

Integrating the Development of Learning Content with Java Classes

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Abstract: In this paper, we propose a framework for developing learning contents with Java classes, and offer the strategy for different users. Based on the framework we have developed a system. The usage functionality and benefits are also introduced.

Keywords: Reusability, learning material, a sharable Java class library, development of learning content

Introduction

This paper deals with designing and building learning materials with a sharable Java class library system. The system constructed is based on a framework which this paper proposed.

By analysis of traditional learning materials' built on basis of SCORM model (Sharable Content Object Reference Model), we have some observations on them. They have deficiencies on flexibility, reusability and interaction between client side and server side. Therefore, our research proposes a framework for a variety of help.

We experiment with the designer of learning materials to build and design learning materials and Java classes, and we identify the system that we provide is convenient and flexible to develop learning materials and Java classes.

1. The Framework supporting Learning Contents development with Java classes

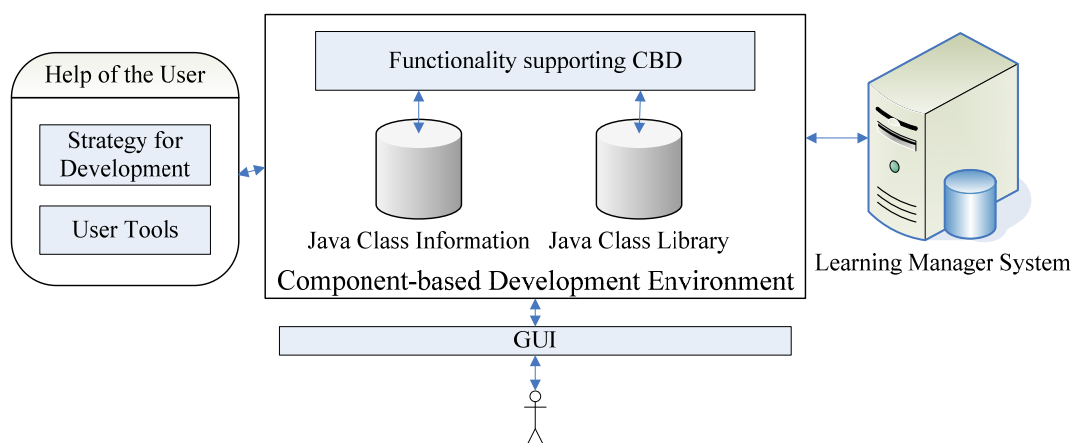


Fig.1 The Architecture of Framework

We describe the modules of framework for development of learning contents with Java classes below: [Fig.1]

- A LMS for testing the learning contents and presenting them.
- An environment supporting Component-based development (CBD) (Pressman, 2001) for designing and building learning materials and Java classes.
- Some strategies and tools for the users.
- A user interface helping the user use the functionalities and offering the guide of development learning materials.

2. The System - a Sharable Java Class Library

2.1 The Overview of a System

Our system is based on SCORM model but we modify it to support a new learning material, Java class for improving the interaction between learning contents and the server and the flexibility of learning contents when they are modified. Furthermore, the system provides a variety of functionality for developing learning contents :

- A sharable Java class library for reusability.
- Support CBD for development of learning contents including user interface of search and download.
- Provide authoring tools to help user design and build learning contents easily.

3. Conclusion

We have sketched a framework for integrating developing learning content with reusability of Java class. To create, share (reuse) and repurpose learning materials make a cycle of building learning materials in the system and by the cycle the material will become better and high quality in the future, hence it makes development of learning content easy, flexible and efficient.

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References

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