

Designing a Shared Single Display Education Application through Interactive Patterns

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Abstract

Interactive patterns are able to promote the notion of reusability in groupware application development. Hence, these patterns support the comprehensiveness of both the interaction design and implementation while easing code modification for groupware application. Groupware is used to describe a broad range of technologies that support person-to-person collaboration. How to design and develop a groupware in an effective manner remains a research question worth exploring. This paper introduces a reusable method, patterns, to develop a single shared display application. Nine different interactive patterns that allow participants to interact collaboratively or non-collaboratively in a single shared display application are introduced in this paper. This is followed by the presentation of our quantitative results on the usability of the interactive patterns and the reusability of the patterns in designing and maintaining a single shared display application. From the results, not only are the patterns useful and easy to understand, the patterns actually ease the process of designing and maintenance during the application development under a single shared display.

Keywords

Collaborative Learning, Interaction Design, Shared Single Display

1. Introduction

Single Shared Display application, also known as Single Display Groupware (SDG), supports face to face collaboration among members over a single shared display where each member will have his/her own input device. It enables collaboration among people from different cultures and social practice, enriches existing collaboration at a computer, encourages peer learning and peer teaching and strengthens communication skills [1].

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