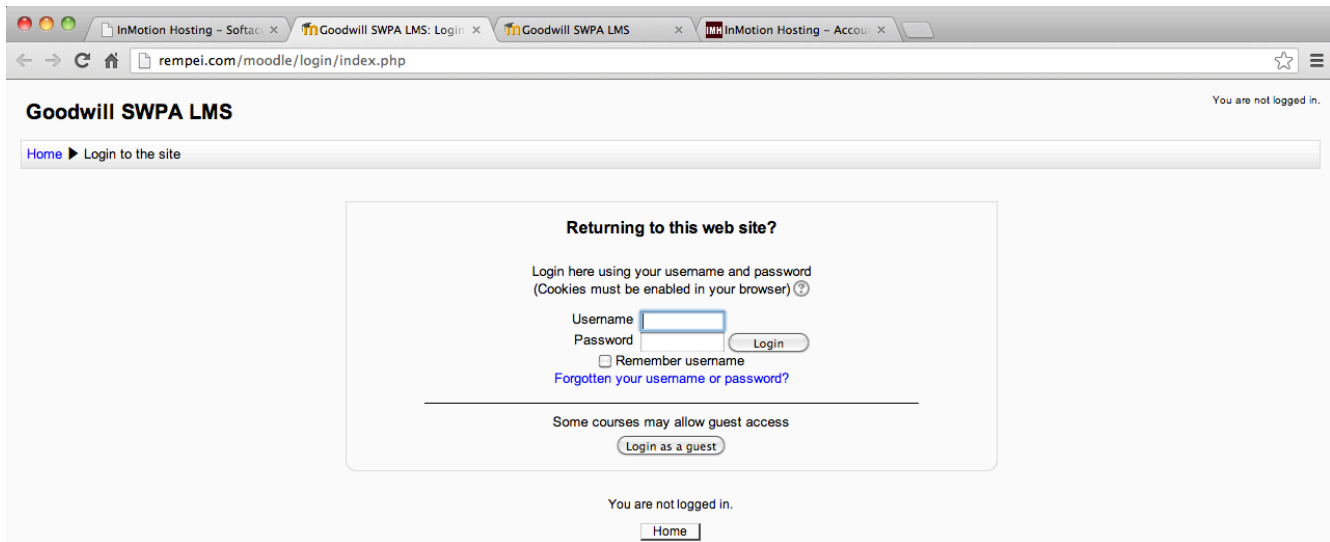
Fig. C02.6 First access to Moodle by admin

Setting Cron

To realize Goodwill SWPA's special needs, delete the default cron job of Moodle and set a new cron job, moodlecron.sh, to run it every 5 minutes. This cron job runs following programs:

Standard Moodle cron job: moodle/admin/cli/cron.php

SQL to assign supervisor roles: assignsupervisorrole.sql

SQL to remove supervisor roles: removesupervisorrole.sql

SQL to assign student roles: assignstudentrole.sql

SQL to remove student roles: removestudentrole.sql.

Moodle does not have function that when uploading users, Moodle automatically assign and remove user roles. So this project realizes this function by above SQLs. See details of these SQLs and this function at Appendix F. Special Function for Goodwill SWPA.

First, in this setting, delete default setting. Second, create directories. Third, edit moodlecron.sh. Forth, place files, which this instruction offers at /SettingFiles/sql/Role, at proper directory (Fig. C03.1). Finally, register cron on the server.

1. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Work in Your Control Pane to show cPanel.

2. Click FileManger, select Home Directory and click Go.

3. Click home directory such as /home/rempeit5. Click New folder and enter bin in New Folder Name to create bin directory under home directory such as /home/rempei5/bin.

4. Click bin directory under home directory such as /home/rempei5/bin.

5. Click home directory such as /home/rempeit5. Click New folder and enter var in New Folder Name to create var directory under home directory such as /home/rempei5/var.

6. Click var directory such as /home/rempeit5/var. Click New folder and enter log in New Folder Name to create log directory under var directory such as /home/rempei5/var/log.

7. Select /home/{username of InMotionHosting}/public_html/moodle/config.php file such as /home/rempei5/public_html/moodle/config.php and click View to confirm a username and a password of the database. Remember a username and a password (Fig. C03.1).

```php
PHP config.php
PHP script text

<?php  // Moodle configuration file

unset($CFG);
global $CFG;
$CFG = new stdClass();

$CFG->dbtype    = 'mysqli';
$CFG->dblibrary = 'native';
$CFG->dbhost    = 'localhost';
$CFG->dbname    = 'rempei5_mood243';
$CFG->dbuser    = 'rempei5_mood243';
$CFG->dbpass    = '██████63';
$CFG->prefix    = 'mdl_';
$CFG->dboptions = array (
 'dbpersist' => 0,
 'dbsocket' => 0,
);

$CFG->wwwroot   = 'http://rempei.com/moodle';
$CFG->dataroot  = '/home/rempei5/moodledata';
$CFG->admin     = 'admin';

$CFG->directorypermissions = 0777;

$CFG->passwordsaltmain = 'czkej8hulmwponmugrjptuzdpx2els';

require_once(dirname(__FILE__) . '/lib/setup.php');

// There is no php closing tag in this file,
// it is intentional because it prevents trailing whitespace problems!
```
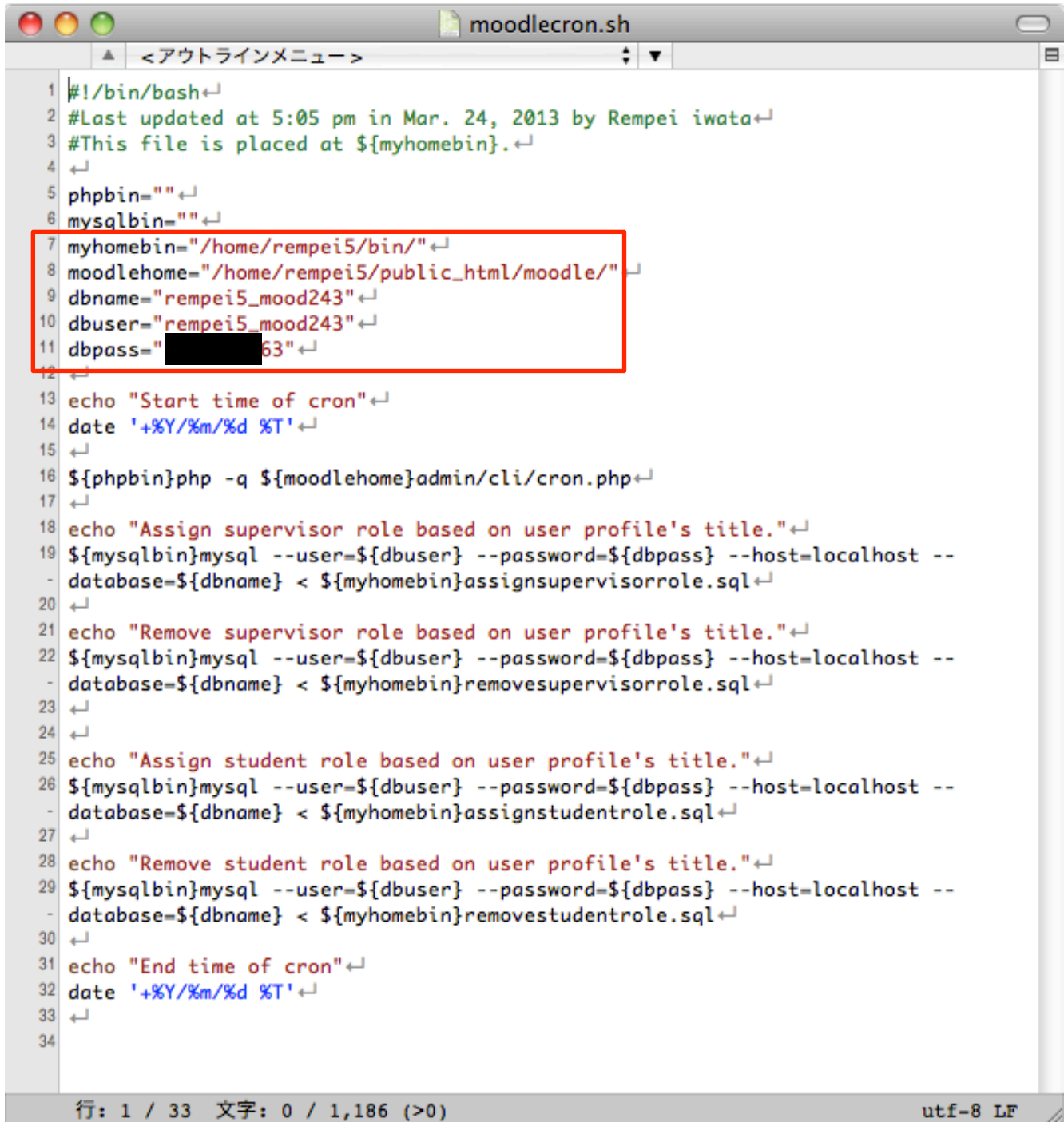
Fig. C03.1 Confirm a username and a password of the database

8. Open /SettingFiles/sql/Role/moodlecron.sh of this instruction at a local PC. Edit dbname, dbuser and dbpass as config.php. Additionally edit /home/{username of InMotionHosting}/bin/ at myhomebin and /home/{username of InMotionHosting}/public_html/moodle/ at moodlehome properly (Fig. C03.2).


```
1  #!/bin/bash
2  #Last updated at 5:05 pm in Mar. 24, 2013 by Rempei iwata
3  #This file is placed at ${myhomebin}.
4
5  phpbin=""
6  mysqlbin=""
7  myhomebin="/home/rempei5/bin/"
8  moodlehome="/home/rempei5/public_html/moodle/"
9  dbname="rempei5_mood243"
10 dbuser="rempei5_mood243"
11 dbpass="          63"
12
13 echo "Start time of cron"
14 date '+%Y/%m/%d %T'
15
16 ${phpbin}php -q ${moodlehome}admin/cli/cron.php
17
18 echo "Assign supervisor role based on user profile's title."
19 ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
-  database=${dbname} < ${myhomebin}assignsupervisorrole.sql
20
21 echo "Remove supervisor role based on user profile's title."
22 ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
-  database=${dbname} < ${myhomebin}removesupervisorrole.sql
23
24
25 echo "Assign student role based on user profile's title."
26 ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
-  database=${dbname} < ${myhomebin}assignstudentrole.sql
27
28 echo "Remove student role based on user profile's title."
29 ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
-  database=${dbname} < ${myhomebin}removestudentrole.sql
30
31 echo "End time of cron"
32 date '+%Y/%m/%d %T'
33
34
```

Fig. C03.2 Edit moodlecron.sh

9. Click Upload. Tick Execute at User. Then choose moodlecron.sh at /SettingFiles/sql/Role of a local PC.

10. Remove tick of Execute at User. Then choose assignsupervisorrole.sql at /SettingFiles/sql/Role of a local PC.

11. Choose removesupervisorrole.sql at /SettingFiles/sql/Role of a local PC.

12. Choose assignstudentrole.sql at /SettingFiles/sql/Role of a local PC.

13. Choose removestudentrole.sql at /SettingFiles/sql/Role of a local PC.
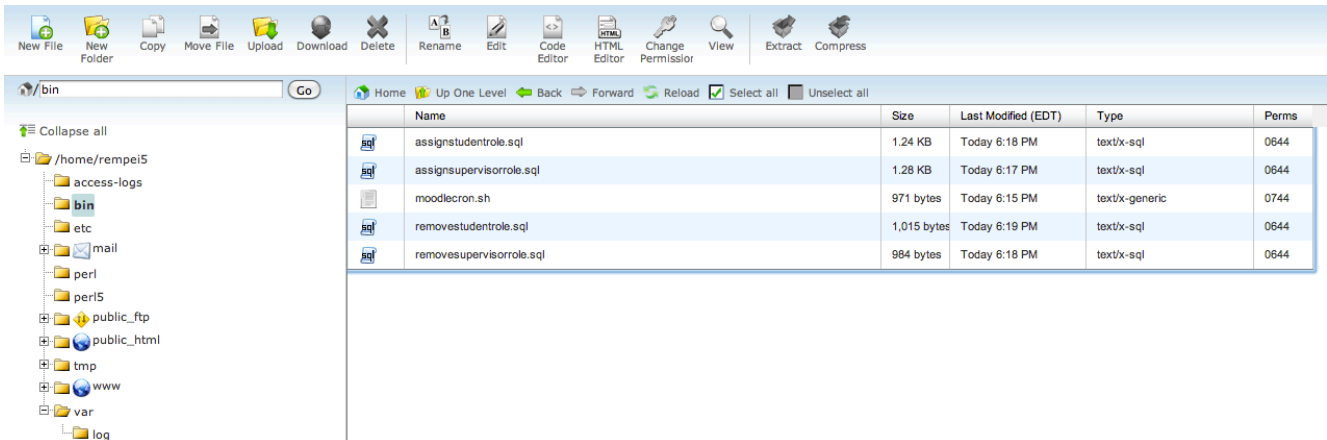
Fig. C03.3 Directory structure for cron job

14. Close File Manager screen. Then retrun cPanel.

15. Click Cron Jobs at the bottom of cPanel.

16. Delete a default corn job of Moodle (Fig. C03.4).

Fig. C03.4 Delete a default cron job of Moodle

17. Select Every 5 minutes at Command Settings.

18. Enter following at Command (Fig. C03.5).

```
/home/{username of InMotionHosting}/bin/moodlecron.sh 1>/home/{username of
InMotionHosting}/var/log/moodle.log 2>/home/{username of
InMotionHosting}/var/log/moodleerr.log
```

For example,
```
/home/rempei5/bin/moodlecron.sh 1>/home/rempei5/var/log/moodle.log
2>/home/rempei5/var/log/moodleerr.log
```

Cron Email

Send an email every time a cron job runs. less »

You can have cron send an email everytime it runs a command. If you do not want an email to be sent for an individual cron job you can redirect the command's output to /dev/null like this: mycommand >/dev/null 2>&1

Current Email: **rempei5**

Email: [   ]

(Update Email)

Add New Cron Job

Common Settings: [Every 5 minutes (*/5 * * * *) ‡]

Minute: [*/5] [Every 5 minutes (*/5) ‡] ✔

Hour: [*] [Every hour (*) ‡] ✔

Day: [*] [Every day (*) ‡] ✔

Month: [*] [Every month (*) ‡] ✔

Weekday: [*] [Every weekday (*) ‡] ✔

Command: [/home/rempei5/bin/moodlecron.sh 1>/hom] ✔

(Add New Cron Job)

Current Cron Jobs

MINUTE	HOUR	DAY	MONTH	WEEKDAY	COMMAND	ACTIONS
				No Cron Jobs		

Fig. C03.5 Setting of a cron job

19.   Click Add New Cron Job.

Confirm Installation

1.   Access http://learngoodwillswpa.org/moodle/.

2.	Log in by admin account, username: admin, password: moodleadmingoodwill (Fig. C04.1, Fig. C04.2).
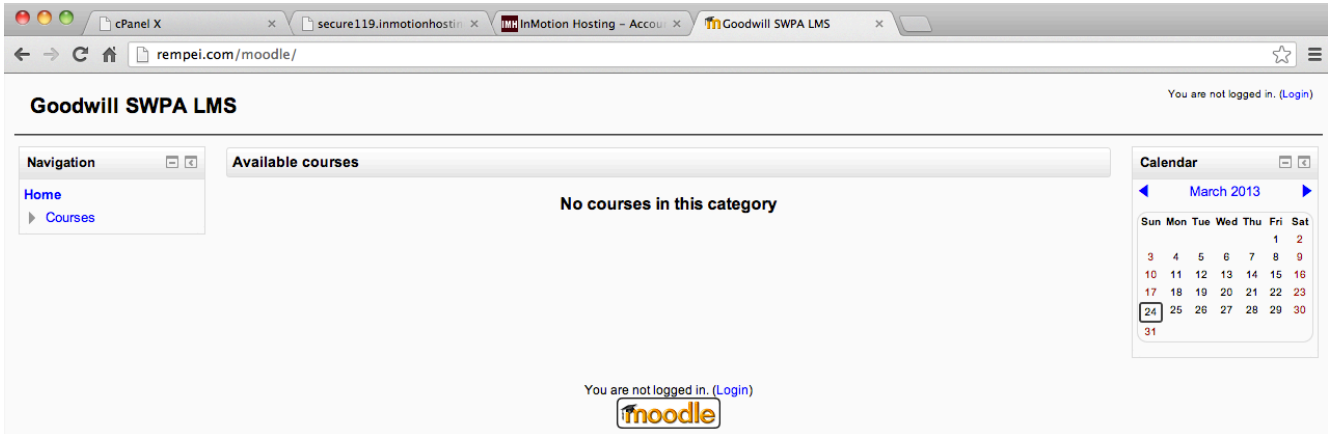
Fig. C04.1 Confirm login function
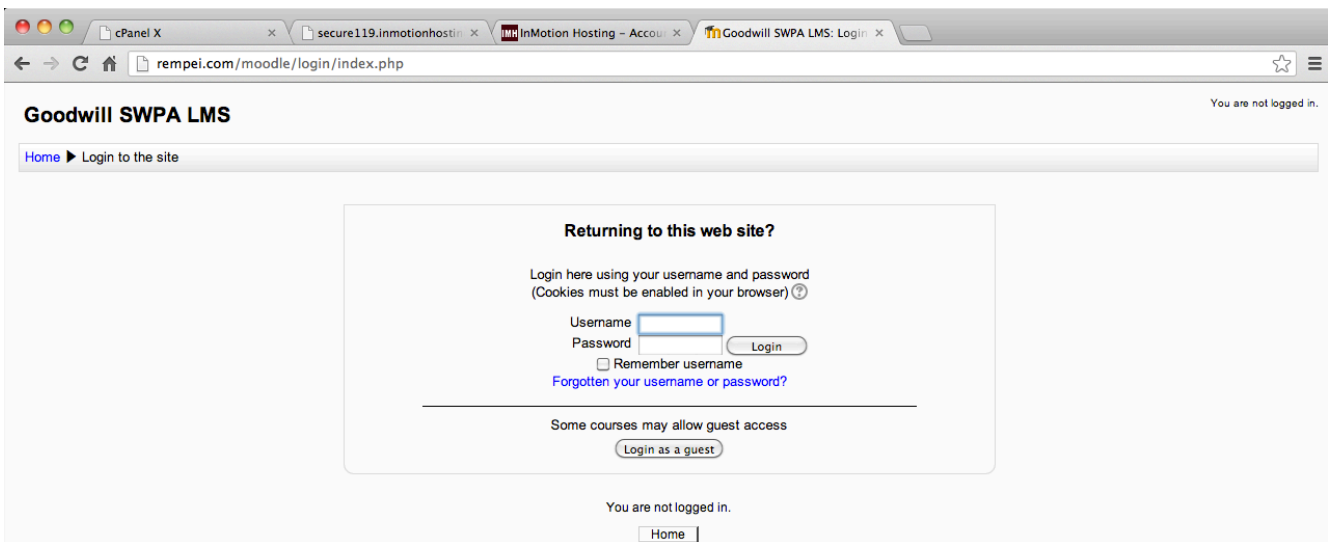
Fig. C04.2 First log in
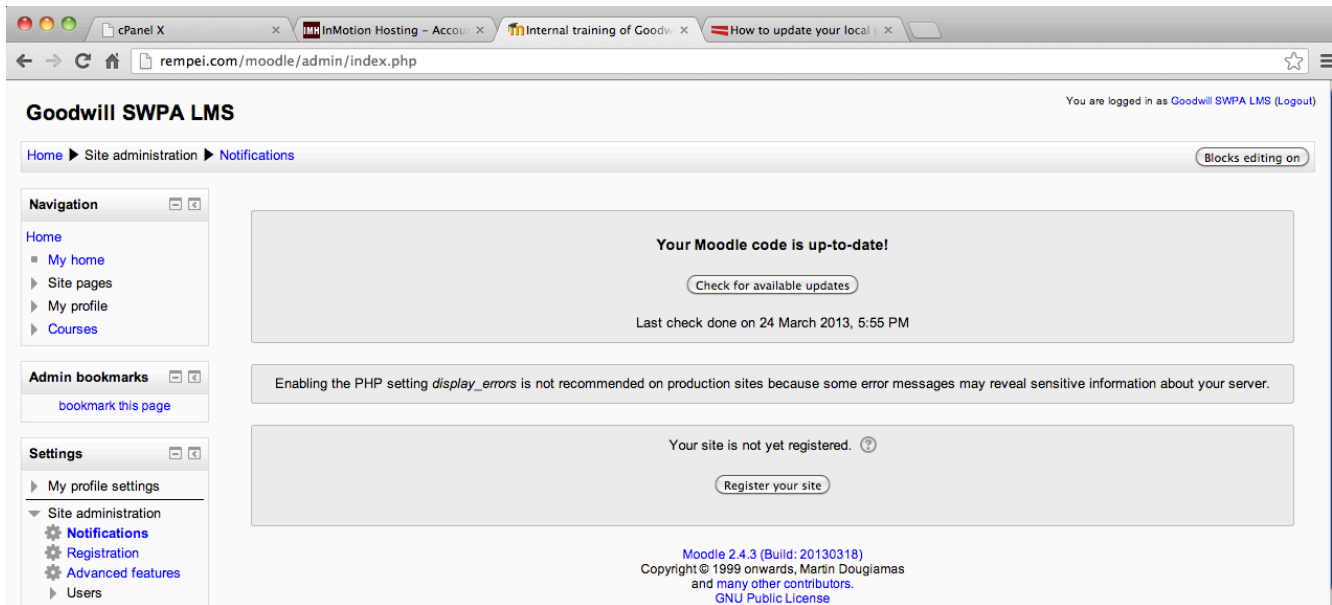
Fig. C04.3 First logged in screen

3. If you can log in Moodle, the installation of Moodle is successful (Fig. C04.3). Log out.

4. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Work in Your Control Pane to show cPanel.

5. Click FileManger, select Home Directory and click Go.

6. Select /home/{username of InMotionHosting}/var/log/moodle.log file and click View. If results of the cron is outputted, cron setting is successful (Fig. C04.4). Addtionally confirm that /home/{username of InMotionHosting}/var/log/moodleerr.log is empty.

```
moodle.log
ASCII English text

Start time of cron
2013/03/24 21:20:01
Server Time: Sun, 24 Mar 2013 18:20:02 -0700


Running clean-up tasks...
 Deleted old backup records
 Deleted old cache_text records
 Executed tag cron
 Cleaned up context instances
 Built context paths
 Cleaned cache flags
 Cleaned up read notifications
...finished clean-up tasks
 Created missing context instances
Cleaned up stale user sessions
Running auth crons if required...
Running enrol crons if required...
Starting activity modules
Processing module function assign_cron ...done.
... used 7 dbqueries
... used 0.066454172134399 seconds
done.
Processing module function chat_cron ...... used 5 dbqueries
... used 0.0033218860626221 seconds
done.
Processing module function forum_cron ...Starting digest processing...
Cleaned old digest records
... used 4 dbqueries
... used 0.0035219192504883 seconds
done.
Processing module function quiz_cron ...
  Looking for quiz overdue quiz attempts...
  Considered 0 attempts in 0 quizzes.
Starting quiz reports
Finished quiz reports
... used 4 dbqueries
... used 0.027038097381592 seconds
done.
Processing module function scorm_cron ...... used 1 dbqueries
... used 0.003122091293335 seconds
```

Fig. C04.4 Run cron successfully

```
Processing module function scorm_cron ...... used 1 dbqueries
... used 0.003122091293335 seconds
done.
Processing module function workshop_cron ... processing workshop subplugins ...
Starting workshop allocation methods
Processing cron function for workshopallocation_scheduled...
... no workshops awaiting scheduled allocation. done. (1 dbqueries, 0 seconds)
Finished workshop allocation methods
... used 6 dbqueries
... used 0.0097570419311523 seconds
done.
Finished activity modules
Starting blocks
Processing cron function for rss_client....
0 feeds refreshed (took 0.00017100000000003 seconds)
done.
Finished blocks
Starting admin reports
Finished admin reports
Starting main gradebook job...
done.
Starting processing the event queue...
done.
Starting course reports
Finished course reports
Starting gradebook plugins
Finished gradebook plugins
Updating calendar subscriptions:
Finished updating calendar subscriptions.
Fetching external blog entries...done.
Deleting blog associations linked to non-existent contexts...done.
Starting the question bank cron...
  Cleaning up old question previews...done.
done.
Starting registration update on hubs...
Finished registration update on hubs.
Recently fetched info about available updates is still fresh enough, skipping.
Deleting session linked tokens more than one day old...done.
Starting repository plugins
Processing cron function for repository_dropbox...
done. (1 dbqueries, 0 seconds)
Finished repository plugins
Starting admin tools
```

Fig. C04.4 Run cron successfully (cont.)

```
Starting admin tools
Processing cron function for tool_qeupgradehelper...
done. (1 dbqueries, 0 seconds)
Finished admin tools
Checking automated backup status...INACTIVE
Deleting old draft files... done.
Deleting orphaned preview files... done.
Cron script completed correctly
Execution took 0.310105 seconds
Assign supervisor role based on user profile's title.
Remove supervisor role based on user profile's title.
Assign student role based on user profile's title.
Remove student role based on user profile's title.
End time of cron
2013/03/24 21:20:02
```
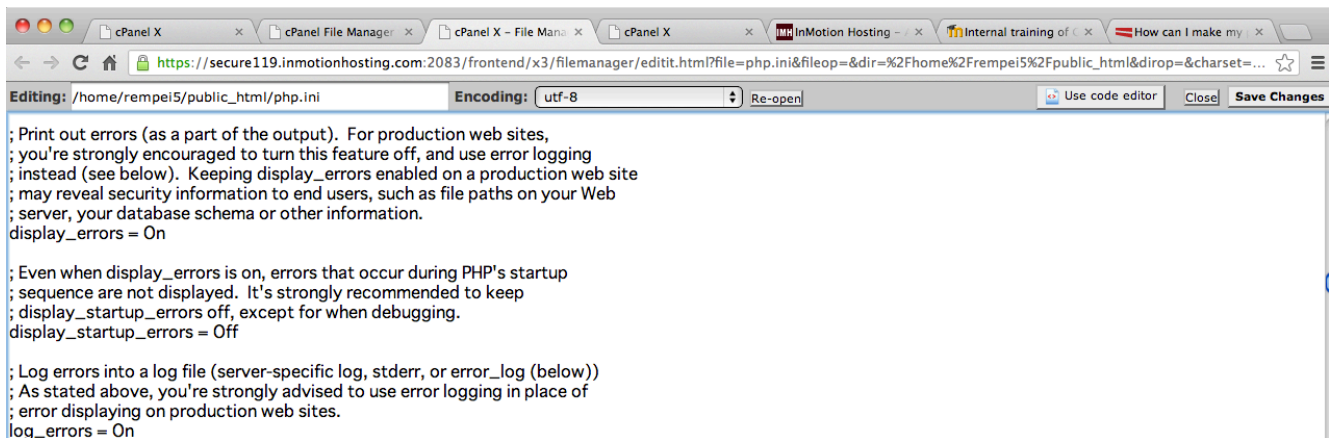
Fig. C04.4 Run cron successfully (cont.)

Edit php.ini

Default error display setting at php.ini shows internal program errors to users. This is not recommended in aspect of security. So change this default setting at php.ini.

1. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Work in Your Control Pane to show cPanel.

2. Click FileManger, select Home Directory, tick Show Hidden Files and click Go.

3. Select /home/{username of InMotionHosting}/public_home/php.ini file and click Edit.

4. Change display_errors = On into display_errors = Off. And click Save Changes (Fig. C05.1, Fig. C05.2).

Fig. C05.1 Before changing display_errors setting
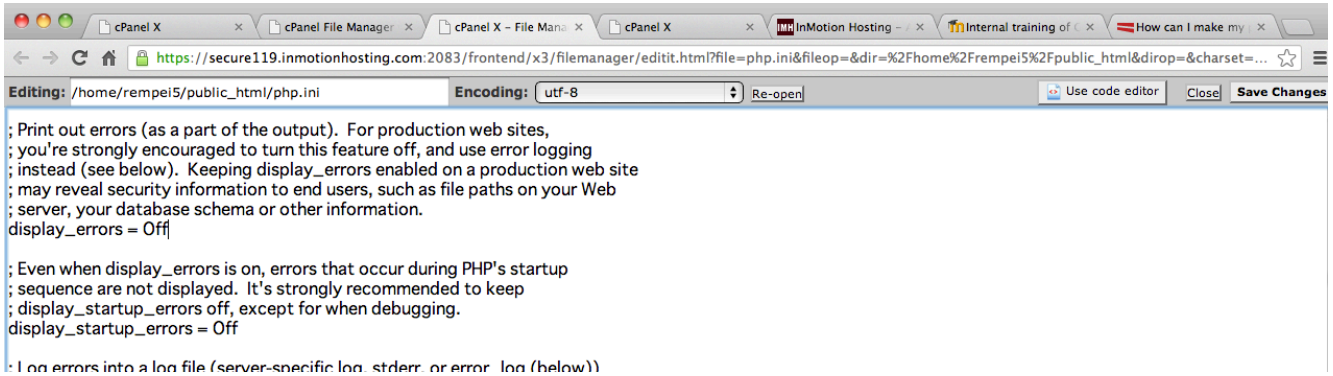
Fig. C05.2 After changing display_errors setting

5. Select /home/{username of InMotionHosting}/public_home/.htaccess file and click Edit.

6. Add suPHP_ConfigPath /home/{username of InMotionHosting}/public_html in .htaccess file (Fig. C05.3).
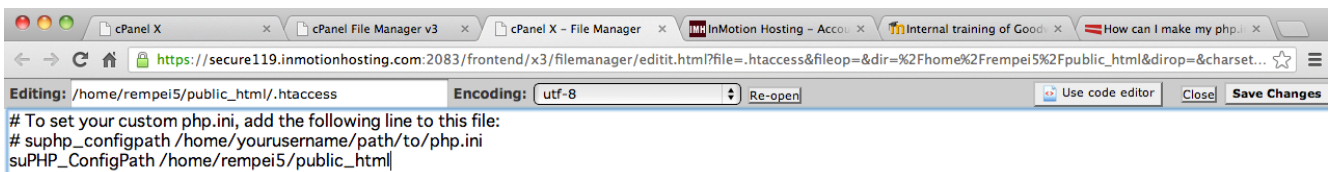
Fig. C05.3 .htaccess settings

Install Configurable Reports Plugin

1. Download plugin from https://moodle.org/plugins/view.php?plugin=block_configurable_reports.

2. Log into AMP of InMotinoHosting (http://www.inmotionhosting.com/). Then click Work in Your Control Pane to show cPanel.

3. Click FileManger, select Home Directory and click Go.

4. Select /home/{username of InMotionHosting}/public_html/moodle/blocks/ and click Upload.

5. Upload zip file of a plugin such as block_configurable_reports_moodle24_2011040105.zip.

6. Select zip file of a plugin and click Extract.

7. Select zip file of a plugin and click Delete.

8. Access http://learngoodwillswpa.org/moodle/.

9. Log in by admin account, username: admin, password: moodleadmingoodwill.

10. Click Upgrade database now at the bottom of a screen (Fig. C06.1 does not well capture this button).

Fig. C06.1 Install plugin

Fig. C06.2 Complete to install plugin

Setting SSL Log in

To make log in secure, change setting that allows a user to log in via SSL connection. First, purchase dedicated SSL such as https://learngoodwillswpa.org. Then, change settings of Moodle. See http://www.inmotionhosting.com/support/website/ssl/how-do-i-obtain-an-ssl-certificate and http://www.inmotionhosting.com/support/edu/moodle/moodle-site-security/force-ssl-login.

1. After receiving email that InMotionHosting finishes installing SSL on the server, access https://learngoodwillswpa.org/moodle/.

2. **IF YOU SEE FIG. C07.1 OR FIG. C07.2, SSL IS NOT READY YET. DO NOT DO FOLLOWING SETTING CHANGE BEFORE READY. OTHERWISE YOU LOCK OUT BY YOURSELF.**
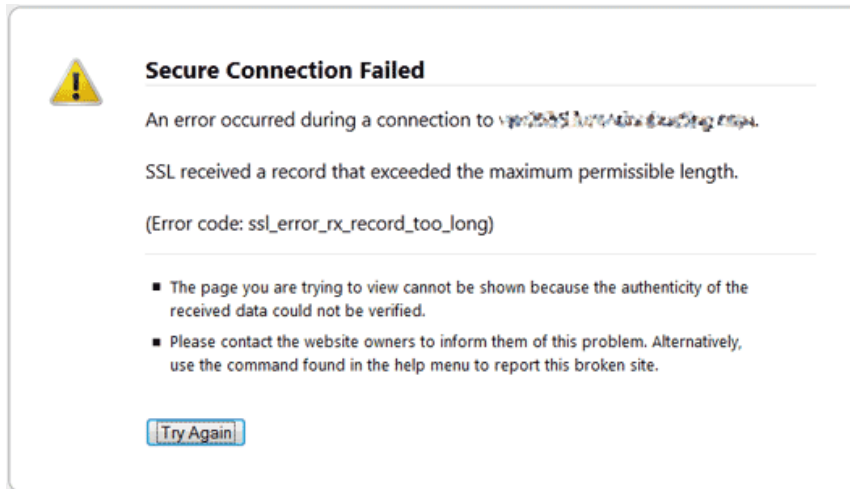
Fig. C07.1 Not ready SSL
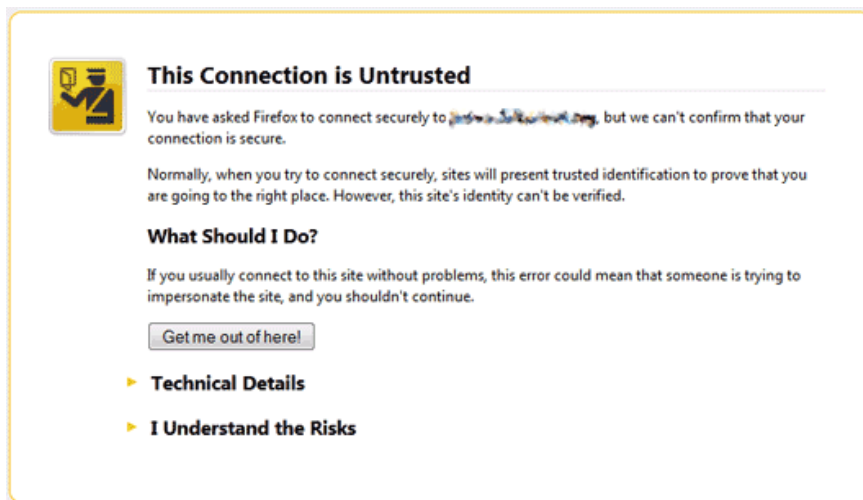
Fig. C07.2 Not ready SSL

3. Access http://learngoodwillswpa.org/moodle/.

4. Log in as admin.

5. Click Site administration > Security > HTTP security.

6. Tick Use HTTPS for logins and Secure cookies only (Fig. C07.3). And Click Save changes.
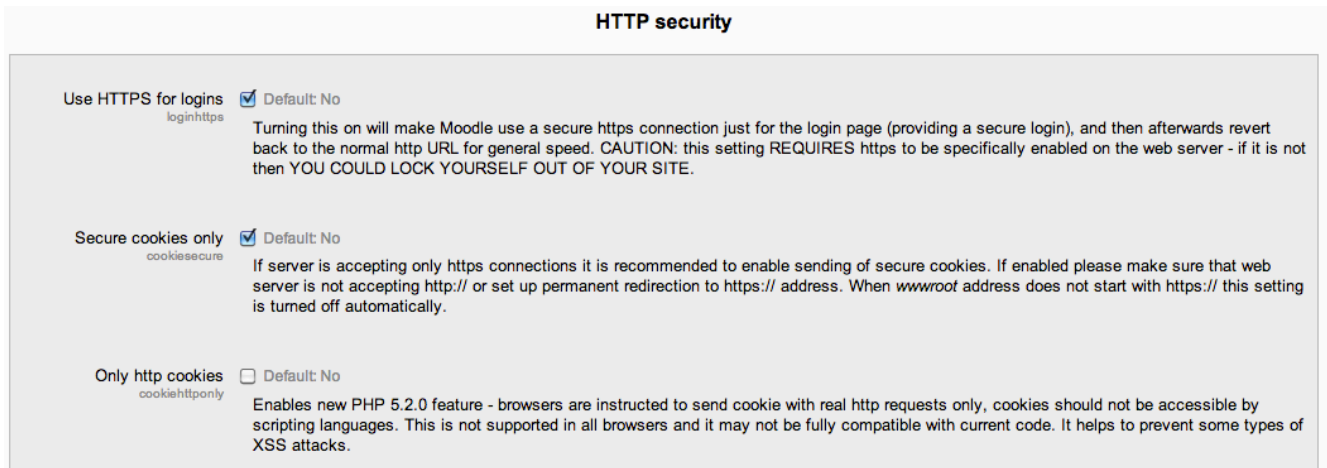
Fig. C07.3 HTTPS setting in Moodle

Email Setting

Moodle sent notification by email. You need to register sending email settings. Refer to Appendix E. Operation Procedures.

1. Click Site administration > Plugins > Message outputs > Email.
2. Set as Fig. C08.1. And Click Save changes.

Email

SMTP hosts
smtphosts

smtp.goodwillswpa.org:465   Default: Empty

Give the full name of one or more local SMTP servers that Moodle should use to send mail (eg 'mail.a.com' or 'mail.a.com;mail.b.com'). To specify a non-default port (i.e other than port 25), you can use the [server]:[port] syntax (eg 'mail.a.com:587'). For secure connections, port 465 is usually used with SSL, port 587 is usually used with TLS, specify security protocol below if required. If you leave this field blank, Moodle will use the PHP default method of sending mail.

SMTP security
smtpsecure

SSL ⬍   Default: None

If smtp server requires secure connection, specify the correct protocol type.

SMTP username
smtpuser

lms@goodwillswpa.org   Default: Empty

If you have specified an SMTP server above, and the server requires authentication, then enter the username and password here.

SMTP password
smtppass

•••••••••••••   ☐ Unmask

If you have specified an SMTP server above, and the server requires authentication, then enter the username and password here.

SMTP session limit
smtpmaxbulk

1   Default: 1

Maximum number of messages sent per SMTP session. Grouping messages may speed up the

Fig. C08.1 Email settings

SMTP session limit
smtpmaxbulk

`1`   Default: 1

Maximum number of messages sent per SMTP session. Grouping messages may speed up the sending of emails. Values lower than 2 force creation of new SMTP session for each email.

No-reply address
noreplyaddress

`noreply@goodwillswpa.org`   Default: noreply@rempei.com

Emails are sometimes sent out on behalf of a user (eg forum posts). The email address you specify here will be used as the "From" address in those cases when the recipients should not be able to reply directly to the user (eg when a user chooses to keep their address private).

Character set
sitemailcharset

`UTF-8`   Default: UTF-8

All the emails generated by your site will be sent in the charset specified here. Anyway, every individual user will be able to adjust it if the next setting is enabled.

Allow user to select character set
allowusermailcharset

☐   Default: No

Enabling this, every user in the site will be able to specify his own charset for email.

Newline characters in mail
mailnewline

`LF`   Default: LF

Newline characters used in mail messages. CRLF is required according to RFC 822bis, some mail servers do automatic conversion from LF to CRLF, other mail servers do incorrect conversion from CRLF to CRCRLF, yet others reject mails with bare LF (qmail for example). Try changing this setting if you are having problems with undelivered emails or double newlines.

Fig. C08.2 Email settings (cont.)

Appendix D. Moodle Initial Settings

All settings are done by username: admin. This user is called a site administrator.

Prerequisite

Administrators are in charge of uploading a user list, creating a course, sending messages etc. OD staffs have 2 accounts in Moodle. First account is for administrator role. Second account is for a supervisor or a student role. Before adding administrators, you need to have email accounts that each administrator exclusively uses for Moodle administration.

Change Theme

1. Click Site administration > Appearance > Themes > Theme selector. Click Use theme of Arialist (Fig. D01.1).
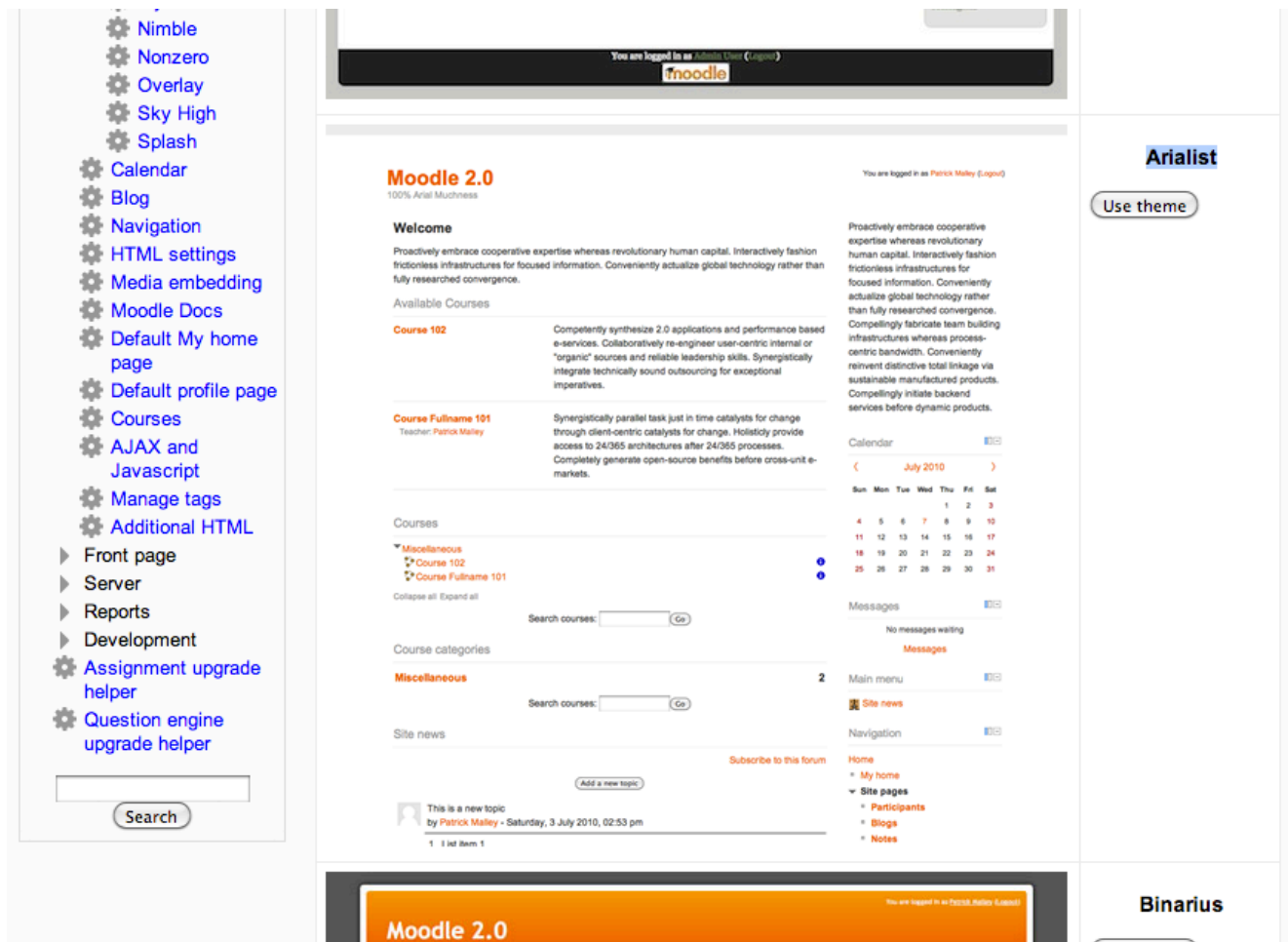
Fig. D01.1 Select theme

2. Click Continue.
3. Click Site administration > Appearance > Themes > Arialist.

4. Input http://www.goodwillswpa.org/images/logo.gif at Logo (Fig. D01.2). Other than Logo is kept default settings.

Home ⟩ Site administration ⟩ Appearance ⟩ Themes ⟩ Arialist

Arialist

Logo theme_arialist	logo	http://www.goodwillswpa.org/imag	Default: Empty

Enter the URL to an image to use as the logo for this site. Should be http://www.yoursite.com/path/to/logo.png

Tagline theme_arialist	tagline		Default: Empty

A short tagline to be displayed under the site name on the front page. *(Will not be displayed with logo.)*

Fig. D01.2 Setting logo

Advanced Feature Setting

Make unnecessary features disable and necessary features enable.

1. Click Site administration > Advanced features. Set as Fig. D02.1, Fig. D02.2 and Fig. D02.3.

Home 〉Site administration 〉Advanced features

Advanced features

Enable outcomes
enableoutcomes

☐ Default: No

Support for Outcomes (also known as Competencies, Goals, Standards or Criteria) means that we can grade things using one or more scales that are tied to outcome statements. Enabling outcomes makes such special grading possible throughout the site.

Enable comments
usecomments

☐ Default: Yes

Enable comments

Enable tags functionality
usetags

☐ Default: Yes

Should tags functionality across the site be enabled?

Enable notes
enablenotes

☐ Default: Yes

Enable storing of notes about individual users.

Enable portfolios
enableportfolios

☐ Default: No

This will allow administrators to configure remote systems for users to export content to

Enable web services
enablewebservices

☐ Default: No

Web services enable other systems to log in to this Moodle and perform operations. For extra security this feature should be disabled unless you are really using it.

Fig. D02.1 Advanced Feature settings

| Enable messaging system | ☑ Default: Yes |
| messaging | Should the messaging system between site users be enabled? |

| Hide read notifications | ☐ Default: No |
| messaginghidereadnotifications | Hide read notifications of events like forum posts when viewing messaging history |

| Delete read notifications | [1 Week ▼] Default: 1 Week |
| messagingdeletereadnotificationsdelay | Read notifications can be deleted to save space. How long after a notification is read can it be deleted? |

| Notification email override | ☐ Default: No |
| messagingallowemailoverride | Allow users to have email message notifications sent to an email address other than the email address in their profile |

| Enable statistics | ☐ Default: No |
| enablestats | If you choose 'yes' here, Moodle's cronjob will process the logs and gather some statistics. Depending on the amount of traffic on your site, this can take awhile. If you enable this, you will be able to see some interesting graphs and statistics about each of your courses, or on a sitewide basis. |

| Enable RSS feeds | ☐ Default: No |
| enablerssfeeds | If enabled, RSS feeds are generated by various features across the site, such as blogs, forums, database activities and glossaries. Note that RSS feeds also need to be enabled for the particular activity modules. |

| Enable blogs | ☐ Default: Yes |
| enableblogs | This switch provides all site users with their own blog. |

Fig. D02.2 Advanced Feature settings (cont.)

| Networking | [Off ▼] Default: Off |
| mnet_dispatcher_mode | MNet allows communication of this server with other servers or services. |

| Enable completion tracking | ☑ Default: No |
| enablecompletion | When enabled, this lets you turn on completion tracking (progress) features at course level. |

| Enable conditional access | ☐ Default: No |
| enableavailability | When enabled, this lets you set conditions (based on date, grade, or completion) that control whether an activity or resource can be accessed. |

| Enable plagiarism plugins | ☐ Default: No |
| enableplagiarism | This will allow administrators to configure plagiarism plugins (if installed) |

Fig. D02.3 Advanced Feature settings (cont.)

Authentication Settings

Make Email-based self-registration and Gust login disable.

1. Click Site administration > Plugins > Authentication > Manage authentication. Set as Fig. D03.1, Fig. D03.2, Fig. D03.3 and Fig. D03.4.

2. Click an eye icon of Email-based self-registration to disable it.

Fig. D03.1 Manage authentication settings

Common settings

Self registration
registerauth

[Disable ‡]   Default: Disable

If an authentication plugin, such as email-based self-registration, is selected, then it enables potential users to register themselves and create accounts. This results in the possibility of spammers creating accounts in order to use forum posts, blog entries etc. for spam. To avoid this risk, self-registration should be disabled or limited by *Allowed email domains* setting.

Prevent account creation when authenticating
authpreventaccountcreation

☐   Default: No

When a user authenticates, an account on the site is automatically created if it doesn't yet exist. If an external database, such as LDAP, is used for authentication, but you wish to restrict access to the site to users with an existing account only, then this option should be enabled. New accounts will need to be created manually or via the upload users feature. Note that this setting doesn't apply to MNet authentication.

Autofocus login page form
loginpageautofocus

☐   Default: No

Enabling this option improves usability of the login page, but automatically focusing fields may be considered an accessibility issue.

Guest login button
guestloginbutton

[Hide ‡]   Default: Show

You can hide or show the guest login button on the login page.

Alternate login URL
alternateloginurl

[   ]   Default: Empty

If you enter a URL here, it will be used as the login page for this site. The page should contain a form which has the action property set to **'http://rempei.com/moodle/login/index.php'** and return fields **username** and **password**.
Be careful not to enter an incorrect URL as you may lock yourself out of this site.
Leave this setting blank to use the default login page.
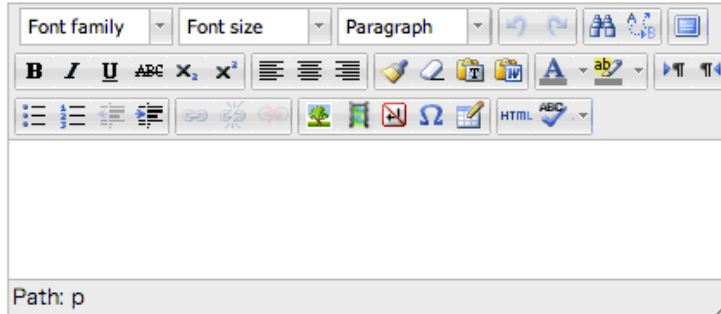
Fig. D03.2 Manage authentication settings (cont.)

Forgotten password URL
forgottenpasswordurl

[   ] Default: Empty

If you enter a URL here, it will be used as the lost password recovery page for this site. This is intended for sites where passwords are handled entirely outside of Moodle. Leave this blank to use the default password recovery.

Instructions
auth_instructions

| Font family ▼ | Font size ▼ | Paragraph ▼ | ↶ ↷ | 🔍 ⅗ | ▣ |

| B | I | U | ABC | X₂ | X² | ☰ ☰ ☰ | 🧹 ⊘ | 📋 📋 | A ▼ | 🖉 ▼ | ▶¶ ¶◀ |

| ☰ ☰ ☰ ☰ | 🔗 ⊗ ⊘ | 🌄 🚩 ⊠ Ω 🗹 | HTML ABC ▼ |

Path: p

Default: Empty

Leave this blank for the default login instructions to be displayed on the login page. If you want to provide custom login instructions, enter them here.

Allowed email domains
allowemailaddresses

[   ] Default: Empty

If you want to restrict all new email addresses to particular domains, then list them here separated by spaces. All other domains will be rejected. To allow subdomains add the domain with a preceding '.'. eg **ourcollege.edu.au .gov.au**

Denied email domains
denyemailaddresses

[   ] Default: Empty

To deny email addresses from particular domains list them here in the same way. All other domains will be accepted. To deny subdomains add the domain with a preceding '.'. eg **hotmail.com yahoo.co.uk .live.com**

Restrict domains when ☑ Default: Yes

Fig. D03.3 Manage authentication settings (cont.)

Restrict domains when changing email
verifychangedemail

☑ Default: Yes

Enables verification of changed email addresses using allowed and denied email domains settings. If this setting is disabled the domains are enforced only when creating new users.

ReCAPTCHA public key
recaptchapublickey

Default: Empty

String of characters used to display the reCAPTCHA element in the signup form. Generated by http://www.google.com/recaptcha

ReCAPTCHA private key
recaptchaprivatekey

Default: Empty

String of characters used to communicate between your Moodle server and the recaptcha server. Obtain one for this site by visiting http://www.google.com/recaptcha

Fig. D03.4 Manage authentication settings (cont.)

Remove Calendar and Main Menu

Make Calendar and Main menu block disable.

1. Click Front page settings > Turn editing on. Set as Fig. D04.1.

2. Click X icon of Calendar and click Yes.

3. Click X icon of Main menu and click Yes.

4. Click Front page settings > Turn editing off.
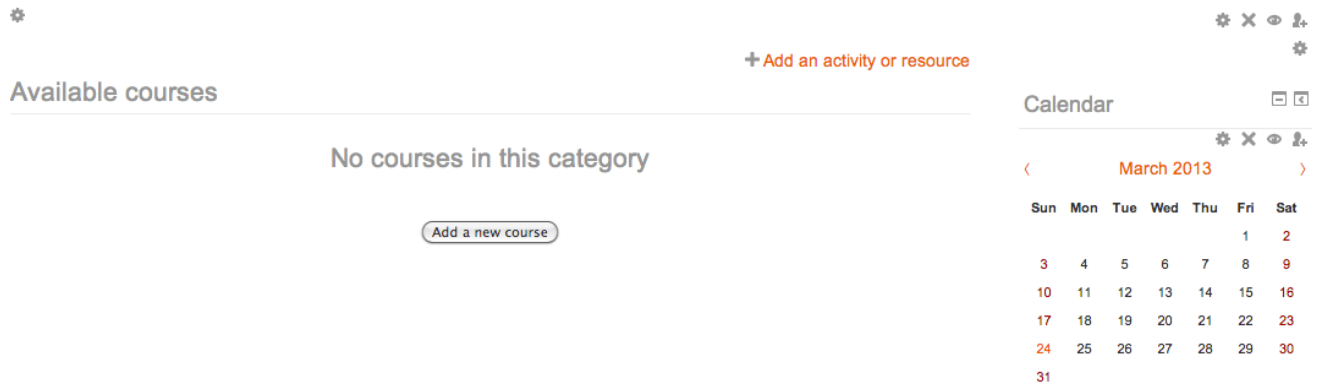
Fig. D04. 1 Remove Calendar block

Front Page Setting

Set front page appearances.

1. Click Front page settings > Edit settings. Set as Fig. D05.1 and Fig. D05.2.

Fig. D05.1 Front page settings

Front page
frontpage

News items	⬍
Combo list	⬍
None	⬍
None	⬍

The items selected above will be displayed on the site's front page.

Front page items when
logged in
frontpageloggedin

News items	⬍
Combo list	⬍
None	⬍
None	⬍

The items selected above will be displayed on the site's front page when a user is logged in.

Maximum category depth
maxcategorydepth

| 2 | ⬍ | Default: Unlimited

This specifies the maximum depth of child categories shown

Include a topic section
numsections

☑ Default: Yes

If selected, a topic section will be displayed on the site's front page.

News items to show
newsitems

| 3 | ⬍ | Default: 3

Comments displayed per
page
commentsperpage

| 15 | Default: 15

Default frontpage role
defaultfrontpageroleid

| Authenticated user on frontpage (frontpage) | ⬍ | Default: Authenticated user on frontpage
(frontpage)

Fig. D05.2 Front page settings (cont.)

Default My Home Page Setting

Make My private files and Online users blocks disable.

1. Click Site administration > Appearance > Default My home page. Set as Fig. D06.1.

2. Click Customise this page.

3. Click X icon of My private files and click Yes.

4. Click X icon of Online users and click Yes.

5. Click Stop customizing this page.
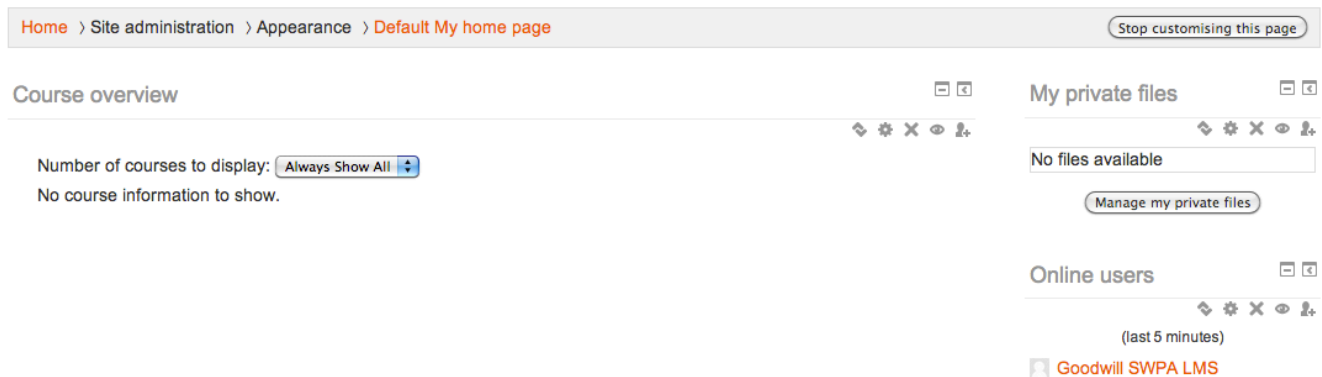
Fig. D06.1 Default My home page setting

Self Enrolment Setting

Enable self enrolment function.

1. Click Site administration > Plugins > Enrolments > Self enrolment. Set as Fig. D07.1 and Fig. D07.2.

2. Change Yes at Allow self enrolment.

Fig. D07.1 Self enrolment settings

Fig. D07.2 Self enrolment settings (cont.)

Notification threshold
enrol_self | expirythreshold

`1` | `days ▲▼` | Default: 1 days

How long before expiration should be users notified?

Unenrol inactive after
enrol_self | longtimenosee

`Never ▲▼` | Default: Never

If users haven't accessed a course for a long time, then they are automatically unenrolled. This parameter specifies that time limit.

Max enrolled users
enrol_self | maxenrolled

`0` | Default: 0

Specifies the maximum number of users that can self enrol. 0 means no limit.

Send course welcome message
enrol_self | sendcoursewelcomemessage

☑ | Default: Yes

If enabled, users receive a welcome message via email when they self-enrol in a course.

Fig. D07.3 Self enrolment settings (cont.)

Default Location Setting

1. Click Site administration > Location > Location settings. Set Default country and Default city as Fig. D08.1. Settings other than Default country and city are kept default settings.

Fig. D08.1 Location settings

IP address lookup

By default Moodle uses the free online NetGeo (The Internet Geographic Database) server to lookup location of IP addresses, unfortunately this database is not maintained anymore and may return *wildly incorrect* data. It is recommended to install local copy of free GeoLite City database from MaxMind.
IP address location is displayed on simple map or using Google Maps. Please note that you need to have a Google account and apply for free Google Maps API key to enable interactive maps.

GeoIP city data file
geoipfile

`/home/rempei5/moodledata/geoip/GeoLiteCity.dat`   ✗ Default:
/home/rempei5/moodledata/geoip/GeoLiteCity.dat

Location of GeoIP City binary data file. This file is not part of Moodle distribution and must be obtained separately from MaxMind. You can either buy a commercial version or use the free version.
Simply download http://geolite.maxmind.com/download/geoip/database/GeoLiteCity.dat.gz and extract it into "/home/rempei5/moodledata/geoip/" directory on your server.

Google Maps API V3 key
googlemapkey3

Default: Empty

You need to enter a special key to use Google Maps for IP address lookup visualization. You can obtain the key free of charge at
https://developers.google.com/maps/documentation/javascript/tutorial#api_key

All country codes
allcountrycodes

Default: Empty

This is the list of countries that may be selected in various places, for example in a user's profile. If blank (the default) the list in countries.php in the standard English language pack is used. That is the list from ISO 3166-1. Otherwise, you can specify a comma-separated list of codes, for example 'GB,FR,ES'. If you add new, non-standard codes here, you will need to add them to countries.php in 'en' and your language pack.

Fig. D08.2 Location settings (cont.)

Add Supervisor Role

1. Click Site administration > Users > Permissions > Define roles. And click a duplicate icon of Student role next to X icon (Fig. D09.1).

Fig. D09.1 Duplicate Student role

2. Set as Fig. D09.2.

3. In terms of permissions, allow block/configurable_reports:viewreports and moodle/block:view (Fig. D09.3 and Fig. D09.4). Other than these 2 permissions are kept default settings. Click Save as changes.

Fig. D09.2 Add Supervisor's role

Fig. D09.3 Setting of permission

Fig. D09.4 Setting of permission

4. Click Site administration > Users > Permissions > Define roles. And click Allow role assignments tab. Tick as Fig. D09.5 and click Save as changes.

You can allow people who have the roles on the left side to assign some of the column roles to other people

	Manager	Course creator	Teacher	Non-editing teacher	Student	Guest	Authenticated user	Authenticated user on frontpage	Supervisor
Manager	☑	☑	☑	☑	☑	☐	☐	☐	☑
Course creator	☐	☐	☐	☐	☐	☐	☐	☐	☐
Teacher	☐	☐	☐	☑	☑	☐	☐	☐	☑
Non-editing teacher	☐	☐	☐	☐	☐	☐	☐	☐	☐
Student	☐	☐	☐	☐	☐	☐	☐	☐	☐
Guest	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user on frontpage	☐	☐	☐	☐	☐	☐	☐	☐	☐
Supervisor	☐	☐	☐	☐	☐	☐	☐	☐	☐

Fig. D09.5 Allow role assignments settings

5. Click Site administration > Users > Permissions > Define roles. And click Allow role overrides tab. Tick as Fig. D09.6 and click Save as changes.

	Manager	Course creator	Teacher	Non-editing teacher	Student	Guest	Authenticated user	Authenticated user on frontpage	Supervisor
Manager	☑	☑	☑	☑	☑	☑	☑	☑	☑
Course creator	☐	☐	☐	☐	☐	☐	☐	☐	☐
Teacher	☐	☐	☐	☑	☑	☑	☐	☐	☑
Non-editing teacher	☐	☐	☐	☐	☐	☐	☐	☐	☐
Student	☐	☐	☐	☐	☐	☐	☐	☐	☐
Guest	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user on frontpage	☐	☐	☐	☐	☐	☐	☐	☐	☐
Supervisor	☐	☐	☐	☐	☐	☐	☐	☐	☐

Fig. D09.6 Allow role overrides settings

6.   Click Site administration > Users > Permissions > Define roles. And click Allow role switches tab. Tick as Fig. D09.7 and click Save as changes.

Select which roles a user may switch to, based on which roles they already
have. In addition to an entry in this table, a user must also have the
moodle/role:switchroles capability to be able to switch.
Note that it is only possible to switch to roles that have the moodle/course:view
capability, and that do not have the moodle/site:doanything capability, so some
columns in this table are disabled.

	Manager	Course creator	Teacher	Non-editing teacher	Student	Guest	Authenticated user	Authenticated user on frontpage	Supervisor
Manager	☐	☐	☑	☑	☑	☑	☐	☐	☑
Course creator	☐	☐	☐	☐	☐	☐	☐	☐	☐
Teacher	☐	☐	☐	☑	☑	☑	☐	☐	☑
Non-editing teacher	☐	☐	☐	☐	☑	☑	☐	☐	☑
Student	☐	☐	☐	☐	☐	☐	☐	☐	☐
Guest	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user	☐	☐	☐	☐	☐	☐	☐	☐	☐
Authenticated user on frontpage	☐	☐	☐	☐	☐	☐	☐	☐	☐
Supervisor	☐	☐	☐	☐	☐	☐	☐	☐	☐

Fig. D09.7 Allow role switches settings

Change Authenticated User Role

1. Click Site administration > Users > Permissions > Define roles. And click a gear icon of Authenticated user role (Fig. D10.1).

Home › Site administration › Users › Permissions › Define roles

| Manage roles | Allow role assignments | Allow role overrides | Allow role switches |

Role ?	Description	Short name	Edit
Manager	Managers can access course and modify them, they usually do not participate in courses.	manager	↓ ⚙ 🗗 ✕
Course creator	Course creators can create new courses.	coursecreator	↑ ↓ ⚙ 🗗 ✕
Teacher	Teachers can do anything within a course, including changing the activities and grading students.	editingteacher	↑ ↓ ⚙ 🗗 ✕
Non-editing teacher	Non-editing teachers can teach in courses and grade students, but may not alter activities.	teacher	↑ ↓ ⚙ 🗗 ✕
Student	Students generally have fewer privileges within a course.	student	↑ ↓ ⚙ 🗗 ✕
Guest	Guests have minimal privileges and usually can not enter text anywhere.	guest	↑ ↓ ⚙ 🗗
Authenticated user	All logged in users.	user	↑ ↓ ⚙ 🗗
Authenticated user on frontpage	All logged in users in the frontpage course.	frontpage	↑ ⚙ 🗗 ✕

Fig. D10.1 Change Authenticated user role

2. Disable moodle/user:editownprofile and moodle/user:manageownfiles (Fig. D10.2 and Fig. D10.3). Click Save as changes.

Filter editownprofile [Clear]

	Capability	Permission ?	Risks
System			
	Edit own user profile moodle/user:editownprofile	☐ Allow	⚠

Fig. D10.2 Change permission of Authenticated user

Fig. D10.3 Change permission of Authenticated user

Configurable Reports Setting

Because supervisors can see training progress report of staffs and administrators can see training progress report of all staffs, register configurable reports.

1. Click Front page settings > Turn editing on. Select Configurable Reports from Add a block pull down box.

2. Drag & drop Configurable Reports block between Navigation block and Settings block.

3. Click a human & plus icon of Configurable Reports block.

4. Click Block: Configurable Reports > Permissions.

5. Add Student and Supervisor to block/configurable_reports:viewreports. And delete Authenticated user and Guest from moodle/block:view. Then add Manger to moodle/block:view (Fig. D11.1)

Permissions in Block: Configurable Reports

Capability	Risks	Roles with permission	Prohibited
Block: Configurable Reports			
Manage own reports block/configurable_reports:manageownreports		Manager✗ ✚	✚
Mange reports block/configurable_reports:managereports		Manager✗ ✚	✚
Manage SQL reports block/configurable_reports:managesqlreports		Manager✗ ✚	✚
View reports block/configurable_reports:viewreports		Student✗, Supervisor✗, Manager✗ ✚	✚
Block			
Edit a block's settings moodle/block:edit	⚠️⚠️	Teacher✗, Course creator✗, Manager✗ ✚	✚
View block moodle/block:view		Student✗, Supervisor✗, Non-editing teacher✗, Teacher✗, Course creator✗, Manager✗ ✚	✚

Fig. D11.1 Permission of Configurable Reports block

6. Click Front page settings > Turn editing off.

7. Click Manage reports at Configurable Reports. Then click Add report.

8. Set as Fig. D11.2. Name is Course completion of all staffs. Click Add.

Fig. D11.2 Add a report of Course completion of all staffs

9. Cut SQL from /SettingFiles/sql/Report/coursecompletionofallstaffs.sql of this instruction. And past SQL (Fig. D11.3). Click Save changes.

SQL Query*

```
#Mar. 18 2013, 2:54am by Rempei Iwata

SELECT
user2.id AS UserID,
user2.username AS Username,
user2.firstname AS Firstname,
user2.lastname AS Lastname,
user2.email AS Email,
user2.idnumber AS Title,
user2.department AS Department,
course.id AS CourseNum,
course.idnumber AS CourseID,
course.fullname AS Course,
FROM_UNIXTIME(comp.timeenrolled) AS DateEnroll,
FROM_UNIXTIME(comp.timecompleted) AS DateComp,
IF(ISNULL(comp.timecompleted), 'Not Completed',
'Completed') AS Completed

FROM prefix_course_completions AS comp
JOIN prefix_course AS course ON course.id =
comp.course
JOIN prefix_user AS user2 ON user2.id = comp.userid

ORDER BY UserID
```

List of SQL Contributed reports

(Save changes) (Cancel)

Fig. D11.3 Set SQL of Course completion of all staffs

10. Click Manage reports at Configurable Reports. Then click Add report.

11. Set as Fig. D11.4. Name is Course completion of staffs. Click Add.

Fig. D11.4 Add a report of Course completion of all staffs

12. Cut SQL from /SettingFiles/sql/Report/coursecompletionofstaffs.sql of this instruction. And past SQL (Fig. D11.5). Click Save changes.

SQL Query*

```
#Mar. 18 2013, 2:54am by Rempei Iwata

SELECT
user2.id AS UserID,
user2.username AS Username,
user2.firstname AS Firstname,
user2.lastname AS Lastname,
user2.email AS Email,
course.id AS CourseNum,
course.idnumber AS CourseID,
course.fullname AS Course,
FROM_UNIXTIME(comp.timeenrolled) AS DateEnroll,
FROM_UNIXTIME(comp.timecompleted) AS DateComp,
IF(ISNULL(comp.timecompleted), 'Not Completed',
'Completed') AS Completed

FROM prefix_course_completions AS comp
JOIN prefix_course AS course ON course.id =
comp.course
JOIN prefix_user AS user2 ON user2.id = comp.userid
JOIN (

SELECT
info.id AS id
```

List of SQL Contributed reports

(Save changes) (Cancel)

Fig. D11.5 Set SQL of Course completion of staffs

13. Click Permission tab. And select User field value of Add pull down box (Fig. D11.6).

| Report | Custom SQL | Filters | Template | **Permissions** | Calculations | Plot - Graphs | View report |

No permissions yet

Add: ✓ Choose
    Any user in the current report course
    Anyone
    Report Capabilities
    User field value
    User with the selected role/s in the current report course

Enter a valid co...

Condition ⓐ

Update Cancel
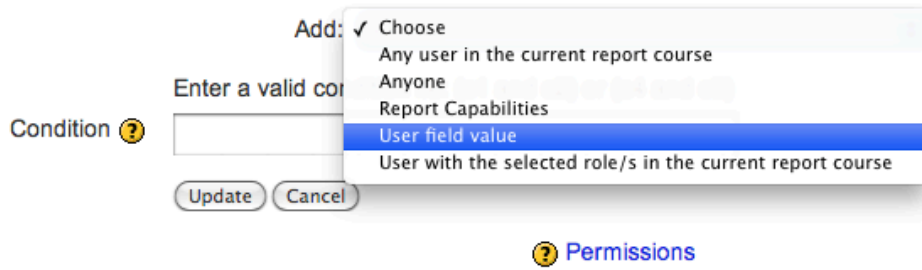
ⓐ Permissions

Fig. D11.6 Permission of the report

14.   Select idnumber at Column and enter Supervisor at Value (Fig. D11.7).

| Report | Custom SQL | Filters | Template | **Permissions** | Calculations | Plot - Graphs | View report |

Course field

Column   [idnumber ▲▼]

Value*   [Supervisor   ]

Add Cancel

Fig. D11.7 Permission of the report

15.   Click Manage reports at Configurable Reports. Then click Add report.

16.   Set as Fig. D11.8. Name is My course completion. Click Add.

Report	Custom SQL	Filters	Template	Permissions	Calculations	Plot - Graphs	View report

General

Name* `My course completion`

Summary

| Font family | ▾ | Font size | ▾ | Paragraph | ▾ | | | |

B *I* U ABC x₂ x² | align icons | editor icons

list icons | link icons | media icons | HTML ABC

Path: p

Type of report `SQL Report` ⊘

Pagination ⊘ `0`

Ordering ⊘ ☑ Enable JavaScript ordering

Export options

☐ Export in ODS format
☑ Export in XLS format

(Add) (Cancel)

Fig. D11.8 Add a report of My course completion

17. Cut SQL from /SettingFiles/sql/Report/mycoursecompletion.sql of this instruction. And past SQL (Fig. D11.9). Click Save changes. If you have Error 406, you ask IT Department to turn off Modsec on cPanel of InMotionHosting (http://www.inmotionhosting.com/support/website/website-troubleshooting/disable-mod-security-via-modsec-manager).

SQL Query*

```
#Apr. 17 2013, 2:33pm by Rempei Iwata

SELECT
course.id AS CourseNum,
course.idnumber AS CourseID,
course.fullname AS Course,
FROM_UNIXTIME(comp.timeenrolled) AS DateEnroll,
FROM_UNIXTIME(comp.timecompleted) AS DateComp,
IF(ISNULL(comp.timecompleted), 'Not Completed',
'Completed') AS Completed

FROM prefix_course_completions AS comp
JOIN prefix_course AS course ON course.id =
comp.course

WHERE comp.userid = %%USERID%%

ORDER BY DateEnroll DESC
```

List of SQL Contributed reports

(Save changes) (Cancel)

There are required fields in this form marked *

Fig. D11.9 Set SQL of My course completion

18. Click Permission tab. And select Anyone of Add pull down box (Fig. D11.10).

Fig. D11.10 Permission of the report

Grade Letter Setting

Set equal to or more than 80% of a quiz as Pass grade and less than 80% as Fail grade.

1. Click Site administration > Grades > Letters. Click Edit grade letters.

2. Edit as Fig. D12.1.

Edit ⬍

Edit grade letters

Grade letters

Grade letter 1 ⓘ	Pass
Letter grade boundary 1 ⓘ	80 % ⬍
Grade letter 2	Fail
Letter grade boundary 2	0 % ⬍
Grade letter 3	
Letter grade boundary 3	Unused ⬍
Grade letter 4	
Letter grade boundary 4	Unused ⬍
Grade letter 5	
Letter grade boundary 5	Unused ⬍
Grade letter 6	
Letter grade	Unused ⬍

Fig. D12.1 Grade letters settings

Grade Display Type Setting

To show Pass or Fail on screens to user, change grade item setting.

1. Click Site administration > Grades > Grade item settings.

2. Change Grade display type From Real into Letter (Fig. D13.1).

Fig. D13.1 Grade display type setting

Course Default Setting

1. Click Site administration > Courses > Course default settings.

2. Set as Fig. D14.1. And click Save as changes.

Fig. D14.1 Course default settings

Show gradebook to students
moodlecourse | showgrades

Yes ▼ Default: Yes

Enable the display of the gradebook. It does not prevent grades from being displayed within the individual activities.

Show activity reports
moodlecourse | showreports

No ▼ Default: No

Maximum upload size
moodlecourse | maxbytes

32MB ▼ Default: 128MB

Define the largest size of file that can be uploaded in this course, limited by the site-wide setting.

Course layout
moodlecourse | coursedisplay

Show all sections on one page ▼ Default: Show all sections on one page

This setting determines whether the whole course is displayed on one page or split over several pages.

Groups

Group mode
moodlecourse | groupmode

No groups ▼ Default: No groups

Force
moodlecourse | groupmodeforce

No ▼ Default: No

Force the course group mode to every activity in the course.

Fig. D14.2 Course default settings (cont.)

Fig. D14.3 Course default settings (cont.)

Add Department Name Field into User Profile

Add department name field in user profile because default department field is used to store department code.

3. Click Site administration > Users > Accounts > User profile fields. Pull down Text input at Create a new profile field.

4. Set as Fig. D15.1. And click Save as changes.

Creating a new 'Text input' profile field

Common settings

Short name (must be unique)* `departmentname`

Name* `Department Name`

Description of the field

Font family | Font size | Paragraph

B *I* <u>U</u> ABC x₂ x²

Path: p

Is this field required? `No`

Is this field locked? `No`

Should the data be unique? `No`

Fig. D15.1 Add department name field in user profile

Fig. D15.2 Add department name field in user profile (cont.)

User Profile Display Setting

In default settings, a department field that stores department code such as 600282 and an idnumber field that stores title such as Supervisor and Staff are invisible in a user profile. So make these fields visible.

1. Click Site administration > Users > Permissions > User policies.

2. Set as Fig. D16.1. And click Save as changes.

Fig. D16.1 User policies settings

Auto-login guests
autologinguests

☐ Default: No

Should visitors be logged in as guests automatically when entering courses with guest access?

Hide user fields
hiddenuserfields

```
ICQ number
Skype ID
Yahoo ID
AIM ID
MSN ID
First access
Last access
My courses
Groups
Suspended account
```

Default: None

Select which user information fields you wish to hide from other users other than course teachers/admins. This will increase student privacy. Hold CTRL key to select multiple fields.

Show user identity
showuseridentity

☑ ID number
☑ Email address
☐ Phone
☐ Mobile phone
☑ Department
☐ Institution

Default: Email address

When selecting or searching for users, and when displaying lists of users, these fields may be shown in addition to their full name. The fields are only shown to users who have the moodle/site:viewuseridentity capability; by default, teachers and managers. (This option makes most sense if you choose one or two fields that are mandatory at your institution.)

Enable Gravatar
enablegravatar

☐ Default: No

When enabled Moodle will attempt to fetch a user profile picture from Gravatar if the user has not

Fig. D16.2 User policies settings (cont.)

Gravatar default image URL
gravatardefaulturl

| mm | Default: mm |

Gravatar needs a default image to display if it is unable to find a picture for a given user. Provide a full URL for an image. If you leave this setting empty, Moodle will attempt to use the most appropriate default image for the page you are viewing. Note also that Gravatar has a number of codes which can be used to generate default images.

Fig. D16.3 User policies settings (cont.)

Add Administrators

Add administrators for OD staffs. Administrators are in charge of uploading a user list, creating a course, sending messages etc. OD staffs have 2 accounts. First account is for administrator role. Second account is for a supervisor or student role.

Before adding administrators, you need to have email accounts that each administrator exclusively uses for Moodle administration.

1. Click Site administration > Users > Accounts > Browse list of users. Click Add a new user.

2. Set as Fig. D17.1. And click Create user.

Home > Site administration > Users > Accounts > Add a new user

General

Username*	administrator1
Choose an authentication method ⑦	Manual accounts
Suspended account ⑦	☐
	The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 non-alphanumeric character(s)
New password* ⑦	•••• ☐ Unmask
Force password change ⑦	☐
First name*	Nicole
Surname*	Scott
Email address*	administrator1@goodwillswpa.org
Email display	Allow only other course members to see my email address
Email format	Pretty HTML format
Email digest type	No digest (single email per forum post)
Forum auto-subscribe	Yes: when I post, subscribe me to that forum
Forum tracking	No: don't keep track of posts I have seen
When editing text	Use HTML editor
City/town*	Pittsburgh
Select a country*	United States
Timezone	Server's local time

Fig. D17.1 Add administrators
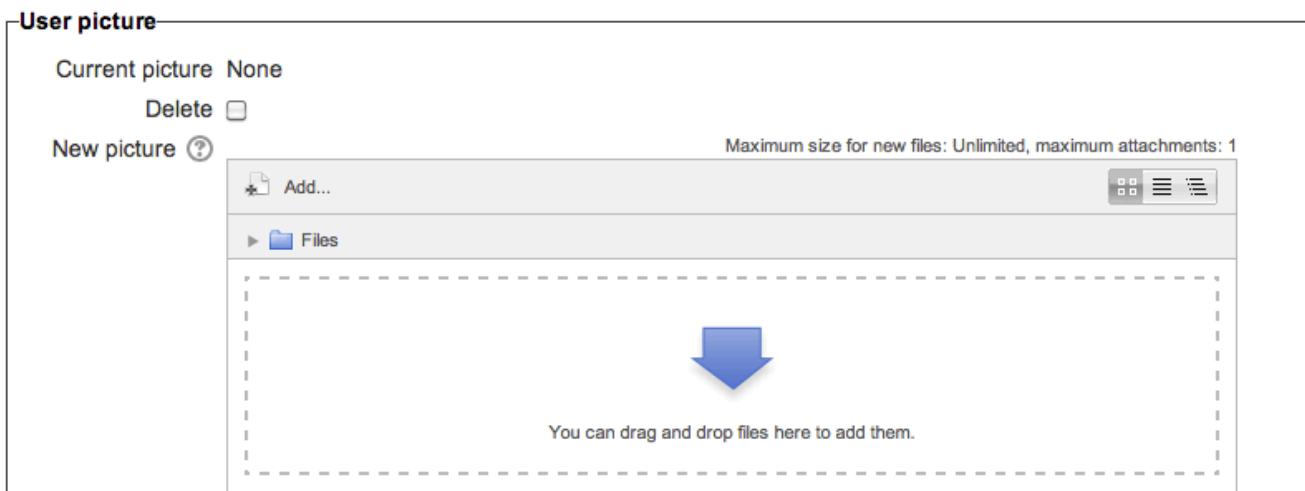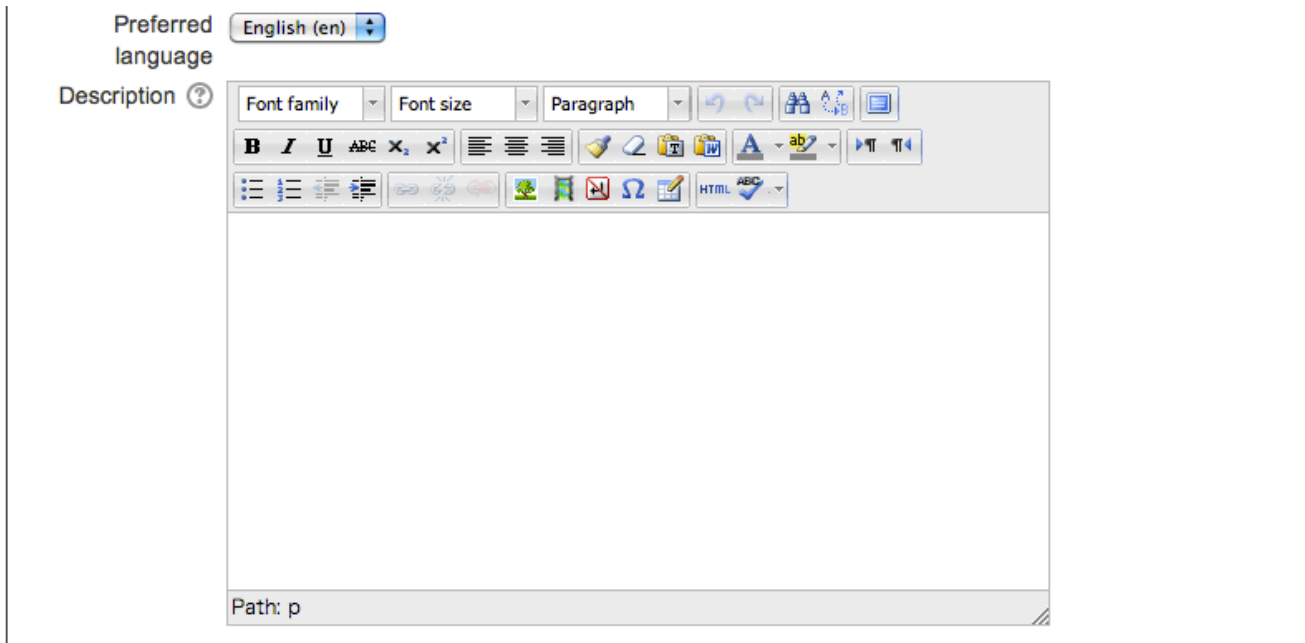
Fig. D17.2 Add administrators (cont.)

Picture description

[   ]

Optional

Web page	[ ]
ICQ number	[ ]
Skype ID	[ ]
AIM ID	[ ]
Yahoo ID	[ ]
MSN ID	[ ]
ID number	[ ]
Institution	[ ]
Department	[ ]
Phone	[ ]
Mobile phone	[ ]
Address	[ ]

Other fields

Department Name	Organizational Development

Fig. D17.3 Add administrators (cont.)

3.   Repeat 1 to 2 for the number of administrators.

Assign Moodle Manager Role to Administrators

Assign Moodle manger role, this role enables administrators to do everything other than system settings such as email connection setting etc. A Site administrator such as admin, user name, can do these system settings.

1. Click Site administration > Users > Permissions > Assign system roles. Click Manger.

2. Add administrators as Fig. D18.1.

Fig. D18.1 Assign manager role

Appendix E. Operation Procedures

Role of Site Administrator, Administrator, Supervisor and Staff

There are 4 roles of a user in the LMS; a site administrator, an administrator, a supervisor and a staff.

Only one site administrator is normally registered during the initial setting of Moodle. It is in charge of system setting. Thus, a user account of a site administrator is not used usually. All emails from Moodle such as welcome email to a course and message from an administrator are sent by the email address of a site administrator. Thus, this email address for a site administrator is necessary to prepare to use Moodle. And a staff of Organizational Development (OD) needs to register this email address in his/her email client to receive email.

An administrator, staff of Organizational Development, is in charge of administration of the LMS such as user registration and new course creation. An administrator is registered manually.

A staff and a supervisor take training courses. However, a supervisor can see the report of course completion of his/her staffs. A staff and a supervisor are registered by uploading a file of a user list.

OD staff needs to have 2 accounts in the LMS. The first one is for an administrator. The second one is for a supervisor or a staff to take a course. Thus, OD staff needs 2 email addresses because Moodle does not allow the same email address for different user accounts. And both email addresses needs to be registered in his/her email client to receive email.

User Name Policy

User name of a site administrator: admin

User name of an administrator: administrator + number such as administrator1 and administrator2

User name of a supervisor or a staff: First name + "." + Last name (the same as the name before @ of an email address such as nicole.scott@goodwillswpa.org)

Deletion Policy of User Account

Any users are not deleted.

Workflow of LMS

The workflow of the LMS shows in Appendix E1.

Sample Course of This Document

To easily understand, this document describes operations supposing a example course, Cultural Diversity, exits like Fig. E10.1.

Fig. E10.1 Cultural Diversity as a sample course

Administrator Operation

User Registration (Upload)

1. The format of the upload file is Fig. E02.1 and Fig. E02.2.

2. To do bulk registration of employees, after log in Moodle as an administrator, click Setting > Site administration > Users > Accounts > Upload users.

3. Drag and drop a CSV file of a user list (Fig. E02.3).

#	Item	Description	Length
1	username	First name + "." + Last name (the same as the name before @ of an email address such as nicole.scott@goodwillswpa.org)	100
2	Delimiter	Fix ","	1
3	firstname	First name	100
4	Delimiter	Fix ","	1
5	lastname	Last name	100
6	Delimiter	Fix ","	1
7	email	Email needs to be unique among all users.	100
8	Delimiter	Fix ","	1
9	idnumber	"Supervisor" or "Staff"	255
10	Delimiter	Fix ","	1
11	department	Department code(e.g. 600282)	30
12	Delimiter	Fix ","	1
13	profile_field_departmentname	Department name	100

Fig. E02.1 User upload format (Appendix E2)


```
  1  username,firstname,lastname,email,idnumber,department,profile_field_departmentname↵
  2  nicole.scott,Nicole,Scott,nicole.scott@goodwillswpa.org1,Supervisor,600282,Organizational Development↵
  3  tabatha.dorman,Tabatha,Dorman,tabatha.dorman@goodwillswpa.org1,Staff,600282,Organizational Development↵
  4  ryan.shalek,Ryan,Shalek,ryan.shalek@goodwillswpa.org1,Staff,600282,Organizational Development↵
  5  rempei.iwata,Rempei,Iwata,riwata@andrew.cmu.edu,Staff,600282,Organizational Development↵
  6  sv1,SV1,-,sv1@goodwillswpa.org1,Supervisor,600202,Accounting↵
  7  staff1,Staff1,-,staff1@goodwillswpa.org1,Staff,600202,Accounting
```

Fig. E02.2 Sample of upload file

Fig. E02.3 Upload CSV

4. Define upload settings (Fig. E02.4). Choose Add new and update existing users at Upload type. Choose Override with file at Existing user details.

Fig. E02.4 Settings of upload

User Registration (Manual)

1. To manually register employees, after log in Moodle as an administrator, click Setting > Site administration > Users > Accounts > Add a new user.

2. Enter user information (Fig. E03.1). ID number must be Supervisor or Staff case sensitive.

Fig. E03.1 Add a new user

Fig. E03.2 Add a new user (cont.)

Administrator Registration (Manual)

Add Administrators

Before adding administrators, you need to have email accounts that each administrator exclusively uses for Moodle administration.

1. Click Site administration > Users > Accounts > Browse list of users. Click Add a new user.

2. Set as Fig. E04.1. And click Create user.

Fig. E04.1 Add administrators

Preferred language   English (en)

Description

Font family | Font size | Paragraph

B I U ABC X₂ x²

Path: p

User picture

Current picture   None

Delete   ☐

New picture   Maximum size for new files: Unlimited, maximum attachments: 1

Add...

▶ 📁 Files

You can drag and drop files here to add them.

Fig. E04.2 Add administrators (cont.)

Picture
description

Optional

Web page

ICQ number

Skype ID

AIM ID

Yahoo ID

MSN ID

ID number

Institution

Department

Phone

Mobile phone

Address

Other fields

Department
Name   Organizational Development

Fig. E04.2 Add administrators (cont.)

Assign Moodle Manager Role to Administrators

Assign Moodle manger role, this role enables administrators to do everything other than system settings such as email connection setting etc. A Site administrator such as admin, user name, can do these system settings.

1. Click Site administration > Users > Permissions > Assign system roles. Click Manger.

2. Add administrators as Fig. E04.3.

Assign role 'Manager' in System ⑦

WARNING! Any roles you assign from this page will apply to the assigned users throughout the entire system, including the front page and all the courses.

Existing users

Existing users (3)
Tabatha Dorman (, administrator2@goodwillsv
Nicole Scott (, administrator1@goodwillswpa.c
Ryan Shalek (, administrator3@goodwillswpa.

‹ Add

Remove ›

Potential users

Potential users (1)
Goodwill SWPA LMS (, rempei.iwata@gmail.c

Search [   ] Clear

Search options ▶

Search [   ] Clear
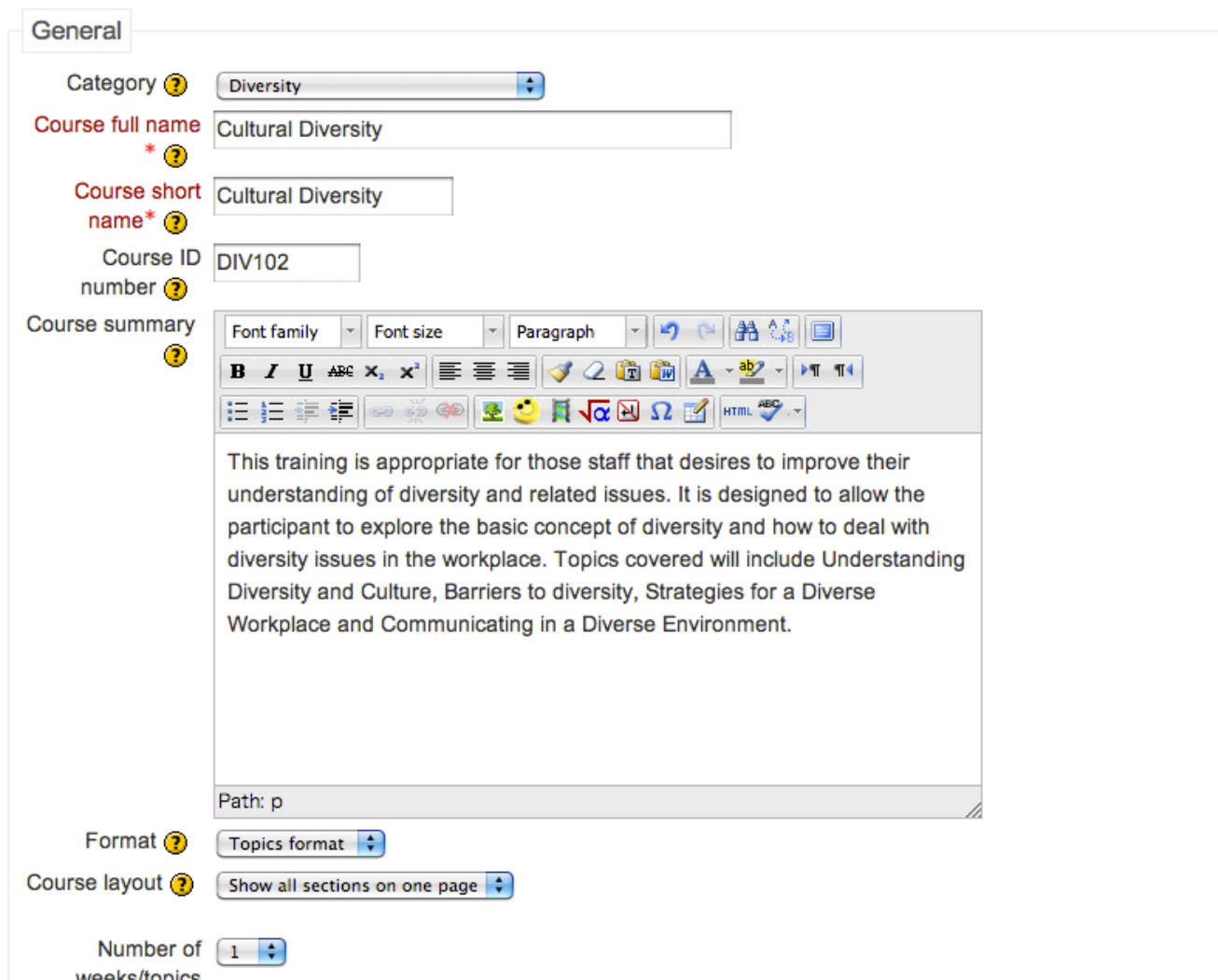
Fig. E04.3 Assign manager role

New Course and Quiz Creation

Course settings

1. After log in Moodle as an administrator, click Settings > Site Administration > Courses > Add/edit courses. Then click Add a new course.

2. Edit course settings (Fig. E05.1). Note that Course start date is tomorrow as a default setting. And you should choose This course is not available to students at Availability because employees cannot enroll the course during your setting.

Fig. E05.1 Edit course setting

Fig. E05.1 Edit course setting (cont.)

Fig. E05.1 Edit course setting (cont.)

3. You see Enrolled users after Edit course setting. However, you do nothing at this moment because you need to create details of this course.

Lecture materials (PDF, PowerPoint)

1. Click Navigation > Courses > Diversity > Cultural Diversity. Click Turn editing on.

2. Click Add an activity or resource. Choose RESOURCES > Files. Edit Adding a new File to Topic 1 (Fig. E05.2). To require to read this material, choose Show activity as complete when conditions are met at Completion tracking and tick Student must view this activity to complete it. If you attach a PowerPoint file, employees need to down load the PowerPoint file to their PCs.

Fig. E05.2 Adding a new File to Topic 1

Fig. E05.2 Adding a new File to Topic 1 (cont.)

Lecture video (Link to YouTube)

1. Click Navigation > Courses > Diversity > Cultural Diversity. Click Turn editing on.

2. Click Add an activity or resource. Choose RESOURCES > URL. Edit Adding a new URL to Topic 1 (Fig. E05.3). To require to watch this video, choose Show activity as complete when conditions are met at Completion tracking and tick Student must view this activity to complete it.

Fig. E05.3 Adding a new URL to Topic 1

Fig. E05.3 Adding a new URL to Topic 1 (cont.)

Quizzes

1. Click Navigation > Courses > Diversity > Cultural Diversity. Click Turn editing on.

2. Click Add an activity or resource. Choose ACTIVITIES > Quiz. Edit Adding a new Quiz to Topic 1 (Fig. E05.4). To require to answer this quiz and to get pass grade, choose Show activity as complete when conditions are met at Completion tracking and tick Student must view this activity to complete it and Student must receive a grade to complete this activity.

Fig. E05.4 Adding a new Quiz to Topic 1

Fig. E05.4 Adding a new Quiz to Topic 1 (cont.)

Review options ⑦

During the attempt	Immediately after the attempt	Later, while the quiz is still open	After the quiz is closed
☑ The attempt ⑦	☑ The attempt	☑ The attempt	☑ The attempt
☑ Whether correct ⑦	☑ Whether correct	☑ Whether correct	☑ Whether correct
☑ Marks ⑦	☑ Marks	☑ Marks	☑ Marks
☑ Specific feedback ⑦	☑ Specific feedback	☑ Specific feedback	☑ Specific feedback
☑ General feedback ⑦	☑ General feedback	☑ General feedback	☑ General feedback
☑ Right answer ⑦	☑ Right answer	☑ Right answer	☑ Right answer
☐ Overall feedback ⑦	☑ Overall feedback	☑ Overall feedback	☑ Overall feedback

Display

*(Show advanced)

Show the user's picture ⑦   [No ⬍]

Decimal places in grades ⑦   [2 ⬍]

Decimal places in question grades ⑦   [Same as for overall grades ⬍]

Extra restrictions on attempts

*(Show advanced)

Require password ⑦   [_____] ☐ Unmask

Require network address ⑦   [_____]

Enforced delay between 1st and 2nd attempts ⑦   [0] [minutes ⬍] ☐ Enable

Enforced delay   [0] [minutes ⬍] ☐ Enable

Fig. E05.4 Adding a new Quiz to Topic 1 (cont.)

Fig. E05.4 Adding a new Quiz to Topic 1 (cont.)

Fig. E05.4 Adding a new Quiz to Topic 1 (cont.)

3. Click Navigation > Courses > Diversity > Cultural Diversity. Click Self check. Then click Edit quiz. See 5, 6 and 7 if you want to create a quiz randomly from question bank contents. If you create random questions, employees re-take different questions every time after they get fail grade.

4. Click Add a question…. Check True/False. Enter Question name and text, Default mark, Feedback and Correct answer (Fig. E05.5).

Fig. E05.5 Adding a True/False question

Correct answer [True ↕]

Feedback for the response 'True'.

[Font family ▼] [Font size ▼] [Paragraph ▼]

B *I* U ABC X₂ x² ...

Path: p

Feedback for the response 'False'.

[Font family ▼] [Font size ▼] [Paragraph ▼]

B *I* U ABC X₂ x² ...

Path: p

Settings for multiple tries

Penalty for each   1
incorrect try ❓

Fig. E05.5 Adding a True/False question (cont.)

5. To add Question bank contents, click Create a new question… (Fig. E05.6). You can add a new questions the same way at 4.
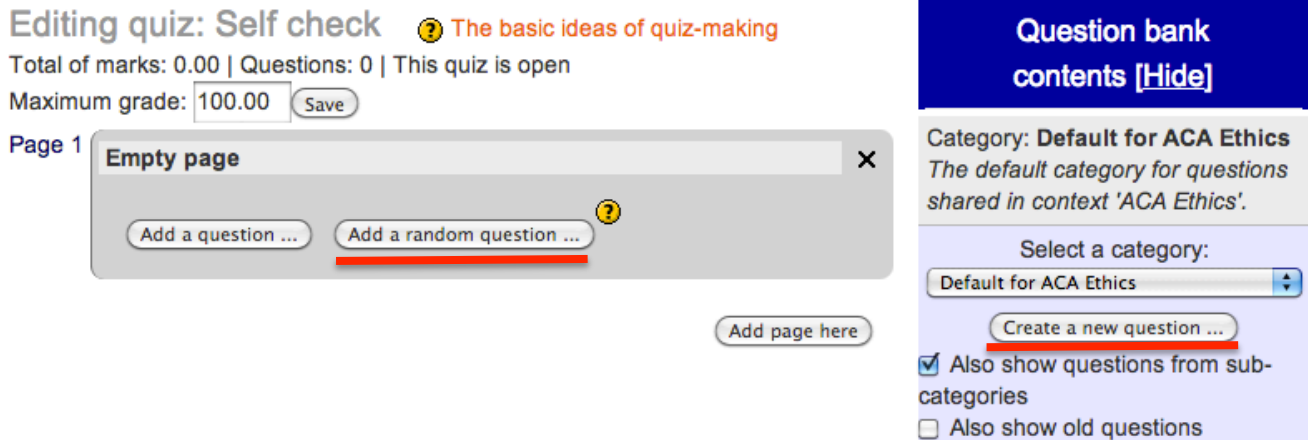
Fig. E05.6 Add a question to Question bank contents

6. After adding questions to question bank contents, click Add a random question…. (Fig. E05.6) Then click Add random question (Fig. E05.7).
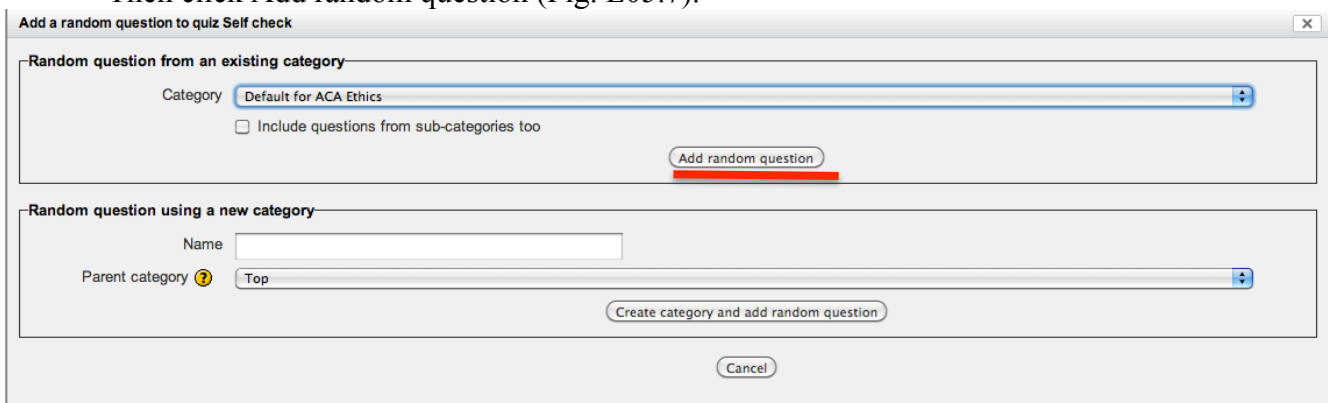
Fig. E05.7 Select a category to choose questions randomly

7. After adding a random question, edit Marked out of and click Save (Fig. E05.8).

Fig. E05.8 Added a random question

Grade to Pass

1. To setting grade to pass, click Navigation > Courses > Diversity > Cultural Diversity. And click Settings > Course Administration > Grades. Then, click Settings > Grade Administration > Categories and items > Simple View.

2. Click hand icon of a quiz (Fig. E05.9).

Fig. E05.9 Setting grade to pass

3. Click Show advanced. Enter Grade to Pass (Fig. E05.10).

Fig. E05.10 Setting grade to pass

Completion Tracking

1. To track completion of a course, click Navigation > Courses > Diversity > Cultural Diversity. And click Settings > Course Administration > Completion tracking (Fig. E05.11).

Edit course completion settings

Overall criteria type aggregation

Aggregation method   [All]

Course prerequisites

Aggregation method   [Any]

Courses available
Safety / Accident Prevention 1Q 2013
Human Resources / ACA Ethics
Human Resources / Harassment Prevention
Safety / Food Protection 2013
Safety / Accident Prevention 2Q 2013

Course completion criteria must be set for a course to appear in this list

Manual self completion

Enable   ☐

Fig. E05.11 Completion tracking

Manual completion by

Aggregation method [All ▲▼]

Manager ☐

Course creator ☐

Teacher ☐

Non-editing teacher ☐

Activities completed

Aggregation method [All ▲▼]

Resource - Lecture note ☐

Url - Lecture video ☐

Quiz - Self check ☐

Date

Enable ☐

After specified date [12 ▲▼] [March ▲▼] [2013 ▲▼]

Duration after enrolment

Enable ☐

Days after enrolment [1 days ▲▼]

Fig. E05.11 Completion tracking (cont.)

Course grade

Enable ☑

Grade required 80.00000

Please note that updating the required grade here will not update the current course pass grade.

Unenrolment

Completion on unenrolment ☐

Fig. E05.11 Completion tracking (cont.)

Remove Unnecessary Blocks

Make unnecessary menu blocks disable.

1. Click Navigation > Courses > Diversity > Cultural Diversity. Click Course administration > Turn editing on.

2. Click X icon of Search forums and click Yes.

3. Click X icon of Recent activity menu and click Yes.

4. Click X icon of Upcoming event menu and click Yes.

5. Click Course administration > Turn editing off.

Make a Course Available to Employees

1. To make a course available to employees, click Navigation > Courses > Diversity > Cultural Diversity. And click Settings > Course Administration > Edit settings.

2. Change Availability into This course is available to students.

Enrolment by an Administrator

1. After log in Moodle as an administrator, click Navigation > Courses > Diversity > Cultural Diversity. And click Settings > Course Administration > Users > Enrolled users.

2. Click Enrol users. Choose employees to enroll a course.

E-mail to Enrolled Users

1. To send e-mail to enrolled employees, after log in Moodle as an administrator, click Setting > Site administration > Users > Accounts > Bulk user actions.

2. Click Show advanced. Then set a filter to select users who you send e-mail. For example, when you send users who enrolls Diversity course, you select Diversity at pull down of Course role (Fig. E06.1). After inputting filters, click Add filter.

Fig. E06.1 Set a filter to select users

3. You see all users who enrolled this course at Available Users (Fig. E06.2). Select All filtered and click Add to selection. Then select Send a message at With selected users….

New filter

Fig. E06.2 Select users

4. Type your message (Fig. E06.3). Then click Save changes.

5. After confirmation of a message, the message is sent (Fig. E06.4).
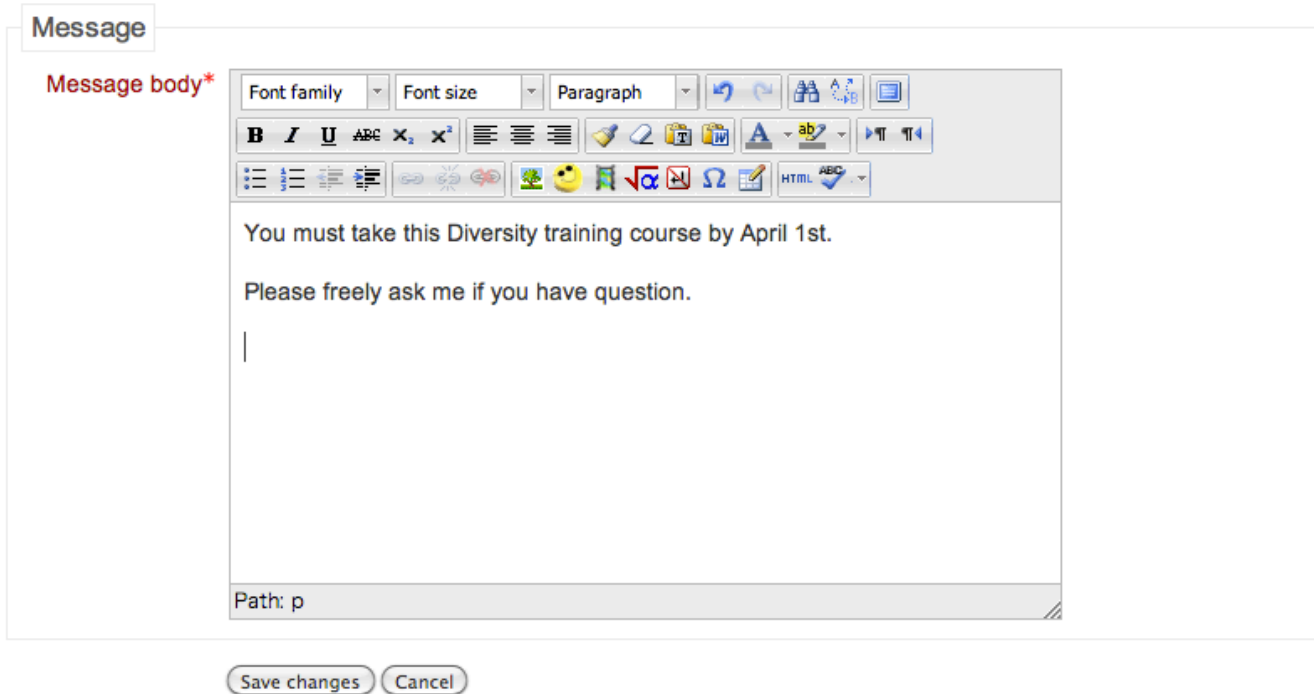
Fig. E06.3 Input a message
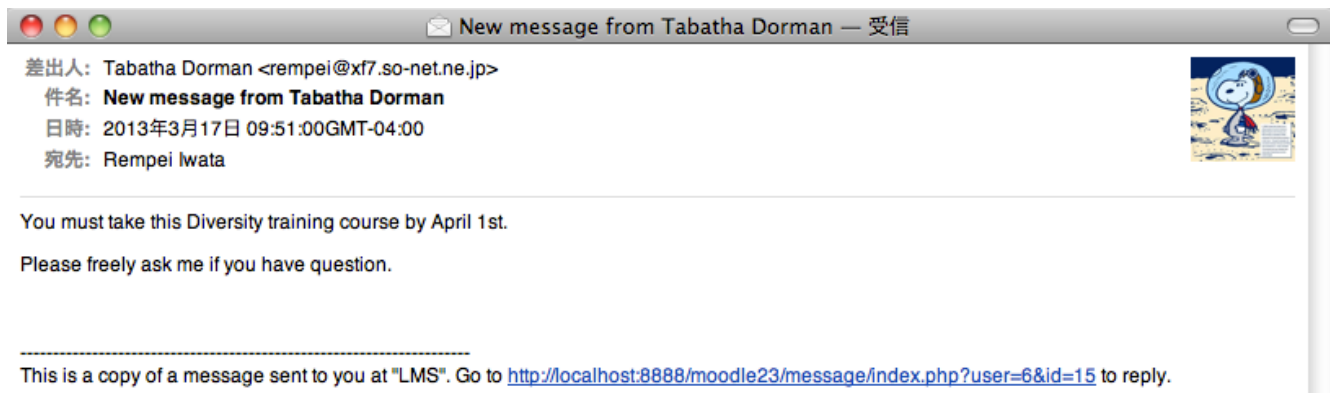
Fig. E06.4 Sent e-mail

Report: Course Completion of All Staffs

1. After log in Moodle as an administrator, click Configurable Reports > Course completion of all staffs (Fig. E07.1).

userid	username	firstname	lastname	email	title	department	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	Supervisor	600282	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	5		ACA Ethics	2013-03-06 01:13:31		Not Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	4	SAFE2101Q13	Accident Prevention 1Q 2013	2013-02-22 03:29:03	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	6	HR105	Harassment Prevention	2013-02-22 06:02:46	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	7	SAFT9090	Food Protection 2013	2013-02-22 05:57:55		Not Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-22 14:40:40	2013-03-11 08:51:44	Completed

Fig. E07.1 Report: course completion of all staffs

End of Course

1. After log in Moodle as an administrator, click Settings > Site Administration > Courses > Add/edit courses. Then click Category.

2. Click Setting icon and open edit screen of course settings. Choose This course is not available to students at Availability.

Recalculate Quiz Score

When a correct answer of a question is wrongly registered, for instance, even the correct answer of the question "There are 51 states in the USA." is false, true is registered as a correct answer, you can edit the correct answer that wrongly registered and can recalculate scores of which employees already have taken the quiz.

After recalculating, if an employee gets pass score of a quiz, completion status of the employee change from Not Completed into Completed. **But Completed status of which an employee already gets pass score of a quiz does not change even the score becomes fail score after recalculating.**

1. After log in Moodle as an administrator, click Navigation > Courses > Diversity > Cultural Diversity. Then click Self check. And click Settings > Quiz administration > Edit quiz.

2. Click a hand icon at Question bank contents to edit a quiz (Fig. E08.1).

Fig. E08.1 Choose a question to edit

3. Edit Correct answer (Fig. E08.2). And click Save changes.

Fig. E08.2 Edit Correct answer

4. To recalculate, click Navigation > Courses > Diversity > Cultural Diversity. Then click Self check. And click Result > Grades at the right side.

5. Click Regrade all (Fig. E08.3). Then Dry run a full grade (Fig. P01.04).

Regrade all   Dry run a full regrade

Showing graded and ungraded attempts for each user. The one attempt for each user that is graded is highlighted. The grading method for this quiz is Highest grade.

Download table data as   a comma separated values text file

		First name / Surname	ID number	Email address	Department	State	Started on	Completed	Time taken	Grade/100.00	Regrade	Q. 1 /10.00	Q. 2 /10.00	Q. 3 /10.00
☐		Staff1 - Review attempt	Staff	staff1@goodwillswpa.org1	600202	Finished	18 March 2013 11:51 am	18 March 2013 11:52 am	1 min 17 secs	0.00/ 10.00	Done	0.00 ✗	0.00 ✗	0.00 ✗
☐		Staff1 - Review attempt		staff1@goodwillswpa.org1	600202	In progress	18 March 2013 11:53 am	-	-	-		-	-	-
☐		Rempei Iwata Review attempt		riwata@andrew.cmu.edu	600202	Finished	8 April 2013 11:07 am	8 April 2013 11:08 am	35 secs	30.00/ 20.00	Done	10.00 0.00 ✗	10.00 ✓	0.00 ✗
		Overall average								15.00 (2)		0.00 (2)	5.00 (2)	0.00 (2)

Select all / Deselect all   Regrade selected attempts   Delete selected attempts

Fig. E08.3 After recalculating

Fig. E08.4 After dry running

6. To reflect the recalculation to course completion status, click Navigation > Courses > Diversity > Cultural Diversity. And click Settings > Course Administration > Grades.

7. Click Turn editing on. Then click Turn editing off (Fig. E08.5).

Fig. E08.5 Reflect the recalculation to course completion status

8. Approximately 5 minutes after above operations (the status of course completion is refreshed every 5 minutes), you can confirm refreshed status by clicking Course completion of all staffs.

Staff

First Log in

1. After a new user account is registered, you receive email of a new user account (Fig. E09.1).
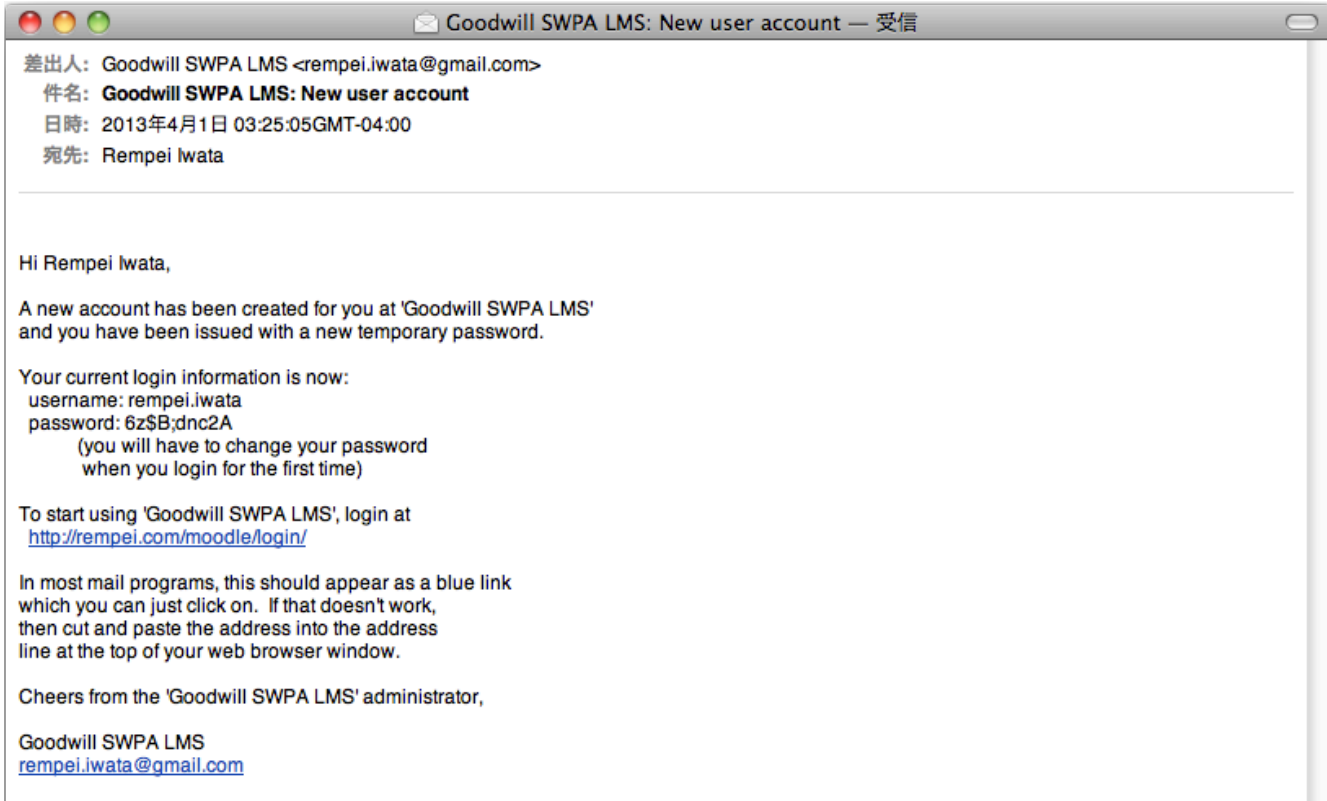
Fig. E09.1 Email of a new user account

2. Access the login page following the instruction of the email (Fig. E09.2). Enter your username and password that is written in the email. And click Login.

Fig. E09.2 Login page

3. After clicking Login, Change password screen shows up (Fig. E09.3). Enter Current password and New password. And click Save changes.

You must change your password to proceed.

Change password

Username rempei.iwata

The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 non-alphanumeric character(s)

Current password * ●●●●●●●●●

New password * ●●●●●●●●●

New password (again)* ●●●●●●●●●

Save changes

Fig. E09.3 Change password

Self-Enrollment of Course

1.   After log in Moodle as a staff, click a course from Courses on the start page (Fig. E10.1).

Fig. E10.1 Choice of a course

2.   Click Enrol me.

Taking Course and Quiz

1. After log in Moodle as a staff, click a course from My courses on the start page (Fig. E11.1). Or click My home and choose a course from Course overview. These list show courses that you already enrolled.
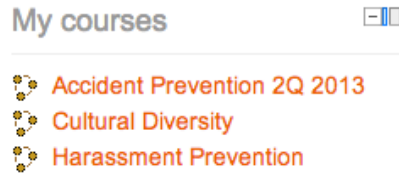
Fig. E11.1 My courses

2. Click each course materials such as Lecture note and Lecture video to study (Fig. E11.2). Then click a quiz such as Self check to confirm your understanding. When you read and watch course materials and you get grade to pass, Your progresses are ticked. When all progresses are ticked, you complete this course (Fig. E11.3, Fig. E11.4).
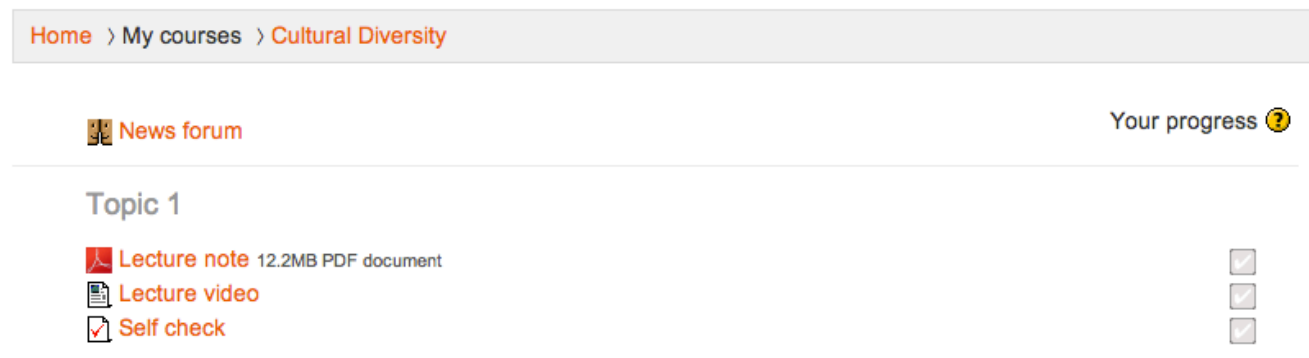
Fig. E11.2 Course page
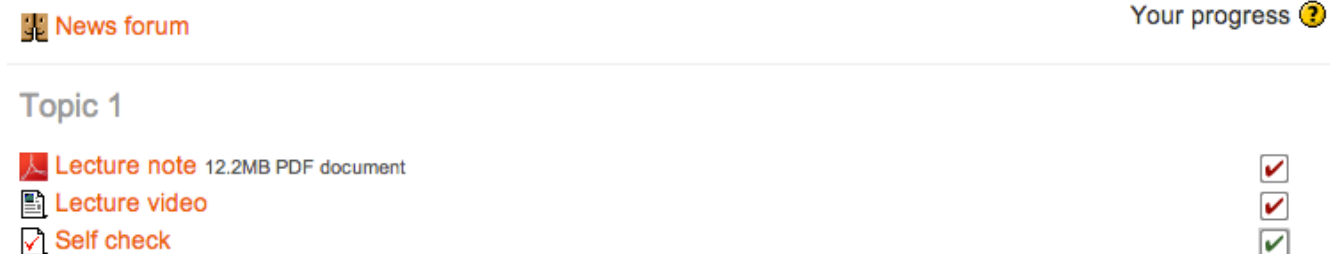
Fig. E11.3 Completion of a course

Topic 1

📕 Lecture note 12.2MB PDF document ✔
📄 Lecture video ✔
☑ Self check ✖

Fig. E11.4 Incompletion of a course

Report: My Course Completion

1. After log in Moodle as a staff, click Configurable Reports > Course completion of staffs (Fig. E12.1).

coursenum	courseid	course	dateenroll	datecomp	completed
10	DIV102	Cultural Diversity	2013-04-08 11:06:37	2013-04-08 11:46:23	Completed
8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-22 14:40:40	2013-03-11 08:51:44	Completed
5		ACA Ethics	2013-02-22 14:07:48	2013-02-22 14:11:00	Completed
6	HR105	Harassment Prevention	2013-02-22 06:02:46	2013-02-22 06:50:10	Completed
7	SAFT9090	Food Protection 2013	2013-02-22 05:57:55	2013-04-08 19:28:45	Completed
4	SAFE2101Q13	Accident Prevention 1Q 2013	2013-02-22 03:29:03	2013-02-22 06:50:10	Completed

Fig. E12.1 My course completion

Supervisor

Report: Course Completion of Staffs

1. After log in Moodle as a supervisor, click Configurable Reports > Course completion of staffs (Fig. E13.1).

userid	username	firstname	lastname	email	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	5		ACA Ethics	2013-03-06 01:13:31		Not Completed

Fig. E13.1 Course completion of staffs

Appendix E1 Work flow of the New LMS

	Administrator of OD	Training facilitators (OD, HR Div, Retail Div., Risk Mng Div)	Supervisor or Staff	HR system	LMS(Moodle)
1.User Registration(Upload)	Download user list from HR system			User list	
	Download user list from HR system				User registration
2. User Registration(Manual)	Receive the form		Submit an application form by email or a paper		
	Input user information				User registration
3. Administrator Registration (Manual)	New staff becomes in charge of the LMS				
	Input user information				User registration
	Assign administrator role				Assign administrator role
4. New Course and Quiz Creation	Receive ditital contents	Create and send digital contents			
	Course settings				Course settings
	Upload lecture materials (PDF, PowerPoint) and link lecture video (Link to YouTube)				Add activity
	Add quizzes				Add quizzes
	Set grade to pass of the quizzes				Set grade to pass

	Administrator of OD	Training facilitators(OD, HR Div, Retail Div., Risk Mng Div)	Supervisor or Staff	HR system	LMS(Moodle)
	Set completion tracking				Set completion tracking
	Make a course available to employees				Set a course available
5. Enrolment by an Administrator	Register enrolment				Register enrolment Send welcome email
			Receive email		
6. E-mail to Enrolled Users	Filter users and send a message to these users				Send email
			Receive email		
7. Report: Course Completion of All Staffs	Inquire course completion of all staffs				Report: Course Completion of All Staffs
8. End of Course	Register a course unavailable				Register a course unavailable
9.Self-Enrollment of Course			Register enrolment		Register enrolment Send welcome email
			Receive email		
10. Taking Course and Quiz			Take course and quiz		Tracking completion
11. Report: Course Completion of Staffs			Inquire course completion of staffs		Report: Course Completion of Staffs

Appendix E2 User Upload Format

#	Item	Description	Length
1	username	First name + "." + Last name (the same as the name before @ of an email address such as nicole.scott@goodwillswpa.org)	100
2	Delimiter	Fix ","	1
3	firstname	First name	100
4	Delimiter	Fix ","	1
5	lastname	Last name	100
6	Delimiter	Fix ","	1
7	email	Email needs to be unique among all users.	100
8	Delimiter	Fix ","	1
9	idnumber	"Supervisor" or "Staff"	255
10	Delimiter	Fix ","	1
11	department	Department code(e.g. 600282)	30
12	Delimiter	Fix ","	1
13	profile_field_departmentname	Department name	100

Appendix F. Special Function for Goodwill SWPA

Purpose of This Document

In the project, Goodwill SWPA needs to use 3 non-standard functions of Moodle by using SQL. This document describes details of these functions to share Organizational Development (OD) and IT Department them because nobody in the community of Moodle on the Web knows these functions.

Course Completion of All Staffs

Function

A user who has an administrator role can see the report of Course completion of all staffs in order that OD oversees progress training of all staffs (Fig. F01.1).

userid	username	firstname	lastname	email	title	department	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	Supervisor	600282	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	5		ACA Ethics	2013-03-06 01:13:31		Not Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	Staff	600282	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	4	SAFE2101Q13	Accident Prevention 1Q 2013	2013-02-22 03:29:03	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	6	HR105	Harassment Prevention	2013-02-22 06:02:46	2013-02-22 06:50:10	Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	7	SAFT9090	Food Protection 2013	2013-02-22 05:57:55		Not Completed
6	rempei.iwata	Rempei	Iwata	riwata@andrew.cmu.edu	Staff	600202	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-22 14:40:40	2013-03-11 08:51:44	Completed

Fig. F01.1 Report: course completion of all staffs

How to Realize

To realize this function, the project installs Configurable Reports plugin into Moodle. After installing, you need to set SQL on the screen. This section explains details of this SQL (Fig. F02.1).

Line 3 through 10 shows profiles of chosen users by following conditions.

Line 11 through 13 shows information of a course that each chosen user enrolls.

Line 14 shows date and time when each user enrolls this course.

Line 15 shows date and time when each user completes this course.

Line 16 shows Not Completed or Completed.

Line 18 through 20 combines 3 tables, prefix_course_completions table, prefix_course, and prefix_user. All completion statuses of all users are shown by commands of line 3 through line 16. prefix_course_completions table has information such as each enrolling user's date and time of

enrollment, date and time of completion, and completion status. prefix_course table has information such as a course name. prefix_user table has profile of a user.

Line 22 ordered by userID so that an administrator can see statuses for every user.

```
1  #Mar. 18 2013, 2:54am by Rempei Iwata
2
3  SELECT
4  user2.id AS UserID,
5  user2.username AS Username,
6  user2.firstname AS Firstname,
7  user2.lastname AS Lastname,
8  user2.email AS Email,
9  user2.idnumber AS Title,
10 user2.department AS Department,
11 course.id AS CourseNum,
12 course.idnumber AS CourseID,
13 course.fullname AS Course,
14 FROM_UNIXTIME(comp.timeenrolled) AS DateEnroll,
15 FROM_UNIXTIME(comp.timecompleted) AS DateComp,
16 IF(ISNULL(comp.timecompleted), 'Not Completed', 'Completed') AS Completed
17
18 FROM prefix_course_completions AS comp
19 JOIN prefix_course AS course ON course.id = comp.course
20 JOIN prefix_user AS user2 ON user2.id = comp.userid
21
22 ORDER BY UserID
```

Fig. F02.1 SQL for Course completion of all stalls

Course Completion of Staffs

Function

A user who has a supervisor role can see the report of Course completion of staffs in order that a supervisor oversees progress training of his/her staffs (Fig. F03.1).

userid	username	firstname	lastname	email	coursenum	courseid	course	dateenroll	datecomp	completed
4	nicole.scott	Nicole	Scott	nicole.scott@goodwillswpa.org1	8	SAFE2102Q13	Accident Prevention 2Q 2013	2013-02-23 03:02:34	2013-03-11 08:51:44	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	6	HR105	Harassment Prevention	2013-02-23 03:03:28	2013-02-23 03:04:57	Completed
5	tabatha.dorman	Tabatha	Dorman	tabatha.dorman@goodwillswpa.org1	5		ACA Ethics	2013-03-06 01:13:31		Not Completed

Fig. F03.1 Report: course completion of staffs

How to Realize

The report is created by collecting completion data of staffs and supervisors who has the same Department field as that of a supervisor. For example, when Nicole sees the report, Course completion of staffs, Moodle finds a course completion data of a user whose Department field is 600282 (Fig. F04.1, Fig. F04.2) to create the report. Then Moodle displays the report that includes course completion data of Nicole and Tabatha (Fig. F03.1).

To allow only a supervisor to access the report, the permission of Configurable Reports menus is granted a supervisor (Fig. F04.3).

Nicole Scott

General

Username* `nicole.scott`

Choose an authentication `Manual accounts ▾`

ID number `Supervisor`
Institution ` `
Department `600282`
Phone ` `
Mobile phone ` `
Address ` `

Other fields

Department Name `Organizational Development`

Fig. F04.1 Supervisor user profile

Tabatha Dorman

General

Username* `tabatha.dorman`

Choose an authentication method ⑦ `Manual accounts ▾`

ID number `Staff`
Institution ` `
Department `600282`
Phone ` `
Mobile phone ` `
Address ` `

Other fields

Department Name `Organizational Development`

Fig. F04.2 Staff user profile

Permissions in Block: Configurable Reports

Advanced role override [Choose... ▼]

Capability	Risks	Roles with permission	Prohibited
Block: Configurable Reports			
Add a new configurable reports block block/configurable_reports:addinstance	⚠ ⚠	Teacher ✕, Manager ✕ ✚	✚
Manage own reports block/configurable_reports:manageownreports		Manager ✕ ✚	✚
Mange reports block/configurable_reports:managereports		Manager ✕ ✚	✚
Manage SQL reports block/configurable_reports:managesqlreports		Manager ✕ ✚	✚
View reports block/configurable_reports:viewreports		Supervisor ✕, Manager ✕ ✚	✚
Block			
Edit a block's settings moodle/block:edit	⚠ ⚠	Teacher ✕, Manager ✕ ✚	✚
View block moodle/block:view		Supervisor ✕ Non-editing teacher ✕, Teacher ✕, Manager ✕ ✚	✚

Fig. F04.3 Permission of Configurable Reports block

To realize this function, the project installs Configurable Reports plugin into Moodle. After installing, you need to set SQL on the screen. This section explains details of this SQL(Fig. F04.4).

Line 3 through 8 shows profiles of chosen users by following conditions.

Line 9 through 11 shows information of a course that each chosen user enrolls.

Line 12 shows date and time when each user enrolls this course.

Line 13 shows date and time when each user completes this course.

Line 14 shows Not Completed or Completed.

Line 16 through 18 combines 3 tables, prefix_course_completions table, prefix_course, and prefix_user. prefix_course_completions table has information such as each enrolling user's date and time of enrollment, date and time of completion, and completion status. prefix_course table has information such as a course name. prefix_user table has profile of a user.

Line 19 through 29 chooses users whose department code in the department field is the same as that of a supervisor who try to see this report. And these lines filters 3 tables that line 16 through 18

combines by only this supervisor's staffs. %%USERID%% is variable to represent a user id of this supervisor.

Line 31 ordered by CourseNum so that a supervisor can see statuses for every course.

```
1  #Mar. 18 2013, 2:54am by Rempei Iwata
2
3  SELECT
4  user2.id AS UserID,
5  user2.username AS Username,
6  user2.firstname AS Firstname,
7  user2.lastname AS Lastname,
8  user2.email AS Email,
9  course.id AS CourseNum,
10 course.idnumber AS CourseID,
11 course.fullname AS Course,
12 FROM_UNIXTIME(comp.timeenrolled) AS DateEnroll,
13 FROM_UNIXTIME(comp.timecompleted) AS DateComp,
14 IF(ISNULL(comp.timecompleted), 'Not Completed', 'Completed') AS Completed
15
16 FROM prefix_course_completions AS comp
17 JOIN prefix_course AS course ON course.id = comp.course
18 JOIN prefix_user AS user2 ON user2.id = comp.userid
19 JOIN (
20 SELECT
21 info.id AS id
22
23 FROM prefix_user AS info
24 WHERE department = (SELECT
25 info.department AS DepID
26 FROM prefix_user AS info
27 WHERE info.id = %%USERID%%)
28
29 ) AS user3 ON user2.id = user3.id
30
31 ORDER BY CourseNum DESC
```

Fig. F04.4 SQL for Course completion of stalls

Automatically Assign User Role

Function

This function automatically assigns uploaded users proper role based on Staff or Supervisor in ID number field of a user profile (Fig. F05.1). This function runs every 5 minutes. The result can be confirmed at Front page role assignment (Fig. F05.2).

Indeed, this function consists of 5 functions. First one is to automatically assign supervisor role. Second one is to automatically remove supervisor role. Third one is to automatically assign staff role. Forth one is to automatically remove staff role. Fifth one is a shell script that runs every 5 minutes as cron job.

Fig. F05.1 Supervisor user profile

Assign role 'Supervisor' in Front page ⓘ

Existing users		Potential users
Users in this Course (2) SV1 - (Supervisor, sv1@goodwillswpa.org1, 6... Nicole Scott (Supervisor, nicole.scott@goodwi...	‹ Add	**Potential users (8)** Staff1 - (Staff, staff1@goodwillswpa.org1, 600... Tabatha Dorman (, administrator2@goodwills... Tabatha Dorman (Staff, tabatha.dorman@goo... Rempei Iwata (Staff, riwata@andrew.cmu.edu... Goodwill SWPA LMS (, rempei.iwata@gmail.c... Nicole Scott (, administrator1@goodwillswpa.c... Ryan Shalek (, administrator3@goodwillswpa.... Ryan Shalek (Staff, ryan.shalek@goodwillswp...

Fig. F05.2 Front page role assignment

How to Realize

To realize this function, the project installs 4 SQLs and 1 shell script for cron.

SQL to automatically assign a user supervisor role (Fig. F06.1)

Line 5 deletes temporary tables.

Line 8 through 12 creates temporary supervisor table that includes users who are not deleted and whose ID number field of a user profile is Supervisor.

Line 15 through 24 creates temporary assignsupervisorrole table that includes users who are already assigned supervisor role.

Line 27 through 43 assigns proper users supervisor role.

Line 44 through 47 select from temporary supervisor table users who are not assigned supervisor role yet.

Line 49 deletes temporary tables.

```
1  #Apr. 1 2013, 3:32am by Rempei Iwata
2  #contextid = '2' means front page role. So you do not need to change it.
3  #'2' AS modifierid means that administrator assigned supervisor role. So you do not
   chage it.
4
5  DROP VIEW IF EXISTS supervisor, assignsupervisorrole;
6
7
8  CREATE VIEW supervisor AS
9  SELECT
10   info.id AS userid
11   FROM mdl_user AS info
12   WHERE info.deleted = '0' && info.idnumber = 'Supervisor';
```

```
13
14
15  CREATE VIEW assignsupervisorrole AS
16  SELECT
17  role.userid
18  FROM mdl_role_assignments AS role
19  WHERE role.roleid = (
20  SELECT
21  rolelist.id
22  FROM mdl_role AS rolelist
23  WHERE rolelist.shortname = 'supervisor'
24  ) && role.contextid = '2';
25
26
27  INSERT INTO mdl_role_assignments (
28  roleid, contextid, userid, timemodified, modifierid, component, itemid, sortorder
29  )
30
31  SELECT (
32  SELECT
33  rolelist.id
34  FROM mdl_role AS rolelist
35  WHERE rolelist.shortname = 'supervisor'
36  ) AS roleid,
37  '2' AS contextid,
38  sup.userid AS userid,
39  UNIX_TIMESTAMP() AS timemodified,
40  '2' AS modifierid,
41  '' AS component,
42  '0' AS itemid,
43  '0' AS sortorder
44  FROM supervisor AS sup
45  LEFT JOIN assignsupervisorrole AS role
46  ON sup.userid = role.userid
47  WHERE ISNULL(role.userid);
48
49  DROP VIEW IF EXISTS supervisor, assignsupervisorrole;
```

Fig. F06.1 SQL to automatically assign a user supervisor role

SQL to automatically remove supervisor role from a user (Fig. F06.2)

Line 5 deletes temporary tables.

Line 8 through 11 creates temporary checkedsv table that includes users who are not deleted and whose ID number field of a user profile is Supervisor.

Line 14 through 29 creates temporary uncheckedsv table that includes users whose ID number field of a user profile is not Supervisor.

Line 31 through 33 removes supervisor role from proper users.

Line 35 deletes temporary tables.

```
1  #Apr. 1 2013, 3:32am by Rempei Iwata
2  #contextid = '2' means front page role. So you do not need to change it.
3
4
5  DROP VIEW IF EXISTS checkedsv, uncheckedsv;
6
7  CREATE VIEW checkedsv AS
8  SELECT
9  info.id AS userid
10 FROM mdl_user AS info
11 WHERE info.deleted = '0' && info.idnumber = 'Supervisor';
12
13
14 CREATE VIEW uncheckedsv AS
15 SELECT
16 role.id AS id,
17 role.userid AS userid,
18 role.roleid AS roleid,
19 role.contextid AS contextid,
20 info.userid AS userid2
21 FROM mdl_role_assignments AS role
22 LEFT JOIN checkedsv AS info
23 ON role.userid = info.userid
24 WHERE role.roleid = (
25 SELECT
26 rolelist.id
27 FROM mdl_role AS rolelist
28 WHERE rolelist.shortname = 'supervisor'
29 ) && role.contextid = '2' && ISNULL(info.userid);
30
31 DELETE role FROM mdl_role_assignments AS role
32 JOIN uncheckedsv as sv
33 ON role.id = sv.id;
34
35 DROP VIEW IF EXISTS checkedsv, uncheckedsv;
```

<div align="center">Fig. F06.2 SQL to automatically remove supervisor role from a user</div>

SQL to automatically assign a user student role

The function and the process of SQL is the same as that of supervisor role.

SQL to automatically remove student role from a user

The function and the process of SQL is the same as that of supervisor role.

Shell script of cron job

This shell script is for running above 4 SQL every 5 minutes automatically (Fig. F06.3).

Line 5 defines php bin directory.

Line 6 defines mysql bin directory.

Line 7 defines my home bin directory.

Line 8 defines directory that is installed Moodle in.

Line 9 defines the database name.

Line 10 defines the database user name.

Line 11 defines the database user password.

Line 16 runs standard Moodle's periodic job.

Line 19 runs SQL to automatically assign a user supervisor role.

Line 22 runs SQL to automatically remove supervisor role from a user.

Line 26 runs SQL to automatically assign a user supervisor role.

Line 29 runs SQL to automatically remove student role from a user.

```
1  #!/bin/bash
2  #Last updated at 0:48 am in Mar. 28, 2013 by Rempei iwata
3  #This file is placed at ${myhomebin}.
4
5  phpbin=""
6  mysqlbin=""
7  myhomebin="/home/rempei5/bin/"
8  moodlehome="/home/rempei5/public_html/moodle/"
9  dbname="rempei5_mood243"
10  dbuser="rempei5_mood243"
11  dbpass="rPzxSd9k63"
12
13  echo "Start time of cron"
14  date '+%Y/%m/%d %T'
15
16  ${phpbin}php -q ${moodlehome}admin/cli/cron.php
17
18  echo "Assign supervisor role based on user profile's title."
19  ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
database=${dbname} < ${myhomebin}assignsupervisorrole.sql
20
```

```
21  echo "Remove supervisor role based on user profile's title."
22  ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
    database=${dbname} < ${myhomebin}removesupervisorrole.sql
23
24
25  echo "Assign student role based on user profile's title."
26  ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
    database=${dbname} < ${myhomebin}assignstudentrole.sql
27
28  echo "Remove student role based on user profile's title."
29  ${mysqlbin}mysql --user=${dbuser} --password=${dbpass} --host=localhost --
    database=${dbname} < ${myhomebin}removestudentrole.sql
30
31  echo "End time of cron"
32  date '+%Y/%m/%d %T'
```

Fig. F06.3 Shell script

Automatically Assign User Role (In case that HR system cannot output role and department code)

Function

This function is the plan B when HR system cannot output role and department code. An administrator uploads user list formatting as Fig. F07.1. Basically the function is the same as the previous section. But a process is added as a pre-process of the previous section.

#	Item	Description	Length
1	username	First name + "." + Last name (the same as the name before @ of an email address such as nicole.scott@goodwillswpa.org)	100
2	Delimiter	Fix ","	1
3	firstname	First name	100
4	Delimiter	Fix ","	1
5	lastname	Last name	100
6	Delimiter	Fix ","	1
7	email	Email needs to be unique among all users.	100
8	Delimiter	Fix ","	1
9	idnumber	Supervisor's username(e.g. nicole.scott)	255
10	Delimiter	Fix ","	1
11	profile_field_departmentname	Department name	100

Fig. F07.1 User load format plan B


```
1  username,firstname,lastname,email,department,profile_field_departmentname↵
2  nicole.scott,Nicole,Scott,nicole.scott@goodwillswpa.org1,nicole.scott,Organizational Development↵
3  tabatha.dorman,Tabatha,Dorman,tabatha.dorman@goodwillswpa.org1,nicole.scott,Organizational Development↵
4  sv1,SV1,-,sv1@goodwillswpa.org1,sv1,Accounting↵
5  rempei.iwata,Rempei,Iwata,riwata@andrew.cmu.edu,sv1,Accounting↵
6  staff1,Staff1,-,staff1@goodwillswpa.org1,sv1,Accounting↵
7
```

Fig. F07.2 Sample of upload file

How to Realize

This process is added as a pre-process of the previous section (plan A). The SQL and cron is in /SettingFiles/sql/role/nonDepartmentCodeVersion/ of this instruction.

SQL to automatically write Supervisor or Staff in ID number field (Fig. F08.1)

Line 4 through 6 writes Supervisor in ID number field if user name is equal to department. For example, if this user name is nicole.scott and this user's department is nicole.scott, this user becomes a supervisor. Line 8 through 10 writes Staff in ID number field if user name is not equal to department. For example, if this user name is rempei.iwata and this user's department is nicole.scott, this user becomes a staff.

```
1    #Apr. 17 2013, 9:05pm by Rempei Iwata
2    #Write supervisor or staff in user profile's title based on supervisor's username in
the department feild.
3
4    UPDATE mdl_user
5    SET idnumber = 'Supervisor'
6    WHERE username = department;
7
8    UPDATE mdl_user
9    SET idnumber = 'Staff'
10   WHERE username != department;
```

Fig. F08.1 SQL to automatically write Supervisor or Staff in ID number field

SQL to automatically assign a user supervisor role

This is the same as the plan A.

SQL to automatically remove supervisor role from a user

This is the same as the plan A.

SQL to automatically assign a user student role

This is the same as the plan A.

SQL to automatically remove student role from a user

This is the same as the plan A.

Shell script of cron job

Basically this is the same as the plan A. But the lines for running SQL to automatically write Supervisor or Staff in ID number field are added.

Appendix F1 User Upload Format Plan B

#	Item	Description	Length
1	username	First name + "." + Last name (the same as the name before @ of an email address such as nicole.scott@goodwillswpa.org)	100
2	Delimiter	Fix ","	1
3	firstname	First name	100
4	Delimiter	Fix ","	1
5	lastname	Last name	100
6	Delimiter	Fix ","	1
7	email	Email needs to be unique among all users.	100
8	Delimiter	Fix ","	1
9	idnumber	Supervisor's username(e.g. nicole.scott)	255
10	Delimiter	Fix ","	1
11	profile_field_departmentname	Department name	100

Appendix G. Sample Policy of Department Code and Training Code

Department Code

Goodwill SWPA does not have department codes to represent an organization structure. In this project, Moodle needs department codes for each employee for a supervisor to view a report of course completion of his/her staffs. So this proposal creates sample policy about department codes.

Policy of Department Code

1. Department code consists of 6 digits number such as 600902. First 3 digits are division number. Second 3 digits are department number or retail store number.

2. Utilize existing division numbers. Accounting system currently has division numbers such as 525 of Retail Division. Basically this policy succeeds to these numbers as a part of department code.

3. Utilize existing retail store numbers. Accounting system also has retail store numbers such as 001 of Mount Pleasant. Basically this policy succeeds to these numbers as a part of department code.

4. Utilize existing department numbers. Accounting system also has department numbers such as 282 of Organizational Development. Basically this policy succeeds to these numbers as a part of department code.

5. Department numbers of departments that are not in accounting system start 9 such as 902.

Sample list of department codes follows this policy is Appendix G1. For example, department code of Organizational Development is 600282. That of Mount Pleasant store is 525001.

Training Code

Goodwill SWPA has training codes. Following these existing codes, this proposal refines sample policy about training codes.

Policy of Training Code

1. Training code consists of a few alphabets that represent a training category and 3 digits number such ADA101 of Disability Awareness.

2. Training code can have 4 digits sub-code that represents the quarter and the year such SAFE2092Q13 since some training are taken annually or quarterly.

Sample list of training codes follows this policy is Appendix G2.

Appendix G1. Sample Department Code

Division #	Division	Department # or Retail Store #	Department or Retail Store	Department Code
525	Retail Division	115	Retail Transportation	525115
		215	Auto Auction	525215
		367	Retail Personnel	525367
		214	E-Commerce Department	525214
		901	Retail Logistics	525901
		902	Retail Operations	525902
		903	Retail Sales	525903
525	Retail Division(Retail Stores)	001	Mount Pleasant	525001
		002	North Side	525002
		003	South Side	525003
		005	Uniontown	525005
		006	Whitehall	525006
		007	Morgantown	525007
		008	Washington	525008
		009	Fairmont	525009
		010	North Hills	525010
		011	Belle Vernon	525011
		012	Buckhannon	525012
		013	Rochester	525013
		014	Greensburg	525014
		015	North Huntingdon	525015
		016	Bridgeport	525016
		017	Cheswick	525017
		018	Monroeville	525018
		019	Butler	525019
		021	Elkins	525021
		031	Natrona Heights	525031
		255	Centre Avenue	525255
		256	Banksville	525256
		264	Wexford	525264
		305	Peters Township	525305
		306	Cranberry	525306
		307	North Versailles Outlet	525307
		328	Gibsonia	525328
		330	Robinson	525330
		331	Lawrenceville	525331
		332	Murrysville	525332
		371	Kingwood	525371
575	Human Service Division	210	Education/Training	575210
		215	Disability Services	575215
		220	Workforce Development/Placement	575220
		225	Assessment	575225
		240	Human Services Housing	575240
		245	Production Services	575245
		272	Trainsition Services	575272
		421	Business Services	575421
		570	North Side Common Ministies/Community Support Services	575570
		901	Community Reintegration	575901
		902	Employer Relations	575902
		903	Quality Improvement	575903
590	Goodwill Housing Division	400	Housing	590400
600	Administration Division	001	Marketing	600001
		201	Excecutive	600201
		202	Accounting	600202
		204	Human Resources	600204
		209	Information Technology	600209
		212	Risk management	600212
		282	Organizational Development	600282
616	Operations Division(Occupancy)	002	Facilities Management	616002
		102	Housekeeping	616102
		198	Maintenance	616198

Division numbers succeed to those of accounting system.

Basically department numbers succeed to those of accounting system. If a department number is not in accounting system, this department is assigned number starting 9.

Retail store numbers succeed to those of accounting system.

Appendix G2. Sample Training Code

Category Code	Category	Training Code	Title	Remarks
ADA	Americans with Disabiliites Act	ADA101	Disability Awareness	
COMP	Computer	COMP101	MS Outlook	
		COMP102	MS Word Beginning	
		COMP103	MS Excel Beginer	
		COMP104	MS Powerpoint	
		COMP202	MS Word Intermediate	
		COMP203	MS Excel Intermediate	
CP	Crisis Prevention and Intervention	CP101	Suicide Prevention	
DEV	Career Development	DEV101	How to write a career goal plan	
DIV	Diversity	DIV102	Cultural Diversity	
HR	Human Resources	HR010	HR Paperwork Refresher for Supervisors	
		HR103	Preformance Evaluation Staff	
		HR105	Harassment Prevention	
		HR201	Supervisor Sexual Harassment	No longer used but historic use.
		HR202	Writing Job Description	
		HR203	Preformance Evaluation Supervisor	
JCS	Job Coaching Strategies	JCS101	Job Coaching Strategies	
LEAD	Leadership	LEAD101	New Supervisor Training	
		LEAD102	Supervisor Guide to Assertiveness	
		LEAD103	Process Improvement Bascic	
		LEAD201	Budget Training	
		LEAD202	OPEN CODE	To be use later.
REG	Regulatory Training	REG101	Code of Conduct	
		REG102	2390 Regulations	
		REG103	HIPAA Privacy	No longer used but historic use.
		REG104	HIPAA Security	No longer used but historic use.
		REG105	HIPAA Privacy and Security	
		RHR010	HR Paperwork Refresher-Retail	
		RHR101	New Retail Supervisor	
RTSAFOR	Retail Staff Orientation	RTSAFOR1	Retail Orientation	
SAFE	Safety	SAFE010	CPR	
		SAFE020	First Aid	
		SAFE030	AED	
		SAFE101	Casual Driver training	
		SAFE102	Truck Driver Training	
		SAFE103	Recycling Truck Driver Taining	
		SAFE104	Van Driver Training	
		SAFE200	Retail Safety	
		SAFE201	Hazardous Communication	
		SAFE202	Lock Out/ Tag Out	
		SAFE203	Safe Lifting	
		SAFE204	Forklift Training	
		SAFE206	Confined Spaces	
		SAFE207	Machine Safety- Bahler and Compactor	
		SAFE208	Fire Safety	
		SAFE209	Emergency Preparedness	
		SAFE210	Accident Prevention	
		SAFE211	Blood Born Pathogens	
		SAFE212	Preventing Back Injuries	
		SAFE213	Pallet Jack Safety	
		SAFE301	Incident Management	
		SAFE310	Fire Marshall/ Evacuation Chair	
SLP	Security/Loss Prevention	SLP101	Loss Prevention Techniques	