

## How to Connect to Moodle with WLM Agent

PHAISARN SUTHEEBANJARD\*, SUPAPORN BUDDEEWONG\*\*

\*Graduate School of Information Technology, Siam University  
235 Petchkasem Road, Phasi-charoen, Bangkok 10163, Thailand.

Email: [mr.phaisarn@gmail.com](mailto:mr.phaisarn@gmail.com)

\*\*The university library of Kasetsart University, Kasetsart University  
50 Phahon Yothin Road, Cha-tuchak, Bangkok 10900, Thailand.

Email: [buddeewong.s@gmail.com](mailto:buddeewong.s@gmail.com)

### Abstract

Nowadays, instant messenger (IM) has become increasingly popular. There are eighty-two million people used IM applications to communicate online in February 2006 [1]. The MSN Messenger is the most popular with 61 percent of worldwide IM users use MSN Messenger which has been renamed to Windows Live Messenger (WLM)

Windows Live Messenger (WLM) can access from many channel such as desktop computer, notebook, PDA, and mobile phone. Therefore WLM will become the new supporting channel of E-Learning, other than applying through website.

At present, there are so many open sources of E-Learning i.e. dotLRN, ILIAS, LON-CAPA, Moodle, Spaghettilearning. This paper focus on Moodle because Moodle is better than other open source E-Learning [2] and we present WLM Agent as a connector to Moodle via XML-RPC

**Keywords:** Moodle, XML-PRC module, msnlib, WLM Agent

### 1. Introduction

How to persuade users to pay more interest in E-Learning? According to the fact that there are a lot of WLM users; therefore, one of the best way to make learners pay more interests in E-Learning is to make E-Learning easier to access. This paper present how to create WLM Agent to connecting to Moodle via XML-PRC as shown in Figure1.

#### *1.1 Introduction Moodle*

Moodle [3] is a popular free software E-Learning platform (known as a Course Management System (CMS) and also the fastest popular system for providing E-Learning on-line resource because its easy setup and use. It is a software package for producing internet-based courses and web sites and is designed to help educators create online courses for interaction.

Moodle is modular in construction and can readily be extended by creating plug-in for specific new functionality. Moodle's infrastructure supports many types of plug-in such as authentication and enrollment.

## 1.2 Introduction XML-RPC

XML-RPC [4] is a spec and a set of implementations that allow software running on disparate operating systems and in different environments to make procedure calls over the Internet.

XML-RPC is remote procedure calling using HTTP as a transporter and XML as an encoder. XML-RPC is designed to be as simple as possible, allowing complex data structures to be transmitted, processed and returned.

XML-RPC can be used with many programming languages. A set of implementations that allow software running on disparate operating systems and running in different environments to make procedure calls over the Internet.

## 1.3 Introduction XML-RPC Moodle

One of Moodle module, XML-RPC module [5] can implements an XML-RPC interface for Moodle, allowing functions such as creating and deleting users and entering quiz answers and retrieving quiz feedback from an external program. The calls can be made in any language that supports XML-RPC, allowing for user management or report generating programs to be written in other languages and/or run on another machine.

The XML-RPC module does not support all functions that can be accomplished within Moodle; however, more function can be added quite easily. The currently supported functions are presented as follows:

- Ping
- CreateAccount
- EnableAccount
- DisableAccount
- DisableAccountByID
- GetAccountByID
- UpdateAccount
- EnrollStudent
- EnrollStudentByID
- UnenrollStudent
- UnenrollStudentByID
- AddTeacherByID
- AddCreator
- RemoveTeacherByID
- InsertQuizResponses
- GetQuizFeedback
- DeleteCourseByID

## 1.4 Introduction Python Programming Language

Python [6] is a dynamic object-oriented programming language that can be used for many kinds of software development. It offers strong support for integration with other languages and tools, provides extensive standard libraries, and is easy to learn within a few days. Many Python programmers report substantial productivity gains and feel that the language encourages the development of higher quality and more maintainable code.

## 1.5 Introduction msnlib

msnlib [7] is a Python MSN messenger protocol library and client. msnlib is an open source Python implementing for the MSN messenger protocol version 8. The base is a library (called msnlib), which uses a non-blocking callback scheme.

## 2. Related Work

There are a lot of applications of Moodle such as Poodle, MSG Instant Messenger.

**Poodle** [8] is a course management system for mobile phones and a lightweight version of Moodle for large classes and small screens. Students can use Poodle via web browsers on their PCs or mobile phones.

**MSG Instant Messenger** [9] is a Moodle's plug-in which make Moodle connect to Jabber, an open-source Instant Messenger. MSG Instant Messenger is a web based Jabber instant messenger system built on Wildfire IM server. This block allows Moodle server to be integrated with a Wildfire server with single sign on for both Moodle & IM and notifications within the Moodle environment when new messages are received from contacts.

## 3. Implementing WLM Agent

In this section we describe how to implement WLM Agent which creates Python language by using msnlib. WLM Agent and Moodle interface to each other via XML-RPC. So the WLM Agent and Moodle can be installed either on separate server or the same server.

### 3.1 Installing necessary program

Solution1: WLM Agent and Moodle in the same server.

Moodle & WLM Agent Server

- Moodle
- XML-RPC plug-in module
- Python
- msnlib

Solution2: WLM Agent and Moodle in the separate server.

Moodle Server

- Moodle
- XML-RPC plug-in module

WLM Agent Server

- Python
- Msnlib

### 3.2 WLM Agent

We create function for the WLM Agent that separate in to two types: internal function and external function. Internal function is used to manage interface to end user and external function is used to manage Moodle via XML-RPC.

#### Internal function

- **“Help”**: Showing all commands, WLM Agent will response all command (shown in figure2).
- **“Moodle Login”**: Assigning our Moodle account. WLM Agent will ask username and password to assign (shown in figure3).

- **“Show Login”**: Showing our Moodle account used by this Windows Live ID (WLID) (shown in figure3).

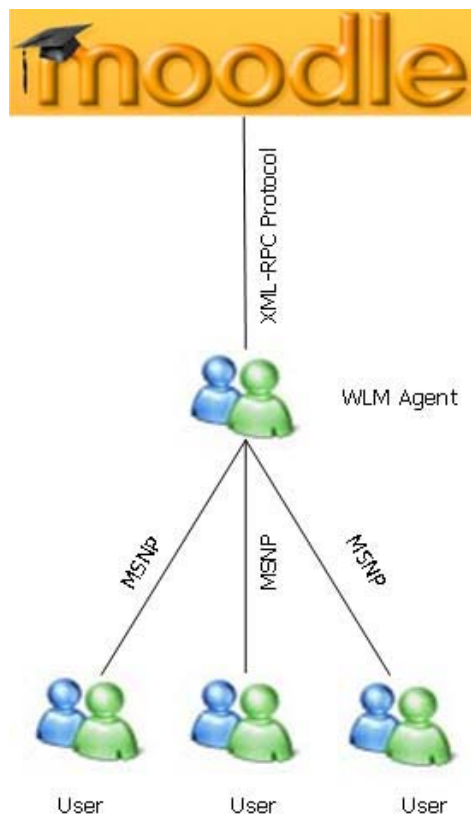
#### External function

- **“Ping”**: Testing the connection, WLM Agent will response the result of testing interface to Moodle server. If it can connect to Moodle server it will return “Success” (shown in figure2).
- **“Create Account”**: Creating new Moodle account. WLM Agent will ask the information of the new user such as username, password, first name and last name (shown in figure4).

## 4. Conclusion

This paper shows how to interface and organize Moodle by the WLM Agent and show how to create WLM Agent to providing commands (creating Moodle’s account) to WLM user. The aforesaid functions is only the characteristic as a administrator of the Moodle but it will be more useful if we utilized it to fulfill students demands such as question-answer function.

This paper attends to present how to create WLM Agent in order to develop WLM Agent as a supporting system of E-Learning.



**Figure1.** Interface between Moodle and WLM Agent via an XML-RPC protocol.

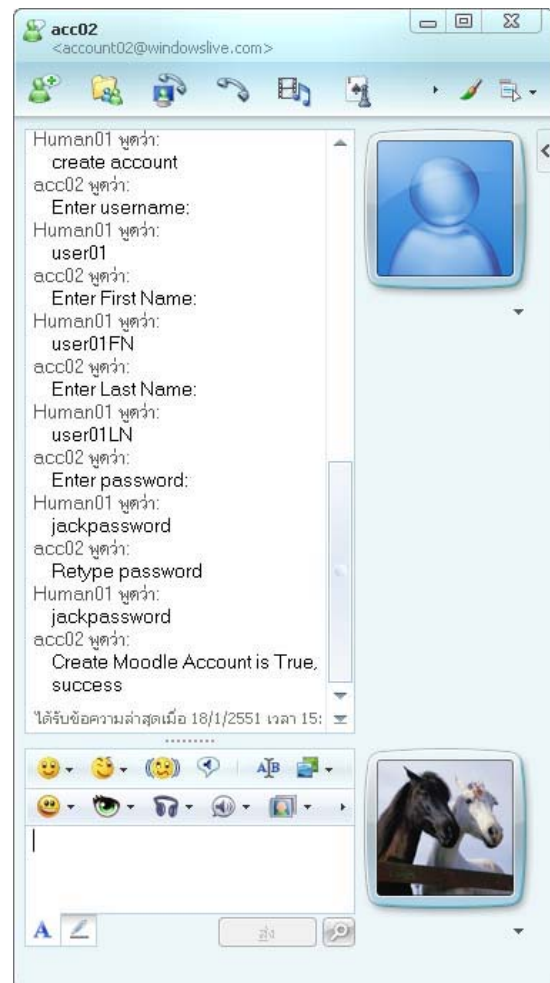


**Figure2.** Show command “Help” and “Ping”.

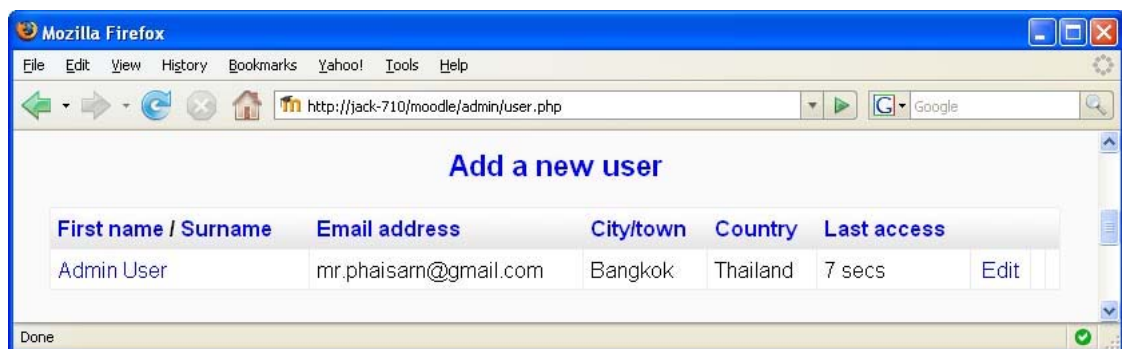
Figure1 shows how easier way to connect to Moodle via linking, between WLM and WLM agent and WLM Agent will be a connector to Moodle via XML-RPC.



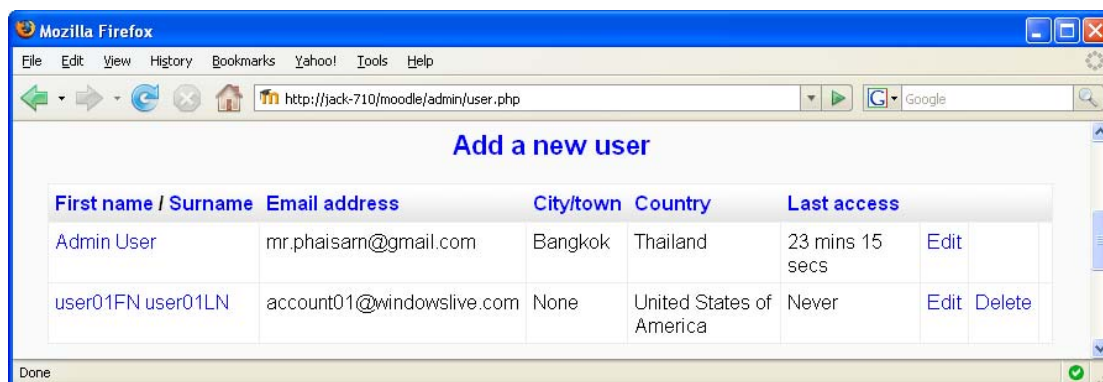
**Figure3.** Show command “Moodle login” and “Show login”.



**Figure4.** Show command “Create Account”.



**Figure5.** Show the Moodle’s user account.



**Figure6.** Show the Moodle's user account after created by "Create Account" command via WLM.

Figure5 and Figure6 show before and after of use "Create Account" command via WLM.

## 5. References

- [1] IM worldwide usage, <http://www.comscore.com/press/release.asp?id=800>
- [2] Graf, S and List, B 2005, An evaluation of open source E-Learning platforms stressing adaptation issues, Advanced Learning Technologies, ICALT 2005. Fifth IEEE International Conference, 5-8 July 2005, pp. 163 – 165.
- [3] Moodle, <http://moodle.org/>
- [4] XML-RPC, <http://www.XML-RPC.com/>
- [5] XML-RPC module, [https://secure.linuxbox.com/tiki/tiki-index.php?page=moodle\\_XML-RPC](https://secure.linuxbox.com/tiki/tiki-index.php?page=moodle_XML-RPC)
- [6] Python, <http://www.Python.org/>
- [7] msnlib, <http://auriga.wearlab.de/~alb/msnlib/>
- [8] Houser, C and Thornton, P 2005, Poodle: a course-management system for mobile phones, Wireless and Mobile Technologies in Education, WMTE 2005. IEEE International Workshop, 28-30 Nov.
- [9] MSG Instant Messenger, <http://kmi.open.ac.uk/technologies/msg/developer/>