Research Finding for Usability Testing on ILC-WBLE

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Abstract. The purpose of this research is to develop a dynamic multimedia content creation of Independent Learner Courseware for Web-Based Learning Environment (ILC-WBLE). Usability testing was carried out on the developed system. Evaluation forms with Likert rating and open-ended questions were applied to evaluate the system. Academic staff and students from Universiti Tunku Abdul Rahman (UTAR) took part in this usability testing. The strengths and weaknesses of ILC-WBLE were summarised according to the result obtained from the evaluation.

Keywords: Moodle, Universiti Tunku Abdul Rahman, multimedia courseware, dynamic content creation.

1 Introduction

Moodle is one of the popular Web-based learning environment systems widely used in education [1], [2]. Universiti Tunku Abdul Rahman (UTAR) uses Moodle to create a resource website called WBLE (Web-Based Learning Environment) to facilitate the teaching-learning activities among lecturers and students since year 2005. WBLE, as shown in Fig. 1, can be accessed at http://wble.utar.edu.my.

Fig. 1. Screenshot from the index page of WBLE
Even though UTAR has implemented a resource website called WBLE as the learning management system to facilitate the teaching-learning process between lecturers and students, the masses of features embedded in WBLE are always overlooked by the users, especially the academic staff.

2 Research Background

The core principle of implementing WBLE in UTAR is to facilitate academic staff and students of the university. An abundance of functions can be performed in WBLE because Moodle is the platform system of WBLE. However, most of the academic staff are merely utilising WBLE as a tool to manage learning materials. Academic staff access into WBLE for the sole purpose of uploading learning materials for students and students access into WBLE for the intention of downloading learning materials uploaded by lecturers. Thereby, the development of ILC-WBLE in this research aims to produce an alternative learning tool to WBLE. The contents of ILC-WBLE can be tailored based on the needs of users, specifically the academic staff.

The research aims to achieve the following six objectives [3]:

1. To research on the best Instructional Design Model (ID-Model) which is deemed suitable for developing a dynamic multimedia content creation of Independent Learning Courseware for Web-Based Learning Environment (ILC-WBLE) [3];
2. To design a suitable Instructional Design Model (ID-Model) for developing the ILC-WBLE based on instructional design approach;
3. To develop a prototype of ILC-WBLE;
4. To evaluate usability of the prototype of ILC-WBLE as an alternative learning mode to traditional instruction;
5. To identify the strengths and weaknesses of ILC-WBLE;
6. To develop a framework for effective design and development of Computer Based Learning Modules.

Currently, learning materials that are uploaded into WBLE are not possible to be created directly in WBLE; creation of learning materials must be done using other systems or software. ILC-WBLE is a dynamic multimedia content creation system. Multimedia elements such as graphics, images, audio and video are used in delivering the learning contents prepared by lecturers. In addition, three types of quizzes, i.e. fill in the blanks, drag and drop, and multiple choices, are integrated in the system for students to practice their skills and test their understanding on a learned topic. ILC-WBLE is embedded into a webpage at http://www.hohmingchee.com. Fig. 2. depicts the screenshot from the first page of ILC-WBLE.

Users of the system can be categorised into two types, which are as follow:

- Students: Students are allowed to view created subjects in the system, however, they do not have the authority to create a new subject.
- Administrator and Lecturer: Lecturers are granted with the ability to create subjects. In order to create subjects, lecturers have to log into the system with user name and password provided by the administrator of the system.