Abstract

Project Code: MRG4880112

Project Title: An Open Multilingual Digital Library Framework using Semantic Web and Human Language Technologies (ระบบห้องสมุดอิเลคโทรนิคส์หลากภาษาโดยใช้เครือข่ายเวบที่มีความหมายและเทคโนโลยี ทางภาษาเป็นพื้นฐาน)

Investigators: Dr. Md Maruf Hasan

Mentor: Assoc.Prof.Dr. Ekawit Nantajeewarawat

E-mail Address: maruf@shinawatra.ac.th

Project Period: 1 June 2005 – 31 May 2007

Abstract: In this research project, our main focus is to investigate a Digital Library Framework which takes advantage of advances in Natural Language Processing and Semantic Web Technologies. We propose a unique *3-Layer Digital Library Architecture* by adapting an open-source digital library system and by adding necessary modules and algorithms. We effectively demonstrated how to use this DL Framework to develop *intelligent and adaptive services* for digital library. Our research outcomes as validated by *user studies* demonstrate the advantage of seamlessly integrating user profile, usage pattern, history and content analysis using intelligent algorithms and state-of-the-art technologies is capable of developing adaptive and personalized digital library services. We published our core research findings in international journals.

Along with the above core research theme, we also conduct research in closely related sub-topics such as E-Learning content management, collaborative annotation of content (especially multimedia contents), automatic music classification and retrieval, integration of heterogeneous library-catalog using open protocols (such as Z39.50), and the like. These satellite research findings are published as Book-Chapter and proceedings of prestigious international conferences sponsored by IEEE or ACM.

Keywords: Digital Library Framework and Service; Semantic Web Technology; Natural Language Processing; User Modeling; Personalization and Recommendation; Multilingual and Multimedia Information Processing; Online Collaboration and Collaborative Annotation