MobiLP: A Mobile Learning Platform for Enhancing Lifewide Learning

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Abstract

Lifewide learning recognizes learning to occur in a wide variety of contexts; geographical mobility is therefore important to its technological support. Such a requirement could perfectly be met by mobile computing. We propose MobiLP – a Web-based learning system which supports accesses from both mobile and non-mobile computing devices. It aims at providing educational contents and communication services to teachers and students anytime, anywhere.

1. Introduction

Nowadays education encompasses three aspects, namely the formal, informal, and non-formal education [1], which signifies that learning should be a lifewide endeavor. Lifewide learning [2] is a recent paradigm that focuses on learning so as to equip students with the attitudes and skills to learn for themselves both in formal education and long after they have graduated. It recognizes learning to occur in a wide variety of contexts: in school and beyond, in the community, the workplace, and the family [3]. In this paper, we propose MobiLP, a mobile learning platform for lifewide learning activities.

2. The MobiLP functions

The MobiLP functions are classified into:

1. User functions available to students.
2. User functions available to teachers.
3. Administrator functions.

The **user functions available to students** are designed for mobile devices accesses. They include the display of Web materials specified by the teachers, online chat rooms and the online quiz system.

The **user functions available to teachers** include the input of teacher-specified Web materials, online chat rooms, online quiz management, user profile management and data logs analysis. Individual functions can be accessed by either mobile or non-mobile devices or both.

The **administrator functions** refer to general system management functions such as access control and user account management; include both teacher accounts and student accounts. All administrator functions are to be accessed by non-mobile devices.

3. System architecture

MobiLP adopts a three-tier system architecture [4]. It consists of the Front-End-tier, Middle-tier and the Database-tier. The Front-End-tier resides at the client side while the other two tiers reside at the server side.

Table 1 summarizes the components, functionalities and the implementation technologies of the three tiers.

Tier	Components	Functionalities	Implementation Technologies
Front-End	- Mobile devices with Internet browser - Desktop computers with Internet browser	(mobile devices): access of teacher-specified materials and online chat rooms (desktop computer): Web site management and user management	XML, HTML, JSP
Middle	Web-application Server	- Serving Web requests - Applications processing - Access Control	JSP, Java Servlets
Database	Database Server Directory Server	- Storage of user profiles - Storage of activity logs - Storage of system data	Java, JDBC, SQL

Table 1. Summary of System Tiers of MobiLP

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