

Shared Single Display Application: An Interactive Patterns Approach

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Abstract

Interactive patterns are able to promote the notion of interaction in groupware application development. Hence, these patterns improve the students' engagement and promote problem solving collectively. This paper reports on the usability of the interactive patterns in designing and developing a collaborative language application. With interactive patterns, we are able to design and develop two different interactive shared single display education applications. Rimballmu is an after school programme to allow students to learn Bahasa Malaysia during their free time. RICLAT is an authoring tool for collaborative presentations. The patterns are useful to enrich the interaction among both education applications. Also, it facilitates more effective communication among the group members and enriches the interaction for students based on the qualitative analysis.

Keywords: *Interactive patterns, shared single display, collaborative learning*

1. Introduction

The use of computers as a learning aid has been introduced in schools since early 2000. To date, there are two common computer aided learning systems that have been adopted and developed in schools. They are multimedia courseware and game-based learning. The multimedia courseware represents the course content in various media forms that include audio, video, animation, graphics, text, voiceovers and narrations [11]. This has shown to motivate students to learn through the use of interesting content especially for courses that are tedious and require heavy memorization such as history [14]. With the multimedia courseware, history is brought 'to life' by using animations, interactive games or video [14].

On the other hand, in Malaysia, much attention is given to computer games-based learning as a computer aided learning tool [14]. The game-based learning approach was introduced to improve the development of interactive courseware. Computer games allow one or more players to play within a set of programmed rules. The digital game-based learning is used to create engagement by specifying the learning goals and experiences. It is a paradigm that uses games to deliver the learning content. For example, a role playing game was introduced to learn Mathematics in Malaysia. In the game, the player needs to complete a particular mission where he/she is required to complete a task in order to move from one stage to another. The task in this case involves solving mathematical equations. During the activities, they can refer to books to reflect the lesson they had learnt. LifeTree is another of game-based learning prototype, developed as part of the initiative to promote educational sustainability in Universiti Malaysia Sarawak (UNIMAS) [18]. In LifeTree,